Paired Comparison of following VTRA 2015 Cases:

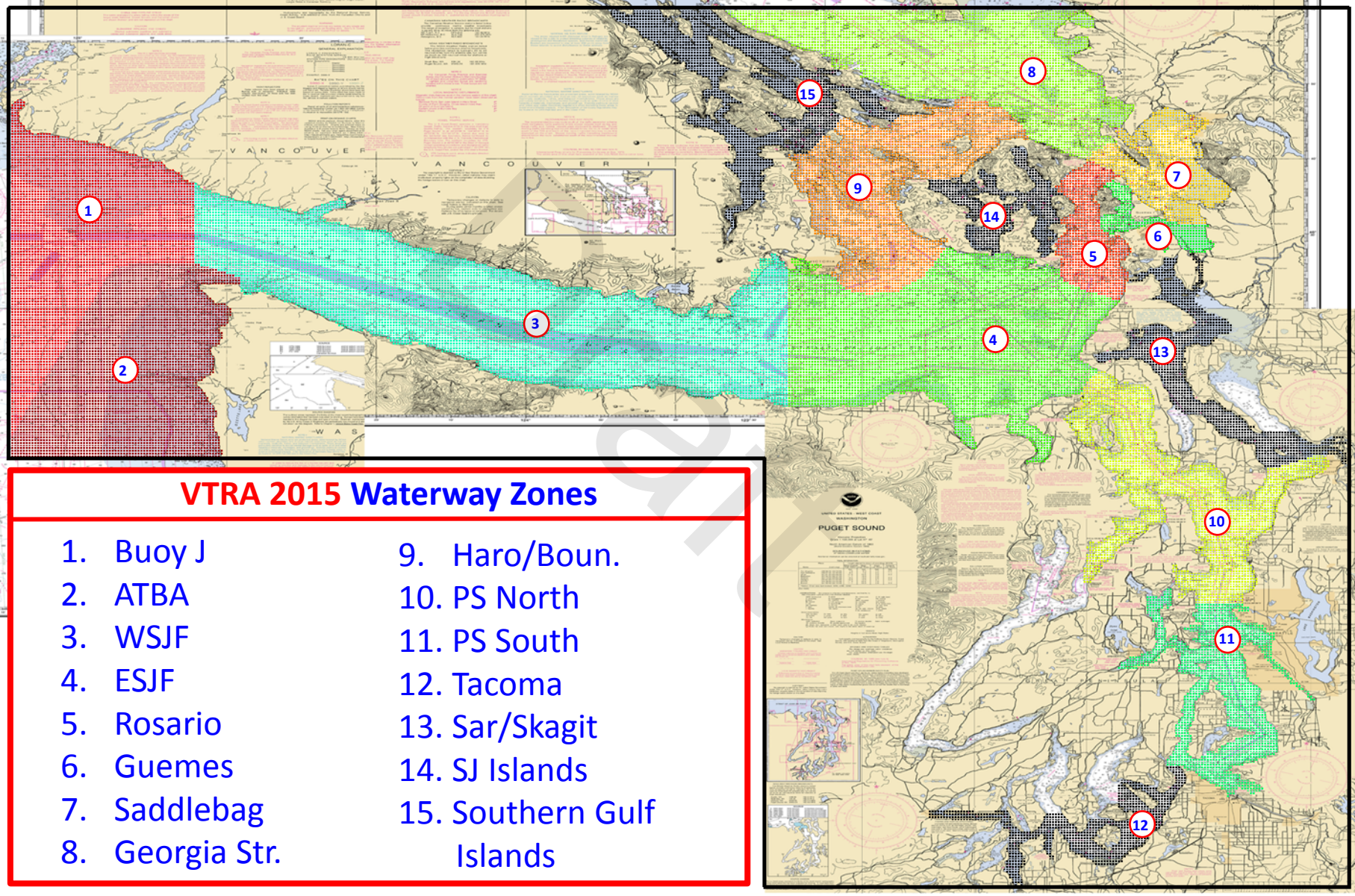
1. '15 Base Case to USKCA1600 and
2. USKCA1600 to USKCA1600 - SRT

Jason R.W. Merrick (VCU) and J. Rene van Dorp (GW)

September, 2016

VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2015

DEFINITION OF 15 WATERWAY ZONES



VTRA 2015 Waterway Zones

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

VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2015

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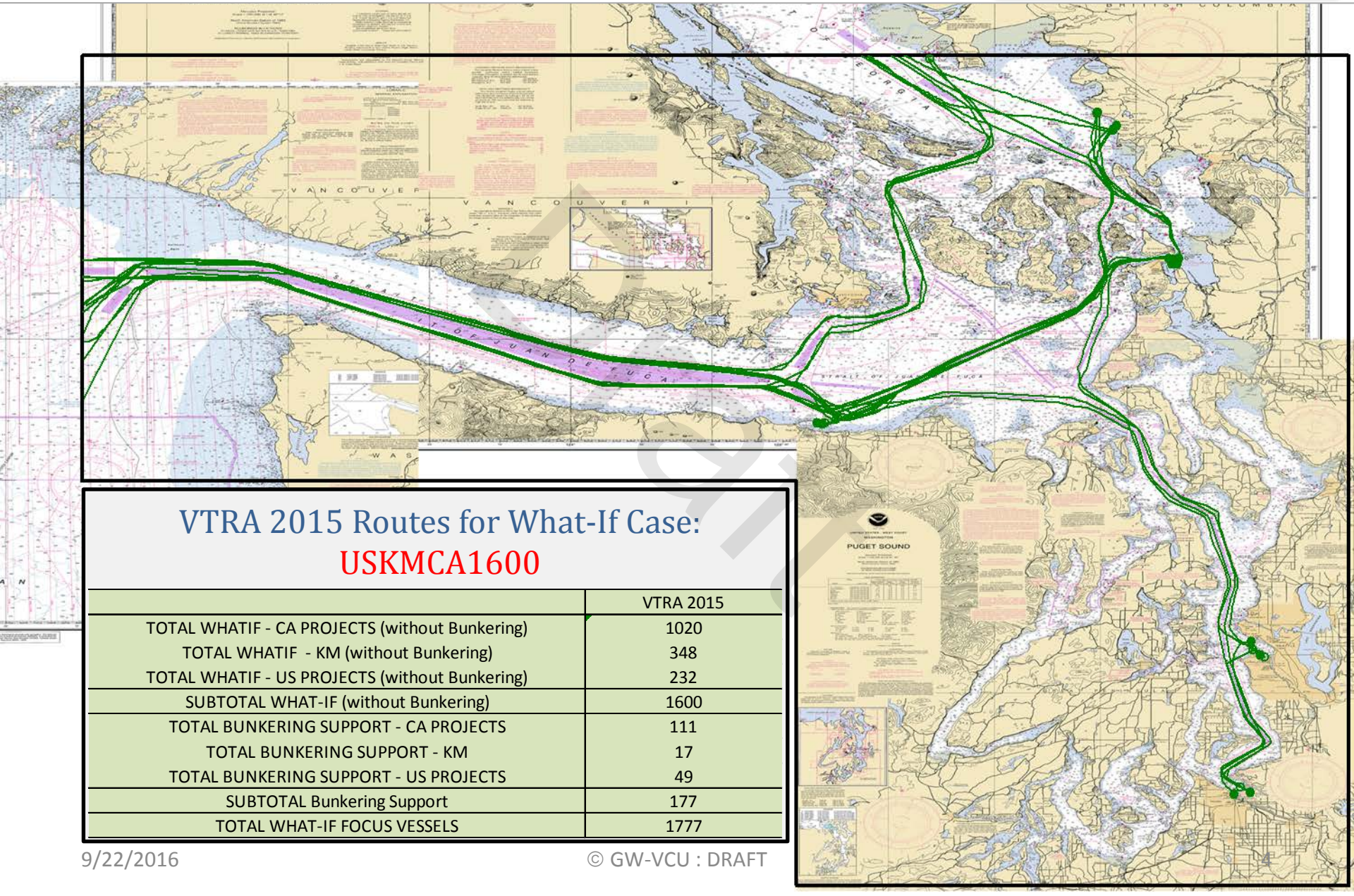
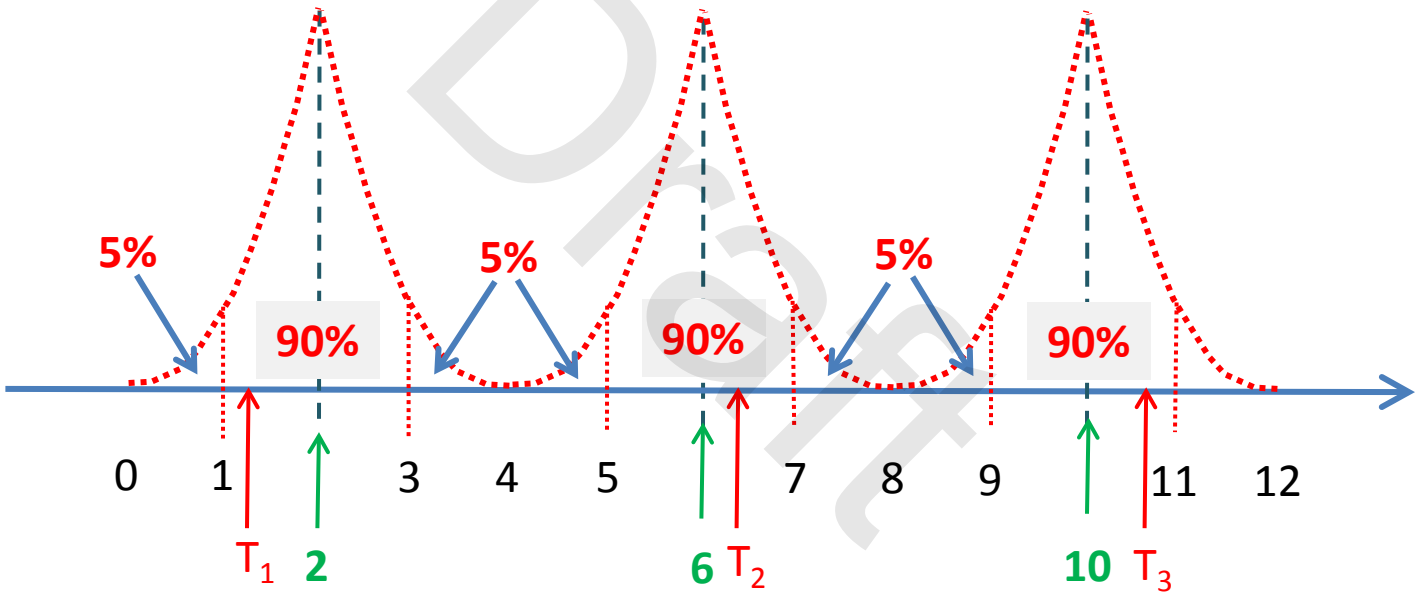


VTRA 2015 Routes for What-If Case: USKMCA1600

	VTRA 2015
TOTAL WHATIF - CA PROJECTS (without Bunkering)	1020
TOTAL WHATIF - KM (without Bunkering)	348
TOTAL WHATIF - US PROJECTS (without Bunkering)	232
SUBTOTAL WHAT-IF (without Bunkering)	1600
TOTAL BUNKERING SUPPORT - CA PROJECTS	111
TOTAL BUNKERING SUPPORT - KM	17
TOTAL BUNKERING SUPPORT - US PROJECTS	49
SUBTOTAL Bunkering Support	177
TOTAL WHAT-IF FOCUS VESSELS	1777

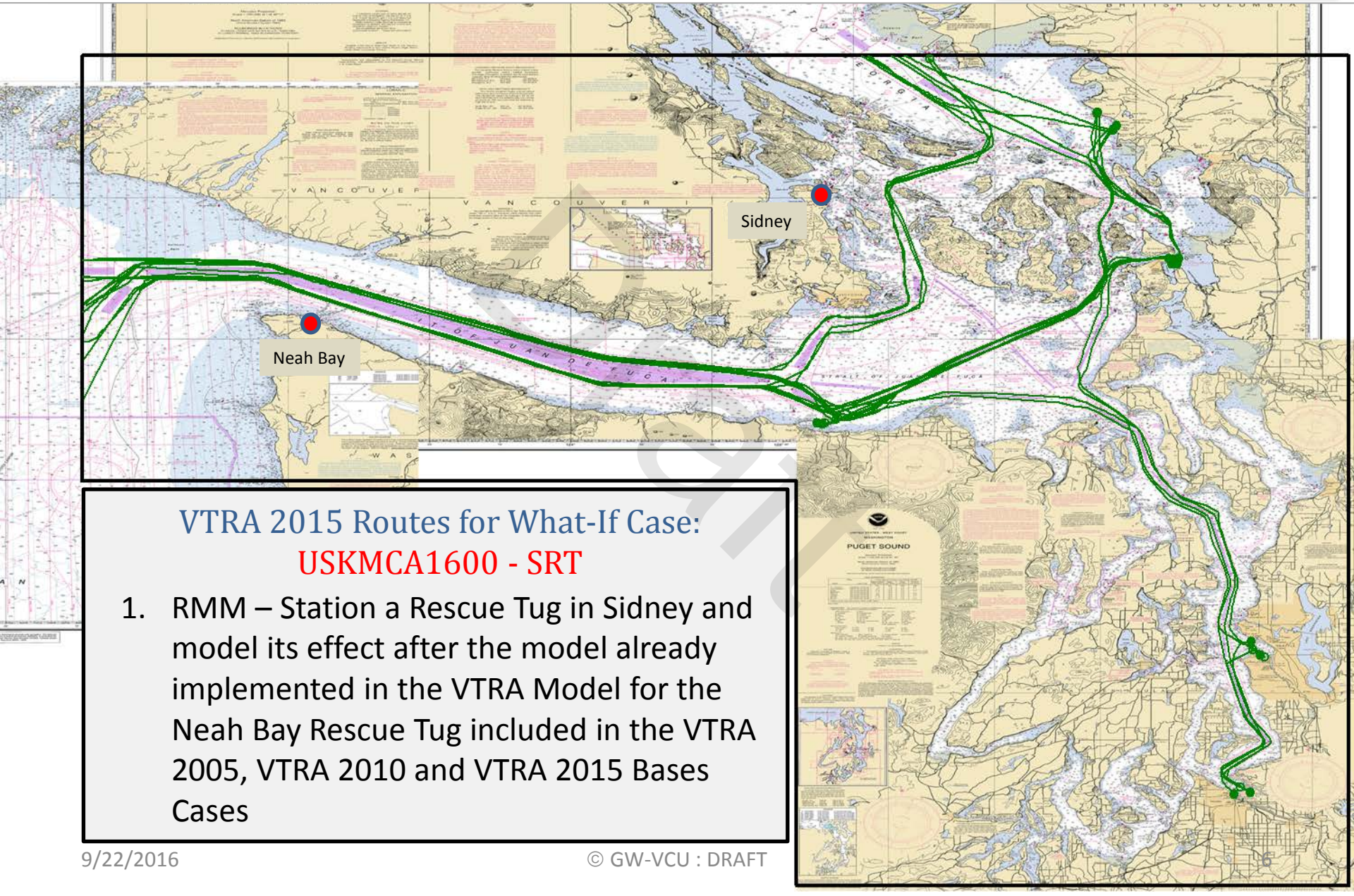
VTRA 2015 – What If FV
Scheduled Random Arrival Pattern Model
(See Example Graph below)



VTRA 2010 Equidistant Fixed Arrival Pattern (one every 4 days)

VTRA 2015 Random Arrival Pattern (3 Random Times in 12 days)

VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2015



VTRA 2015 Routes for What-If Case: USKMCA1600 - SRT

1. RMM – Station a Rescue Tug in Sidney and model its effect after the model already implemented in the VTRA Model for the Neah Bay Rescue Tug included in the VTRA 2005, VTRA 2010 and VTRA 2015 Bases Cases

By Waterway Zone Risk Comparison

Oil Spill Size Category: ALL SPILL SIZES

VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2015

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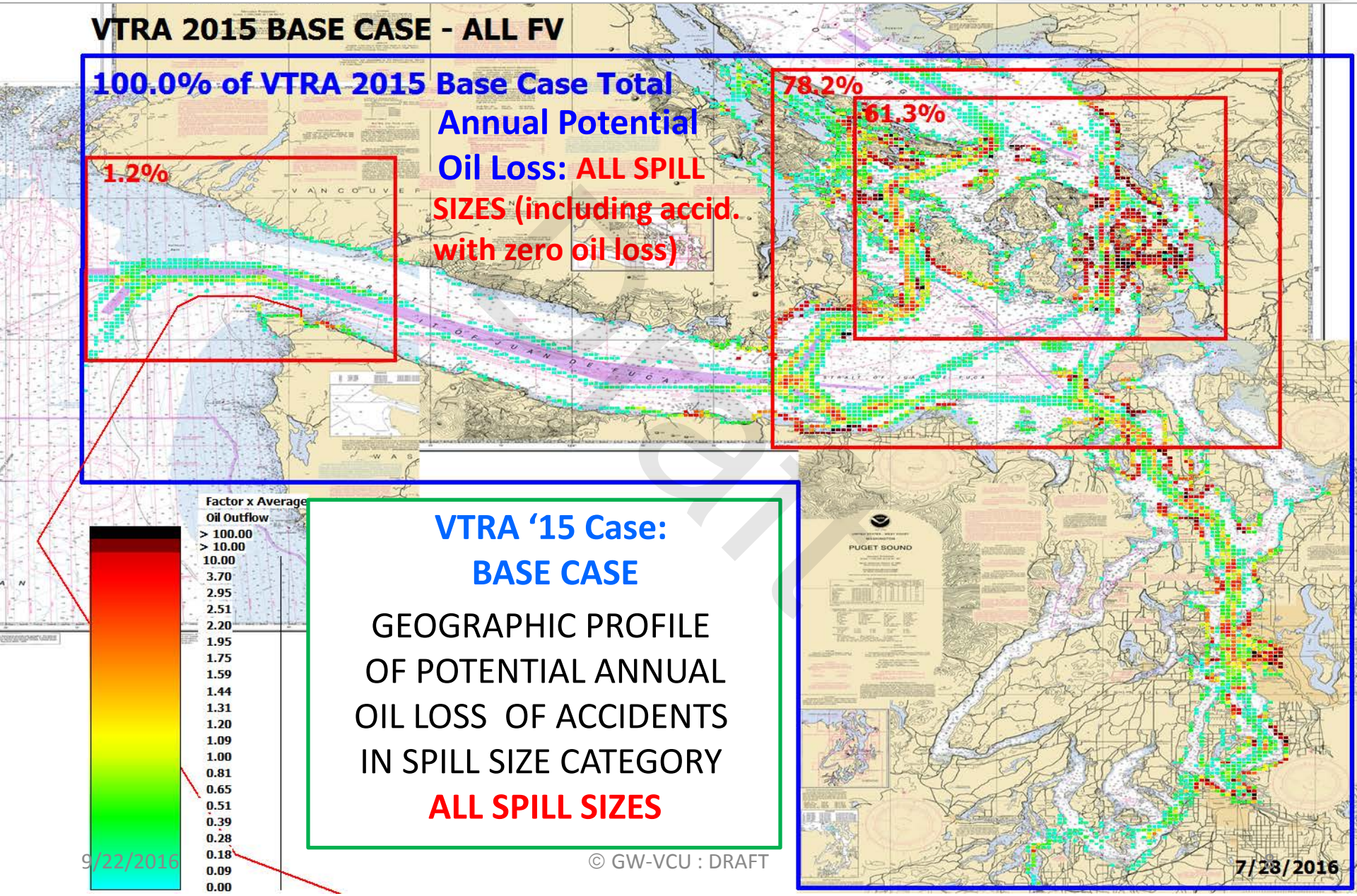

VTRA '15 Case:
BASE CASE

GEOGRAPHIC PROFILE
OF POTENTIAL ANNUAL
OIL LOSS OF ACCIDENTS
IN SPILL SIZE CATEGORY
ALL SPILL SIZES

VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2015

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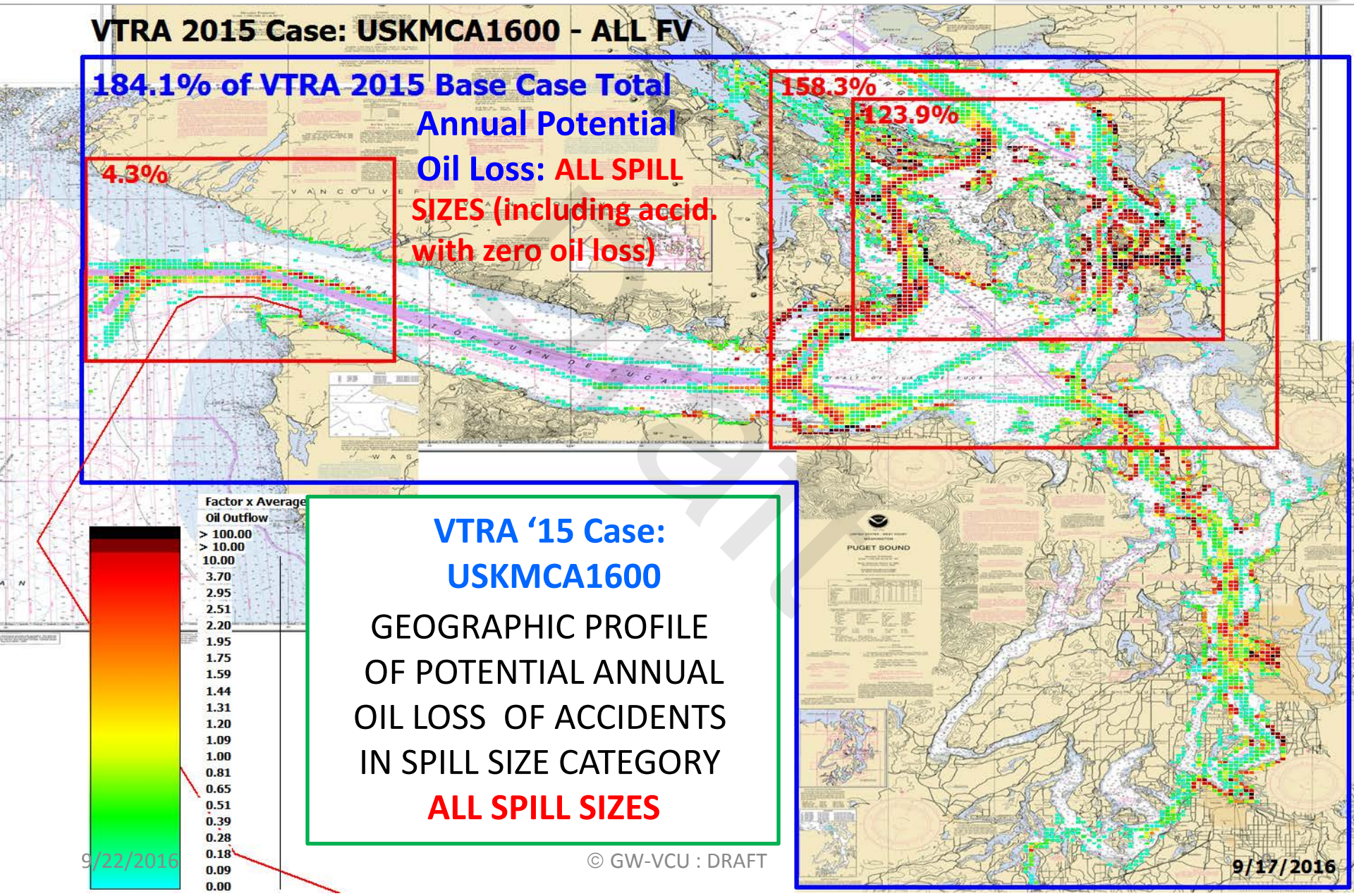

VTRA '15 Case:
USKMCA1600

GEOGRAPHIC PROFILE
OF POTENTIAL ANNUAL
OIL LOSS OF ACCIDENTS
IN SPILL SIZE CATEGORY
ALL SPILL SIZES

VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2015

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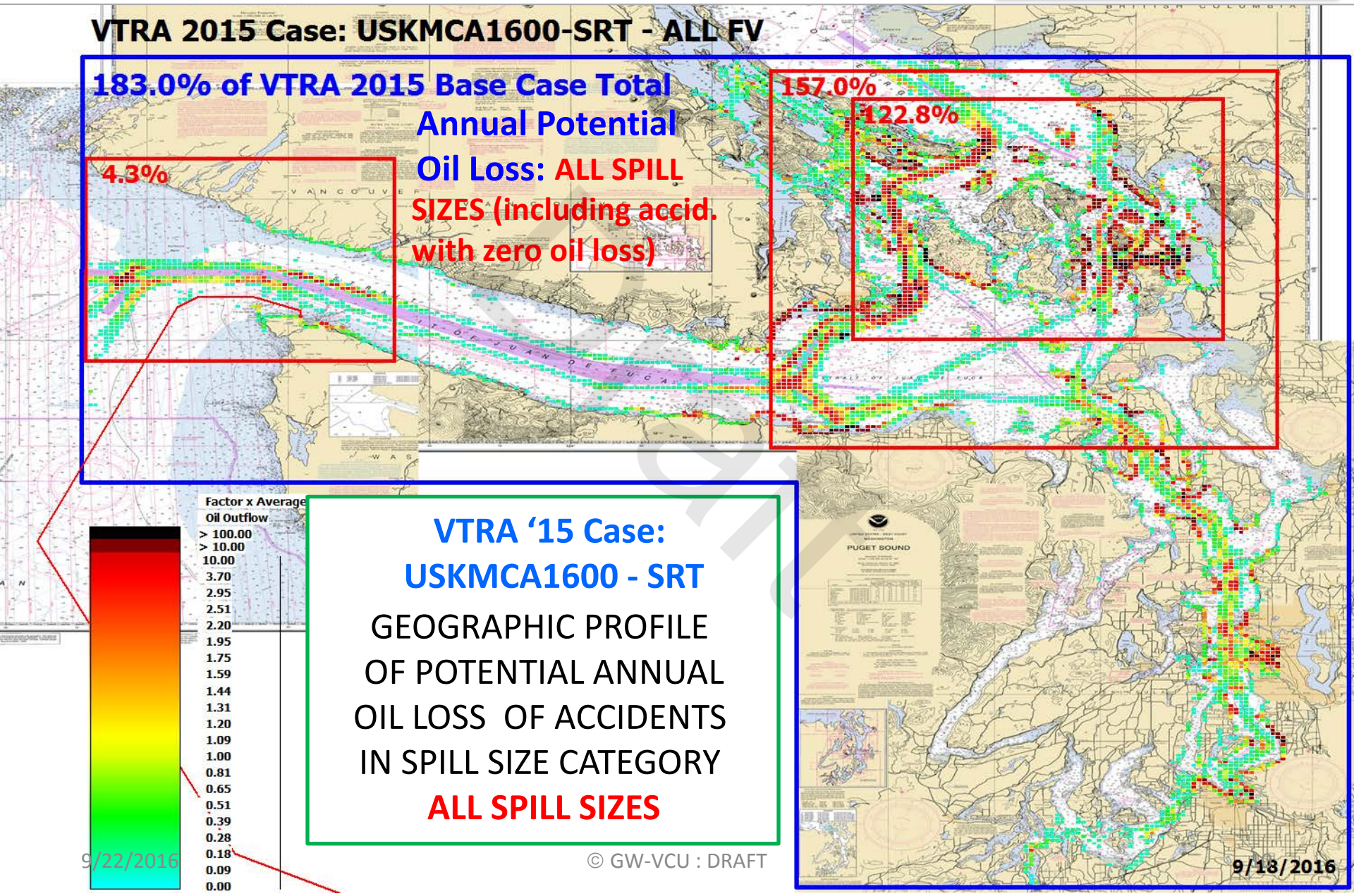
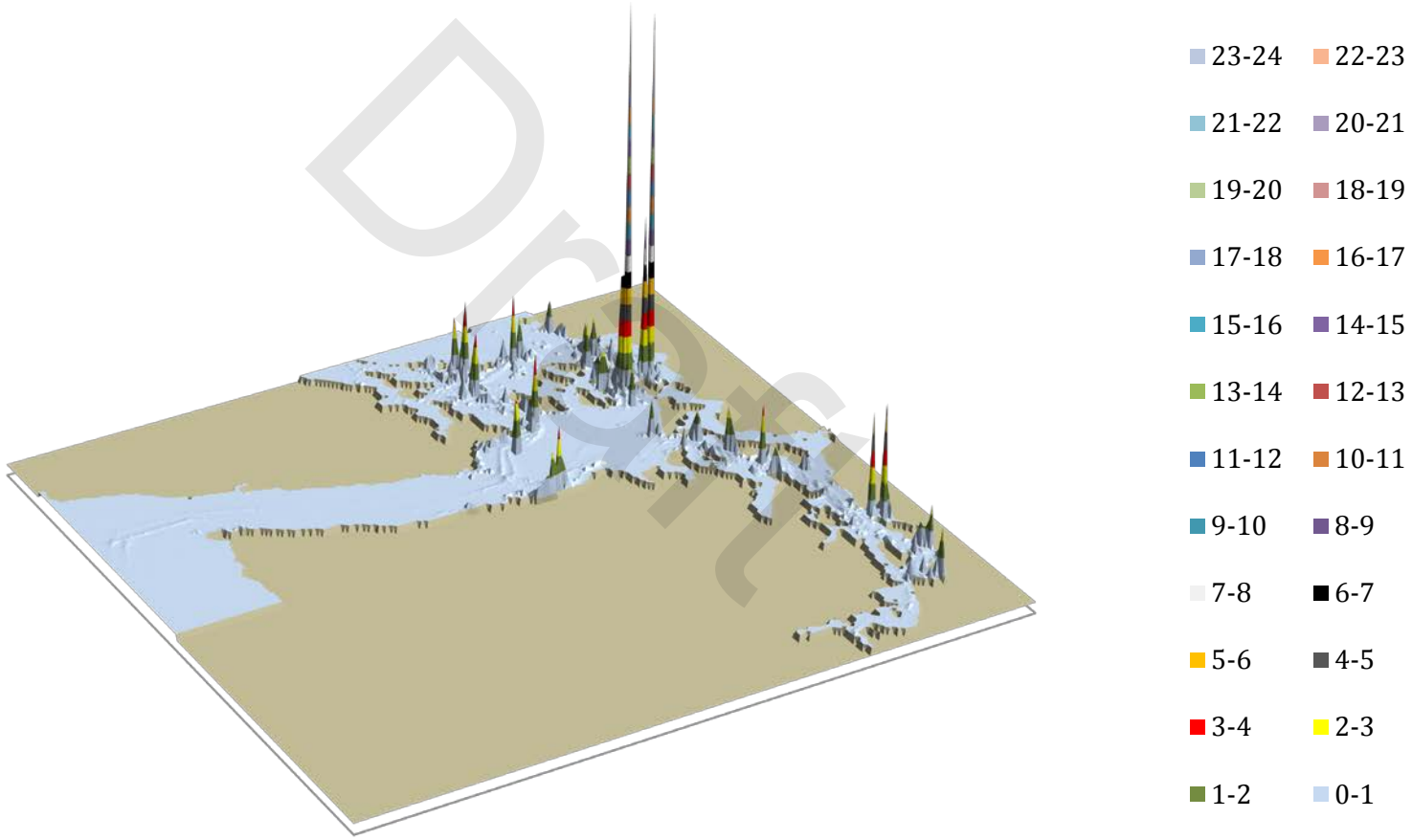


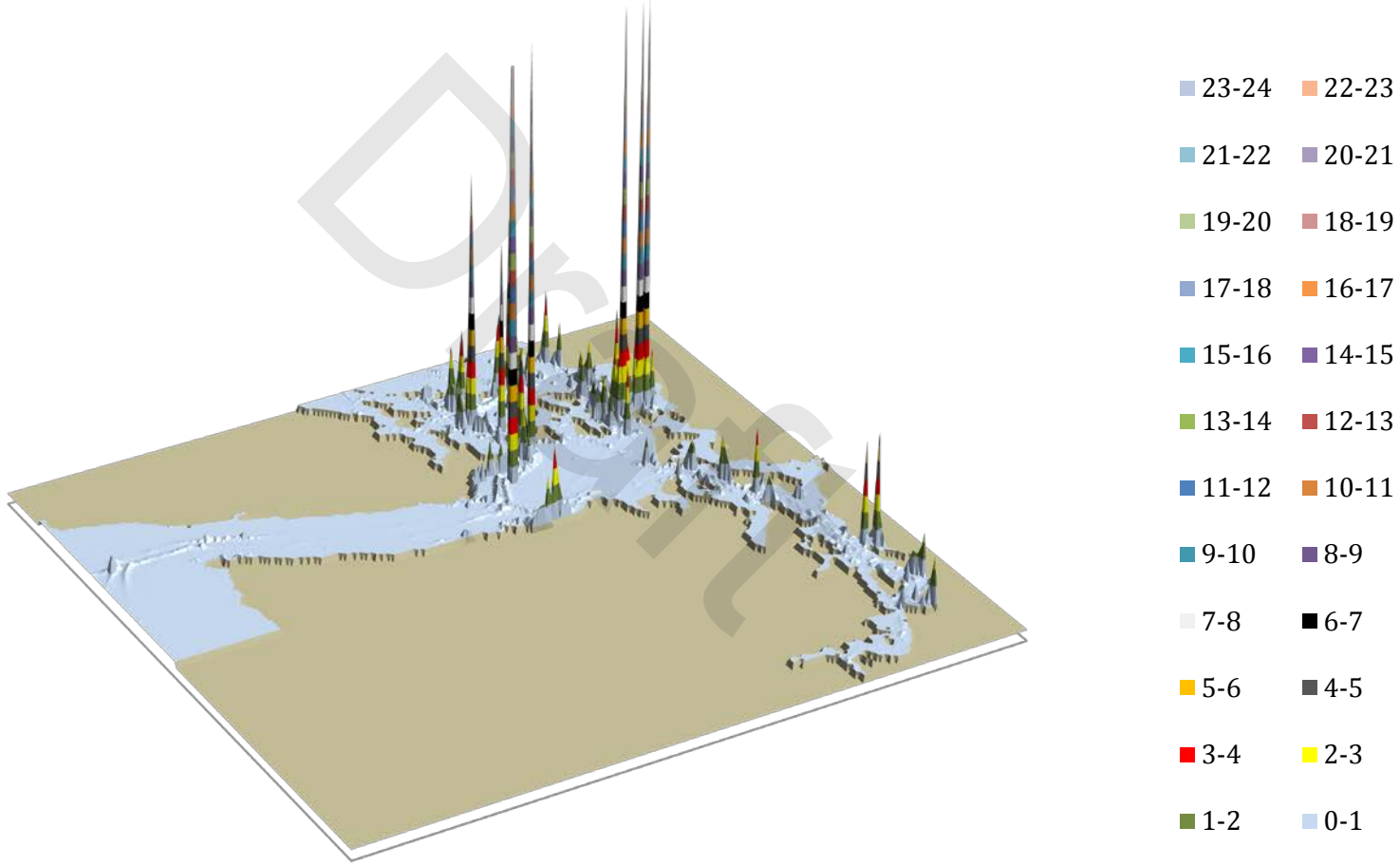
VTRA '15 Case:
USKMCA1600 - SRT

GEOGRAPHIC PROFILE
OF POTENTIAL ANNUAL
OIL LOSS OF ACCIDENTS
IN SPILL SIZE CATEGORY
ALL SPILL SIZES

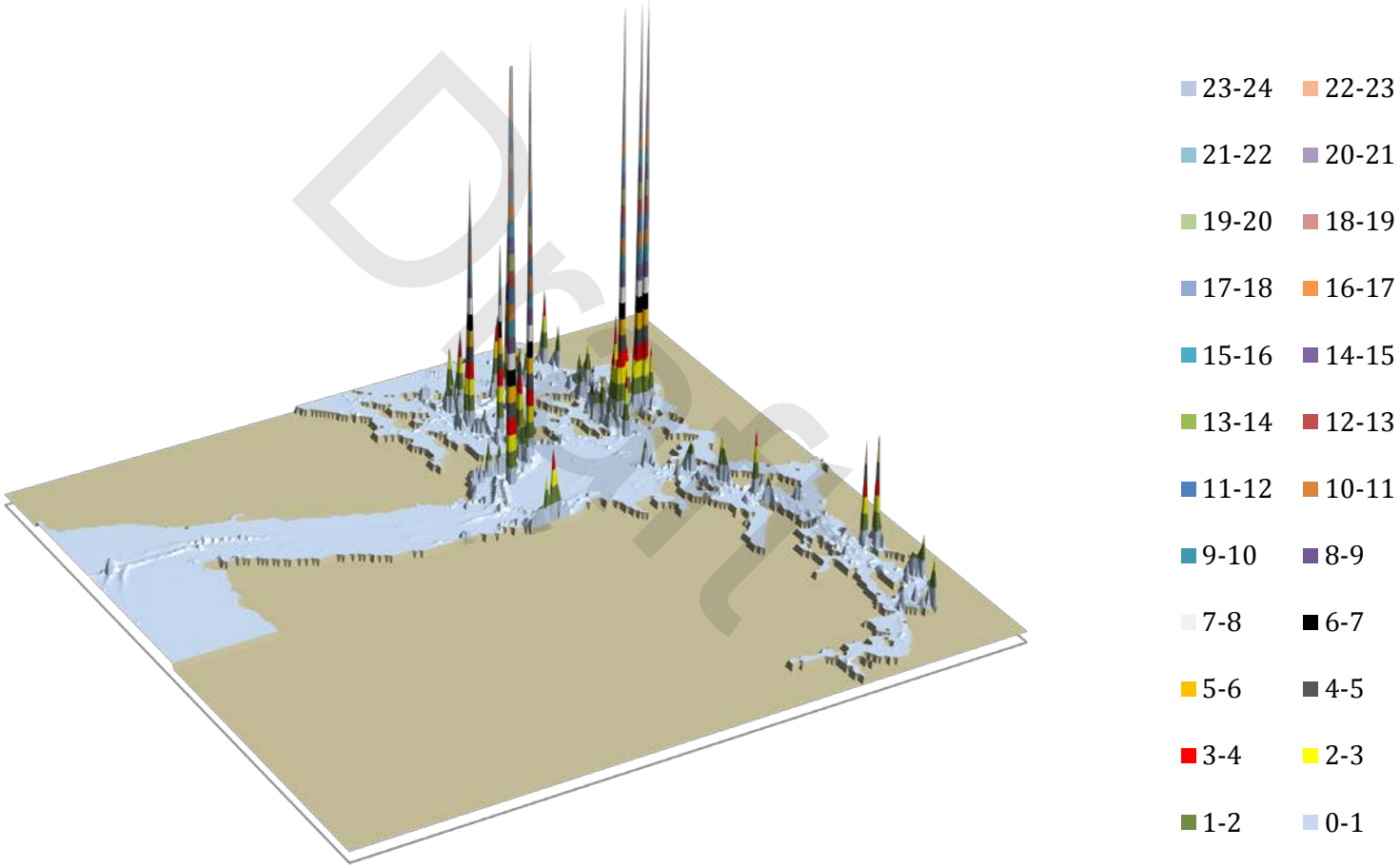
VTRA '15: Base Case 3D Risk Profile All FV - Pot.C+G+A.Oil Loss: 100% of Base Case POL



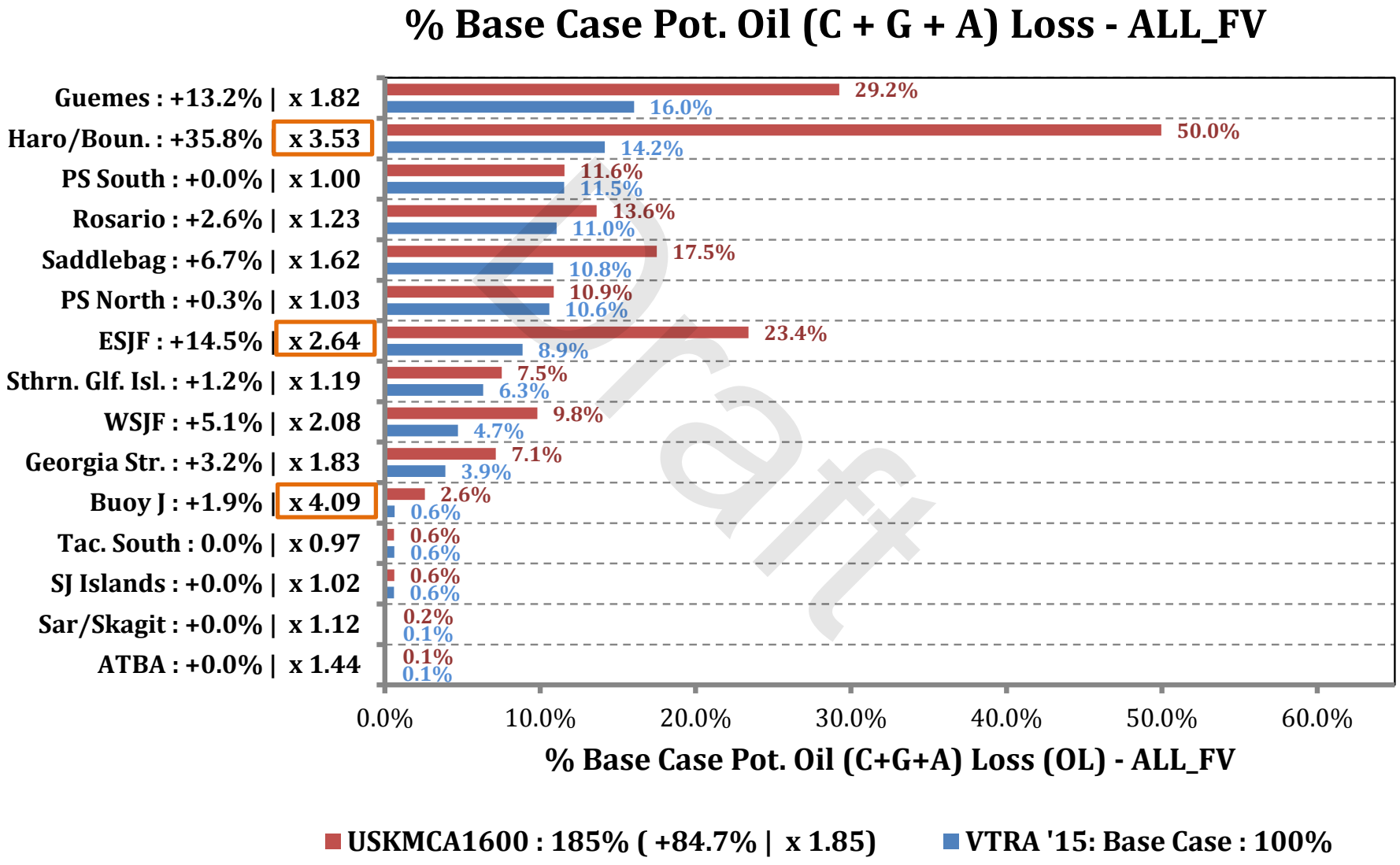
USKMCA1600 3D Risk Profile All FV - Pot.C+G+A.Oil Loss: 184% of Base Case POL



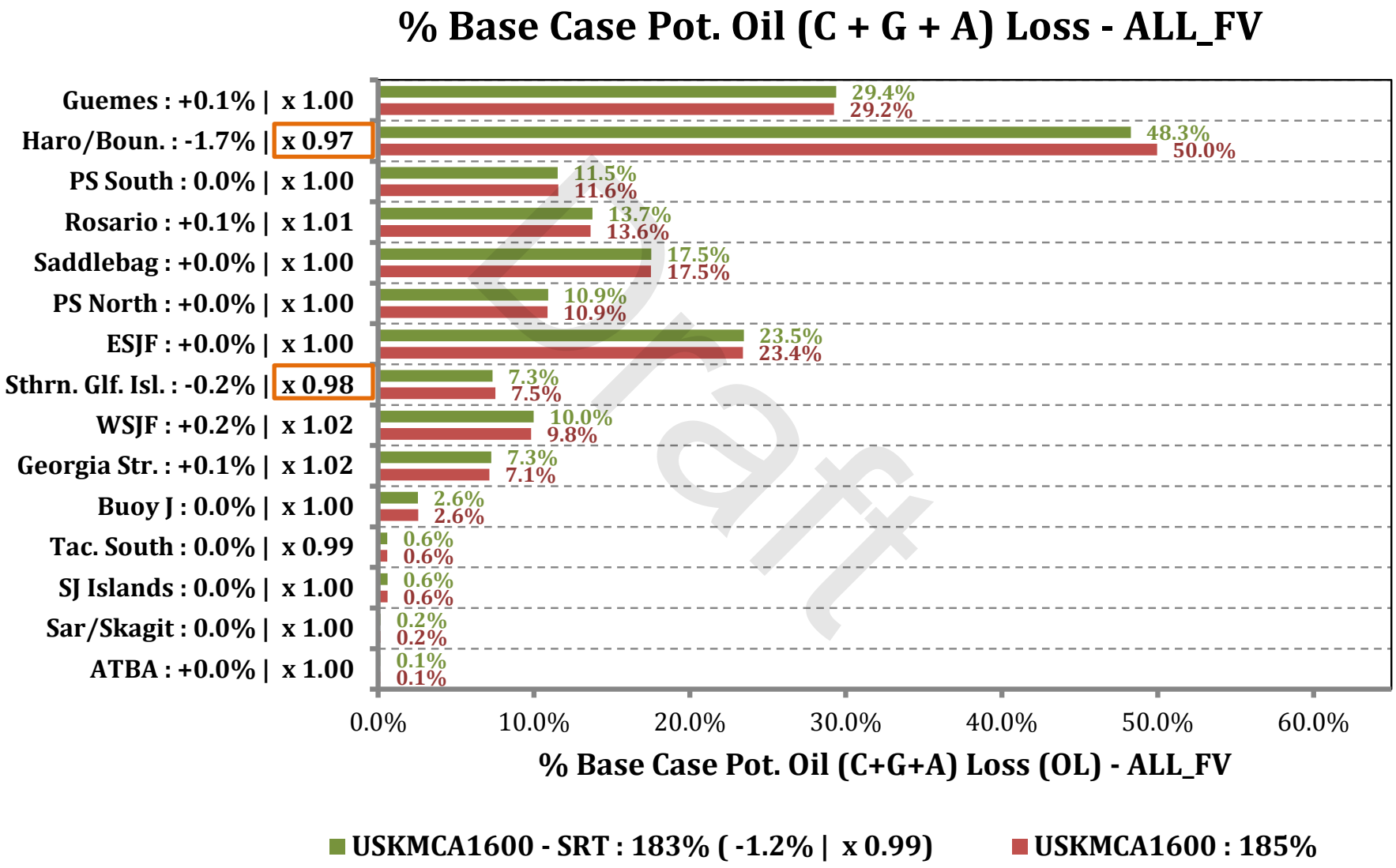
USKMCA1600 - SRT 3D Risk Profile All FV - Pot.C+G+A.Oil Loss: 183% of Base Case POL



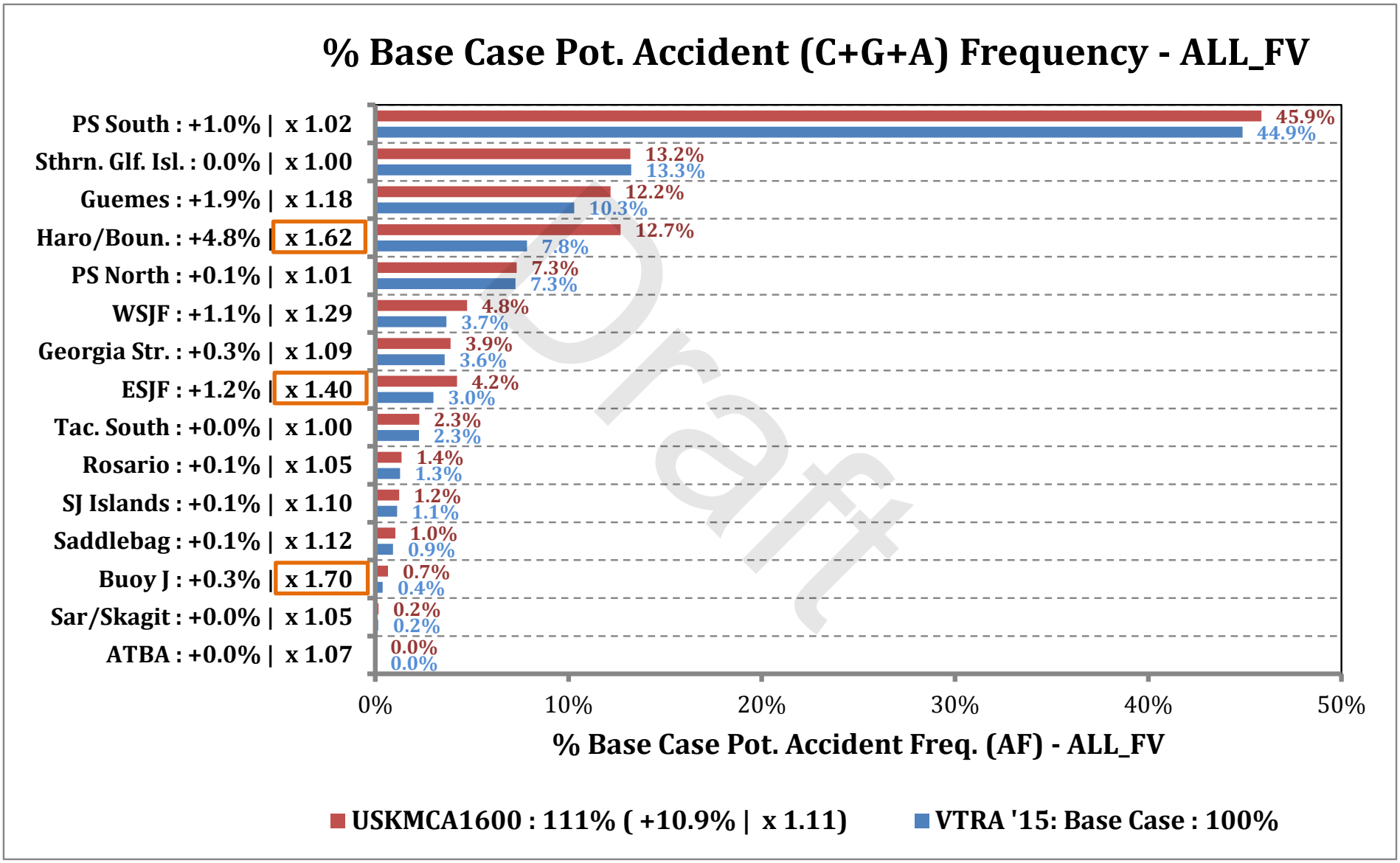
VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2015



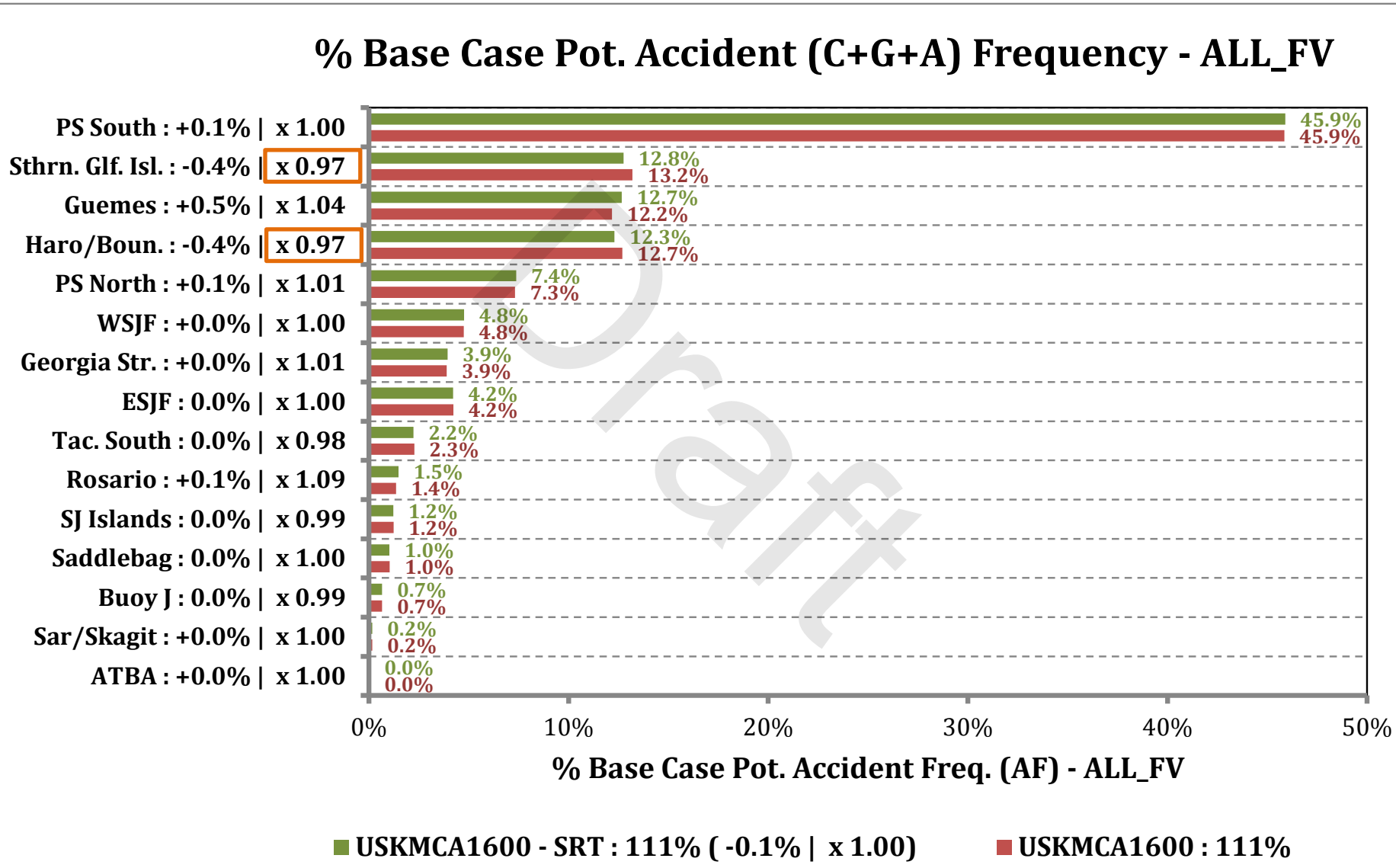
VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2015



VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2015



VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2015



By Waterway Zone Risk Comparison

Oil Spill Size Category:

2500 m^3 or more

VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2015

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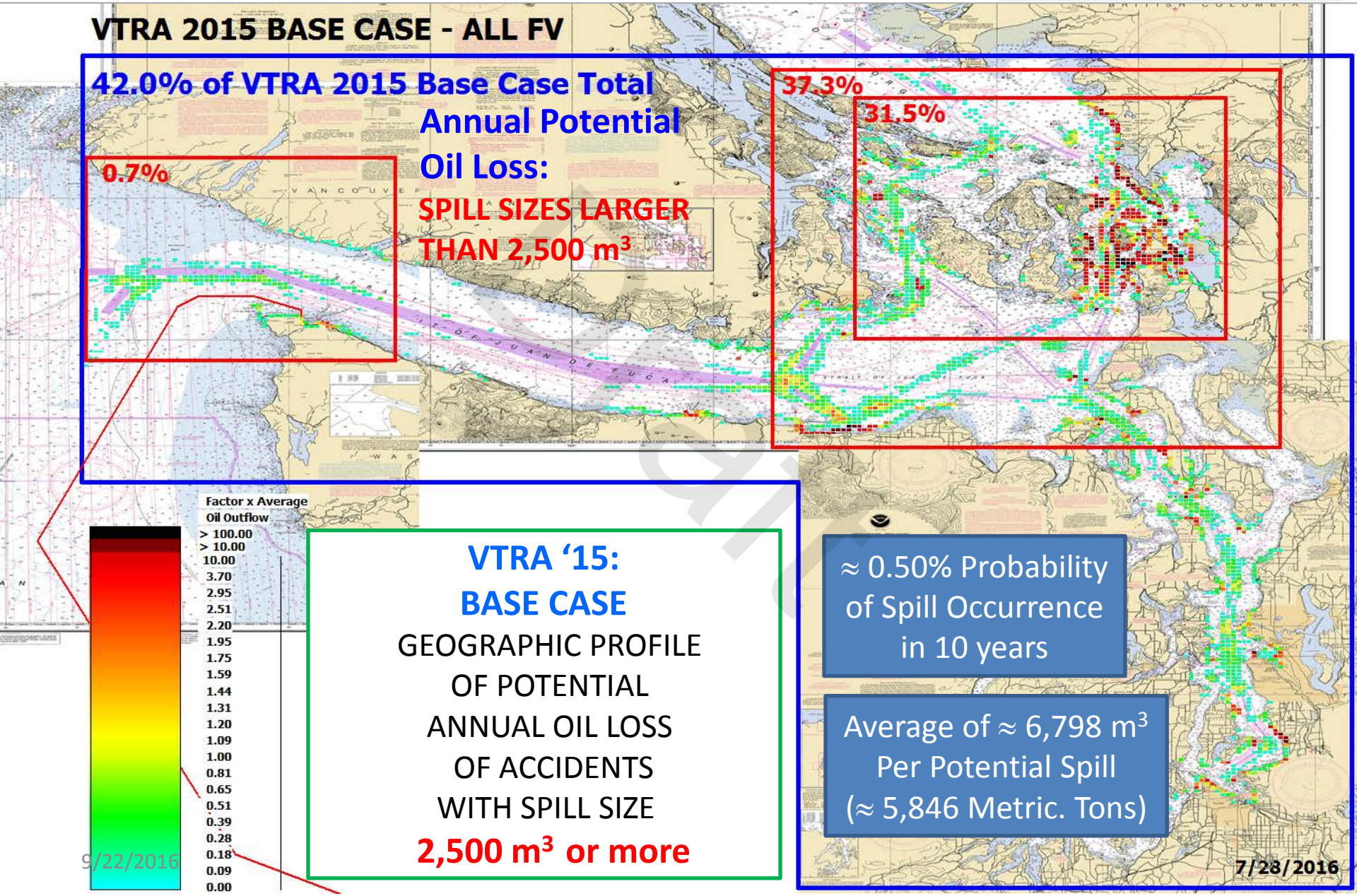

VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2015

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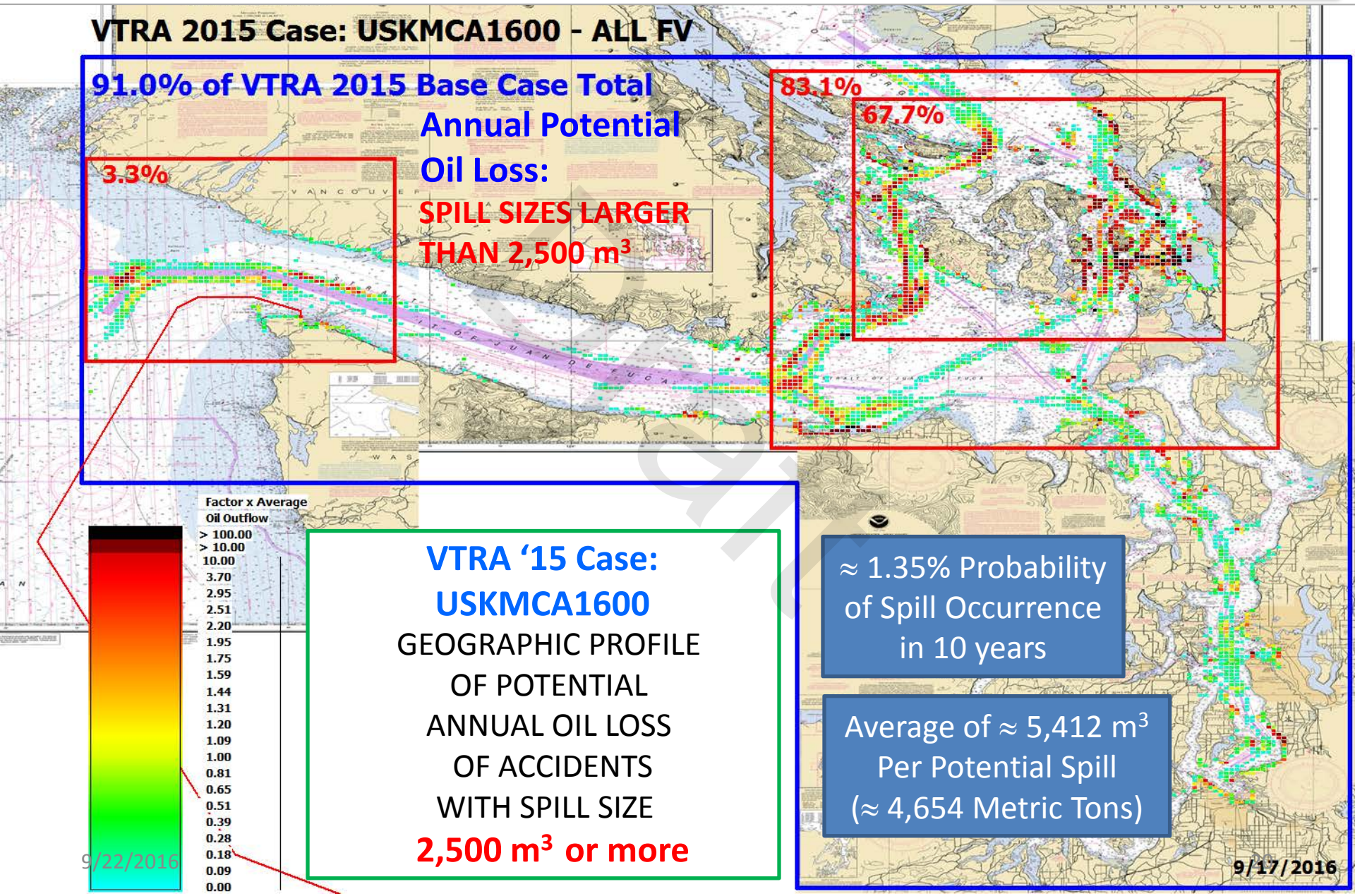
VCU



VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2015

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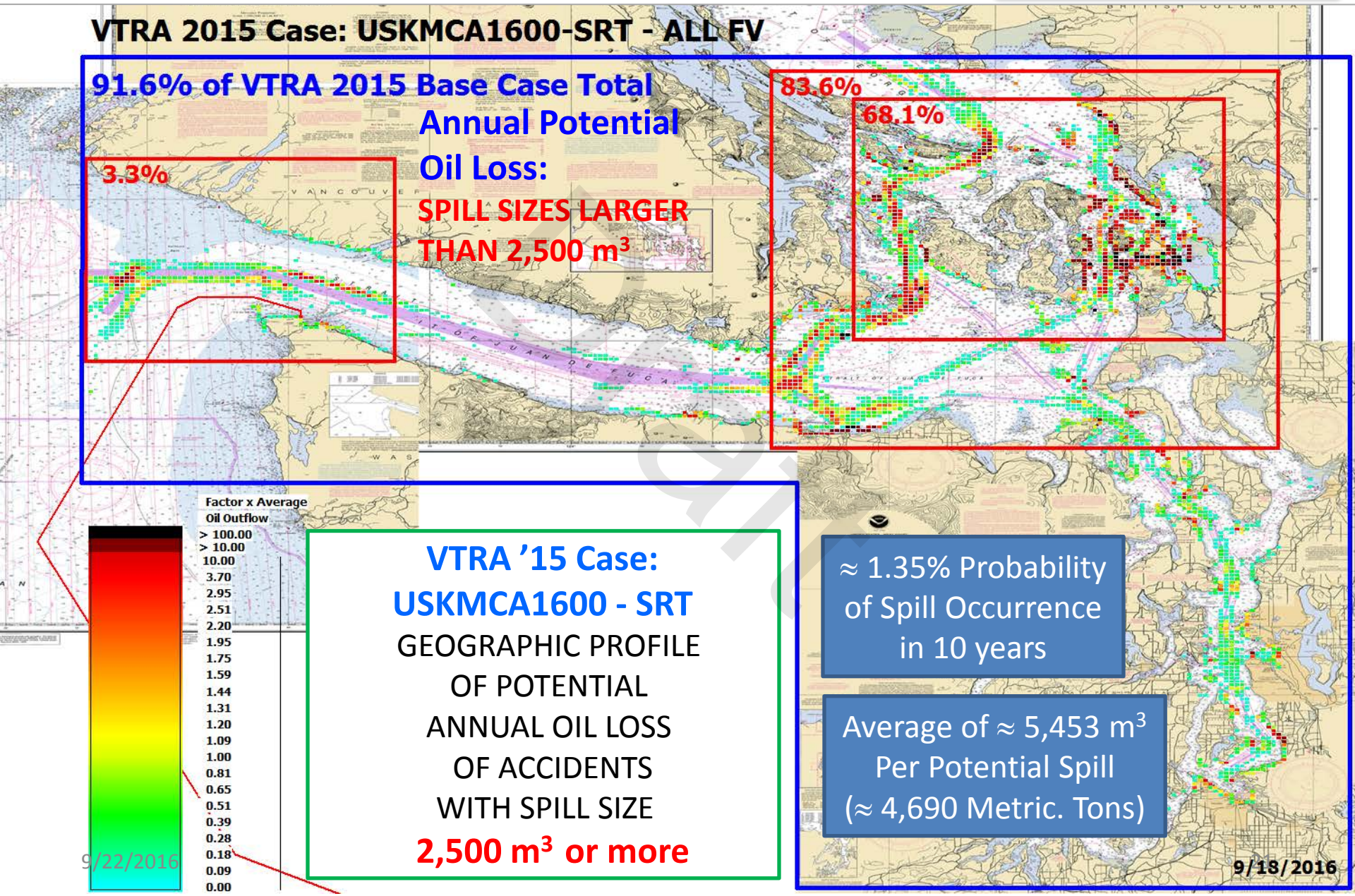
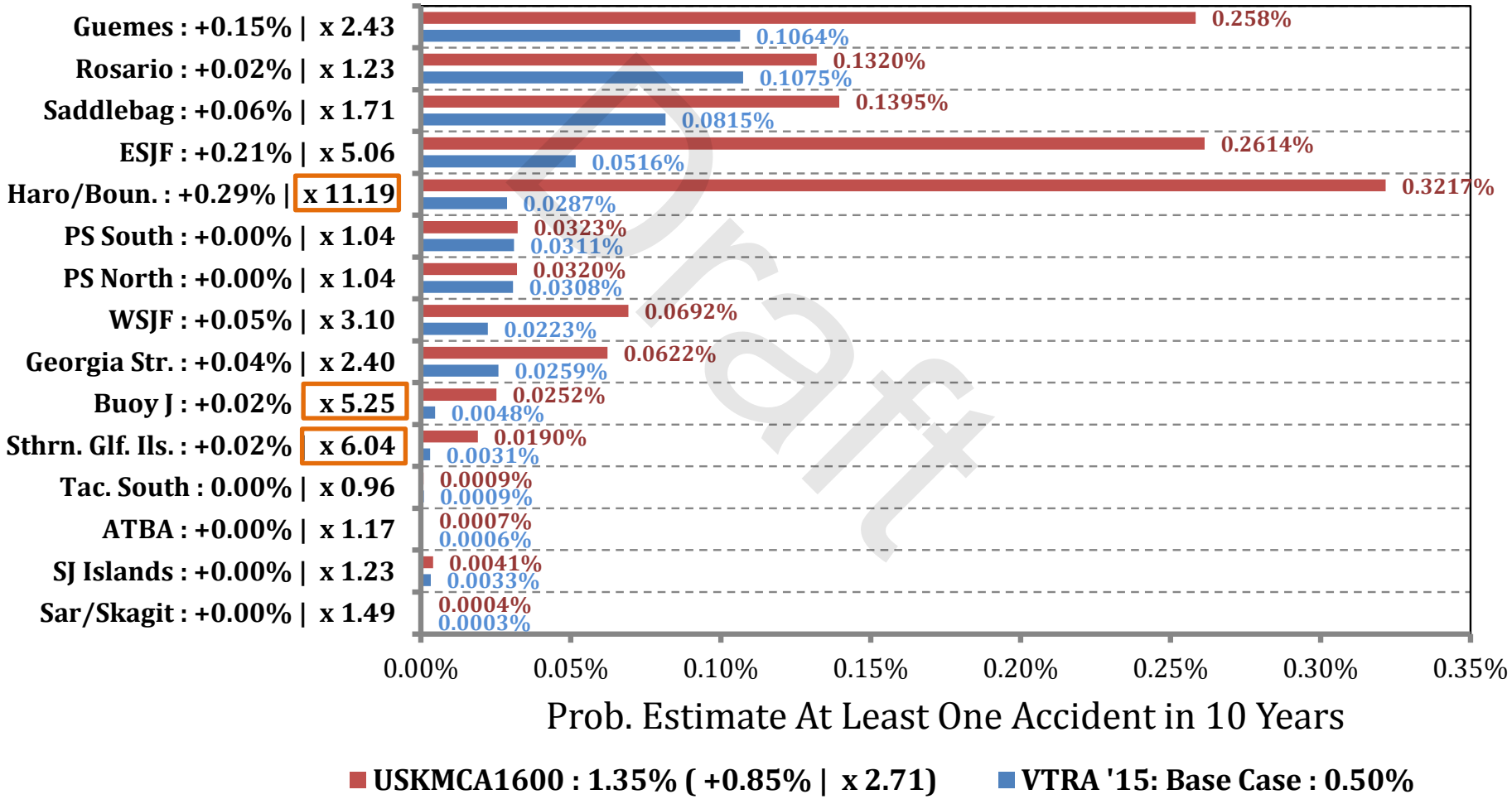
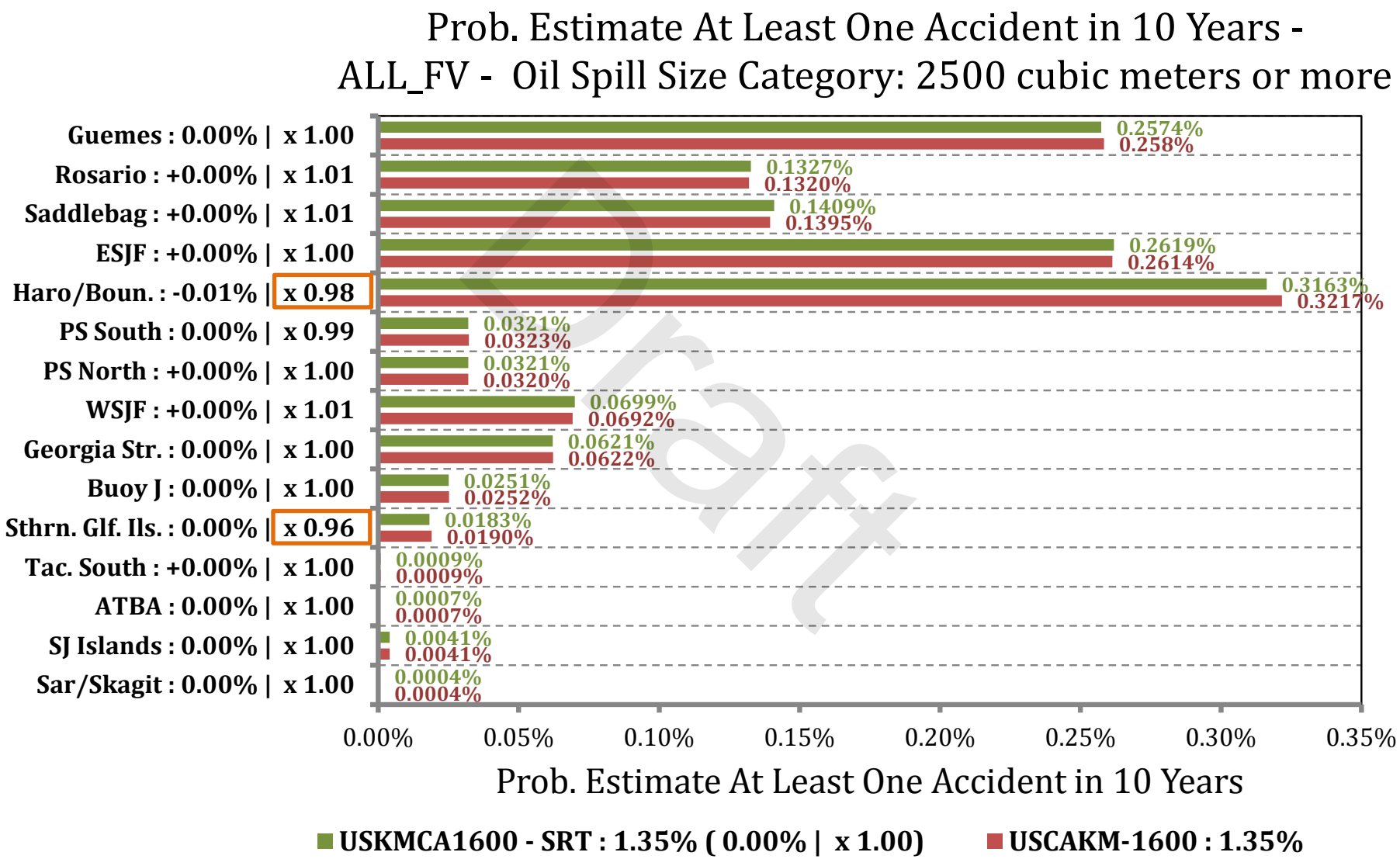
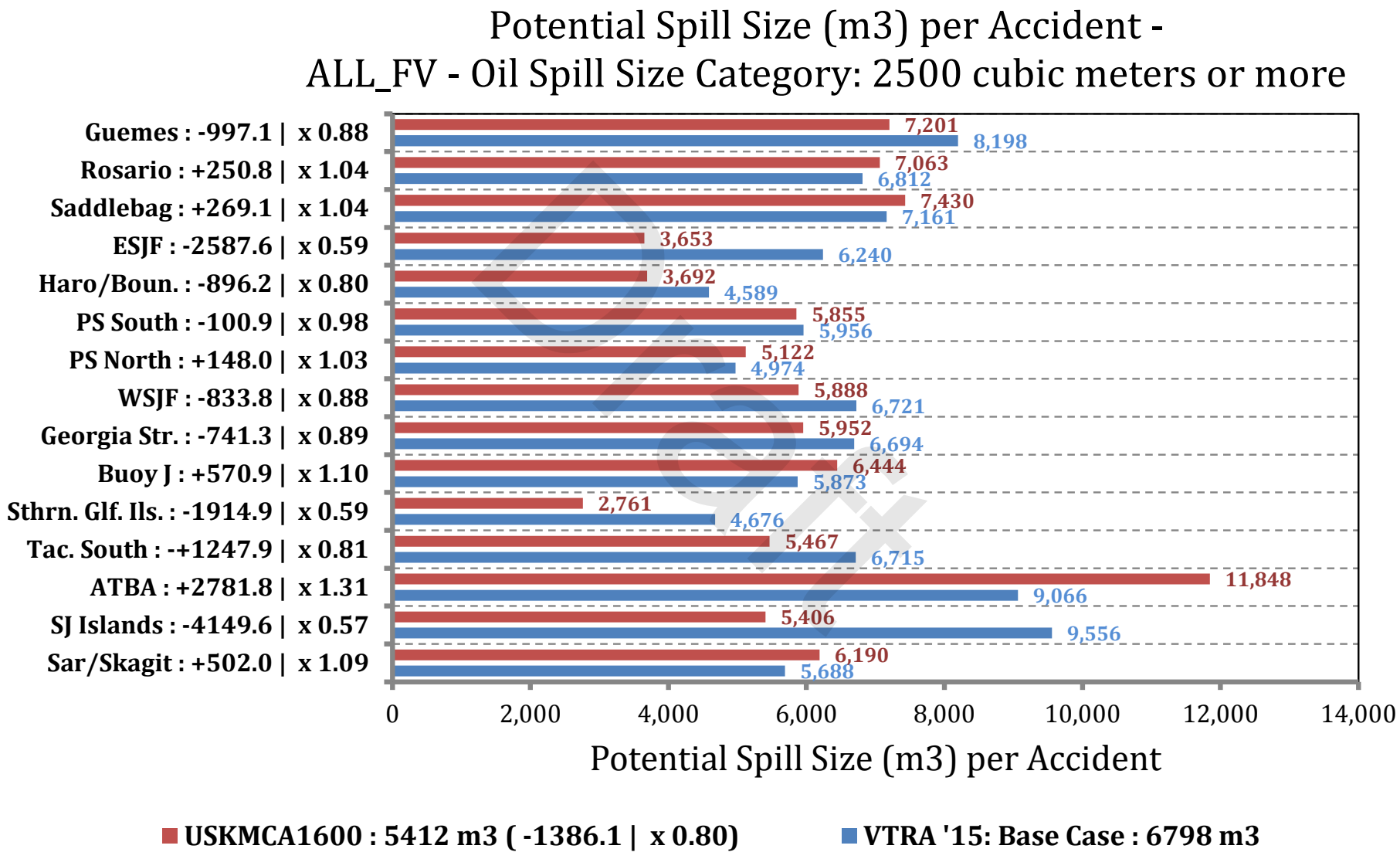
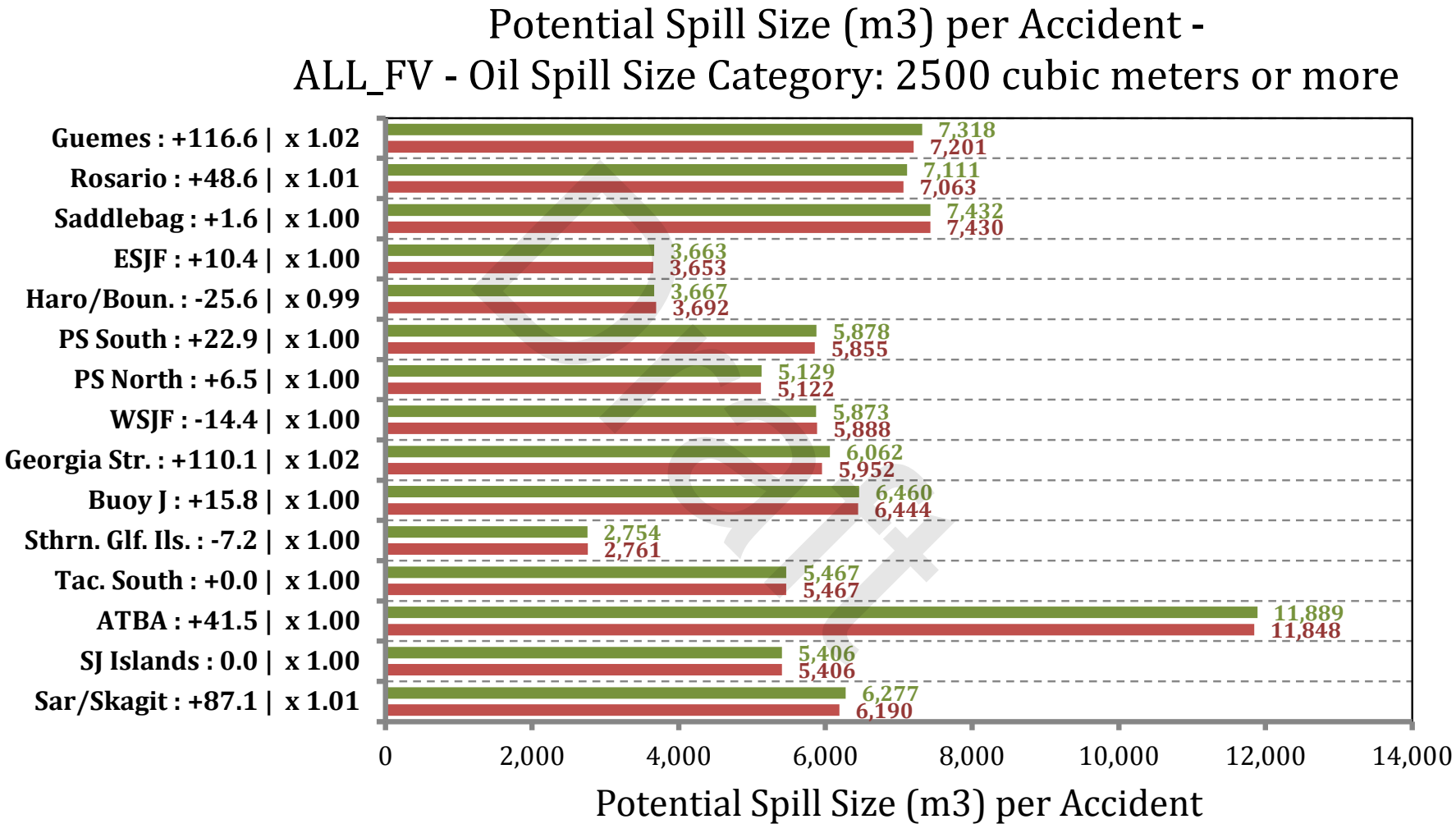



Prob. Estimate At Least One Accident in 10 Years -
ALL_FV - Oil Spill Size Category: 2500 cubic meters or more
Guemes : +0.15% | x 2.43
Rosario : +0.02% | x 1.23
Saddlebag : +0.06% | x 1.71
ESJF : +0.21% | x 5.06
Haro/Boun. : +0.29% | x 11.19
PS South : +0.00% | x 1.04
PS North : +0.00% | x 1.04
WSJF : +0.05% | x 3.10
Georgia Str. : +0.04% | x 2.40
Buoy J : +0.02% x 5.25
Sthrn. Glf. Ils. : +0.02% x 6.04
Tac. South : 0.00% | x 0.96
ATBA : +0.00% | x 1.17
SJ Islands : +0.00% | x 1.23
Sar/Skagit : +0.00% | x 1.49
0.258%
0.1064%
0.1320%
0.1075%
0.1395%
0.0815%
0.2614%
0.0516%
0.3217%
0.0287%
0.0323%
0.0311%
0.0320%
0.0308%
0.0692%
0.0223%
0.0622%
0.0259%
0.0252%
0.0048%
0.0190%
0.0031%
0.0009%
0.0009%
0.0007%
0.0006%
0.0041%
0.0033%
0.0004%
0.0003%
0.00%
0.05%
0.10%
0.15%
0.20%
0.25%
0.30%
0.35%
Prob. Estimate At Least One Accident in 10 Years
USKMCA1600 : 1.35% (+0.85% | x 2.71)
VTRA '15: Base Case : 0.50%
Draft


Prob. Estimate At Least One Accident in 10 Years -
ALL_FV - Oil Spill Size Category: 2500 cubic meters or more
Guemes : 0.00% | x 1.00
Rosario : +0.00% | x 1.01
Saddlebag : +0.00% | x 1.01
ESJF : +0.00% | x 1.00
Haro/Boun. : -0.01% | x 0.98
PS South : 0.00% | x 0.99
PS North : +0.00% | x 1.00
WSJF : +0.00% | x 1.01
Georgia Str. : 0.00% | x 1.00
Buoy J : 0.00% | x 1.00
Sthrn. Glf. Ils. : 0.00% | x 0.96
Tac. South : +0.00% | x 1.00
ATBA : 0.00% | x 1.00
SJ Islands : 0.00% | x 1.00
Sar/Skagit : 0.00% | x 1.00
0.2574%
0.258%
0.1327%
0.1320%
0.1409%
0.1395%
0.2619%
0.2614%
0.3163%
0.3217%
0.0321%
0.0323%
0.0321%
0.0320%
0.0699%
0.0692%
0.0621%
0.0622%
0.0251%
0.0252%
0.0183%
0.0190%
0.0009%
0.0009%
0.0007%
0.0007%
0.0041%
0.0041%
0.0004%
0.0004%
0.00%
0.05%
0.10%
0.15%
0.20%
0.25%
0.30%
0.35%
Prob. Estimate At Least One Accident in 10 Years
USKMCA1600 - SRT : 1.35% (0.00% | x 1.00)
USCAKM-1600 : 1.35%


Potential Spill Size (m3) per Accident -
ALL_FV - Oil Spill Size Category: 2500 cubic meters or more
Guemes : -997.1 | x 0.88
Rosario : +250.8 | x 1.04
Saddlebag : +269.1 | x 1.04
ESJF : -2587.6 | x 0.59
Haro/Boun. : -896.2 | x 0.80
PS South : -100.9 | x 0.98
PS North : +148.0 | x 1.03
WSJF : -833.8 | x 0.88
Georgia Str. : -741.3 | x 0.89
Buoy J : +570.9 | x 1.10
Sthrn. Glf. Ils. : -1914.9 | x 0.59
Tac. South : -+1247.9 | x 0.81
ATBA : +2781.8 | x 1.31
SJ Islands : -4149.6 | x 0.57
Sar/Skagit : +502.0 | x 1.09
7,201
8,198
7,063
6,812
7,430
7,161
3,653
6,240
3,692
4,589
5,855
5,956
5,122
4,974
5,888
6,721
5,952
6,694
6,444
5,873
2,761
4,676
5,467
6,715
11,848
9,066
5,406
9,556
6,190
5,688
0
2,000
4,000
6,000
8,000
10,000
12,000
14,000
Potential Spill Size (m3) per Accident
USKMCA1600 : 5412 m3 (-1386.1 | x 0.80)
VTRA '15: Base Case : 6798 m3


Potential Spill Size (m3) per Accident -
ALL_FV - Oil Spill Size Category: 2500 cubic meters or more
Guemes : +116.6 | x 1.02
Rosario : +48.6 | x 1.01
Saddlebag : +1.6 | x 1.00
ESJF : +10.4 | x 1.00
Haro/Boun. : -25.6 | x 0.99
PS South : +22.9 | x 1.00
PS North : +6.5 | x 1.00
WSJF : -14.4 | x 1.00
Georgia Str. : +110.1 | x 1.02
Buoy J : +15.8 | x 1.00
Sthrn. Glf. Ils. : -7.2 | x 1.00
Tac. South : +0.0 | x 1.00
ATBA : +41.5 | x 1.00
SJ Islands : 0.0 | x 1.00
Sar/Skagit : +87.1 | x 1.01
7,318
7,201
7,111
7,063
7,432
7,430
3,663
3,653
3,667
3,692
5,878
5,855
5,129
5,122
5,873
5,888
6,062
5,952
6,460
6,444
2,754
2,761
5,467
5,467
11,889
11,848
5,406
5,406
6,277
6,190
0
2,000
4,000
6,000
8,000
10,000
12,000
14,000
Potential Spill Size (m3) per Accident
USKMCA1600 - SRT : 5453 m3 (+40.6 | x 1.01)
USCAKM-1600 : 5412 m3

By Waterway Zone Risk Comparison

Oil Spill Size Category:
1000 m^3 - 2500 m^3

VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2015

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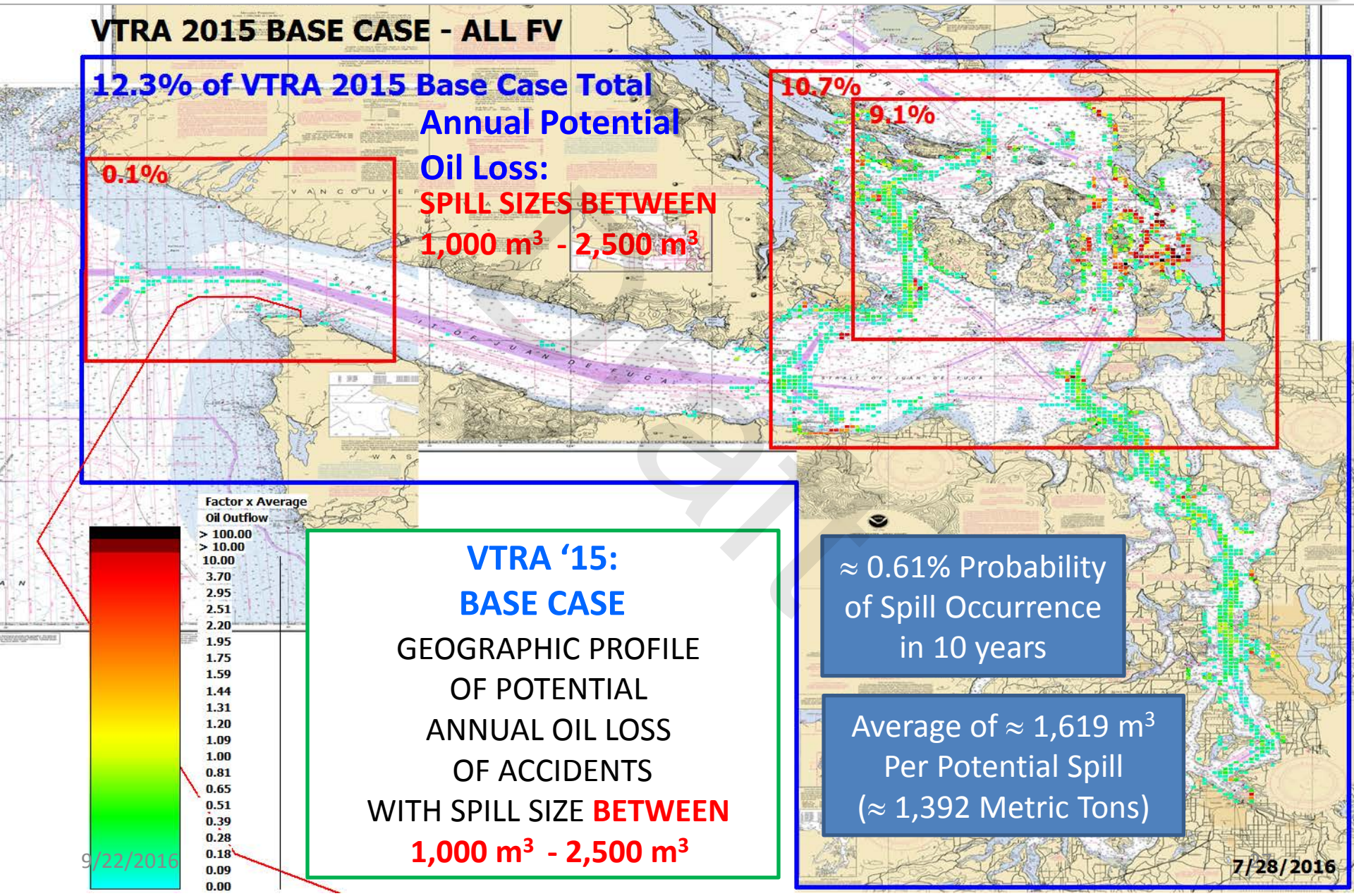

VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2015

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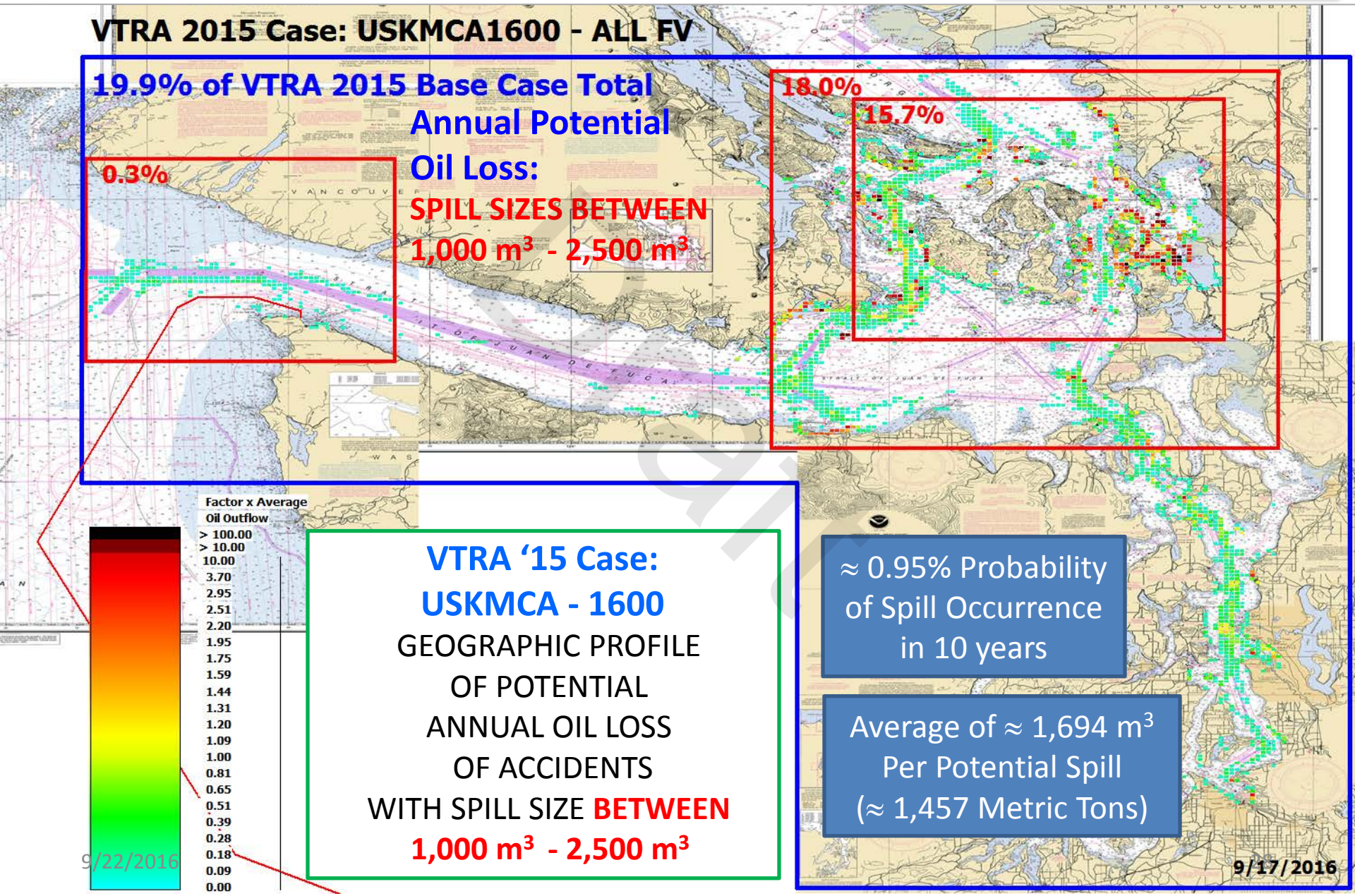

VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2015

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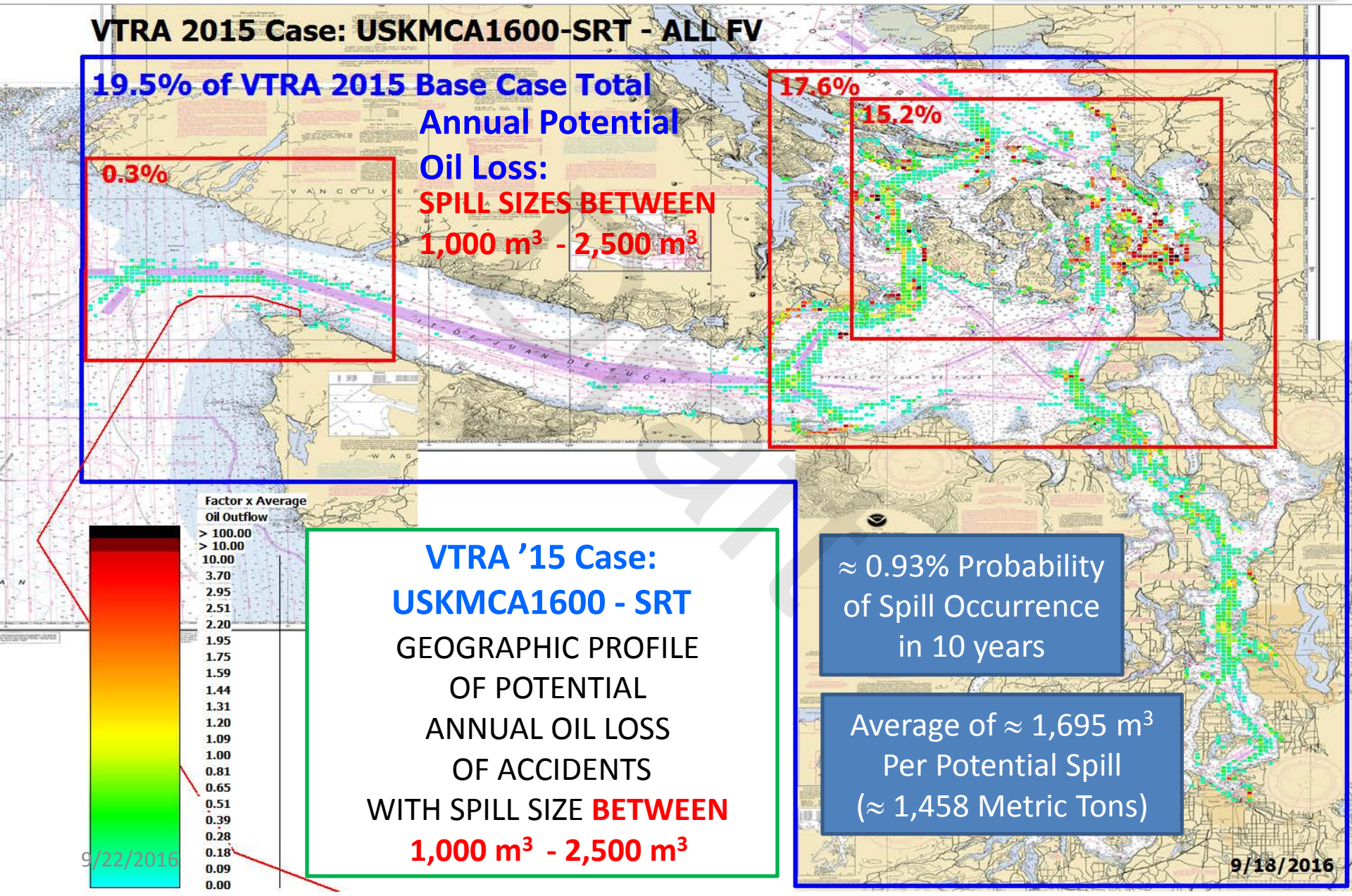
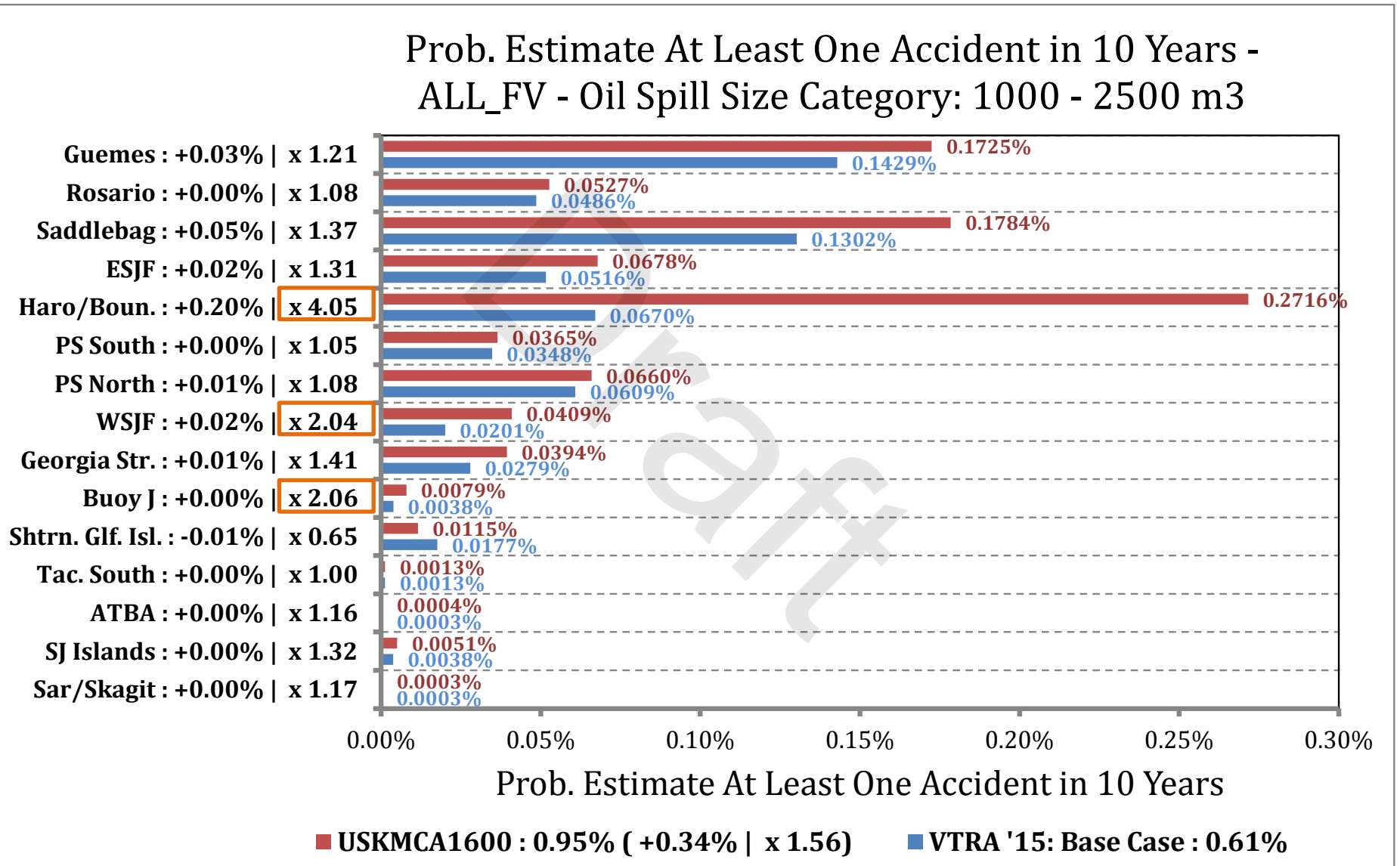
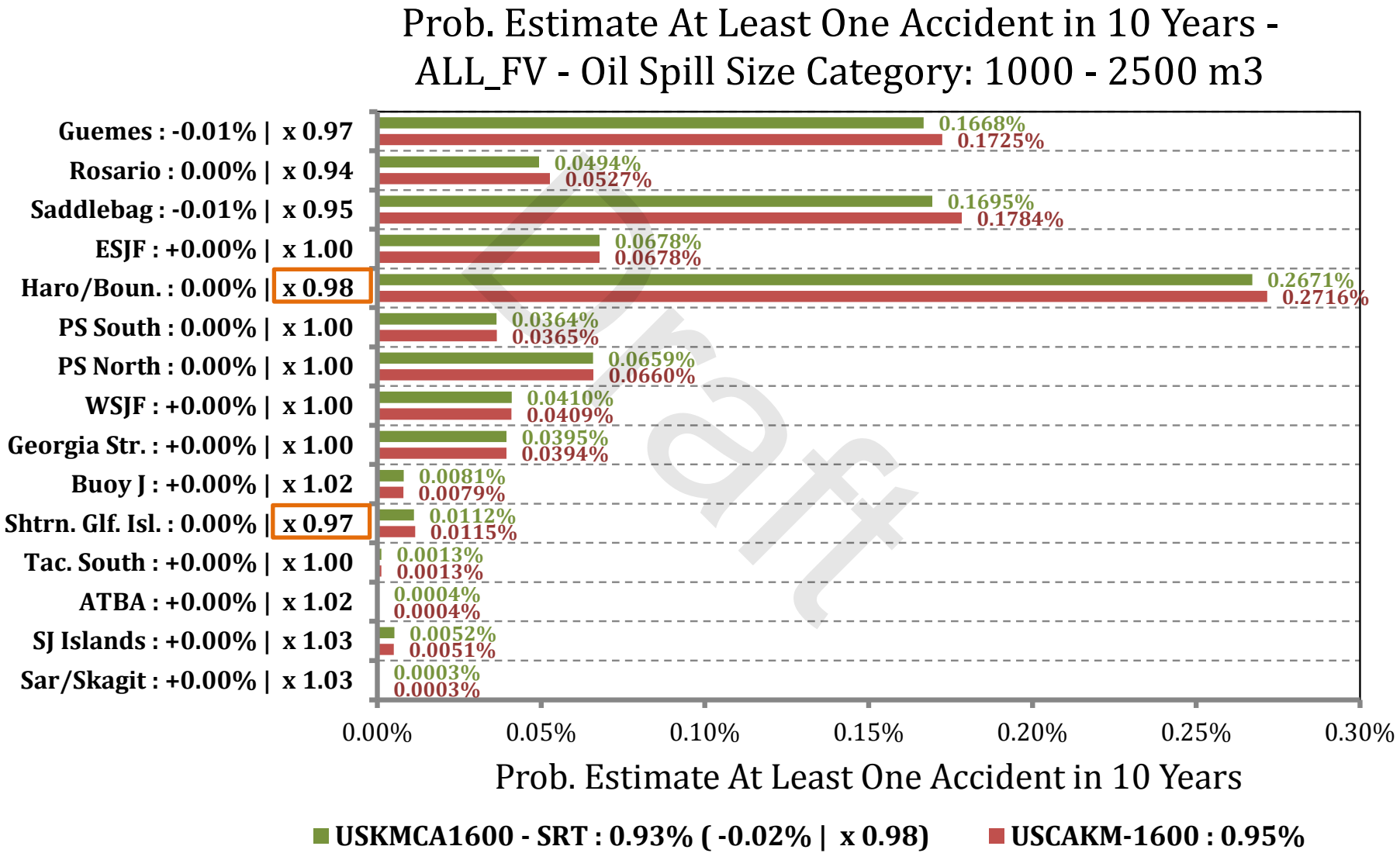
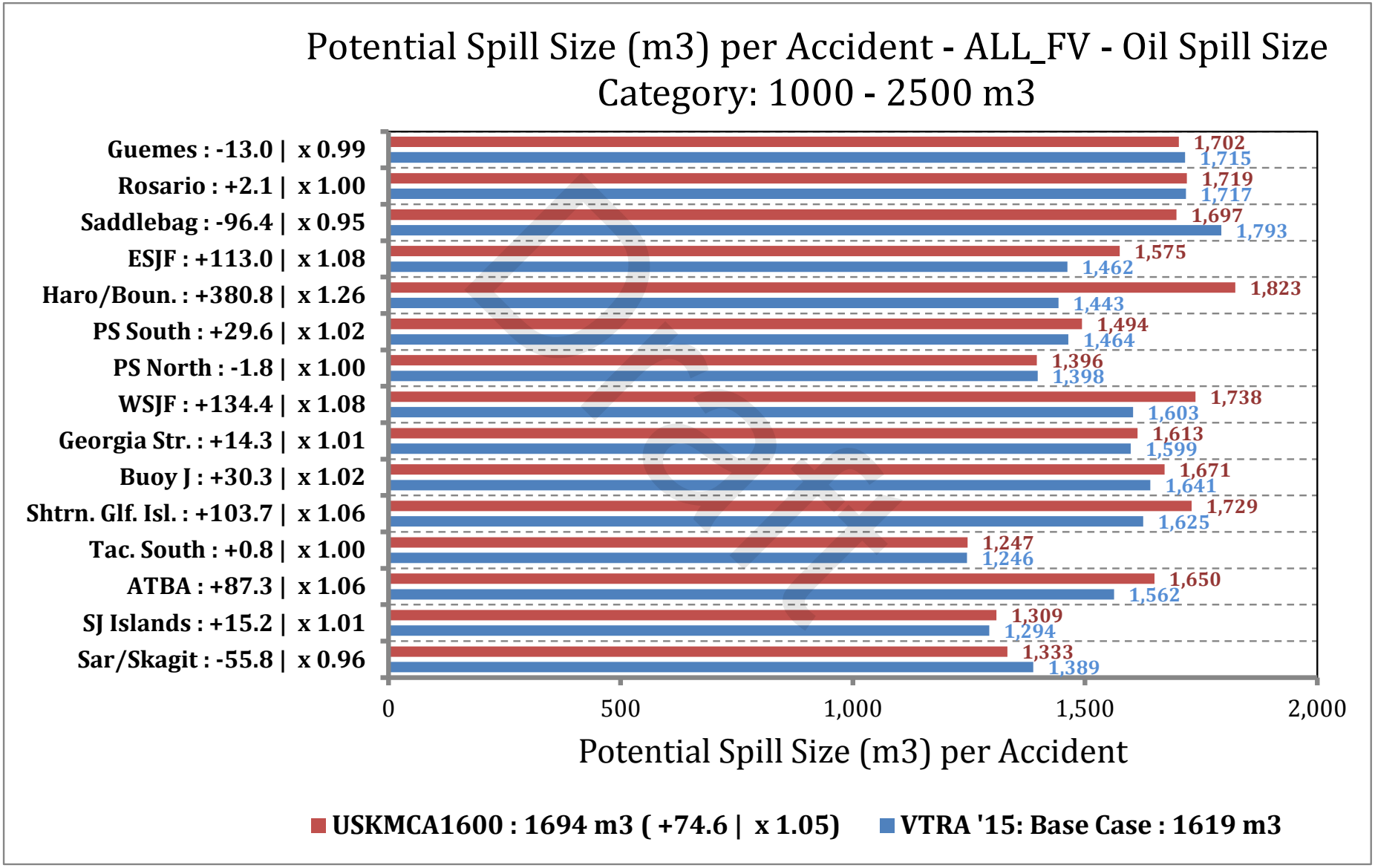


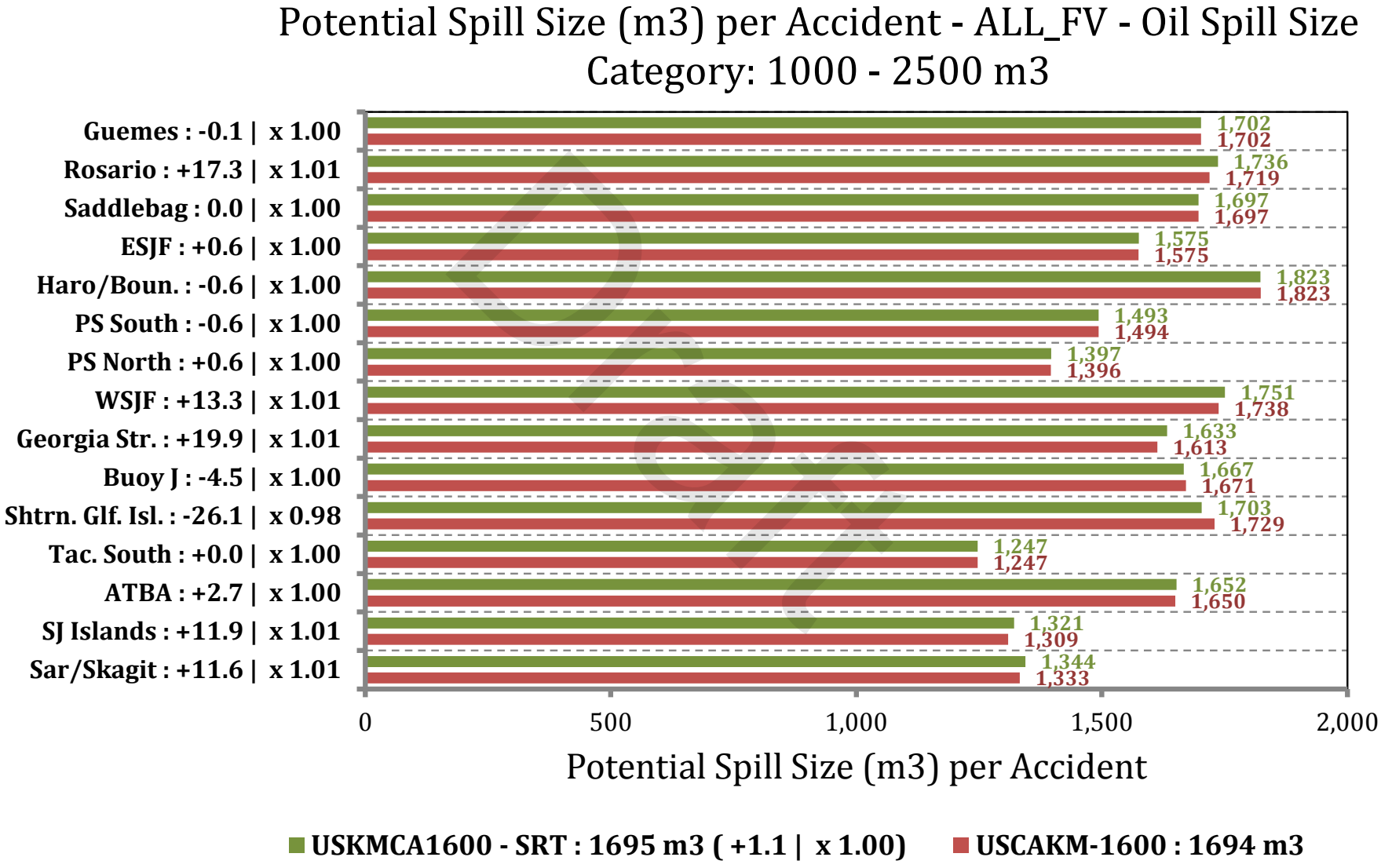
VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2015



VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2015




Potential Spill Size (m3) per Accident - ALL_FV - Oil Spill Size Category: 1000 - 2500 m3
Guemes : -13.0 | x 0.99
Rosario : +2.1 | x 1.00
Saddlebag : -96.4 | x 0.95
ESJF : +113.0 | x 1.08
Haro/Boun. : +380.8 | x 1.26
PS South : +29.6 | x 1.02
PS North : -1.8 | x 1.00
WSJF : +134.4 | x 1.08
Georgia Str. : +14.3 | x 1.01
Buoy J : +30.3 | x 1.02
Shtrn. Glf. Isl. : +103.7 | x 1.06
Tac. South : +0.8 | x 1.00
ATBA : +87.3 | x 1.06
SJ Islands : +15.2 | x 1.01
Sar/Skagit : -55.8 | x 0.96
1,702
1,715
1,719
1,717
1,697
1,793
1,575
1,462
1,823
1,443
1,494
1,464
1,396
1,398
1,738
1,603
1,613
1,599
1,671
1,641
1,729
1,625
1,247
1,246
1,650
1,562
1,309
1,294
1,333
1,389
0
500
1,000
1,500
2,000
Potential Spill Size (m3) per Accident
USKMCA1600 : 1694 m3 (+74.6 | x 1.05)
VTRA '15: Base Case : 1619 m3


Potential Spill Size (m3) per Accident - ALL_FV - Oil Spill Size Category: 1000 - 2500 m3
Guemes : -0.1 | x 1.00
Rosario : +17.3 | x 1.01
Saddlebag : 0.0 | x 1.00
ESJF : +0.6 | x 1.00
Haro/Boun. : -0.6 | x 1.00
PS South : -0.6 | x 1.00
PS North : +0.6 | x 1.00
WSJF : +13.3 | x 1.01
Georgia Str. : +19.9 | x 1.01
Buoy J : -4.5 | x 1.00
Shtrn. Glf. Isl. : -26.1 | x 0.98
Tac. South : +0.0 | x 1.00
ATBA : +2.7 | x 1.00
SJ Islands : +11.9 | x 1.01
Sar/Skagit : +11.6 | x 1.01
1,702
1,702
1,736
1,719
1,697
1,697
1,575
1,575
1,823
1,823
1,493
1,494
1,397
1,396
1,751
1,738
1,633
1,613
1,667
1,671
1,703
1,729
1,247
1,247
1,652
1,650
1,321
1,309
1,344
1,333
0
500
1,000
1,500
2,000
Potential Spill Size (m3) per Accident
USKMCA1600 - SRT : 1695 m3 (+1.1 | x 1.00)
USCAKM-1600 : 1694 m3

By Waterway Zone Risk Comparison

Oil Spill Size Category:

1 m^3 - 1000 m^3

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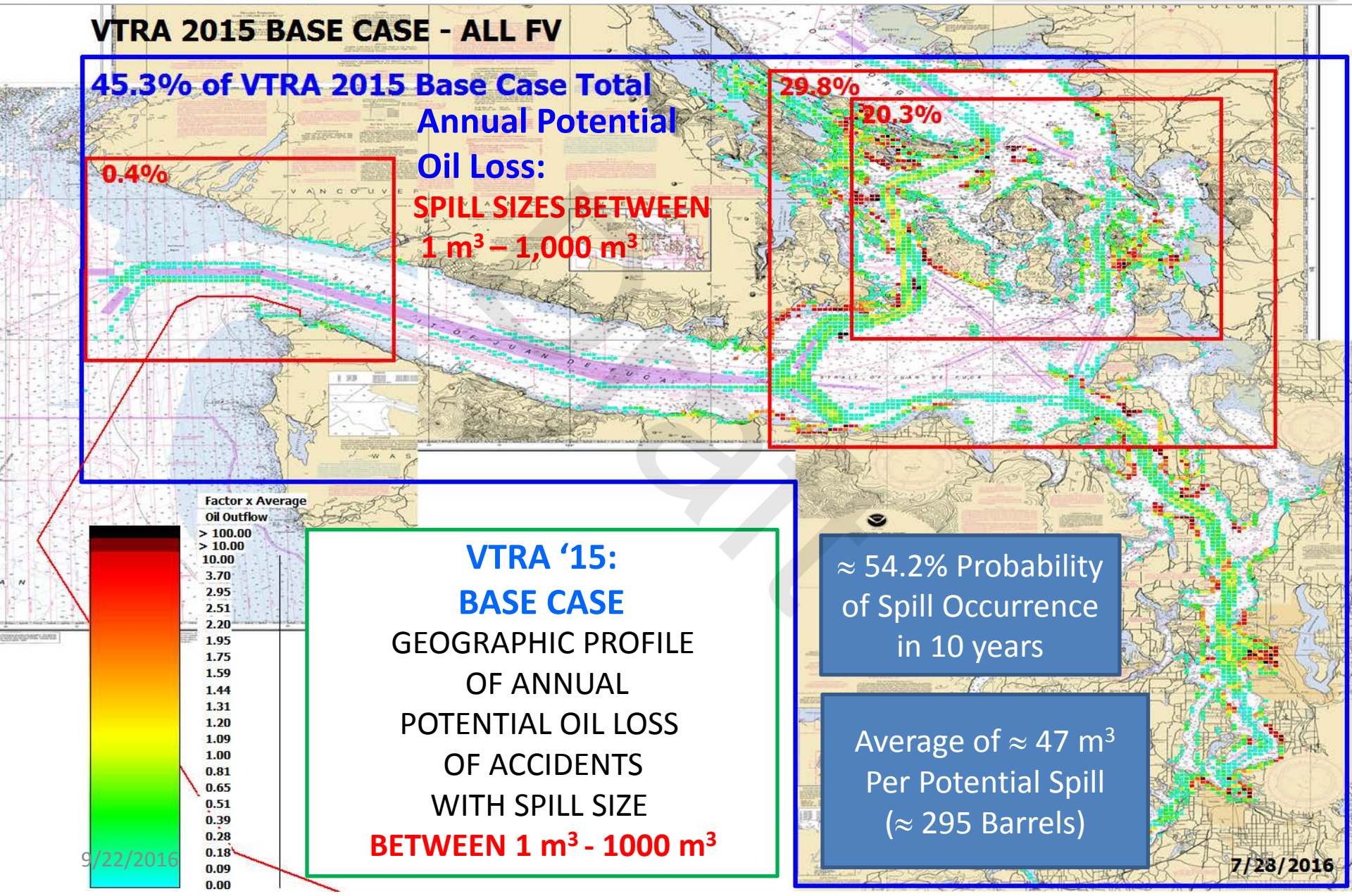

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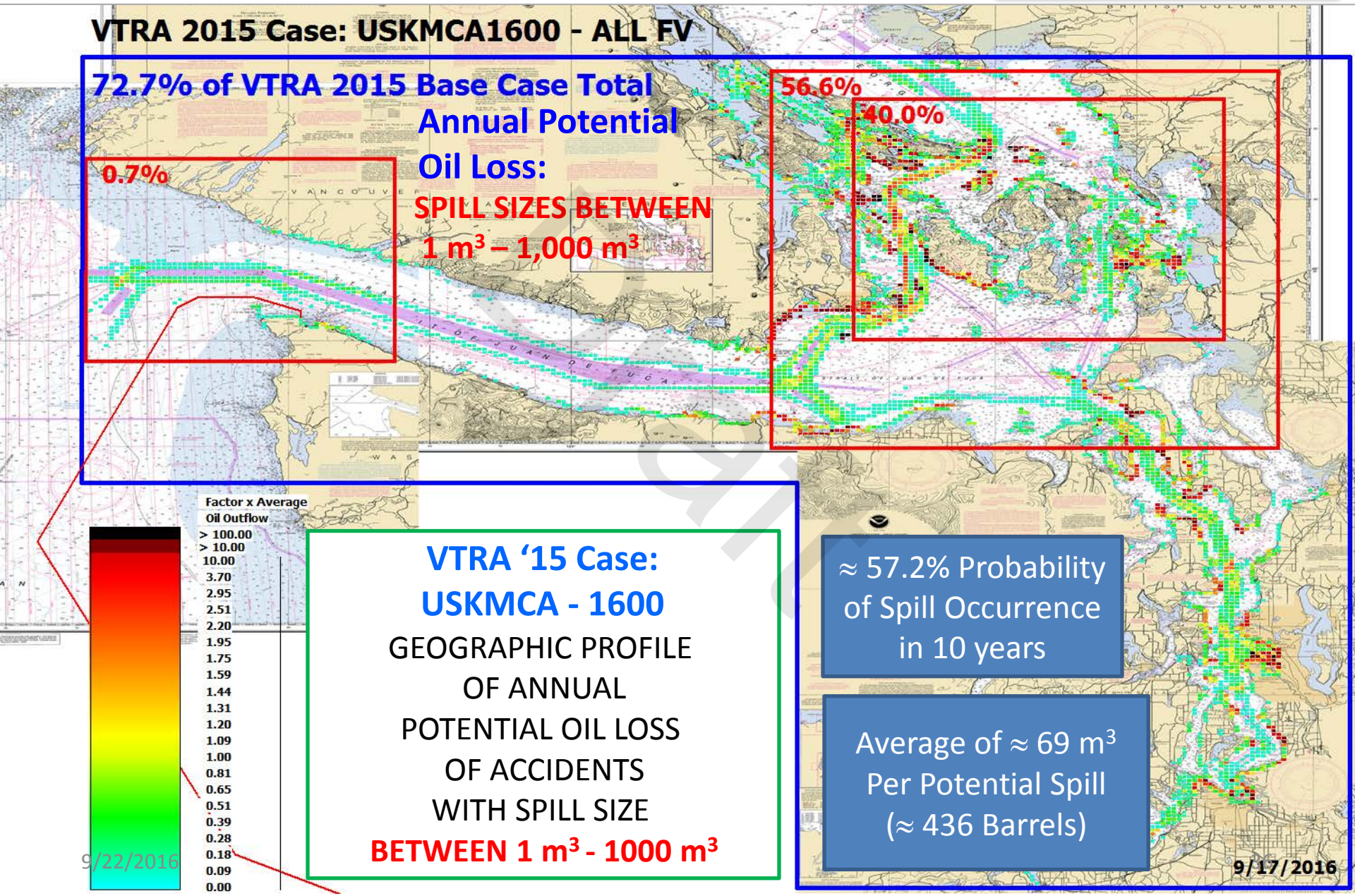

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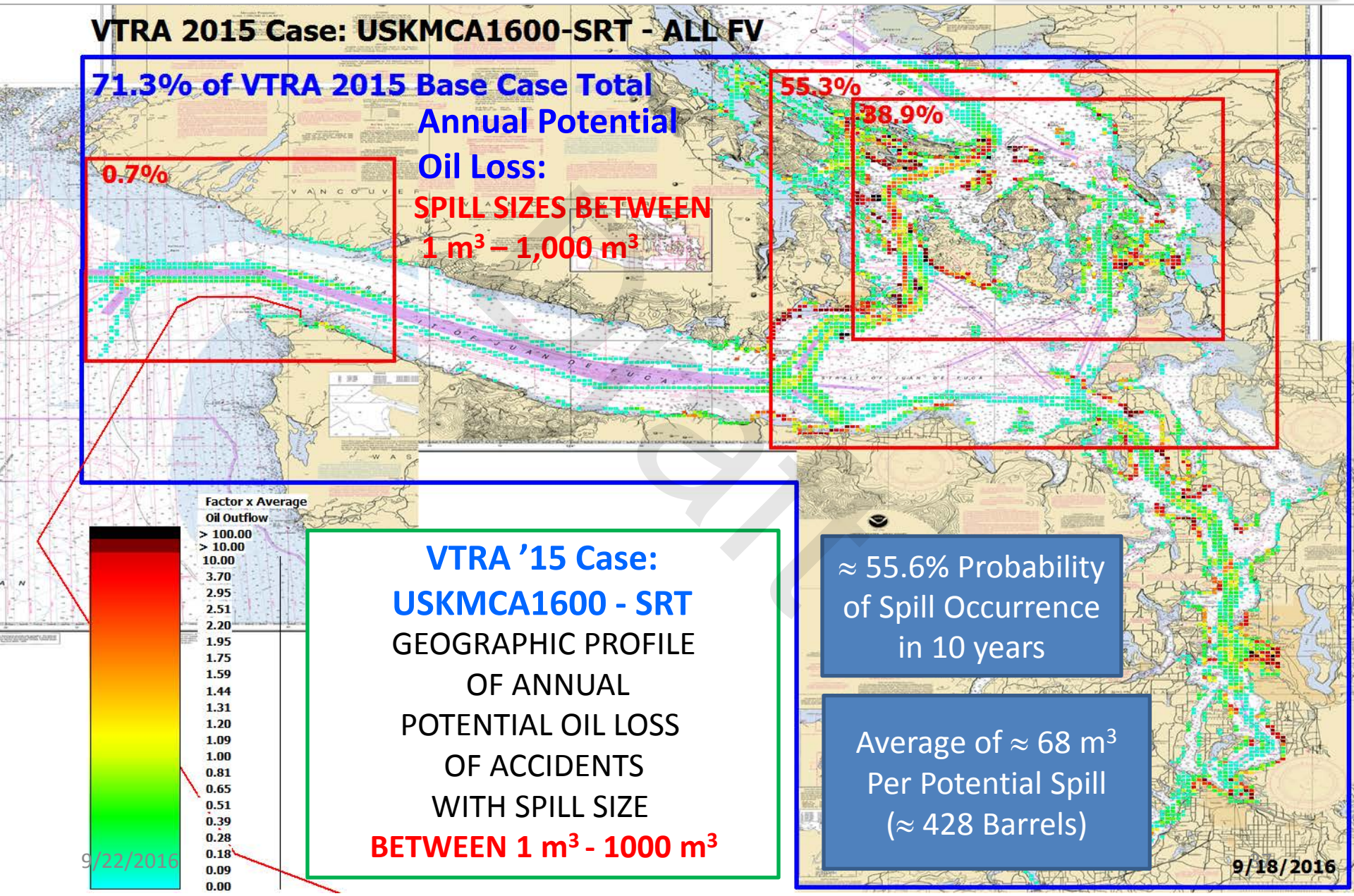
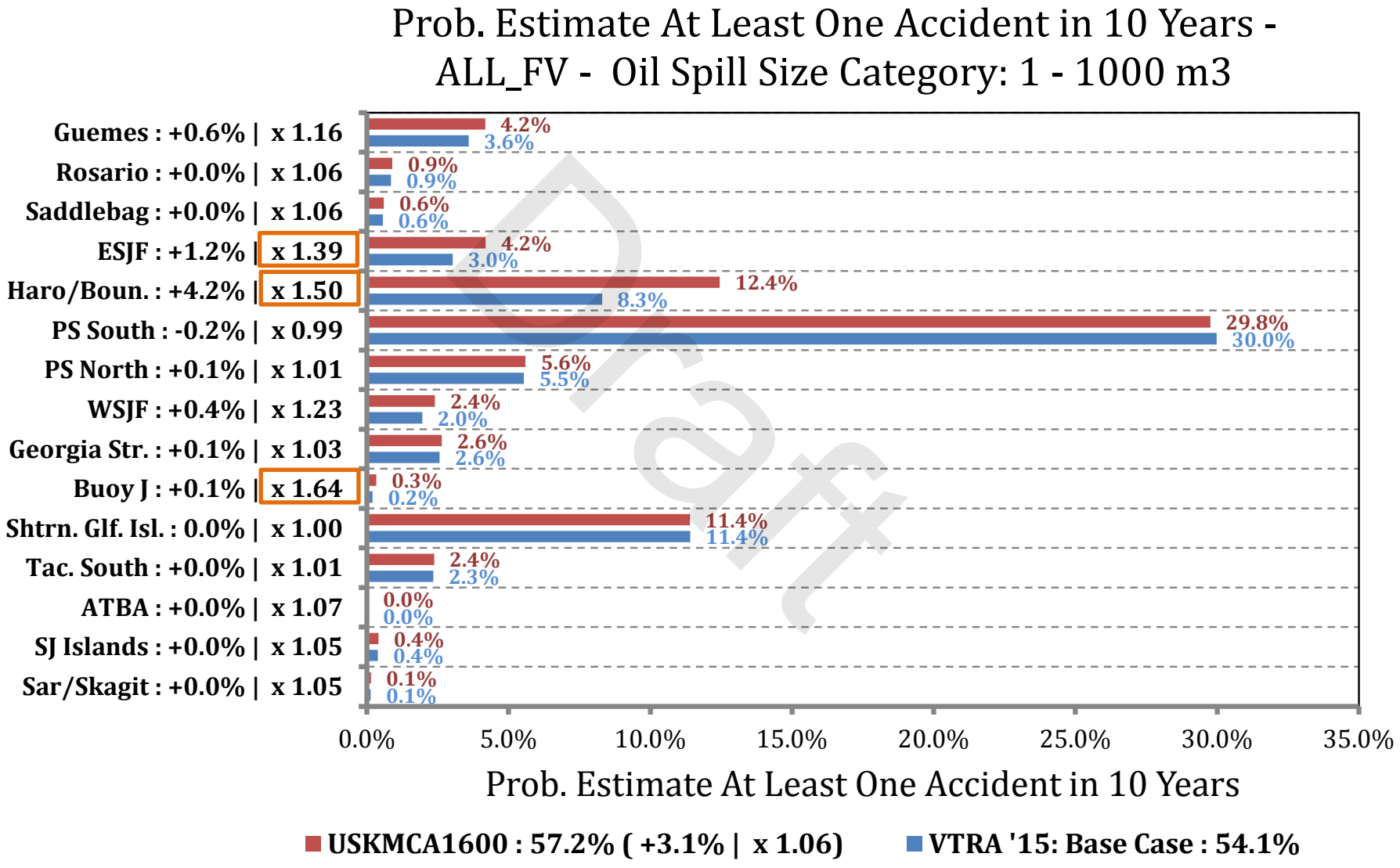
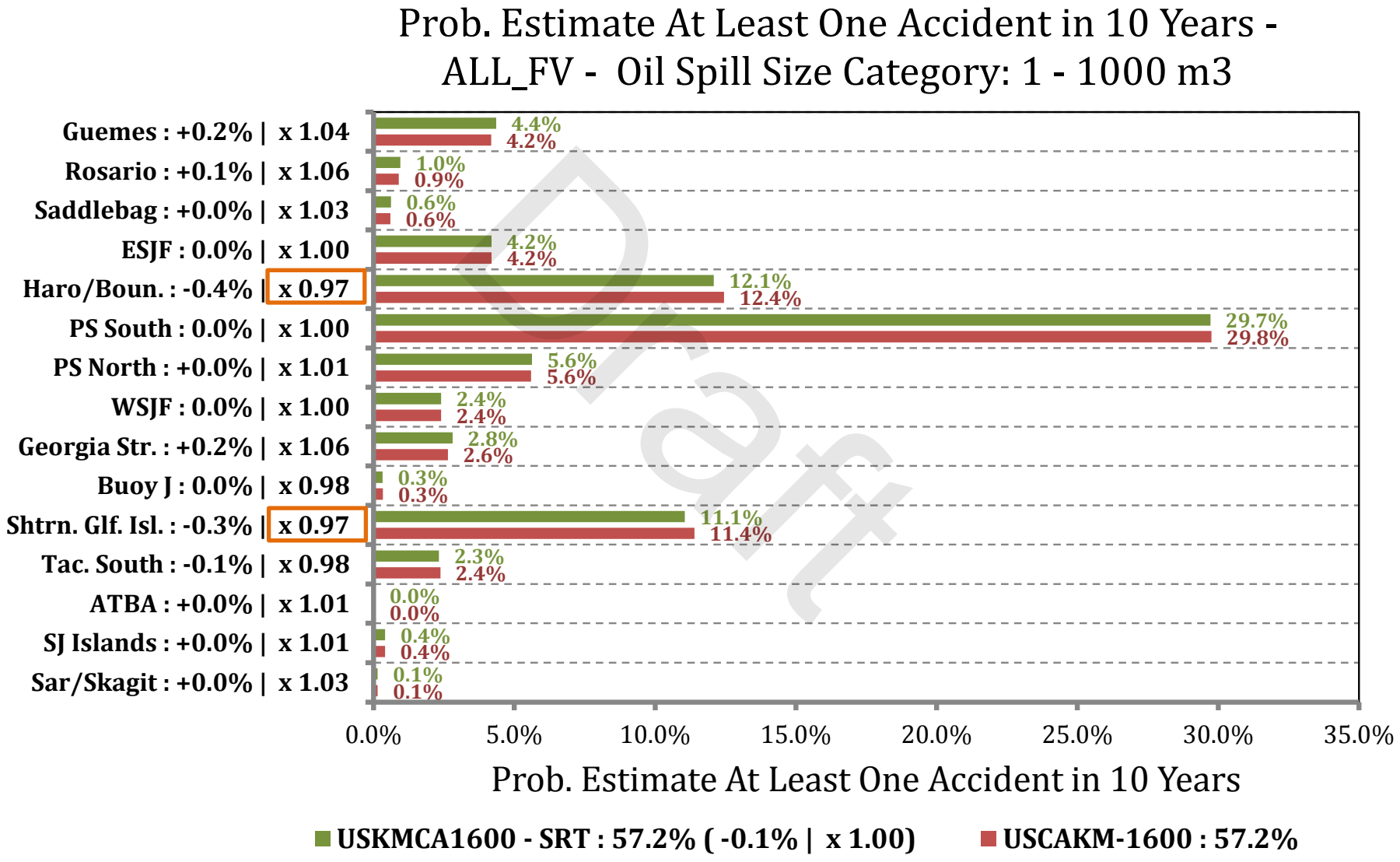
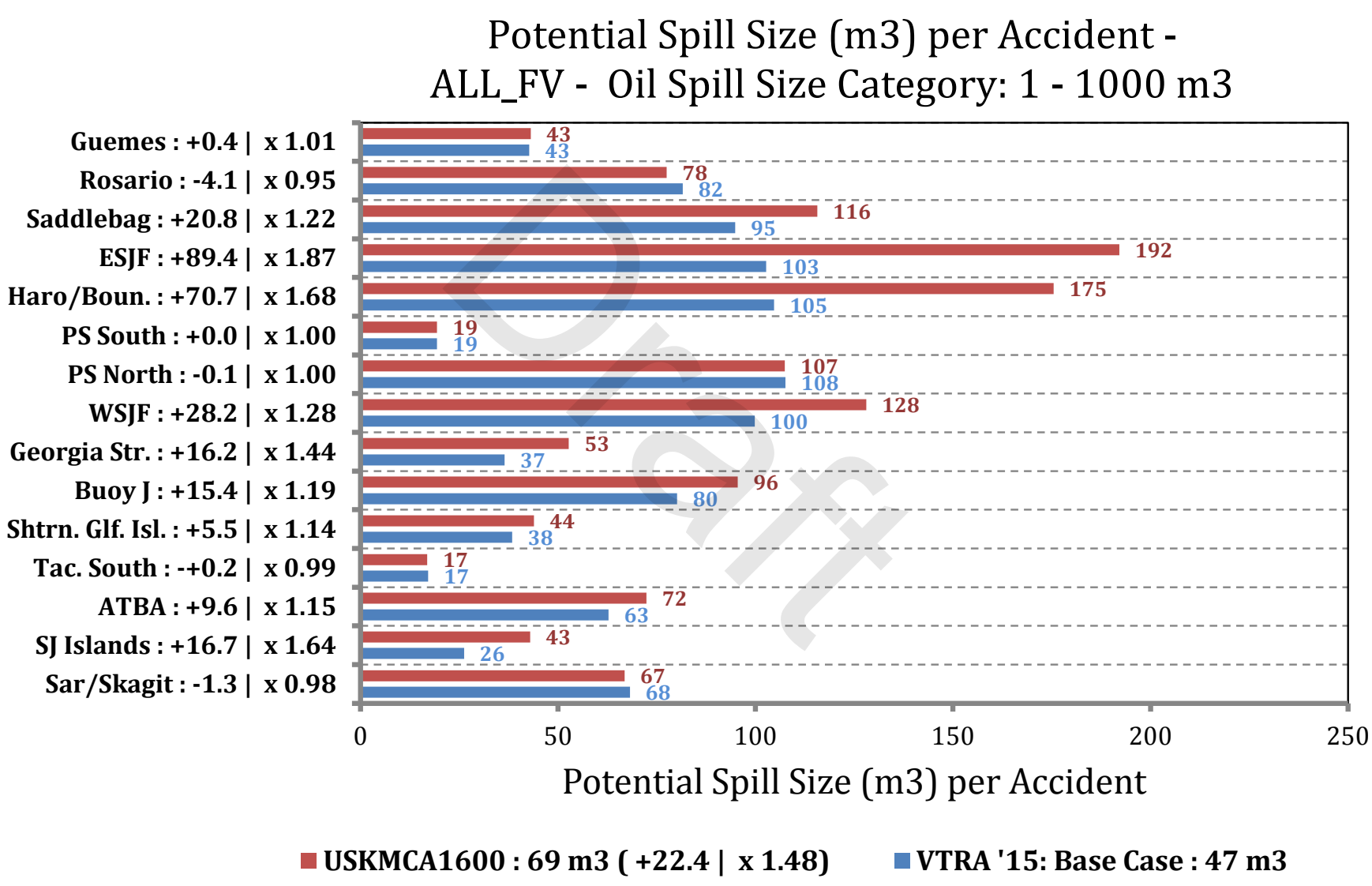
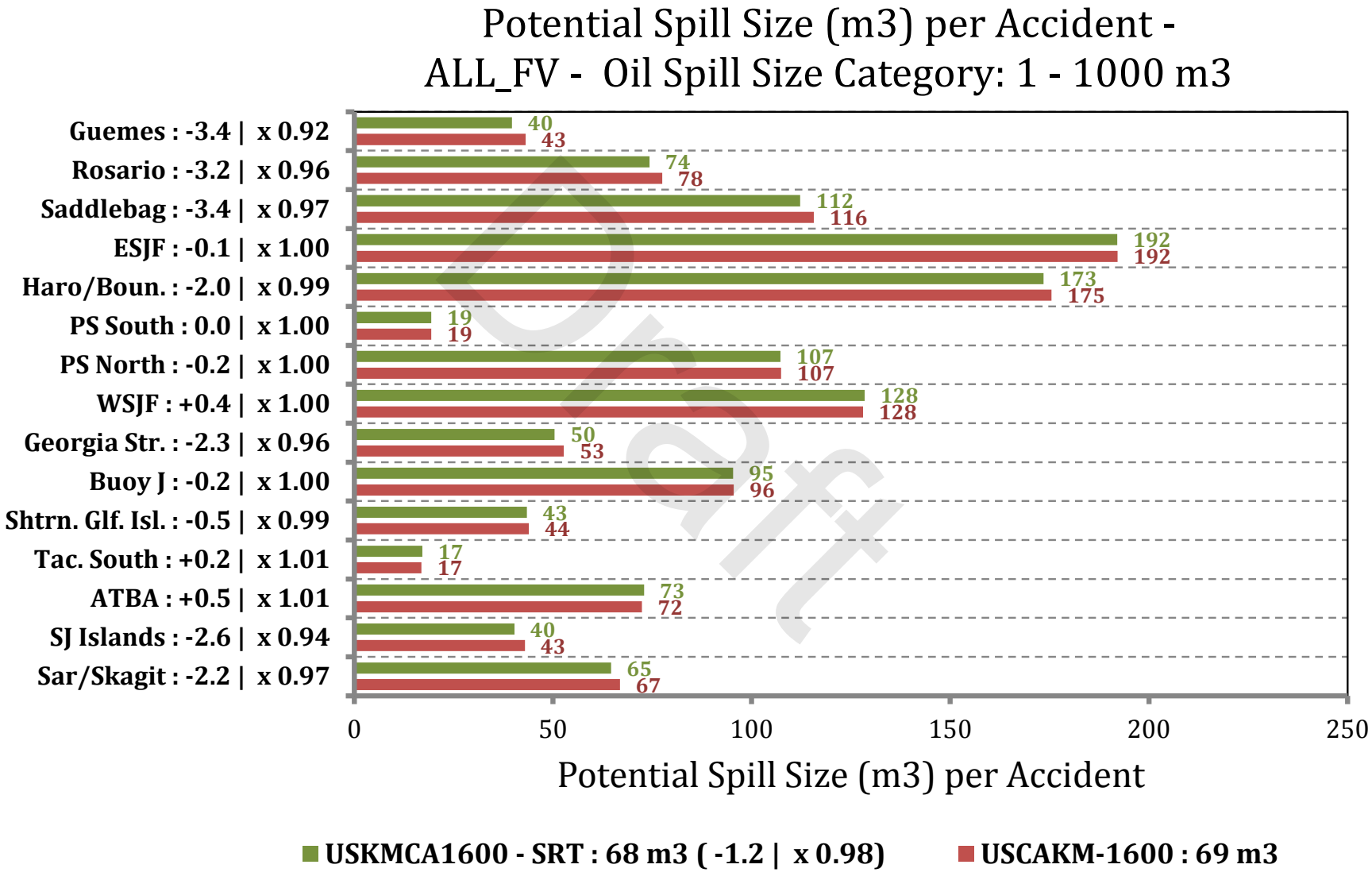


VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2015




Prob. Estimate At Least One Accident in 10 Years - ALL_FV - Oil Spill Size Category: 1 - 1000 m3
Guemes : +0.2% | x 1.04
Rosario : +0.1% | x 1.06
Saddlebag : +0.0% | x 1.03
ESJF : 0.0% | x 1.00
Haro/Boun. : -0.4% | x 0.97
PS South : 0.0% | x 1.00
PS North : +0.0% | x 1.01
WSJF : 0.0% | x 1.00
Georgia Str. : +0.2% | x 1.06
Buoy J : 0.0% | x 0.98
Shtrn. Glf. Isl. : -0.3% | x 0.97
Tac. South : -0.1% | x 0.98
ATBA : +0.0% | x 1.01
SJ Islands : +0.0% | x 1.01
Sar/Skagit : +0.0% | x 1.03
4.4% 4.2%
1.0% 0.9%
0.6% 0.6%
4.2% 4.2%
12.1% 12.4%
29.7% 29.8%
5.6% 5.6%
2.4% 2.4%
2.8% 2.6%
0.3% 0.3%
11.1% 11.4%
2.3% 2.4%
0.0% 0.0%
0.4% 0.4%
0.1% 0.1%
0.0% 5.0% 10.0% 15.0% 20.0% 25.0% 30.0% 35.0%
Prob. Estimate At Least One Accident in 10 Years
USKMCA1600 - SRT : 57.2% (-0.1% | x 1.00)
USCAKM-1600 : 57.2%


Potential Spill Size (m3) per Accident -
ALL_FV - Oil Spill Size Category: 1 - 1000 m3
Guemes : +0.4 | x 1.01
Rosario : -4.1 | x 0.95
Saddlebag : +20.8 | x 1.22
ESJF : +89.4 | x 1.87
Haro/Boun. : +70.7 | x 1.68
PS South : +0.0 | x 1.00
PS North : -0.1 | x 1.00
WSJF : +28.2 | x 1.28
Georgia Str. : +16.2 | x 1.44
Buoy J : +15.4 | x 1.19
Shtrn. Glf. Isl. : +5.5 | x 1.14
Tac. South : -+0.2 | x 0.99
ATBA : +9.6 | x 1.15
SJ Islands : +16.7 | x 1.64
Sar/Skagit : -1.3 | x 0.98
43
43
78
82
116
95
192
103
175
105
19
19
107
108
128
100
53
37
96
80
44
38
17
17
72
63
43
26
67
68
0
50
100
150
200
250
Potential Spill Size (m3) per Accident
USKMCA1600 : 69 m3 (+22.4 | x 1.48)
VTRA '15: Base Case : 47 m3


Potential Spill Size (m3) per Accident -
ALL_FV - Oil Spill Size Category: 1 - 1000 m3
Guemes : -3.4 | x 0.92
Rosario : -3.2 | x 0.96
Saddlebag : -3.4 | x 0.97
ESJF : -0.1 | x 1.00
Haro/Boun. : -2.0 | x 0.99
PS South : 0.0 | x 1.00
PS North : -0.2 | x 1.00
WSJF : +0.4 | x 1.00
Georgia Str. : -2.3 | x 0.96
Buoy J : -0.2 | x 1.00
Shtrn. Glf. Isl. : -0.5 | x 0.99
Tac. South : +0.2 | x 1.01
ATBA : +0.5 | x 1.01
SJ Islands : -2.6 | x 0.94
Sar/Skagit : -2.2 | x 0.97
40
43
74
78
112
116
192
192
173
175
19
19
107
107
128
128
50
53
95
96
43
44
17
17
73
72
40
43
65
67
0
50
100
150
200
250
Potential Spill Size (m3) per Accident
USKMCA1600 - SRT : 68 m3 (-1.2 | x 0.98)
USCAKM-1600 : 69 m3

By Waterway Zone Risk Comparison

Oil Spill Size Category:

0 m^3 - 1 m^3

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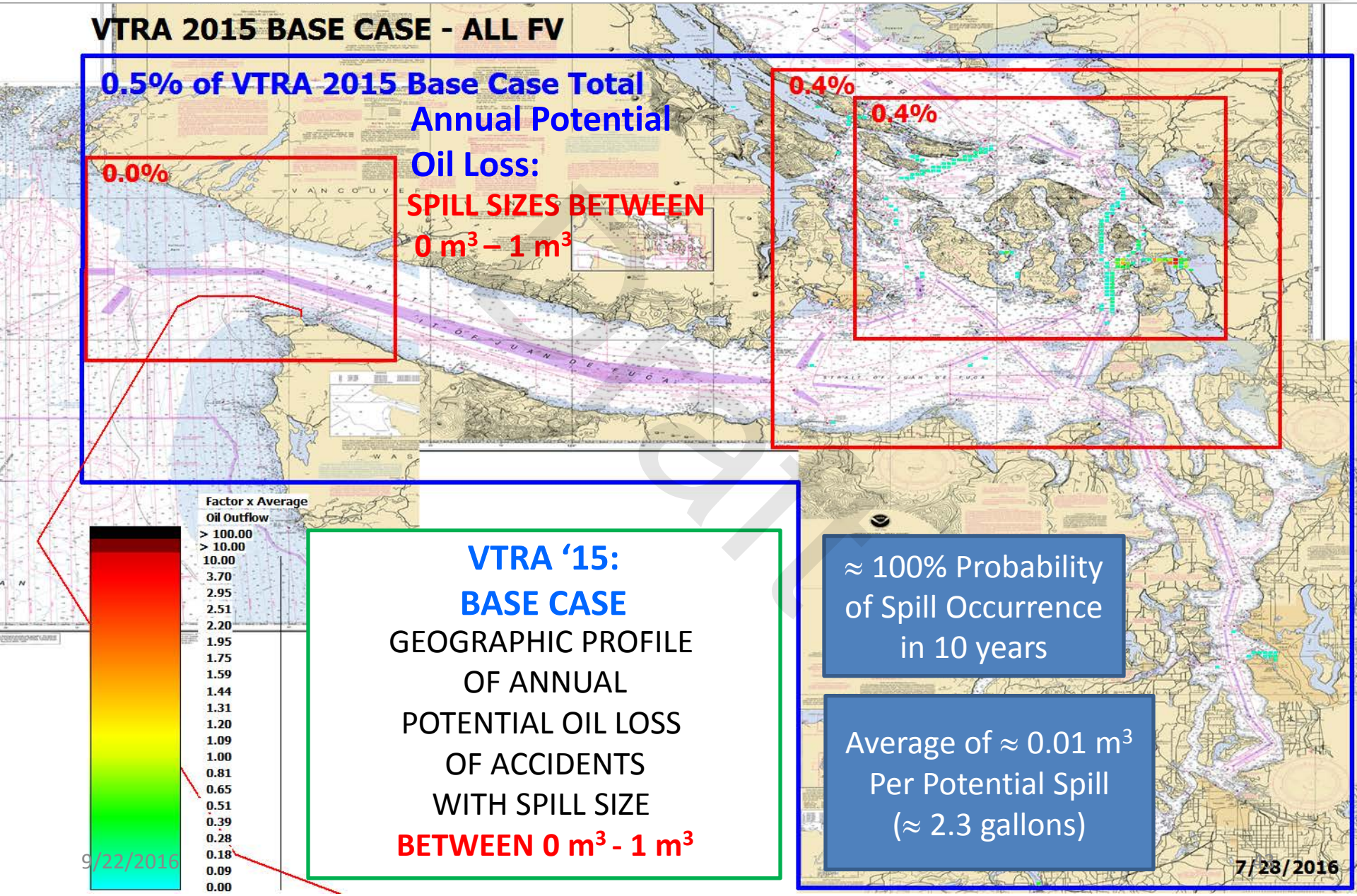

VTRA '15:
BASE CASE
GEOGRAPHIC PROFILE OF ANNUAL POTENTIAL OIL LOSS OF ACCIDENTS WITH SPILL SIZE
BETWEEN 0 m³ - 1 m³

≈ 100% Probability of Spill Occurrence in 10 years

Average of ≈ 0.01 m³ Per Potential Spill (≈ 2.3 gallons)

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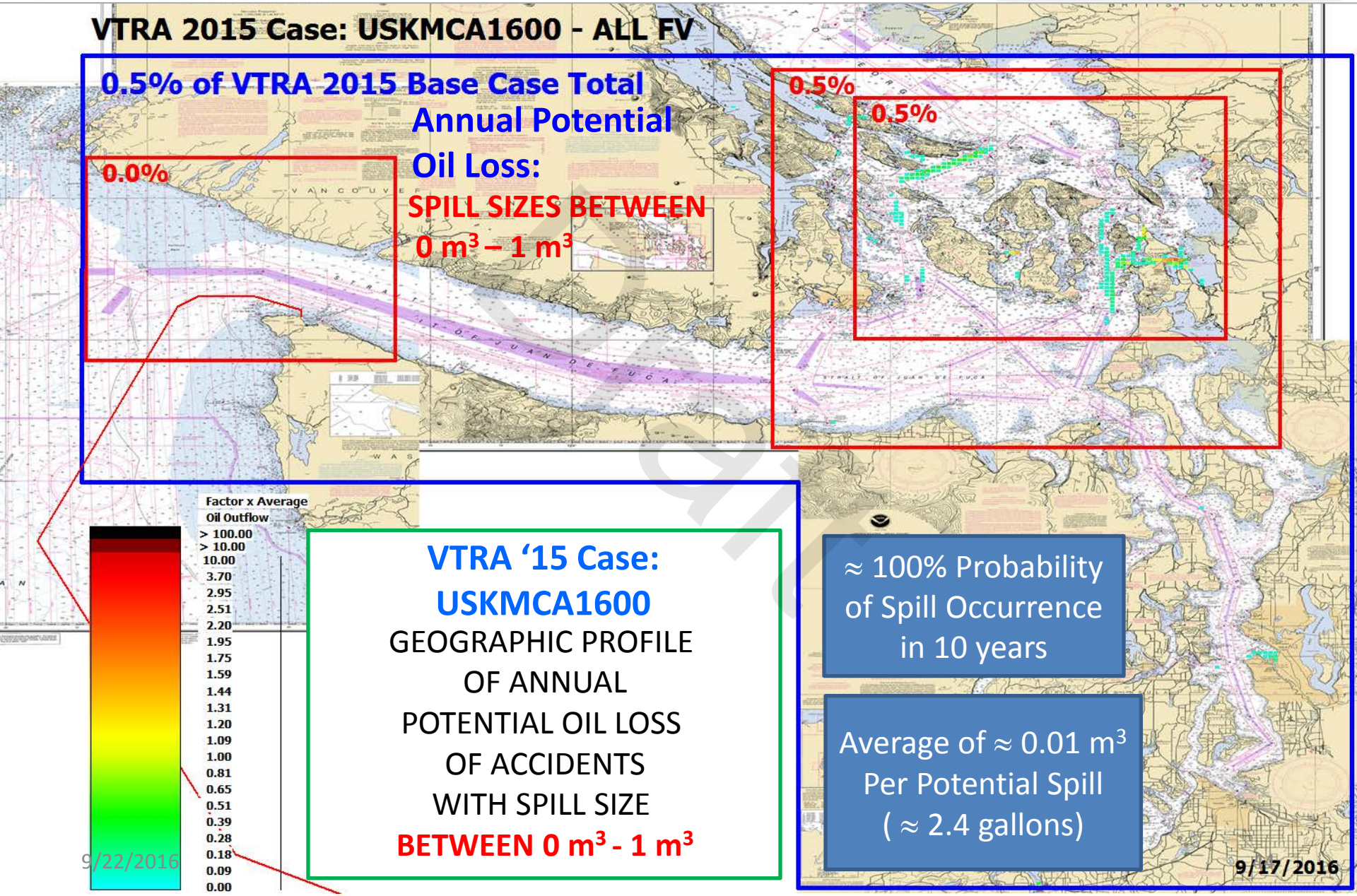

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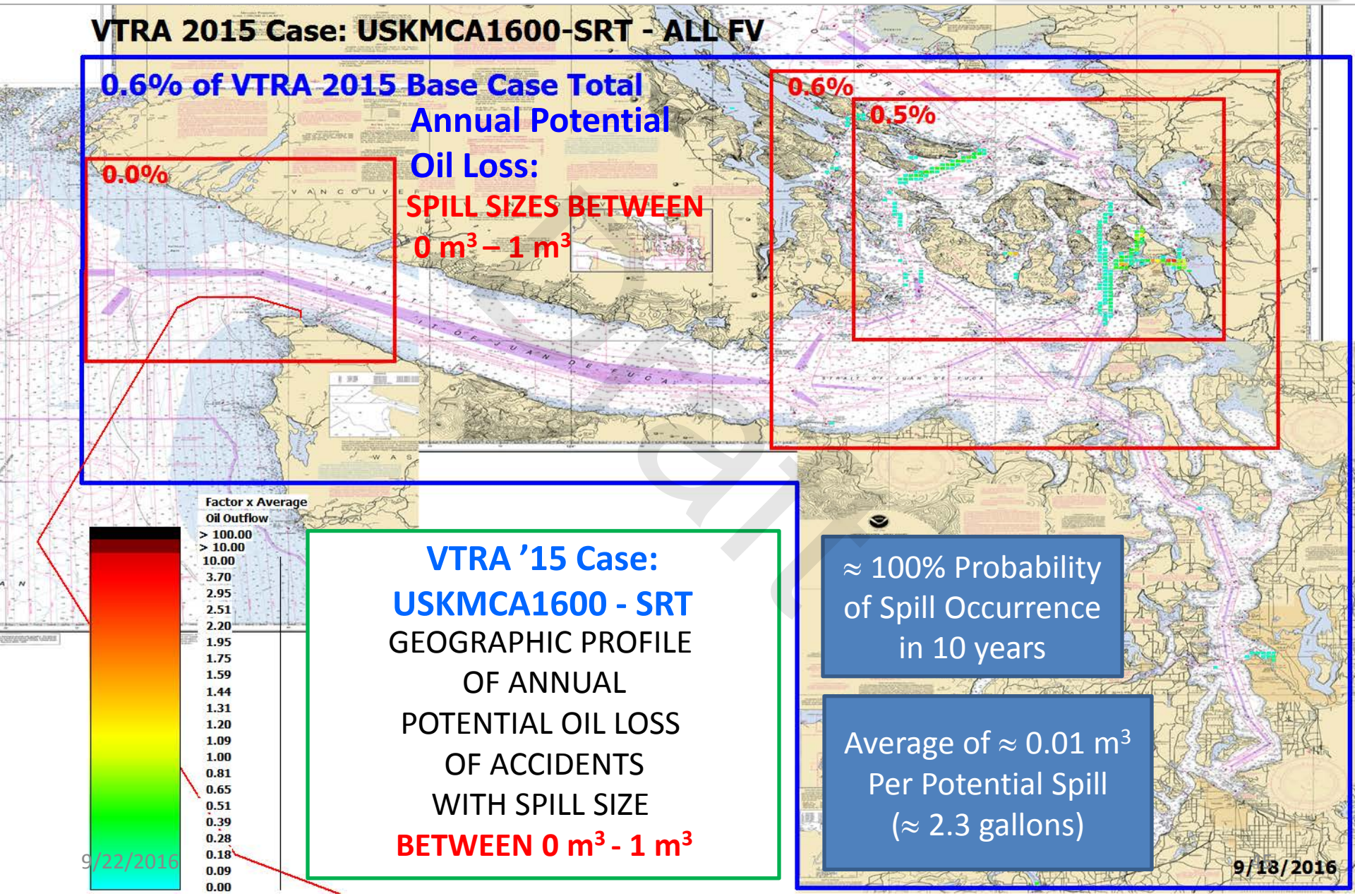

VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2015

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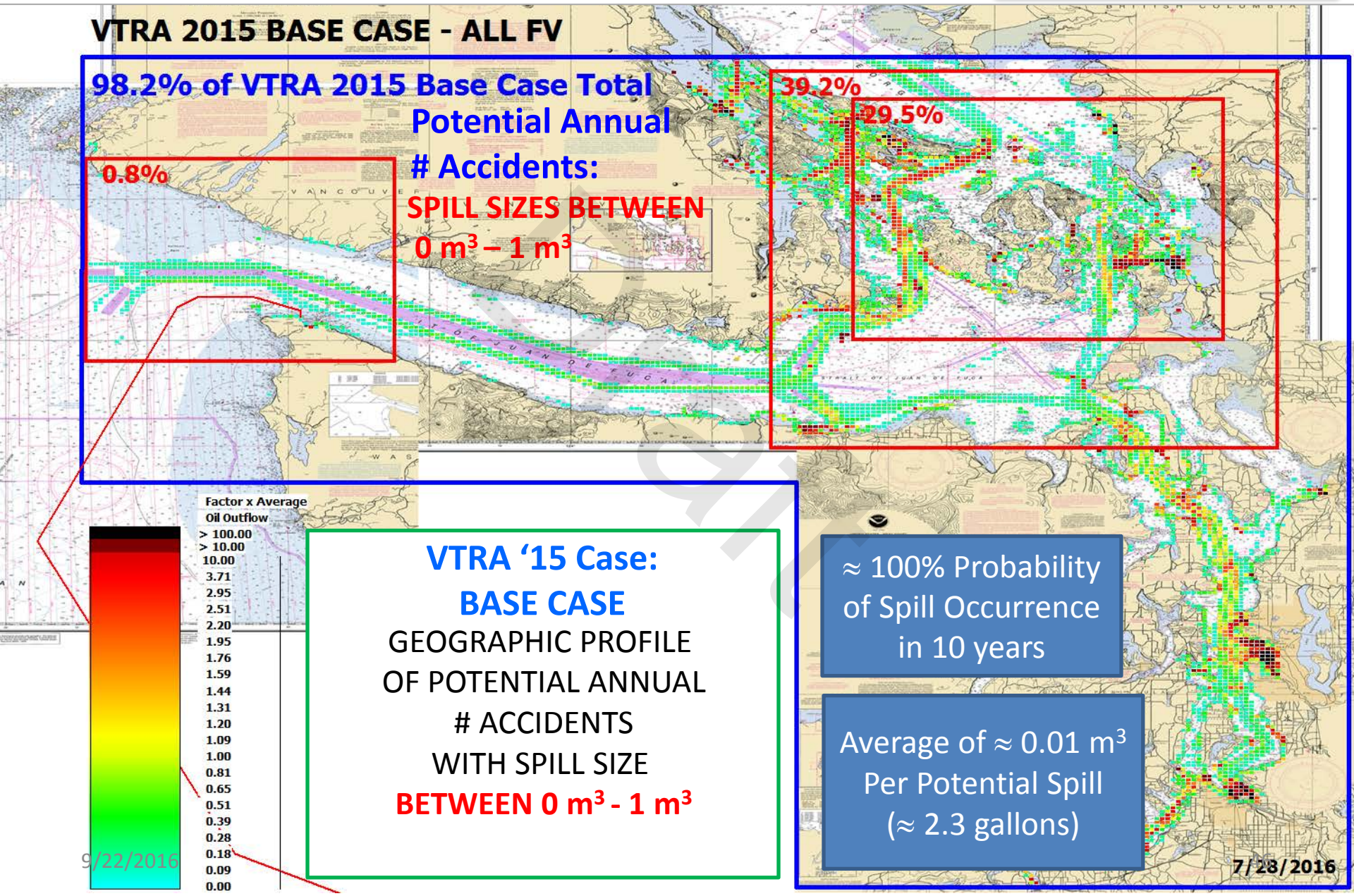

VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2015

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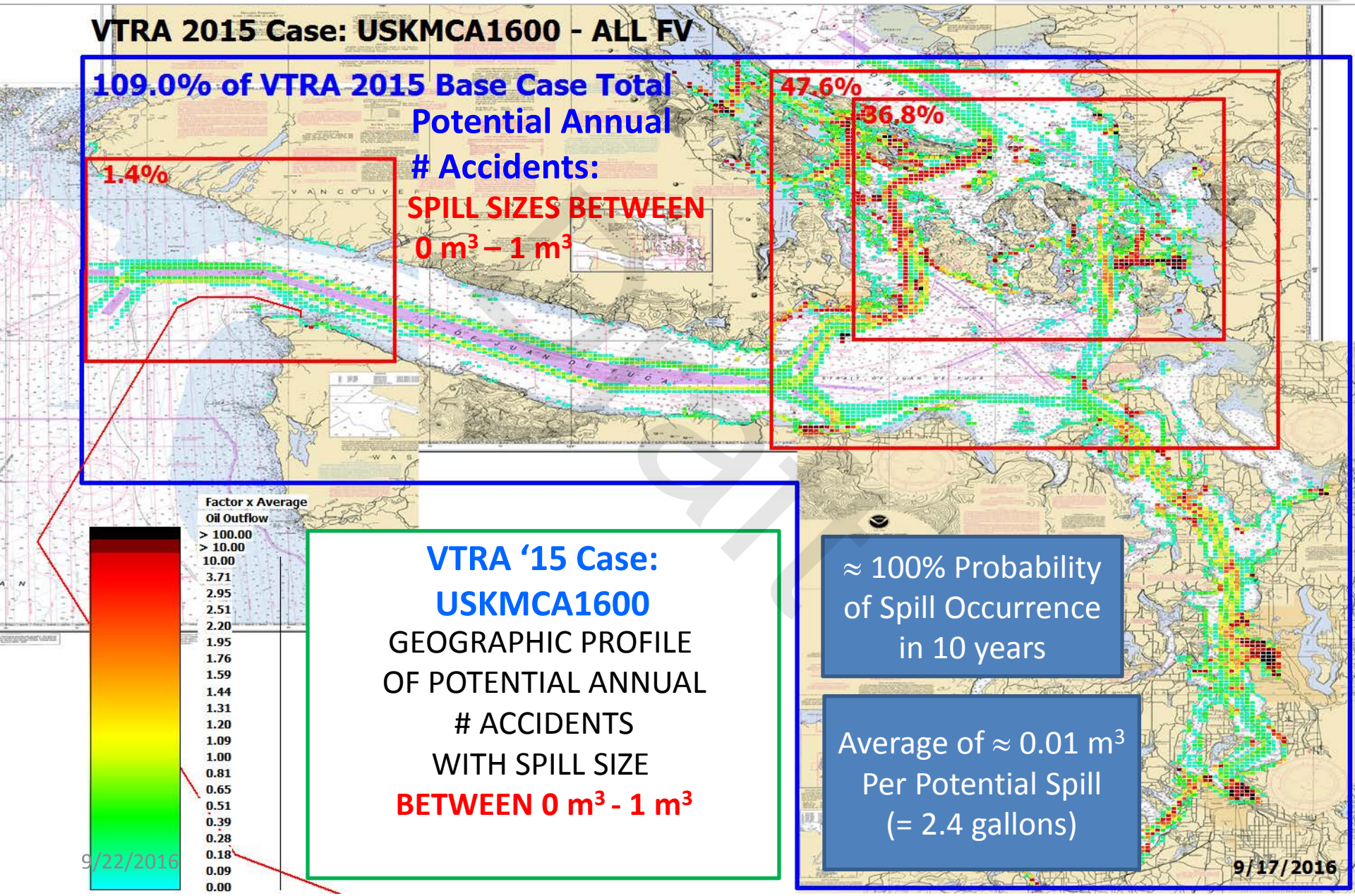

VESSEL TRAFFIC RISK ASSESSMENT (VTRA) 2015

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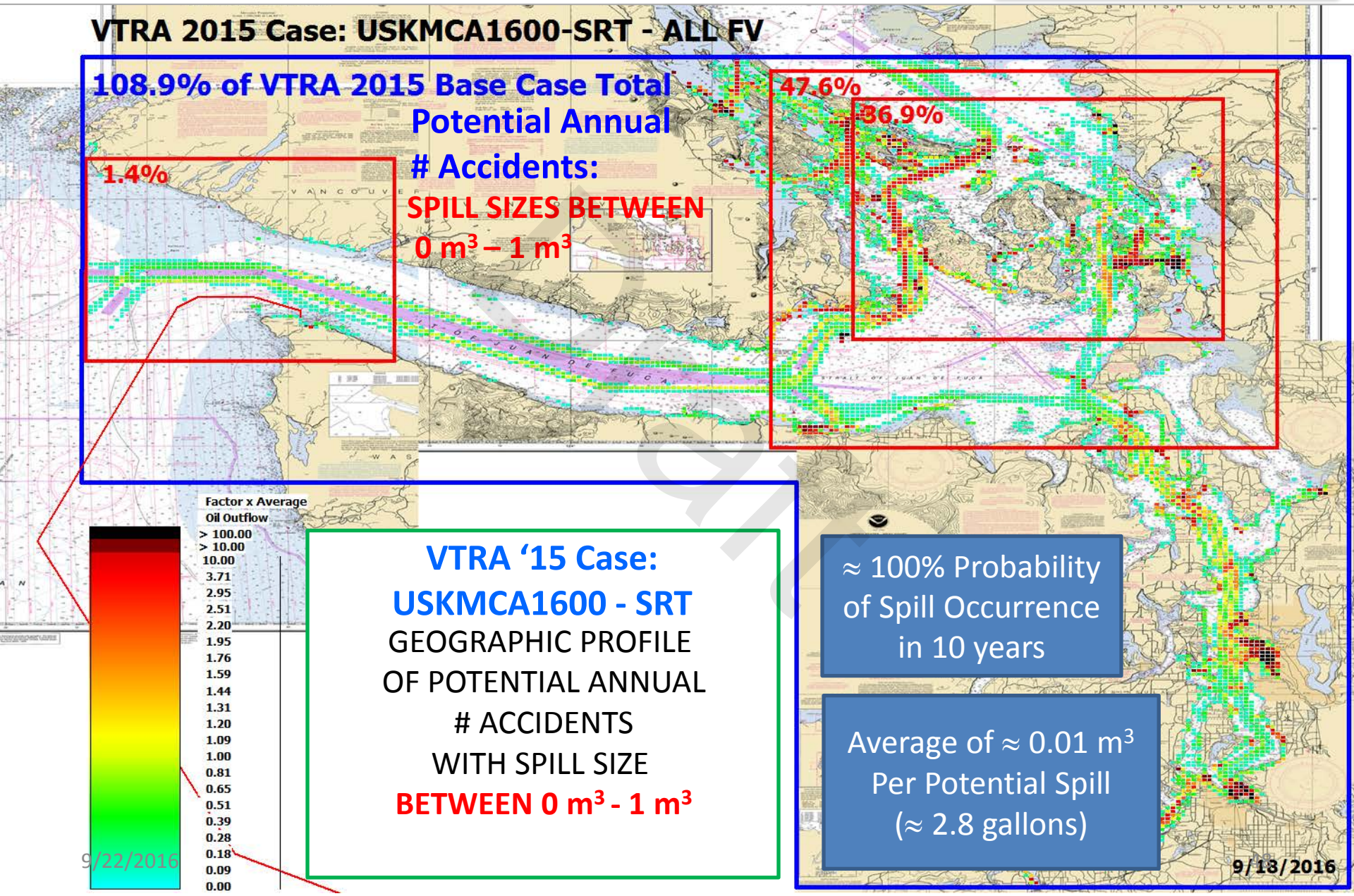
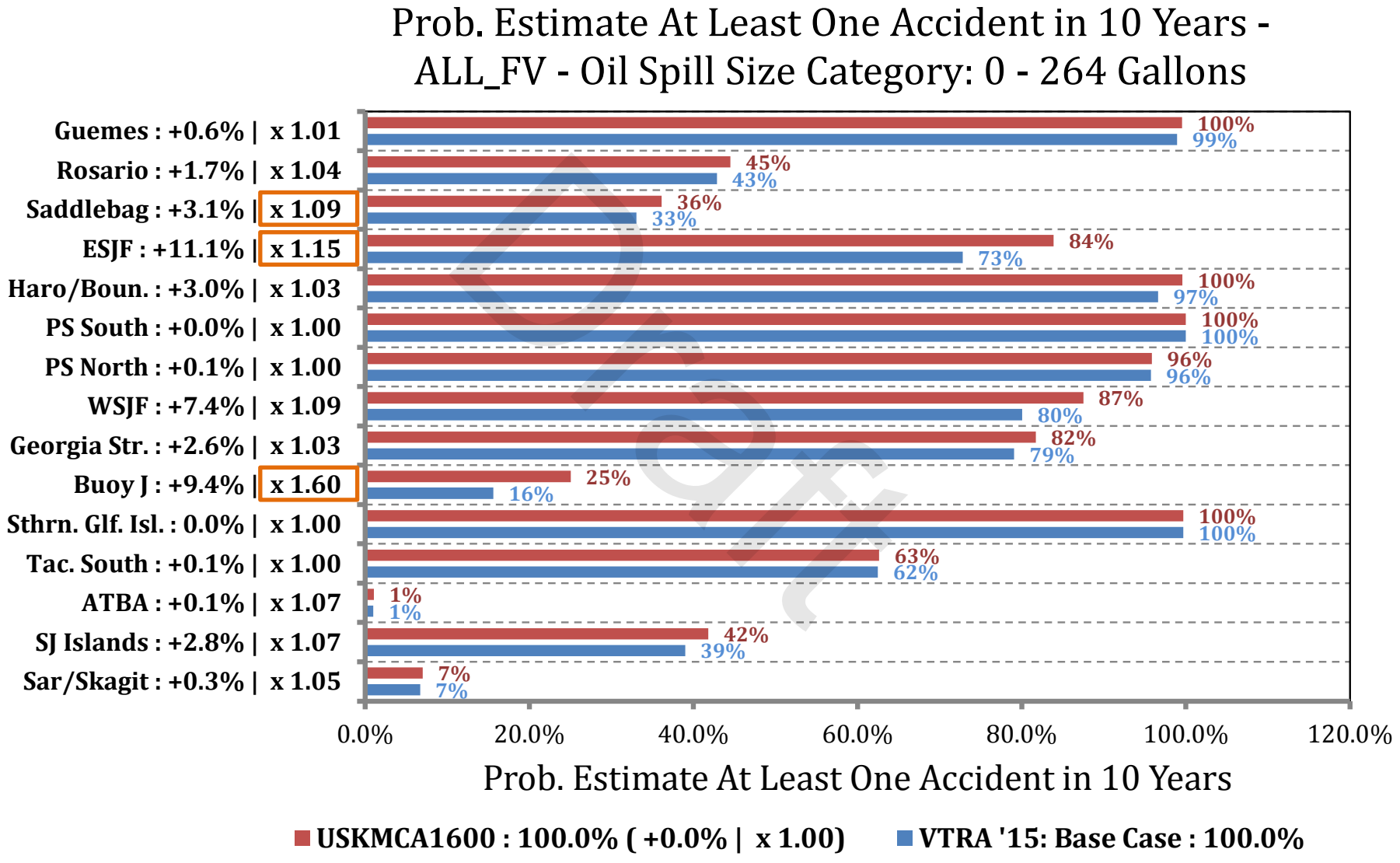
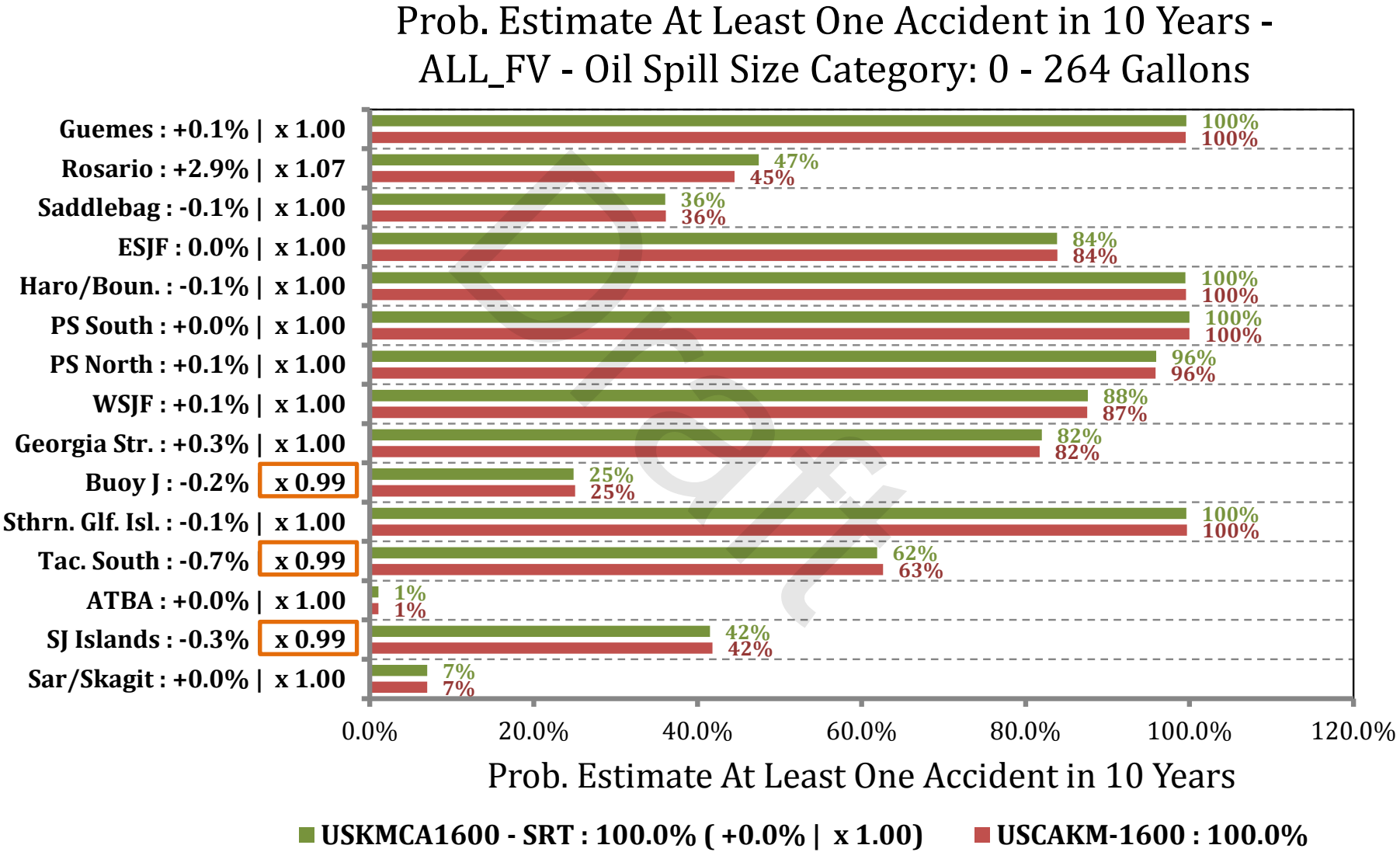
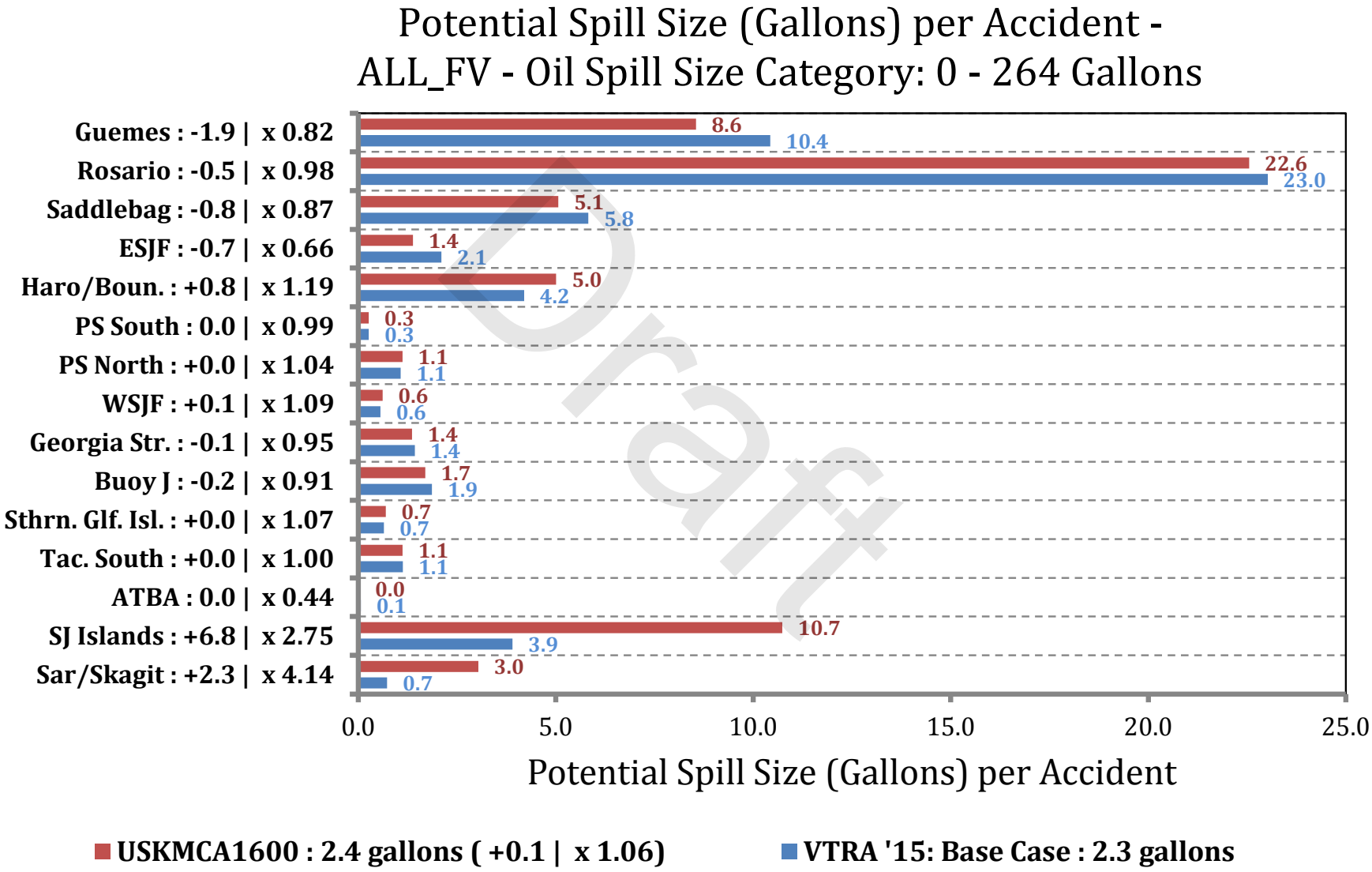
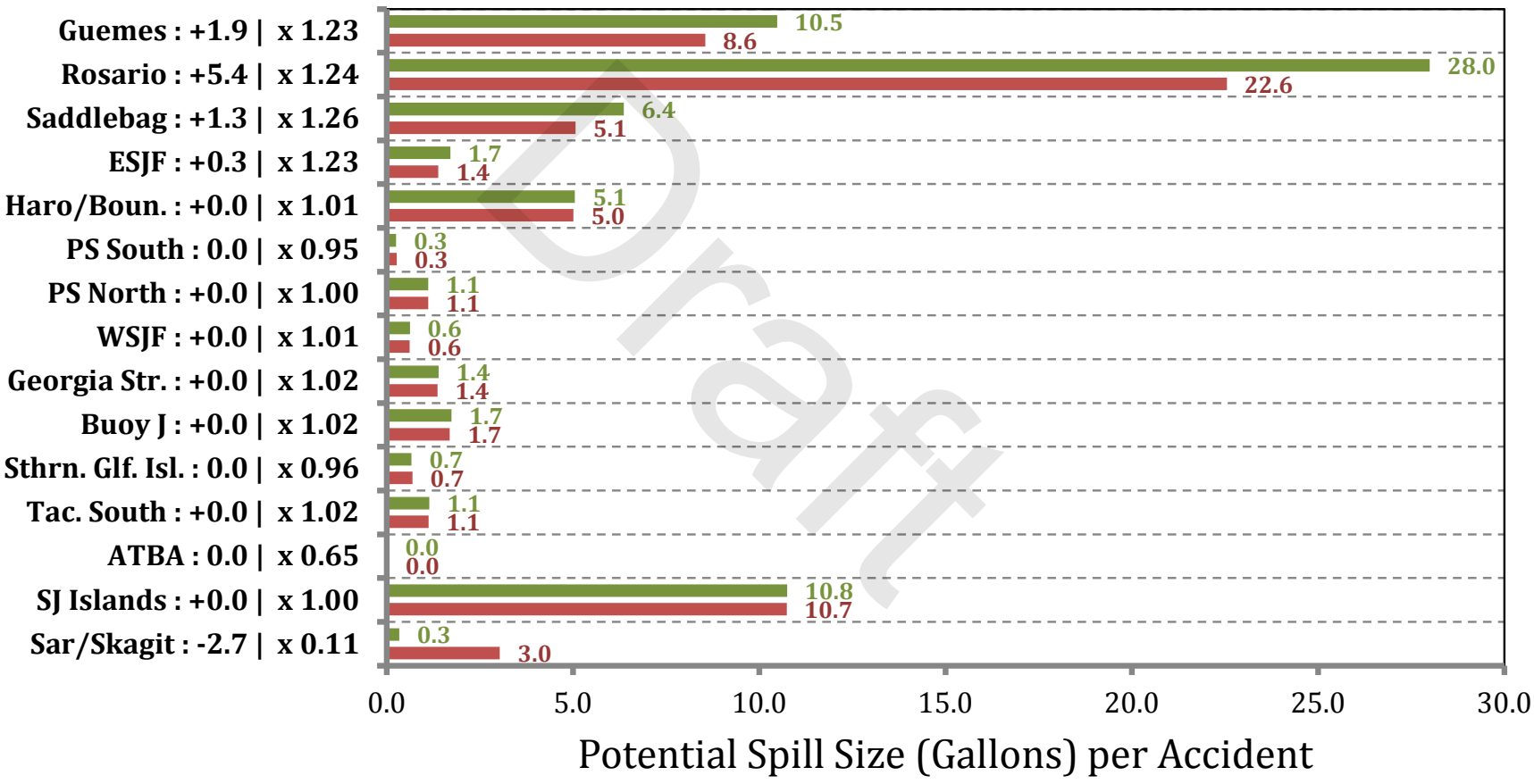



Prob. Estimate At Least One Accident in 10 Years - ALL_FV - Oil Spill Size Category: 0 - 264 Gallons
Guemes : +0.6% | x 1.01
Rosario : +1.7% | x 1.04
Saddlebag : +3.1% | x 1.09
ESJF : +11.1% | x 1.15
Haro/Boun. : +3.0% | x 1.03
PS South : +0.0% | x 1.00
PS North : +0.1% | x 1.00
WSJF : +7.4% | x 1.09
Georgia Str. : +2.6% | x 1.03
Buoy J : +9.4% | x 1.60
Sthrn. Glf. Isl. : 0.0% | x 1.00
Tac. South : +0.1% | x 1.00
ATBA : +0.1% | x 1.07
SJ Islands : +2.8% | x 1.07
Sar/Skagit : +0.3% | x 1.05
100%
99%
45%
43%
36%
33%
84%
73%
100%
97%
100%
100%
96%
96%
87%
80%
82%
79%
25%
16%
100%
100%
63%
62%
1%
1%
42%
39%
7%
7%
0.0%
20.0%
40.0%
60.0%
80.0%
100.0%
120.0%
Prob. Estimate At Least One Accident in 10 Years
USKMCA1600 : 100.0% (+0.0% | x 1.00)
VTRA '15: Base Case : 100.0%


Prob. Estimate At Least One Accident in 10 Years - ALL_FV - Oil Spill Size Category: 0 - 264 Gallons
Guemes : +0.1% | x 1.00
Rosario : +2.9% | x 1.07
Saddlebag : -0.1% | x 1.00
ESJF : 0.0% | x 1.00
Haro/Boun. : -0.1% | x 1.00
PS South : +0.0% | x 1.00
PS North : +0.1% | x 1.00
WSJF : +0.1% | x 1.00
Georgia Str. : +0.3% | x 1.00
Buoy J : -0.2% x 0.99
Sthrn. Glf. Isl. : -0.1% | x 1.00
Tac. South : -0.7% x 0.99
ATBA : +0.0% | x 1.00
SJ Islands : -0.3% x 0.99
Sar/Skagit : +0.0% | x 1.00
100%
100%
47%
45%
36%
36%
84%
84%
100%
100%
100%
100%
96%
96%
88%
87%
82%
82%
25%
25%
100%
100%
62%
63%
1%
1%
42%
42%
7%
7%
0.0%
20.0%
40.0%
60.0%
80.0%
100.0%
120.0%
Prob. Estimate At Least One Accident in 10 Years
USKMCA1600 - SRT : 100.0% (+0.0% | x 1.00)
USCAKM-1600 : 100.0%


Potential Spill Size (Gallons) per Accident -
ALL_FV - Oil Spill Size Category: 0 - 264 Gallons
Guemes : -1.9 | x 0.82
Rosario : -0.5 | x 0.98
Saddlebag : -0.8 | x 0.87
ESJF : -0.7 | x 0.66
Haro/Boun. : +0.8 | x 1.19
PS South : 0.0 | x 0.99
PS North : +0.0 | x 1.04
WSJF : +0.1 | x 1.09
Georgia Str. : -0.1 | x 0.95
Buoy J : -0.2 | x 0.91
Sthrn. Glf. Isl. : +0.0 | x 1.07
Tac. South : +0.0 | x 1.00
ATBA : 0.0 | x 0.44
SJ Islands : +6.8 | x 2.75
Sar/Skagit : +2.3 | x 4.14
8.6
10.4
22.6
23.0
5.1
5.8
1.4
2.1
5.0
4.2
0.3
0.3
1.1
1.1
0.6
0.6
1.4
1.4
1.7
1.9
0.7
0.7
1.1
1.1
0.0
0.1
10.7
3.9
3.0
0.7
0.0
5.0
10.0
15.0
20.0
25.0
Potential Spill Size (Gallons) per Accident
USKMCA1600 : 2.4 gallons (+0.1 | x 1.06)
VTRA '15: Base Case : 2.3 gallons


Potential Spill Size (Gallons) per Accident -
ALL_FV - Oil Spill Size Category: 0 - 264 Gallons
Guemes : +1.9 | x 1.23
Rosario : +5.4 | x 1.24
Saddlebag : +1.3 | x 1.26
ESJF : +0.3 | x 1.23
Haro/Boun. : +0.0 | x 1.01
PS South : 0.0 | x 0.95
PS North : +0.0 | x 1.00
WSJF : +0.0 | x 1.01
Georgia Str. : +0.0 | x 1.02
Buoy J : +0.0 | x 1.02
Sthrn. Glf. Isl. : 0.0 | x 0.96
Tac. South : +0.0 | x 1.02
ATBA : 0.0 | x 0.65
SJ Islands : +0.0 | x 1.00
Sar/Skagit : -2.7 | x 0.11
10.5
8.6
28.0
22.6
6.4
5.1
1.7
1.4
5.1
5.0
0.3
0.3
1.1
1.1
0.6
0.6
1.4
1.4
1.7
1.7
0.7
0.7
1.1
1.1
0.0
0.0
10.8
10.7
0.3
3.0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
Potential Spill Size (Gallons) per Accident
USKMCA1600 - SRT : 2.8 gallons (+0.4 | x 1.15)
USCAKM-1600 : 2.4 gallons

Summary
Risk Comparison

Oil Spill Size Category:
All Spill Sizes

Summary Risk Comparison Base Case to USKMCA1600

		OIL_2500_MORE	OIL_1000_2500	OIL_1_1000	OIL_0_1	TOTAL_OIL
VTRA '15 BASE CASE	Base Case % Potential Annual Oil Loss	42.0%	12.3%	45.3%	0.5%	100.0%
	Base Case % Potenial Annual Accident Frequency	0.01%	0.01%	1.8%	98.2%	100.0%
	Average potential spill size per accident (in m^3)	6,798	1,619	46.9	0.01	1.8
	Probability of at least one accident in 1 year by spill size	0.05%	0.06%	7.5%	98.7%	98.8%
	Probability of at least one accident in 10 year by spill size	0.50%	0.61%	54.2%	100.0%	100.0%
	Probability of at least one accident in 25 years by spill size	1.24%	1.52%	85.8%	100.0%	100.0%
		OIL_2500_MORE	**OIL_1000_2500**	**OIL_1_1000**	**OIL_0_1**	**TOTAL_OIL**
USKMCA1600	Base Case % Potential Annual Oil Loss	91.1% (+49.11%| x2.17)	20.0% (+7.71%| x1.63)	72.8% (+27.54%| x1.61)	0.5% (+0.08%| x1.17)	184.4% (+84.4%| x1.84)
	Base Case % Potenial Annual Accident Frequency	0.03% (+0.02%| x2.72)	0.02% (+0.01%| x1.56)	1.9% (+0.16%| x1.09)	108.9% (+10.7%| x1.11)	110.9% (+10.9%| x1.11)
	Average potential spill size per accident (in m^3)	5413 (-1385 | x0.80)	1693 (+75 | x1.05)	69.2 (+22.3 | x1.48)	0.01 (+0.00 | x1.06)	3.0 (+1.2 | x1.66)
	Probability of at least one accident in 1 year by spill size	0.14% (+0.09%| x2.72)	0.10% (+0.03%| x1.56)	8.2% (+0.64%| x1.09)	99.2% (+0.48% | x1.00)	99.3% (+0.45%| x1.00)
	Probability of at least one accident in 10 year by spill size	1.35% (+0.85%| x2.71)	0.95% (+0.34%| x1.55)	57.3% (+3.09%| x1.06)	100.0% (0.00%| x1.00)	100.0% (0.00%| x1.00)
	Probability of at least one accident in 25 years by spill size	3.35% (+2.10%| x2.70)	2.36% (+0.84%| x1.55)	88.1% (+2.27%| x1.03)	100.0% (0.00%| x1.00)	100.0% (0.00%| x1.00)

Summary Risk Comparison USKMCA1600 to USKMCA1600-SRT

		OIL_2500_MORE	OIL_1000_2500	OIL_1_1000	OIL_0_1	TOTAL_OIL
USACAKM1600	Base Case % Potential Annual Oil Loss	91.0%	19.9%	72.7%	0.5%	184.1%
	Base Case % Potenial Annual Accident Frequency	0.03%	0.02%	1.9%	108.9%	110.9%
	Average potential spill size per accident (in m^3)	5,413	1,693	69.2	0.01	3.0
	Probability of at least one accident in 1 year by spill size	0.14%	0.10%	8.2%	99.2%	99.3%
	Probability of at least one accident in 10 year by spill size	1.35%	0.95%	57.3%	100.0%	100.0%
	Probability of at least one accident in 25 years by spill size	3.35%	2.36%	88.1%	100.0%	100.0%
		OIL_2500_MORE	**OIL_1000_2500**	**OIL_1_1000**	**OIL_0_1**	**TOTAL_OIL**
USACAKM1600 - SRT	Base Case % Potential Annual Oil Loss	91.6% (+0.6%| x1.01)	19.5% (-0.44%| x0.98)	71.3% (-1.41%| x0.98)	0.6% (+0.08%| x1.15)	183.0% (-1.2%| x0.99)
	Base Case % Potenial Annual Accident Frequency	0.03% (0.00%| x1.00)	0.02% (0.00%| x0.98)	1.9% (0.00%| x1.00)	108.8% (-0.1%| x1.00)	110.7% (-0.1%| x1.00)
	Average potential spill size per accident (in m^3)	5453 (+41 | x1.01)	1694 (+1 | x1.00)	68.0 (-1.2 | x0.98)	0.01 (+0.00 | x1.15)	3.0 (0.0 | x0.99)
	Probability of at least one accident in 1 year by spill size	0.14% (0.00%| x1.00)	0.09% (0.00%| x0.98)	8.1% (-0.02%| x1.00)	99.2% (0.00% | x1.00)	99.3% (0.00%| x1.00)
	Probability of at least one accident in 10 year by spill size	1.35% (0.00%| x1.00)	0.93% (-0.02%| x0.98)	57.2% (-0.08%| x1.00)	100.0% (0.00%| x1.00)	100.0% (0.00%| x1.00)
	Probability of at least one accident in 25 years by spill size	3.34% (0.00%| x1.00)	2.30% (-0.05%| x0.98)	88.0% (-0.05%| x1.00)	100.0% (0.00%| x1.00)	100.0% (0.00%| x1.00)