

National Marine Sanctuaries
National Oceanic and Atmospheric Administration



NATIONAL MARINE
SANCTUARIES

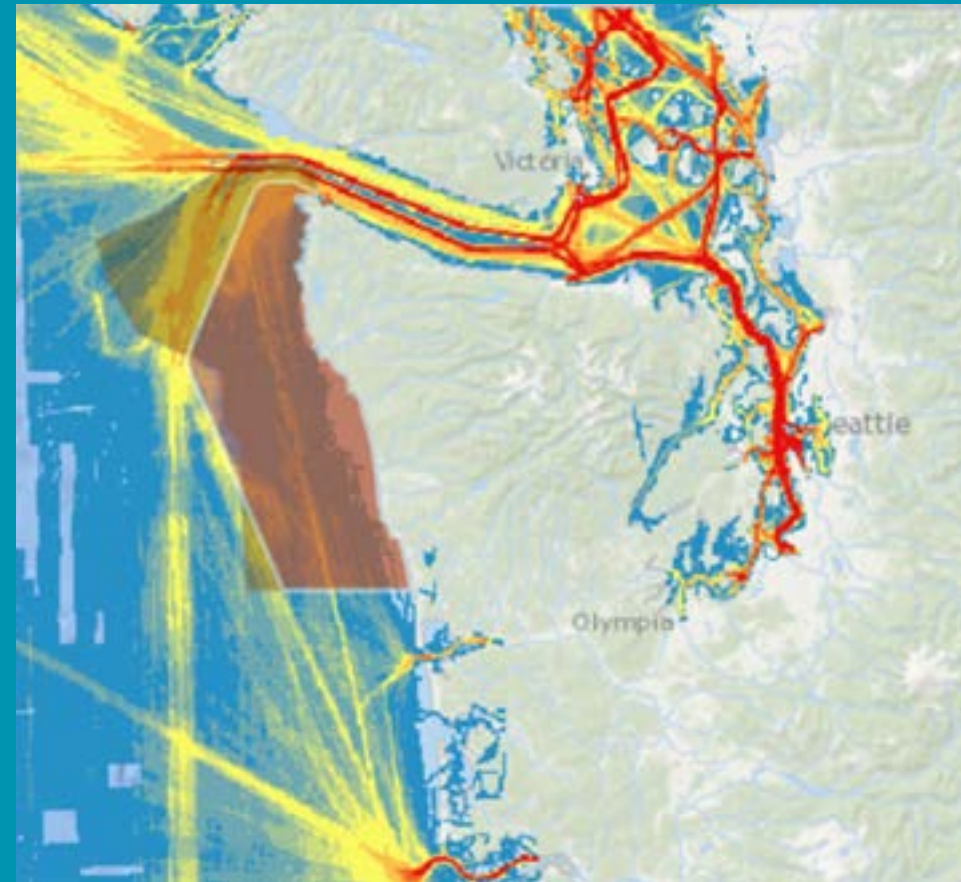
OLYMPIC COAST



**Pacific States / British Columbia
Oil Spill Task Force**

West Coast Offshore Vessel Traffic Management

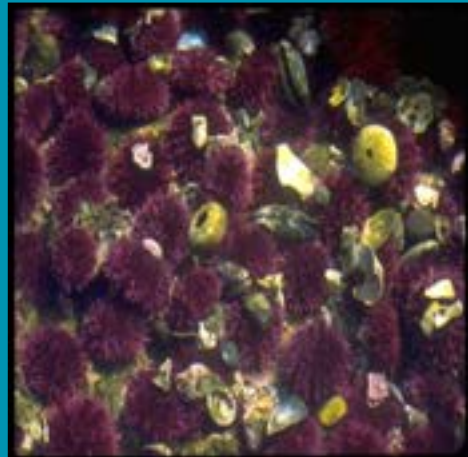
November 13, 2019
George Galasso



Goals of the Presentation

Celebrate accomplishments in offshore vessel routing efforts

- 1994 NOAA Olympic Coast National Marine Sanctuary (OCNMS) Area to be Avoided (ATBA)
- 1999-2002 Task Force West Coast Offshore Vessel Traffic Risk Management (WCOVTRM) Project



The Challenge

(NOAA Perspective)



Ensure that the transportation of commodities through the sanctuaries remains compatible with the protection of sanctuary resources!

OCNMS Vessel Traffic Background

- Oil spill concerns during designation
- Establishment of ATBA
- CVTS management & early work with Tofino Traffic
- ATBA monitoring and outreach program
 - Marine Exchange
 - NMFS OPR
 - USCG Sector Puget Sound



ATBA Program

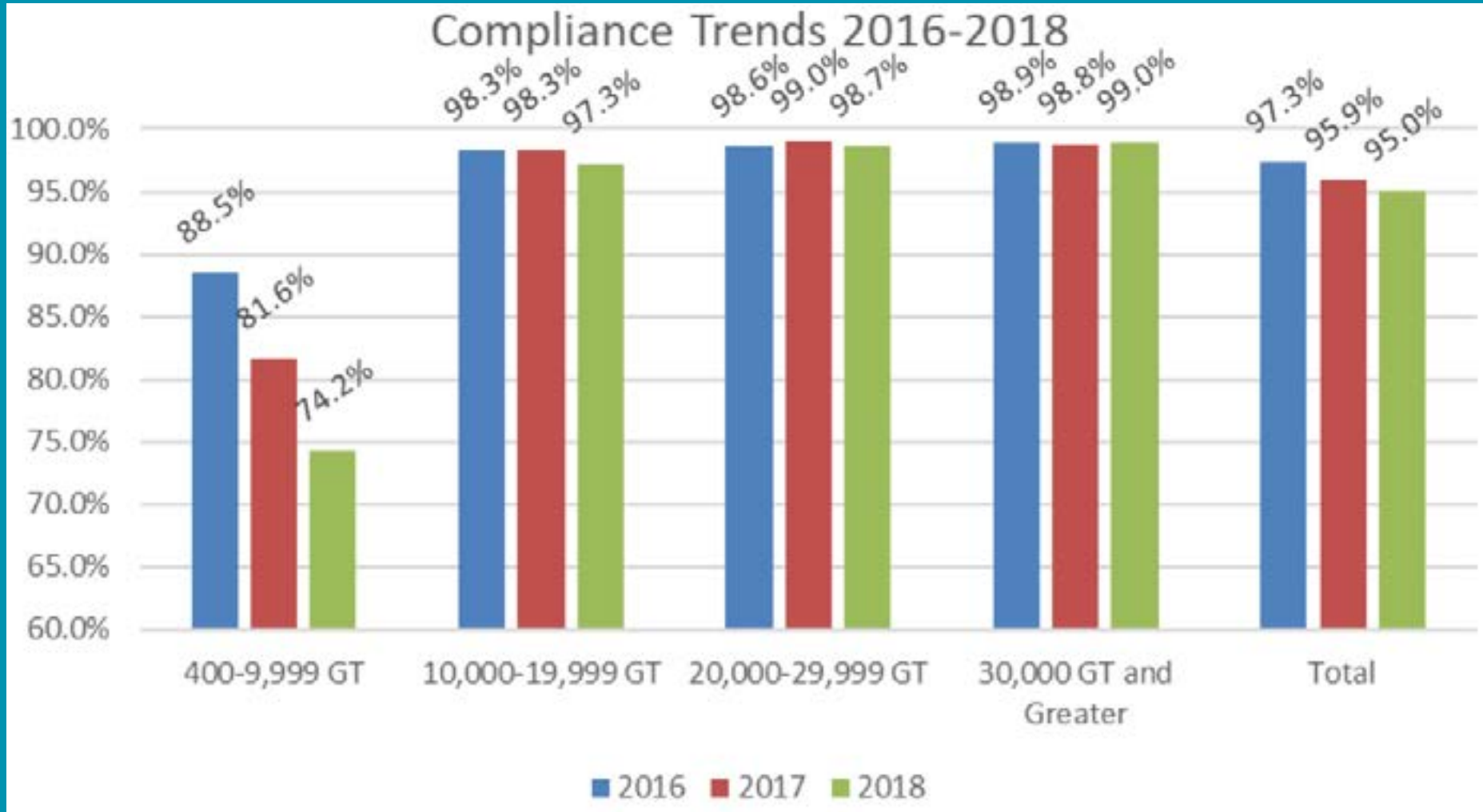
- OCNMS ATBA Goals
- Monitoring
- Education & Outreach



Estimated ATBA Compliance Rates for 2018 (vessels > 400 GT)

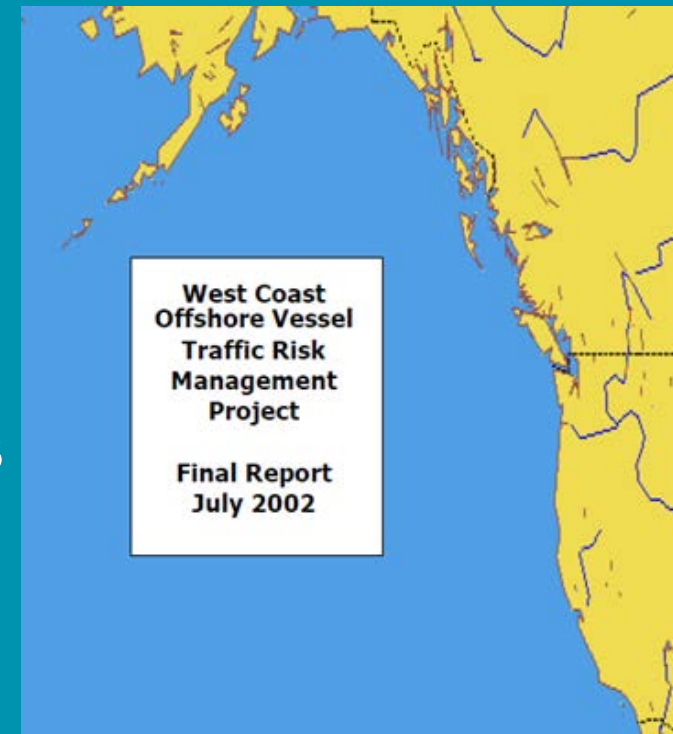
Vessel Type	AOI Transits	Sanctuary Transits	ATBA Transits	ATBA Compliance
ATB	233	175	9	94.9%
Bulk Carrier	3619	1810	25	98.6%
Cable Layer	6	4	0	100.0%
Cargo Ship	454	257	5	98.1%
Chemical Carrier	671	482	4	99.2%
Container Ship	2084	1113	8	99.3%
Dredger	24	1	0	100.0%
Fishing Vessel	632	279	120	57.0%
Liquified Gas Carrier	49	21	0	100.0%
Oil Tanker	464	304	3	99.0%
Passenger Ship	446	152	1	99.3%
Pollution Control	6	2	0	100.0%
Private Vessel	44	33	12	63.6%
Refrigerated Cargo	22	11	0	100.0%
Research Vessel	66	41	17	58.5%
Ro-Ro Cargo Ship	195	96	0	100.0%
Supply Ship	12	8	4	50.0%
Tug	1181	311	63	79.7%
Vehicle Carrier	736	509	10	98.0%
Total	10944	5609	281	95.0%

Trends in estimated ATBA Compliance (2016-2018)



West Coast Offshore Vessel Traffic Risk Management Project

- Part I: Project Background
- Part II: What's At Risk?
- Part III: Defining the Risk
- Part IV: Analysis of the Risk
- Part V: Development of Findings and Recommendations
- Part VI: Findings and Recommendations



Workgroup Representation

- Alaska, Washington, Oregon, California, and British Columbia oil spill agencies
- US Coast Guard Districts 11, 13, and 17
- Canadian Coast Guard, Pacific Region
- NOAA (Hazmat and National Marine Sanctuaries)
- Environment Canada
- US Navy
- Canadian Maritime Forces
- Cook Inlet Regional Citizens' Advisory Council
- BC Chamber of Shipping
- BC Council of Marine Carriers
- Puget Sound Steamship Operators' Association
- Puget Sound Marine Exchange
- Portland Merchants Exchange
- Port of Portland
- Save Our Shores
- California Coastal Commission
- Western States Petroleum Association
- Council of American Master Mariners
- American Waterways Operators, Pacific Region
- Teekay Shipping (for INTERTANKO)
- Pacific Merchant Shipping Association

What's at Risk

(probability x consequences)

- Environmental
 - Tanker Routing Study
 - ESI Maps
 - BC Coastal Inventory
- Economic
- Social



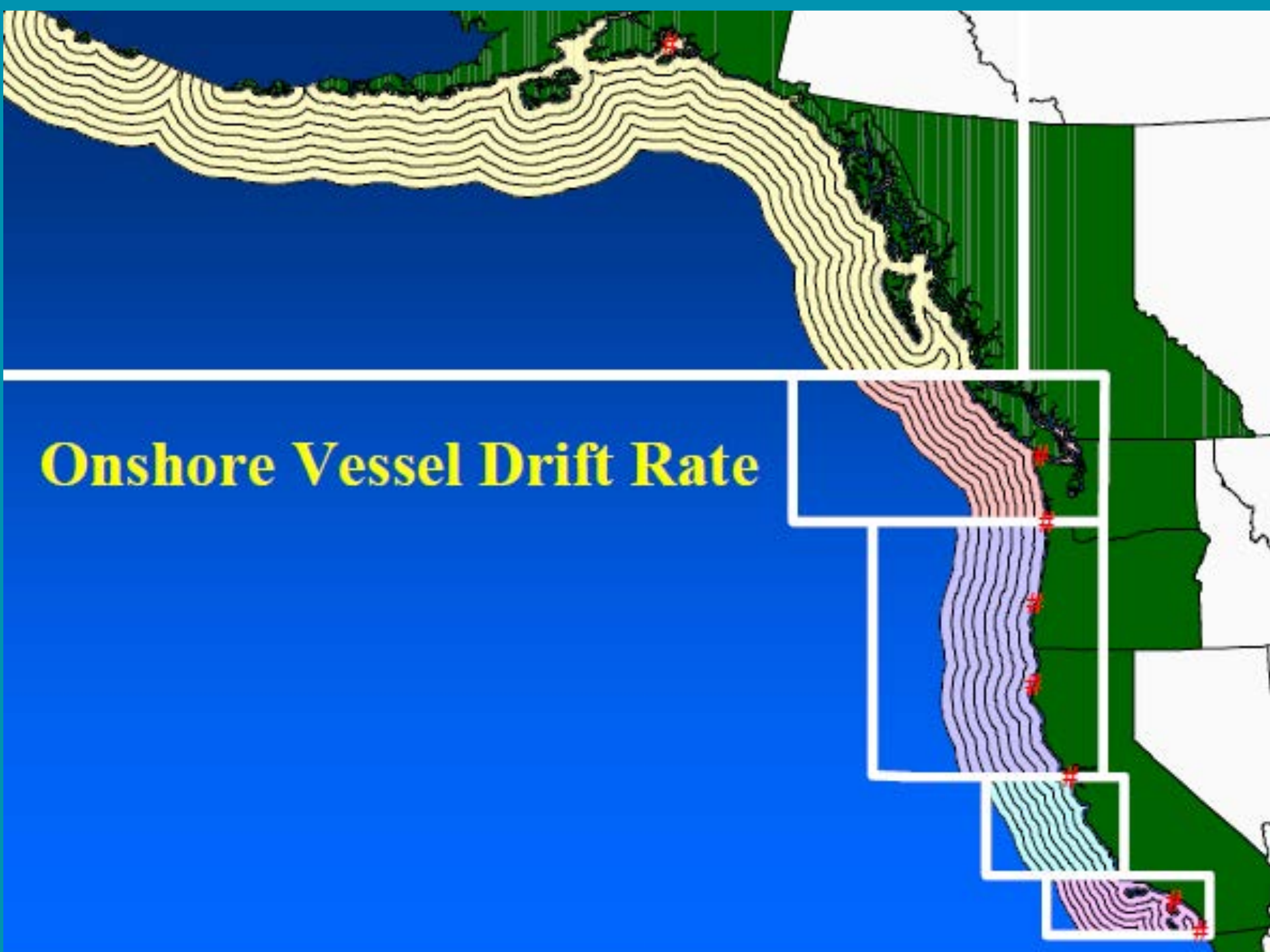
Defining the Risk

- Vessel types
- Traffic patterns
- Traffic volume
- Existing vessel management measures
- Ship drift analysis
- Historic casualty data analysis
- Assist vessel availability
 - Severe weather rescue tug inventory

Drift Rate / Tug Response

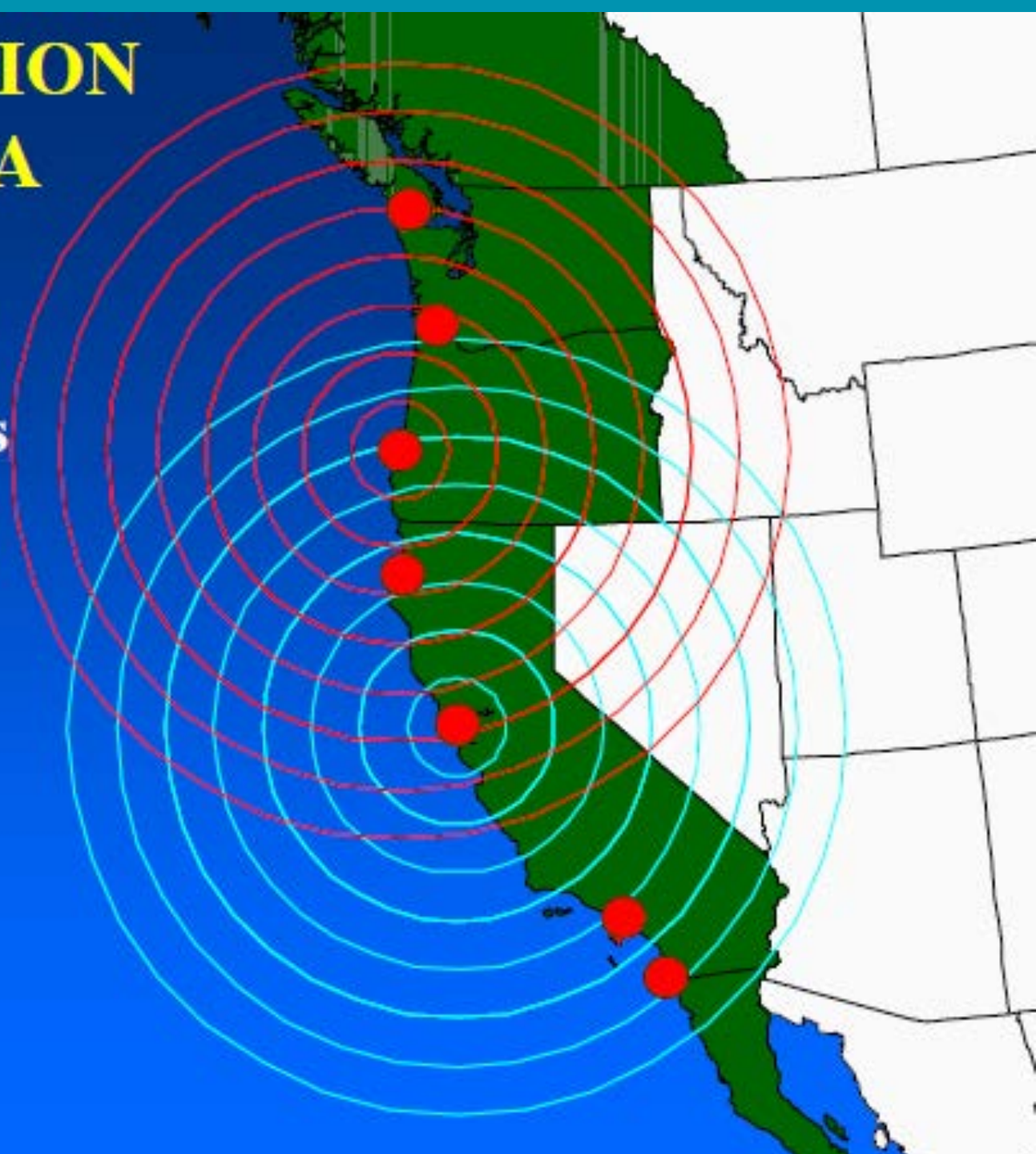
- Worst & average drift rates
 - Wind drift lines
- Tug speed of advance – 10 knots
 - SOA circles
 - Intersection of adjacent tug SOA circles
- Intersection of drift lines/circles

Onshore Vessel Drift Rate

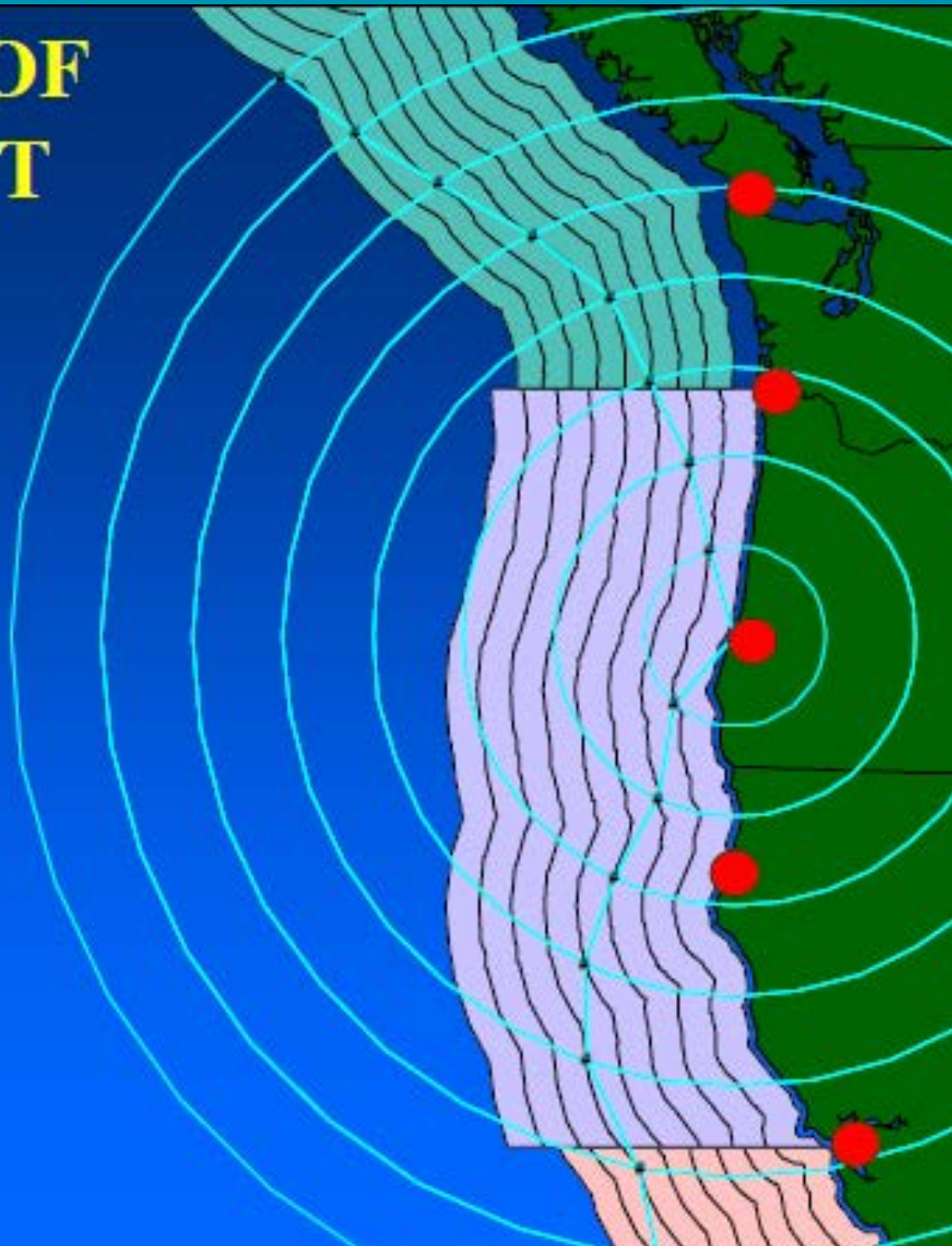


INTERSECTION OF TUG SOA CIRCLES

- 6-Hour Circles
- 10 knot SOA



INTERSECTION OF “CIRCLES / DRIFT LINES”



**SUMMARY OF
AVERAGE CASE
INTERSECTION OF
“CIRCLES / DRIFT
LINES” (Revised)**

30 Miles

60 Miles

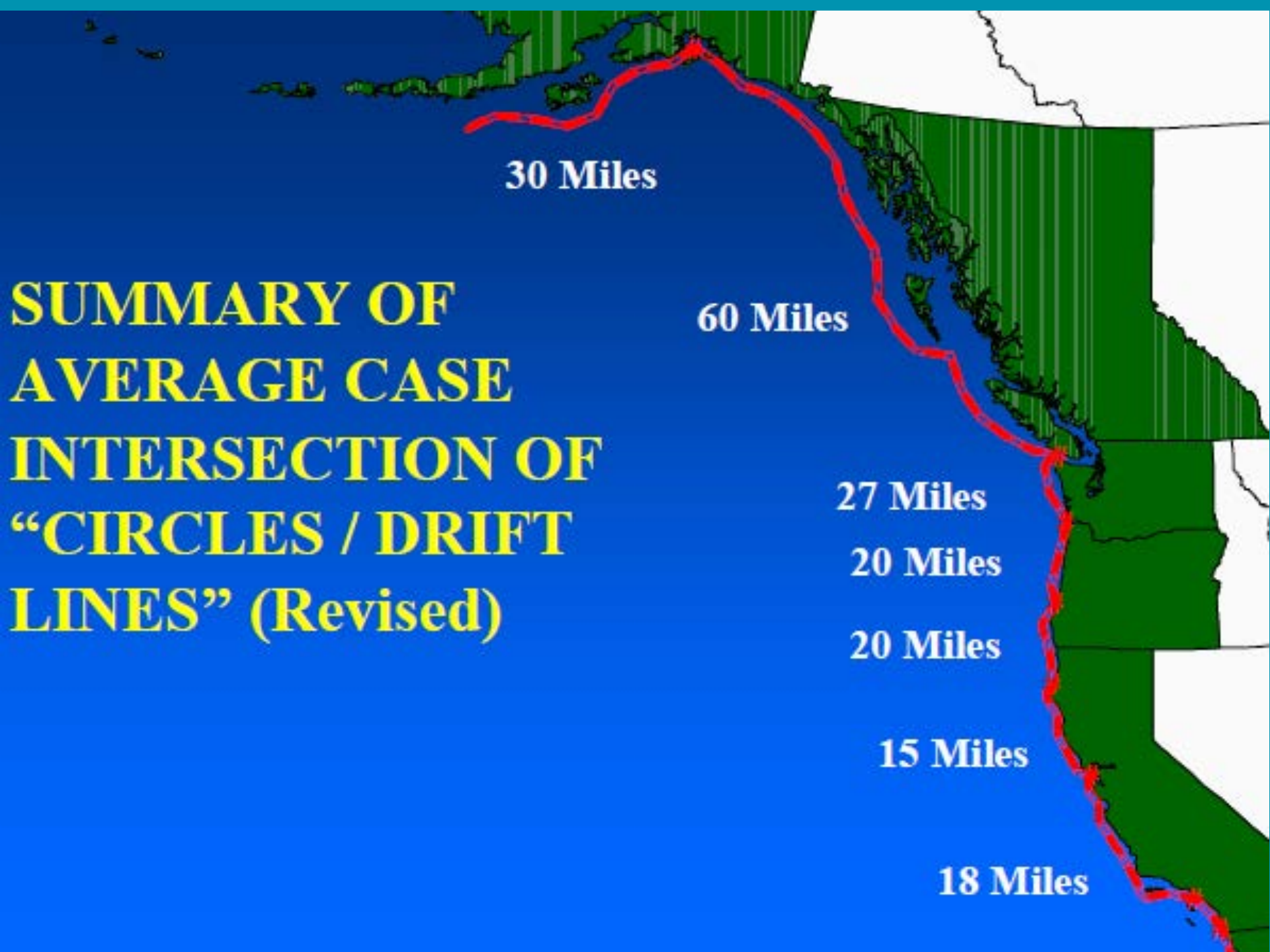
27 Miles

20 Miles

20 Miles

15 Miles

18 Miles



**SUMMARY OF
WORST CASE
INTERSECTION OF
“CIRCLES / DRIFT
LINES” (Revised)**

100 Miles

216 Miles

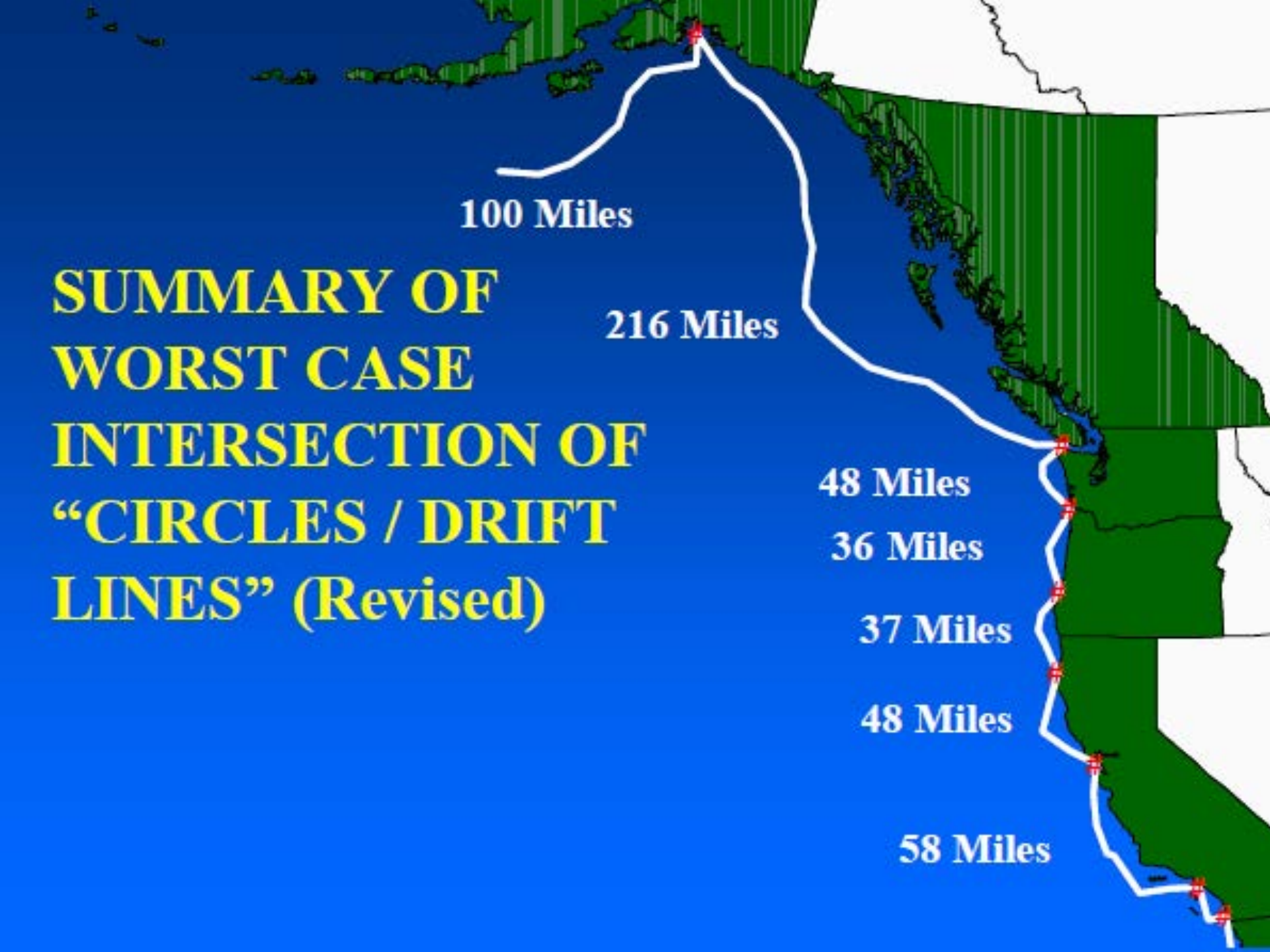
48 Miles

36 Miles

37 Miles

48 Miles

58 Miles



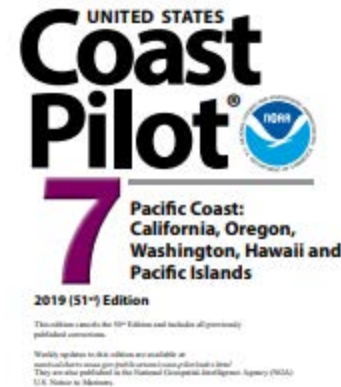
Relative Ranking/Risk Indexing

1. Volume of oil/vessel design
2. Drift rates
3. Collision hazards
4. Distance offshore
5. Weather/season
6. Tug availability
7. Coastal route density
8. Casualty rates by vessel type
9. Coastline sensitivity

Findings & Recommendations

- Collision Hazards (3)
- Historic Casualty Factors (3)
- Rescue Tug Availability (3)
- **Distance Offshore Risk Factor (5)**
- Data Improvements (3)
- Implementation Review (1)

NOAA Navigational Products



(35)

Offshore Vessel Traffic Management Recommendations

(36)

Based on the West Coast Offshore Vessel Traffic Risk Management Project, which was co-sponsored by the Pacific States/British Columbia Oil Spill Task Force and U.S. Coast Guard Pacific Area, it is recommended that, where no other traffic management areas exist such as Traffic Separation Schemes, Vessel Traffic Services or recommended routes, vessels 300 gross tons or larger transiting along the coast anywhere between Cook Inlet and San Diego should voluntarily stay a minimum distance of 25 nautical miles offshore. It is also recommended that tank ships laden with persistent petroleum products and transiting along the coast between Cook Inlet and San Diego should voluntarily stay a minimum distance of 50 nautical miles offshore. Vessels transiting short distances between adjacent ports should seek routing guidance as needed from the local Captain of the Port or VTS authority for that area. This recommendation is intended to reduce the potential for vessel groundings and resulting oil spills in the event of a vessel casualty.

(37)



THE NATION'S CHARTMAKER SINCE 1907
UNITED STATES - WEST COAST

18480

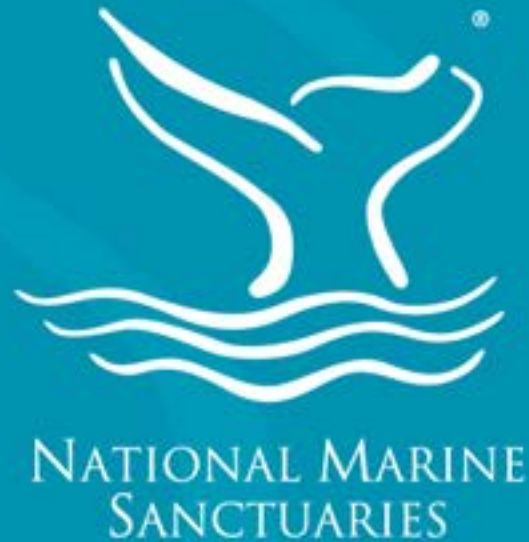
APPROACHES TO
STRAIT OF JUAN DE FUCA

DESTRUCTION ISLAND TO AMPHITRITE POINT

VESSEL TRANSITING

The U.S. Coast Guard and the Pacific States/British Columbia Oil Spill Task Force endorse a system of voluntary measures and minimum distances from shore for certain commercial vessels transiting along the coast anywhere between Cook Inlet, Alaska and San Diego, California. See U.S.Coast Pilot 7 or 8, Chapter 3 for details.

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<http://sanctuaries.noaa.gov>