

Pacific States/British Columbia Oil Spill Task Force

Summary of West Coast Oil Spill Data

Calendar Year 2020

June 2021



CONTACT INFORMATION

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Data analysis and summary report
by Camille Stephens

OIL SPILL DATA PROJECT

Summary of Regional Spill Data (CY 2020)

The Task Force's regional oil spill database, which was launched in 2003, is a unique and valuable resource that enables us to track regional trends in spills and related causal factors. Using a standardized data dictionary to ensure uniform entries, we collect data on all spills of a barrel (42 gallons) or larger.

DATABASE WORKGROUP

Database Workgroup provides staff-level coordination to help ensure that data is collected in a consistent manner by all Task Force member agencies. The Pacific States/British Columbia Oil Spill Task Force Data Dictionary (available at oilspilltaskforce.org/ourwork/data-project/) was developed by the Database Workgroup and establishes standardized terms and definitions for collecting spill data.

This year, the British Columbia Ministry of Environment and Climate Change Strategy joined the Database Workgroup. Their data is included in this report.

Workgroup members include:

- Angela Doroff (*Alaska Department of Environmental Conservation*)
- Andrea McIntosh (*British Columbia Ministry of Environment and Climate Change Strategy*)
- Cathy Conway (*California Office of Spill Prevention and Response*)
- Kimberlee Van Patten (*Oregon Department of Environmental Quality*)
- Liz Galvez (*Hawaii Office of Hazard Evaluation and Emergency Response*)
- Eli Seely (*Washington Department of Ecology*)

DATA LIMITATIONS

- Each agency that assists in the creation and maintenance of the Task Force database in no way guarantees the accuracy of the information and no guarantee of accuracy shall be expressed or implied.
- Only spills of one barrel (42 gallons) or larger are included in our Database.
- Detailed information about small spills is often limited or unknown because the effort necessary to investigate them is cost-prohibitive. For this reason, we are presenting spill counts only.
- The Task Force oil spill database is created and maintained for informational purposes only. The data it contains reflects the respective agencies' best information at

the time it was entered in the database. This means that recorded quantities may be under-reported. It remains an ongoing challenge to refine the information entered to a level of specificity that supports effective analysis while also taking into account the varied collection capabilities of member agencies.

HIGHLIGHTS

The 2020 data is provided on the following pages. Highlights include:

- A total of 988 releases of 42 gallons or more occurred during 2020, with a total volume of 465,072 gallons spilled. Of those, 10 releases were over 10,000 gallons.
- An additional 6,942 small spills (less than 42 gallons) occurred during 2020.

Non-Crude Oil Spills

- 955 releases were non-crude oil spills totaling 313,672 gallons.
- Vehicles (33%) and Facilities (30%) were the major sources of non-crude spills during 2020, comprising nearly two-thirds of the non-crude volume for the year.
- Over half of the total non-crude spill volume was attributable to Equipment Failure (35%) or Human Error (31%).
- Static (29%) and Other (18%) were the main activities at the time of the spill.
- Spills with volumes greater than 1,000 gallons comprised over 58% of the total non-crude volume during 2020.
- Over 60% of the non-crude volume was spilled to Land (65%).

Crude Oil Spills

- 33 crude oil spills totalling 151,400 gallons occurred during 2020.
- Crude oil comprised 33% the total volume for 2020.
- Pipelines (35%) and Facilities (35%) were the main sources of crude spills during 2020.
- Equipment Failure (64%) was the main cause of crude oil spills during 2020.
- During 2020, crude spills to Land (93%) comprised nearly all of the total volume.

NOTE:

- California's data submission does not include every oil spill reported to the California Office of Emergency Services (Cal OES); it does not include oil spills to land. The responsibility of response and investigation of oil spills to land falls within the jurisdiction of agencies other than the Office of Spill Prevention and Response (OSPR). Causal data, oil types, and volumes for oil spills to land are not collected by OSPR and therefore are not included in this year's report. In 2020, 7,183 hazardous material reports were generated by Cal OES. Of those, 2,117 were petroleum reported to land and 1,130 were petroleum releases to water that were either less than 42 gallons or the volume was unknown.

Trends

The 2002-2020 data provides us with an opportunity to look at 19-year trends, which is also shown in this report. Here are the highlights:

- A total of 17,364, releases of 42 gallons or more occurred during the 19-year period 2002-2020, with a total volume of 13.6 million gallons.
- Over the 19-year period, the combined volume of non-crude oil spills was nearly three times that for crude oil spills.
- The top two crude oil spills during the 19-year period were 463,848 gallons in California (2008) and a 267,000 gallon spill in Alaska (2006). The combined volume of these two incidents comprised 23% of the total crude oil volume released for the period.
- Diesel Oil/Marine Gas Oil comprised 24% of the total spill volume and 32% of the non-crude oil spill volume for the period.
- Overall, Facilities (50.4%) and Pipelines (18.8%) were the major sources of spills by volume during the 19-year period.
- Facilities were the source of 53.3% of the non-crude oil spill volume.
- Pipelines (50.6%) and Facilities (42%) were the major sources of crude oil spills.
- Overall, Equipment Failure (53.3%) and Human Error (28.5%) were the major spill causes.
- Equipment Failure (45.8%) and Human Error (35.4%) were the predominant causes for non-crude oil spills
- 74.5% of the total crude oil spill volume was due to Equipment Failure.

FOR MORE INFORMATION

Data summaries for calendar years 2002 – 2020, as well as other information about the Pacific States/British Columbia Oil Spill Task Force and its work, are available at www.oilspilltaskforce.org. Summaries for years prior to 2012 are included in the Task Force Annual Reports for those years. Beginning with calendar year 2012, the data summary was created as a separate document available at oilspilltaskforce.org/documents/other-documents/#spilldata

For questions specifically related to this report or the Task Force's data project, contact Sarah Brace, Executive Coordinator at Sarah@VedaEnv.com.

ANNUAL SUMMARY (2020)

Summary of Releases (42 gallons or more) by Product (2020)

Product	Spill Count	Gallons	% Total Volume
Crude Oil	33	151,400	32.6%
Diesel Oil / Marine Gas Oil	493	119,209	25.6%
Unknown	45	35,134	7.6%
Gasoline	33	28,731	6.2%
Aviation Gasoline	16	24,190	5.2%
Oily Water Mixture	27	22,541	4.8%
Asphalt / Creosote	18	21,513	4.6%
Hydraulic Oil	168	21,344	4.6%
Mineral Oil / Transformer Oil	64	10,769	2.3%
Edible / Vegetable Oil	5	7,936	1.7%
Lube Oil / Motor Oil	33	5,344	1.1%
Jet Fuel / Kerosene	16	4,995	1.1%
Oily Waste	5	4,144	0.9%
Bunker C / IFO / HFO	4	2,552	0.5%
Heating Oil	12	1,896	0.4%
Waste Oil	9	1,624	0.3%
Natural Gas Condensate	1	1,057	0.2%
Other	5	614	0.1%
LNG / LPG	1	79	0.02%
Total	988	465,072	100.0%

NOTE:

- California's data submission does not include every oil spill reported to the California Office of Emergency Services (Cal OES); it does not include oil spills to land. The responsibility of response and investigation of oil spills to land falls within the jurisdiction of agencies other than the Office of Spill Prevention and Response (OSPR). Causal data, oil types, and volumes for oil spills to land are not collected by OSPR and therefore are not included in this year's report. In 2020, 7,183 hazardous material reports were generated by Cal OES. Of those, 2,117 were petroleum reported to land and 1,130 were petroleum releases to water that were either less than 42 gallons or the volume was unknown.

ANNUAL SUMMARY OF SPILLS

- A total of 988 releases of 42 gallons or more occurred during 2020, with a total volume of 465,072 gallons spilled. Of those, 10 releases were over 10,000 gallons.
- Diesel Oil/Marine gas oil was the most frequent product released and comprised 25.6% of the total volume for 2020.
- An additional 6,942 small spills (less than 42 gallons) occurred during 2020.

ANNUAL SUMMARY (2020)



Spills Greater Than 10,000 Gallons (2020)

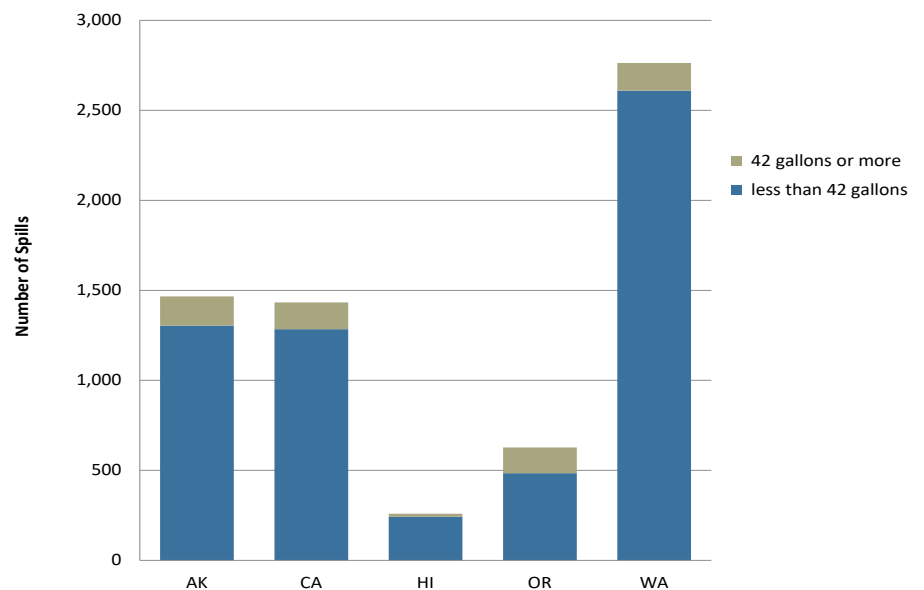
Product	Volume	State	Date	Source Type	Cause Type	Medium
Crude Oil	44,909	British Columbia	6/13/2020	Pipeline	Equipment Failure	Land
Crude Oil	28,962	Washington	12/22/2020	Vehicle	Unknown	Land
Crude Oil	25,200	California	2/18/2020	Facility	Equipment Failure	Land
Crude Oil	16,800	California	6/12/2020	Facility	Equipment Failure	Land
Aviation Gasoline	15,000	California	1/14/2020	Other	Other	Fresh Water
Diesel Oil / Marine Gas Oil	15,000	Alaska	6/20/2020	Public Lands	Human Error	Land
Oily Water Mixture	13,209	British Columbia	6/28/2020	Pipeline	Equipment Failure	Fresh Water
Gasoline	10,701	Washington	10/1/2020	Facility	Equipment Failure	Land
Crude Oil	10,567	British Columbia	5/26/2020	Vehicle	Unknown	Land
Asphalt / Creosote	10,500	Washington	3/18/2020	Facility	Human Error	Land

Summary of Releases with Volume Less Than 42 gallons (2020)

Beginning with the 2016 data, the Task Force began tracking the number of spills with volumes less than 42 gallons. This data will be used to help target outreach and spill prevention efforts such as the Pacific Oil Spill Prevention Education Team (POSPET).

Detailed information about small spills is often limited or unknown because the effort necessary to investigate them is cost-prohibitive. For this reason, we are presenting spill counts only. Small spills are NOT included in the graphs or tables elsewhere in this document.

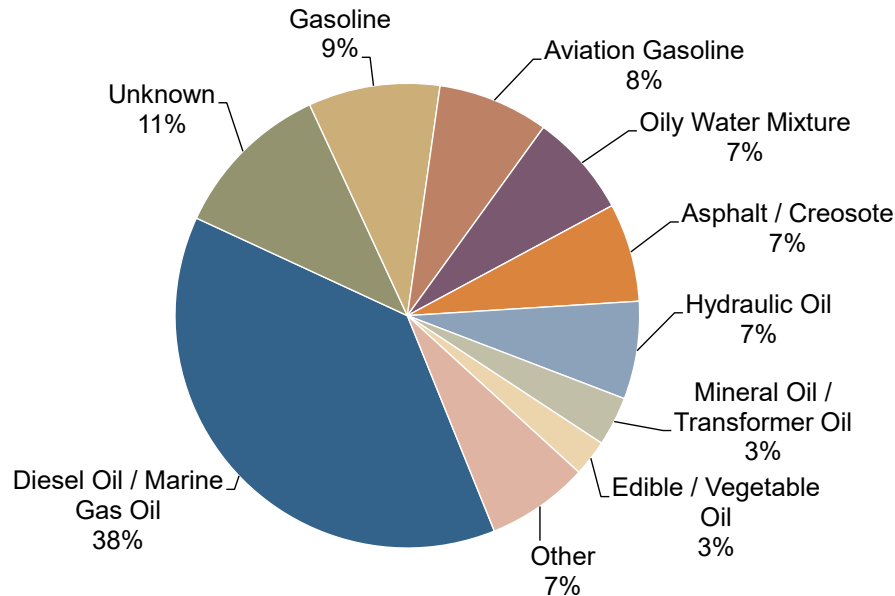
State/Prov	<42 Gallons	42+ Gallons
AK	1,218	168
BC	1,330	363
CA	1,227	162
HI	350	22
OR	463	140
WA	2,354	133
Total	6,942	988



ANNUAL SUMMARY (2020)

Non-Crude Oil Spills by Product (2020)

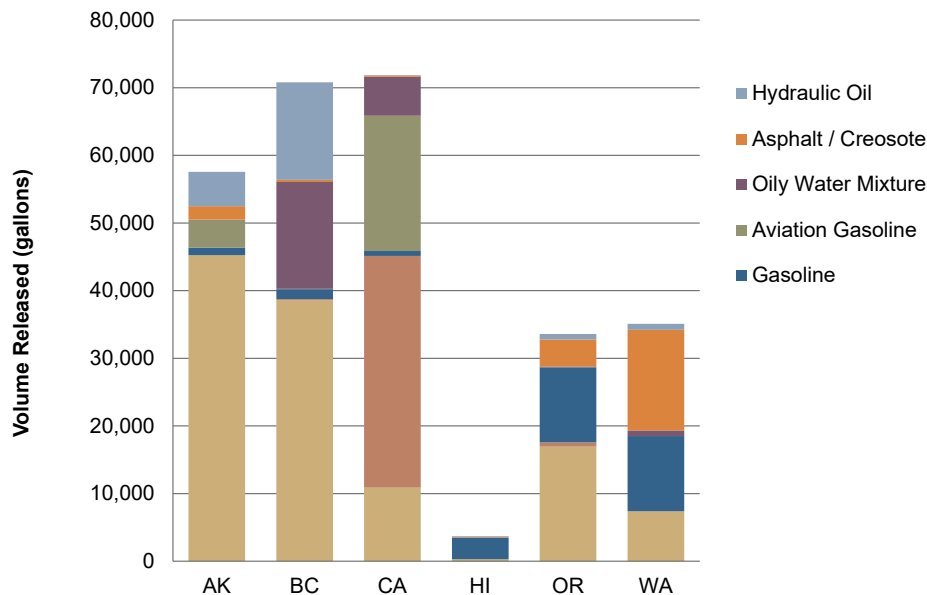
(percent total volume)



NOTE: "Other" includes classifications comprising 2% or less of the total volume released.

Non-Crude Oil Spills by Product and State (2020)

(5% or more total volume)



NON-CRUDE SPILLS

Total Spills 955
 Total Volume (gal) 313,672
 Average Spill Size (gal) 328

Top Products

Product	Gallons
Diesel Oil / Marine Gas Oil	119,209
Unknown	35,134
Gasoline	28,731
Aviation Gasoline	24,190
Oily Water Mixture	22,541

- 955 releases, totalling 313,672 gallons were non-crude oil spills.

ANNUAL SUMMARY (2020)

NON-CRUDE SPILLS

Summary by Source

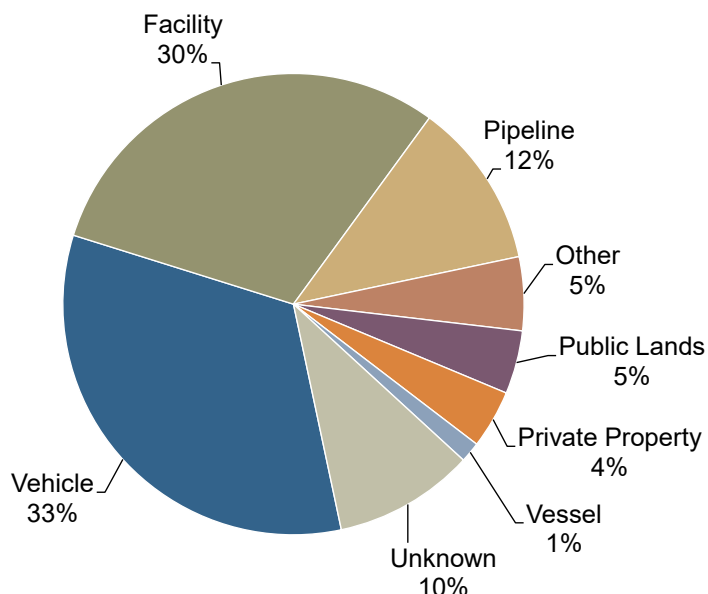
Top Sources

Source	Gallons
Vehicle	104,035
Facility	94,743
Pipeline	36,549
Other	27,578
Public Lands	16,199

- Vehicles (33%) and Facilities (30%) were the major sources of non-crude spills during 2020, comprising nearly two-thirds of the non-crude volume for the year.

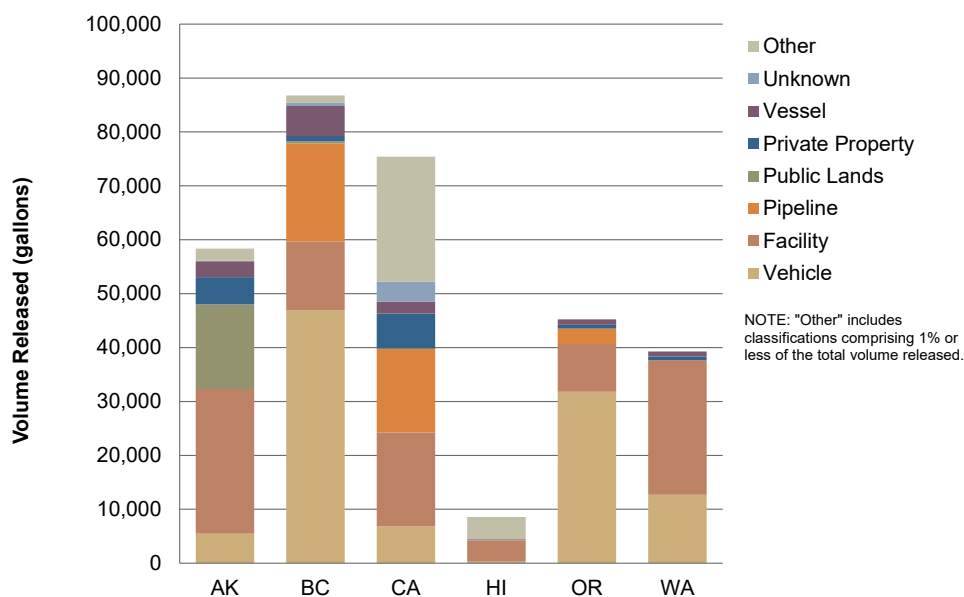
Non-Crude Oil Spills by Source (2020)

(percent total volume)



NOTE: "Other" includes classifications comprising 1% or less of the total volume released.

Non-Crude Oil Spills by Source and State (2020)

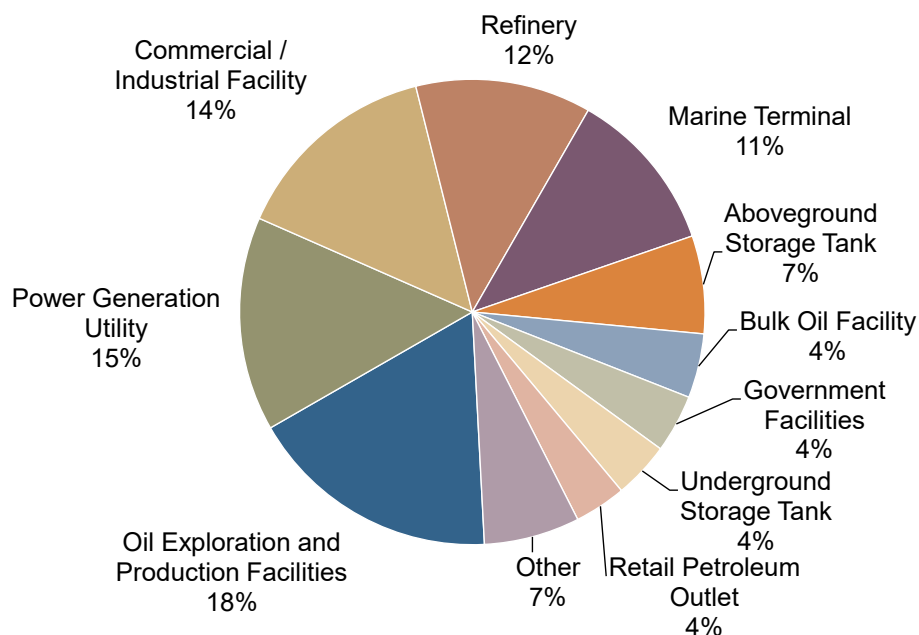


NOTE: "Other" includes classifications comprising 1% or less of the total volume released.

ANNUAL SUMMARY (2020)

Non-Crude Oil Spills -- Facility Detail (2020)

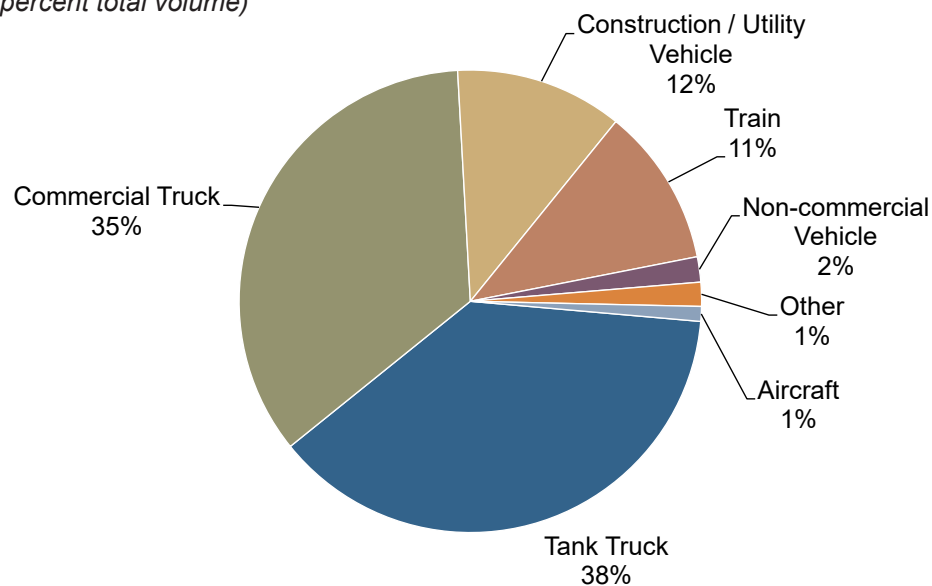
(percent total volume)



NOTE: "Other" includes classifications comprising 2% or less of the total volume released.

Non-Crude Oil Spills -- Vehicle Detail (2020)

(percent total volume)



NOTE: "Other" includes classifications comprising 1% or less of the total volume released.

NON-CRUDE SPILLS

Summary by Source (continued)

- Approximately a third of the non-crude spill volume for Facilities was from Oil Exploration and Production Facilities (18%) or Power Generation Utilities (15%).
- Commercial Trucks (35%) and Tank Trucks (38%) comprised nearly three-quarters of the total non-crude spill volume for Vehicles during 2020.

ANNUAL SUMMARY (2020)

NON-CRUDE SPILLS

Summary by Cause

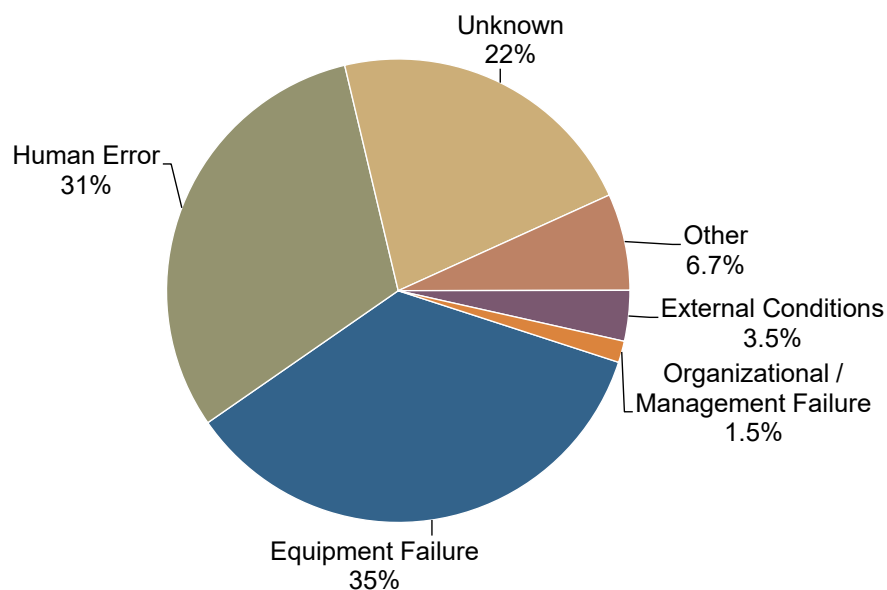
Top Causes

Cause	Gallons
Equipment Failure	110,896
Human Error	97,026
Unknown	68,815
Other	21,164
External Conditions	11,093

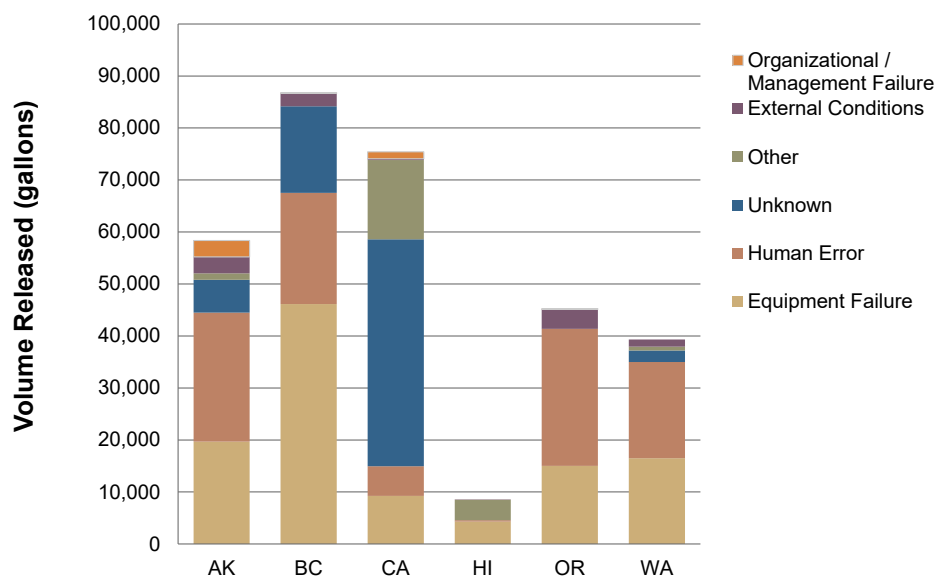
- Over half of the total non-crude spill volume was attributable to Equipment Failure (35%) or Human Error (31%).

Non-Crude Oil Spills by Cause (2020)

(percent total volume)



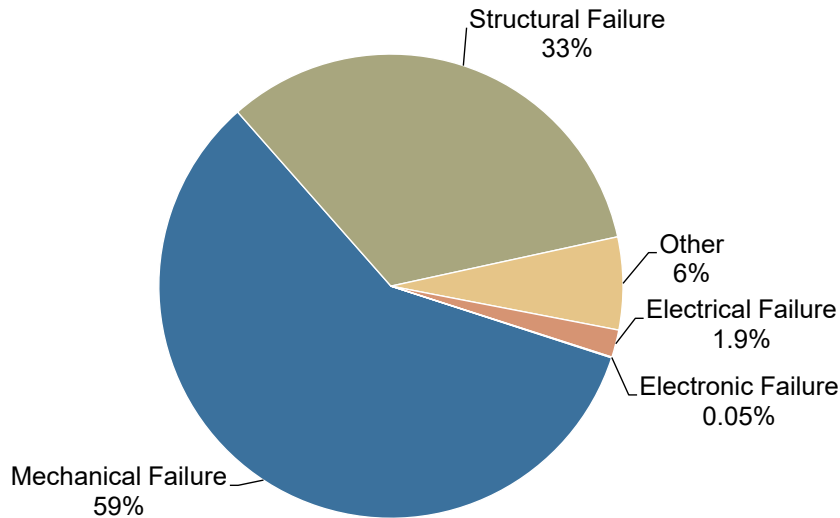
Non-Crude Oil Spills by Cause and State (2020)



ANNUAL SUMMARY (2020)

Non-Crude Oil Spills -- Equipment Failure Detail (2020)

(percent total volume)



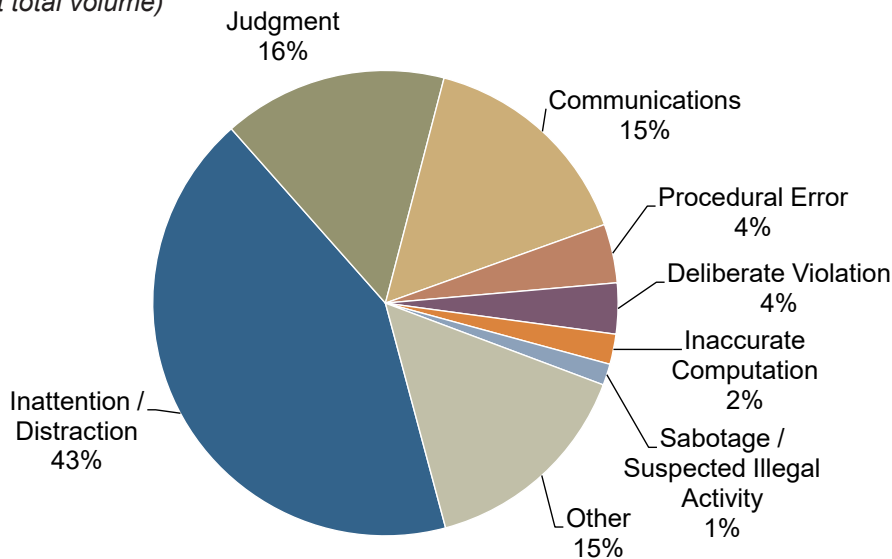
NON-CRUDE SPILLS

Summary by Cause (continued)

- Over half of the total Equipment Failure spill volume was due to Mechanical Failure (59%).
- Inattention/distraction (43%) and Judgment (16%) comprised over half the total non-crude volume for releases due Human Error during 2020.

Non-Crude Oil Spills -- Human Error Detail (2020)

(percent total volume)



NOTE: "Other" includes classifications comprising 1% or less of the total volume released.

ANNUAL SUMMARY (2020)



NON-CRUDE SPILLS

Summary by Activity

Top Activities

Activity	Gallons
Static ¹	86,274
Underway / In Motion ²	66,019
Other	54,061
Oil Transfer (cargo)	43,218
Unknown	22,853

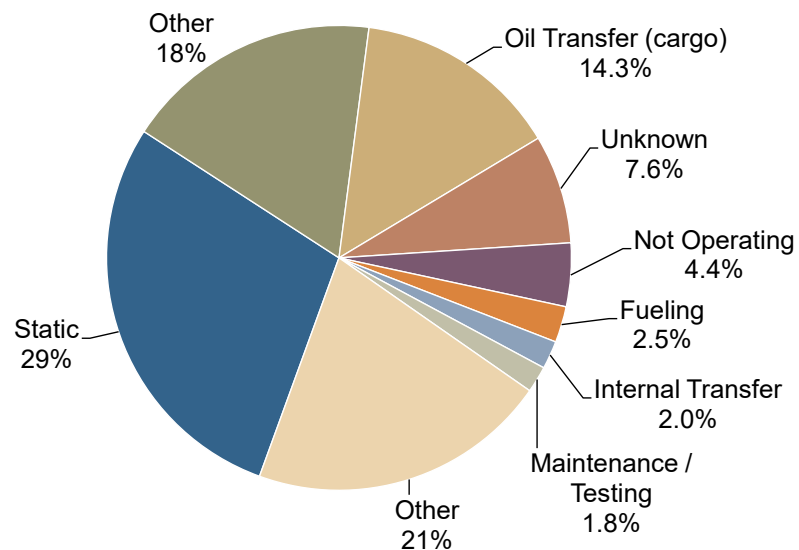
- Static¹ (29%) and Other (18%) were the main activities at the time of the spill.

¹Static, or performing designed function, not to include oil transfers

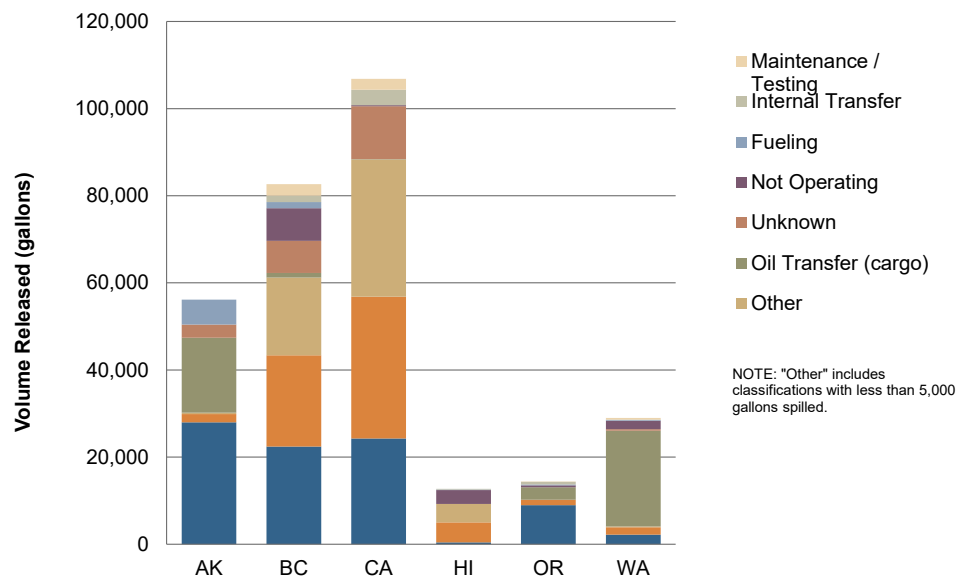
²Underway/In Motion: (1) Vessel underway conducting normal operations, no oil movements in progress (oil movements include ballasting, tank washing, internal transfers); (2) Vehicle in motion conducting designed function

Non-Crude Oil Spills by Activity (2020)

(percent total volume)



Non-Crude Oil Spills by Activity and State (2020)

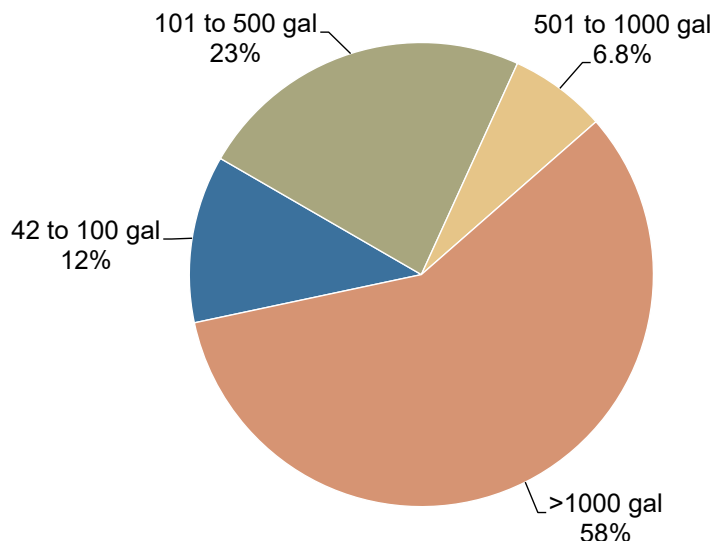


ANNUAL SUMMARY (2020)

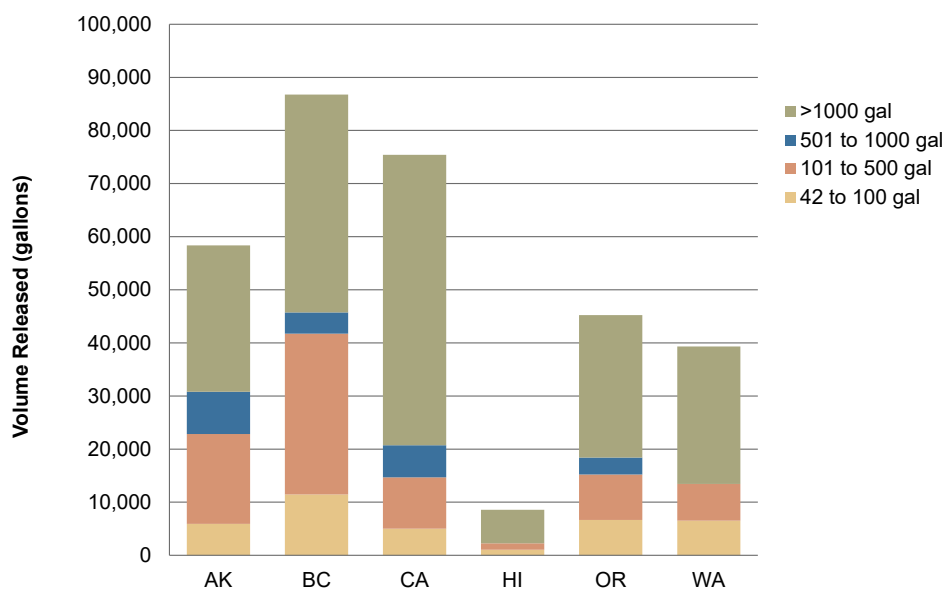


Non-Crude Oil Spills by Spill Size (2020)

(percent total volume)



Non-Crude Oil Spills by Spill Size and State (2020)



NON-CRUDE SPILLS

Summary by Spill Size

Size Class	Gallons
42 to 100 gal	36,620
101 to 500 gal	73,576
501 to 1000 gal	21,202
>1000 gal	182,274

- Spills with volumes greater than 1,000 gallons comprised over 58% of the total non-crude volume during 2020.

ANNUAL SUMMARY (2020)

NON-CRUDE SPILLS

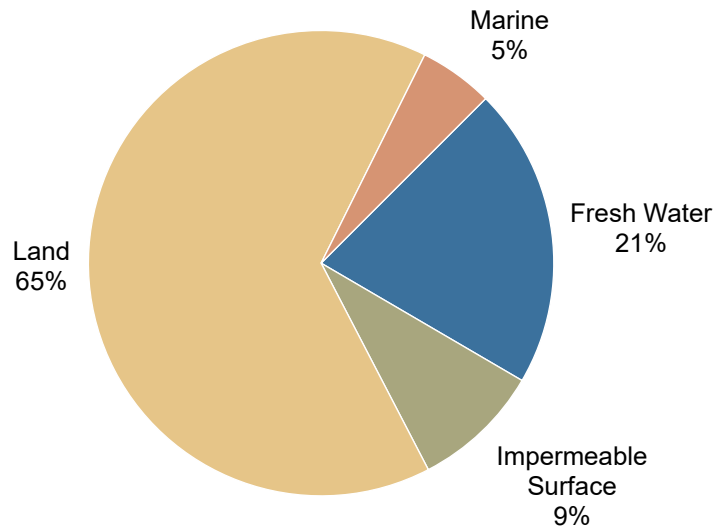
Summary by Medium

Medium	Gallons
Fresh Water	65,602
Impermeable Surface	28,118
Land	203,799
Marine	16,153

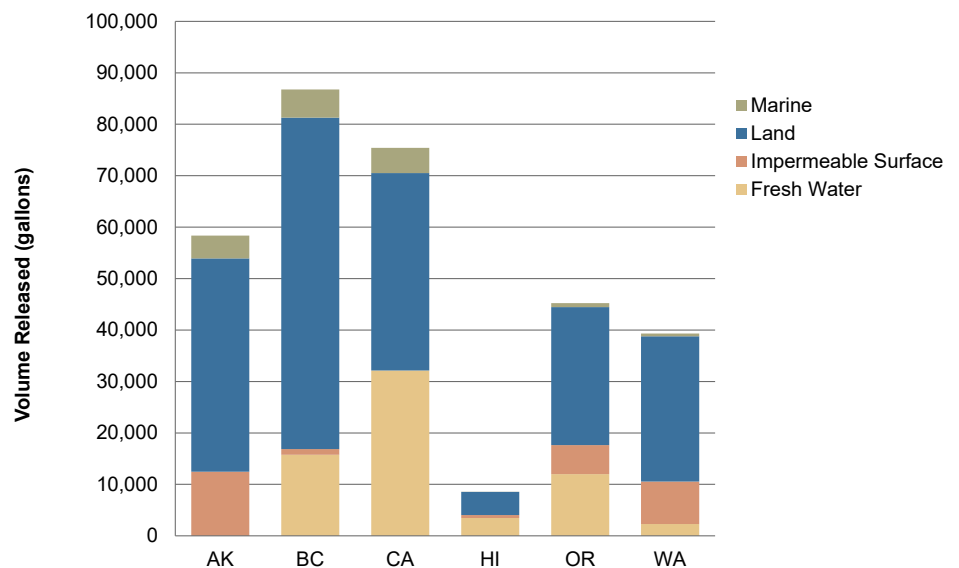
- Over 60% of the non-crude volume was spilled to Land (65%).

Non-Crude Oil Spills by Medium Impacted (2020)

(percent total volume)



Non-Crude Oil Spills by Medium and State (2020)

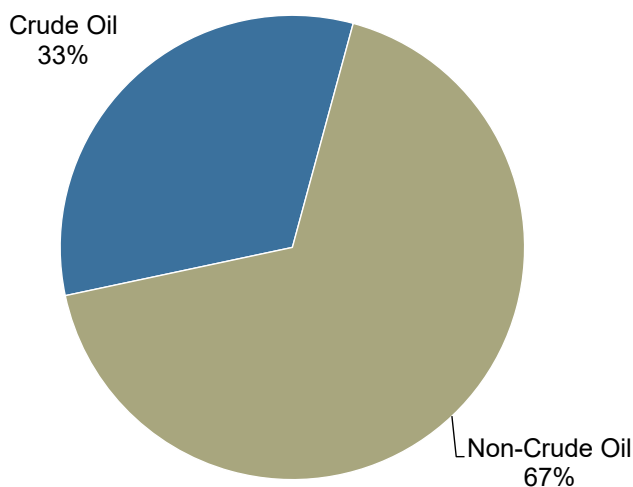


ANNUAL SUMMARY (2020)

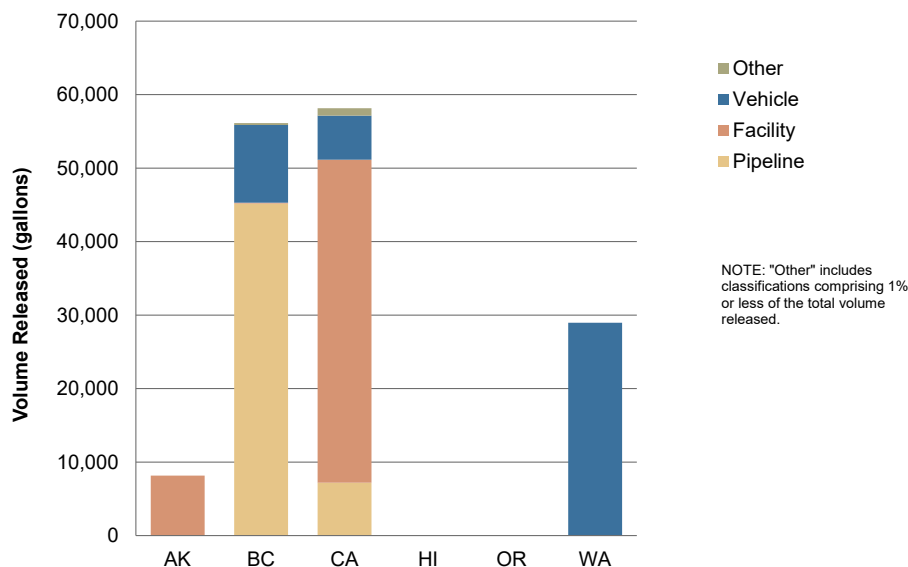


Crude Spills vs. Non-Crude Oil Spills (2020)

(percent total volume)



Crude Spills by Source Type and State (2020)



CRUDE SPILLS

Total Spills 33
Total Volume (gal) 151,400
Average Spill Size (gal) 4,588

Product Type	Gallons
Non-crude Oil	313,672
Crude Oil	151,400
Total	465,072

- 33 crude oil spills totalling 151,400 gallons occurred during 2020.
- Crude oil comprised 33% the total volume for 2020.

Top Sources

Source Type	Gallons
Pipeline	52,365
Facility	52,234
Vehicle	45,529
Unknown	714
Other	294

- Pipelines (35%) and Facilities (35%) were the main sources of crude spills during 2020.

ANNUAL SUMMARY (2020)

CRUDE SPILLS

Top Causes

Cause Type	gallons
Equipment Failure	97,637
Unknown	52,833
Organizational / Management Failure	930

- Equipment Failure (64%) was the main cause of crude oil spills during 2020.

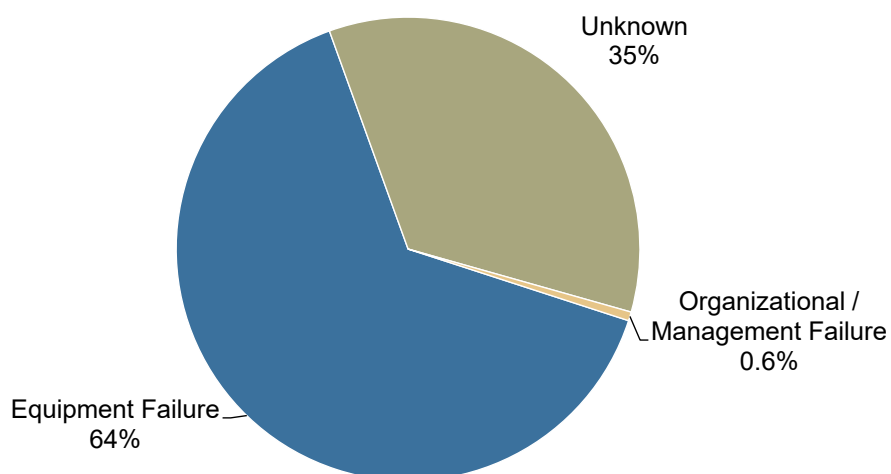
Equipment Failure Detail

Cause	gallons
Mechanical Failure	50,618
Structural Failure	46,398
Other	621

- During 2020, Mechanical Failure (52%) was the main cause for crude oil spills due to Equipment Failure.
- No crude oil spills were caused by Human Error during 2020.

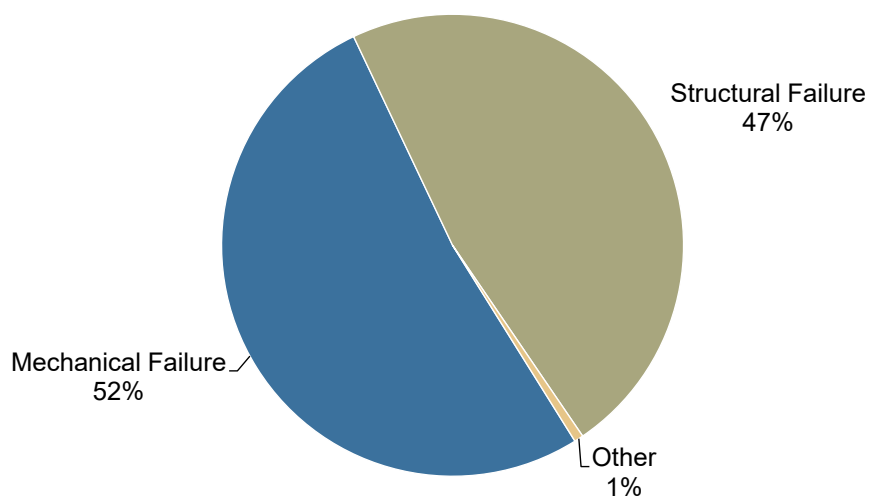
Crude Spills by Cause (2020)

(percent total volume)



Crude Spills -- Equipment Failure Detail (2020)

(percent total volume)

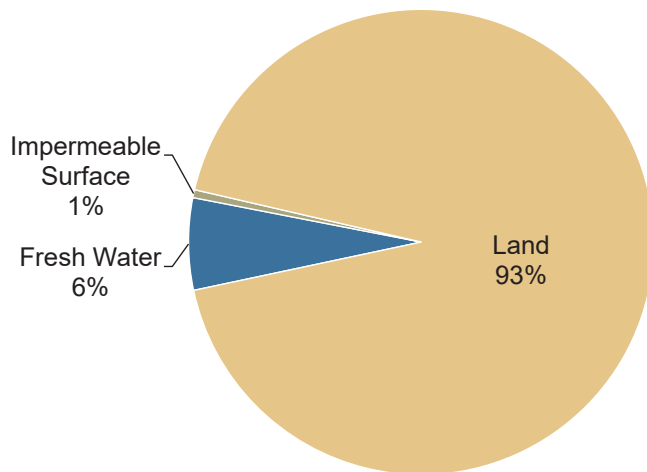


ANNUAL SUMMARY (2020)



Crude Spills by Medium Impacted (2020)

(percent total volume)



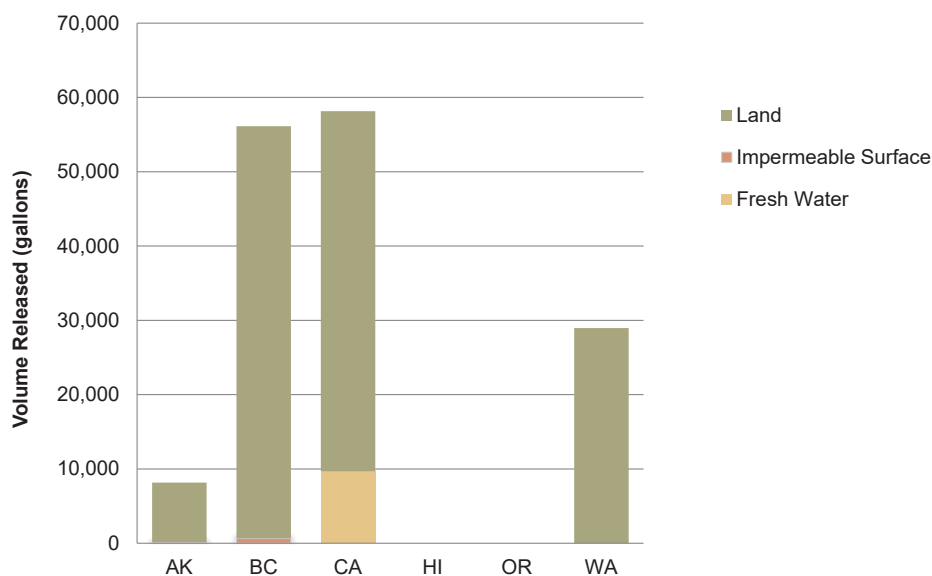
CRUDE SPILLS

Summary by Medium

Medium	Gallons
Fresh Water	9,685
Impermeable Surface	835
Land	140,880

- During 2020, crude spills to Land (93%) comprised nearly all of the total volume.

Crude Spills by Medium and State (2020)



SPILL TRENDS (2002-2020)



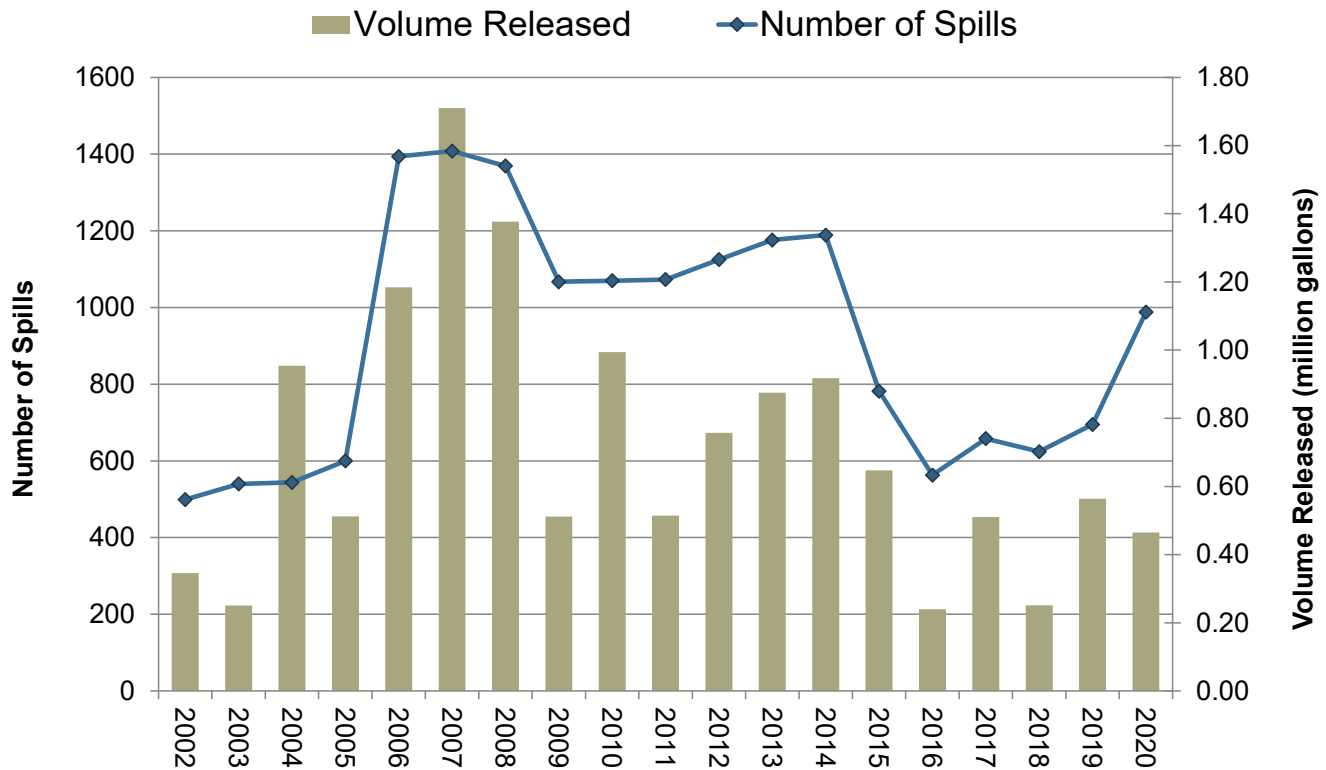
- A total of 17,364, releases of 42 gallons or more occurred during the 19-year period 2002-2020, with a total volume of 13.6 million gallons.
- This year, the British Columbia Ministry of Environment and Climate Change Strategy joined the Database Workgroup. The addition of their data will allow for a more complete summary of oil spills for the entire geographic area of interest to the Task Force.

Releases by Product (2002-2020)

Product	Spill Count	Gallons	% Total Volume
Crude Oil	1,638	3,527,949	0
Diesel Oil / Marine Gas Oil	8,496	3,242,948	0
Oily Water Mixture	689	1,963,836	0
Gasoline	700	787,509	0
Other	420	761,194	0
Bunker C / IFO / HFO	111	737,457	0
Asphalt / Creosote	219	681,454	0
Mineral Oil / Transformer Oil	1,613	481,643	0
Jet Fuel / Kerosene	373	408,283	3.0%
Aviation Gasoline	212	208,619	1.5%
Unknown	221	157,218	1.2%
Lube Oil / Motor Oil	666	155,584	1.1%
Hydraulic Oil	1,138	145,754	1.1%
Waste Oil	362	97,935	0.7%
Heating Oil	357	78,151	0.6%
Edible / Vegetable Oil	114	74,593	0.5%
Oily Waste	14	27,876	0.2%
Naphtha	1	27,000	0.2%
LNG / LPG	17	12,669	0.1%
Natural Gas Condensate	1	1,057	0.01%
Cutter Stock	2	240	0.002%
Total	17,364	13,578,969	

SPILL TRENDS (2002-2020)

Number of Spills and Volume Released (2002-2020)



SPILL TRENDS (2002-2020)



Crude vs. Non-Crude Oil Spills by Year (2002-2020)

Year	Non-Crude Oil		Crude Oil		Total	
	Spill Count	Gallons	Spill Count	Gallons	Spill Count	Gallons
2002	481	334,418	18	11,424	499	345,842
2003	524	222,531	16	28,015	540	250,546
2004	538	951,906	6	2,018	544	953,924
2005	581	339,516	19	172,871	600	512,387
2006	1,152	594,120	242	589,867	1,394	1,183,987
2007	1,200	1,179,794	208	530,288	1,408	1,710,082
2008	1,144	676,392	225	700,297	1,369	1,376,689
2009	933	390,268	134	120,972	1,067	511,240
2010	941	690,061	129	303,808	1,070	993,869
2011	945	441,172	128	73,004	1,073	514,176
2012	1,000	555,203	125	201,812	1,125	757,015
2013	1,081	740,141	95	134,692	1,176	874,833
2014	1,099	815,752	90	101,713	1,189	917,465
2015	742	488,585	40	158,318	782	646,903
2016	546	150,687	17	89,127	563	239,814
2017	641	498,135	17	12,254	658	510,389
2018	599	240,872	25	10,155	624	251,027
2019	624	427,795	71	135,914	695	563,709
2020	955	313,672	33	151,400	988	465,072
19-YR Total	15,726	10,051,020	1,638	3,527,949	17,364	13,578,969
19-YR AVG	828	529,001	86	185,682	914	714,683

Summary by Product

- Over the 19-year period, the combined volume of non-crude oil spills was nearly three times that for crude oil spills.

Crude Oil Spills

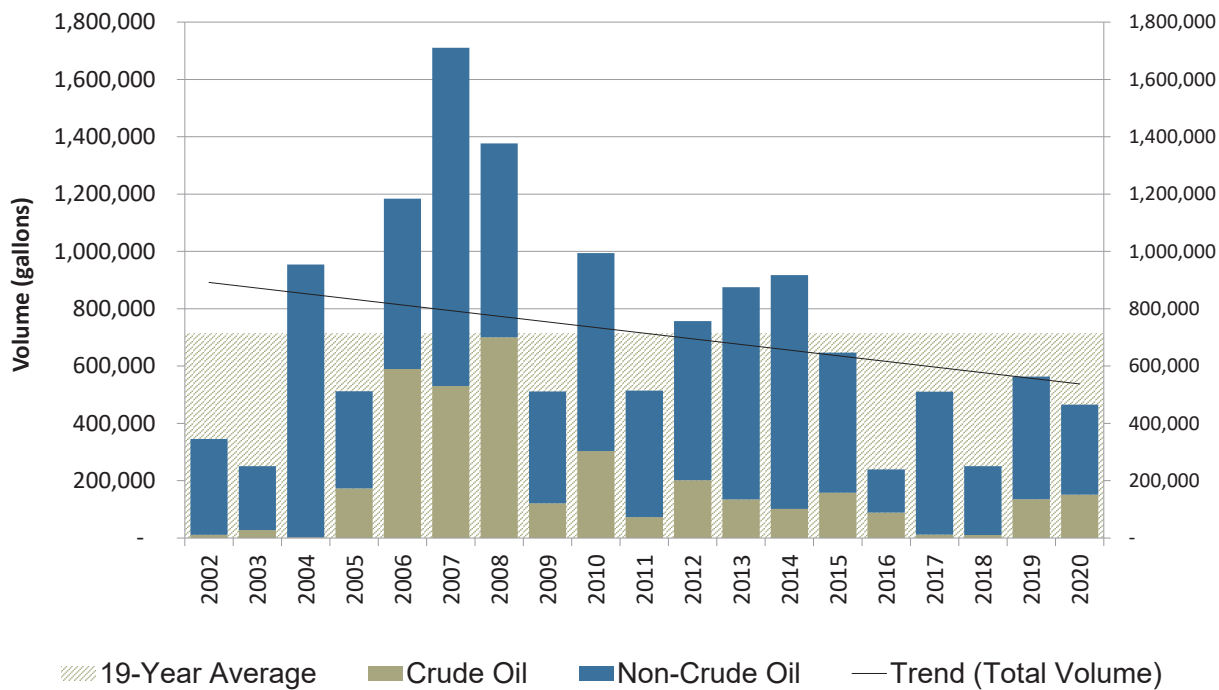
- The top two crude oil spills during the 19-year period were 463,848 gallons in California (2008) and a 267,000 gallon spill in Alaska (2006). The combined volume of these two incidents comprised 23% of the total crude oil volume released for the period.

Non-Crude Oil Spills

- Diesel Oil/Marine Gas Oil comprised 24% of the total spill volume and 32% of the non-crude oil spill volume for the period.

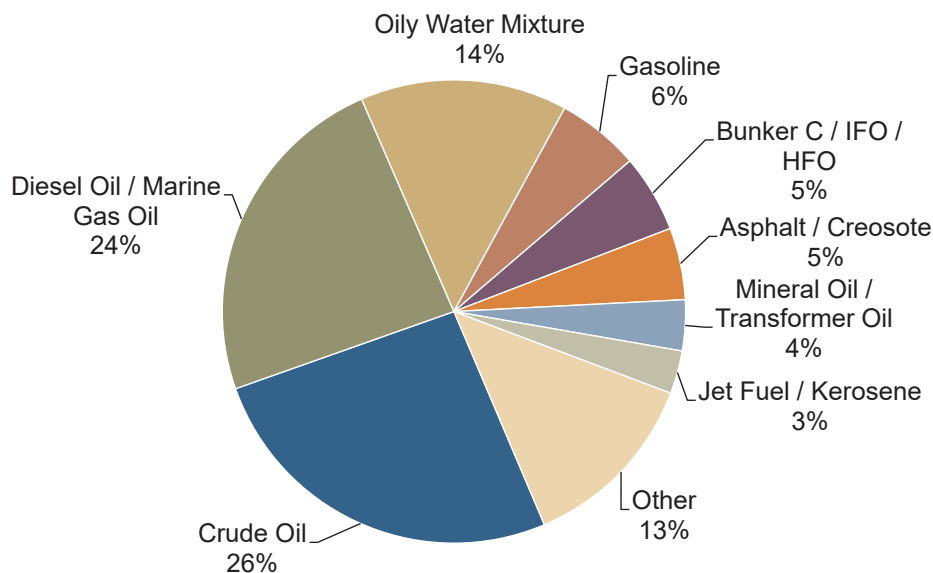
SPILL TRENDS (2002-2020)

Crude vs. Non-Crude Oil Spills (2002-2020)



Spills by Product (2002-2020)

(percent total volume)



NOTE: "Other" includes classifications comprising 2% or less of the total volume released.

SPILL TRENDS (2002-2020)

Summary by Source

- Overall, Facilities (50.4%) and Pipelines (18.8%) were the major sources of spills by volume during the 19-year period.
- Facilities were the source of 53.3% of the non-crude oil spill volume.
- Pipelines (50.6%) and Facilities (42%) were the major sources of crude oil spills.

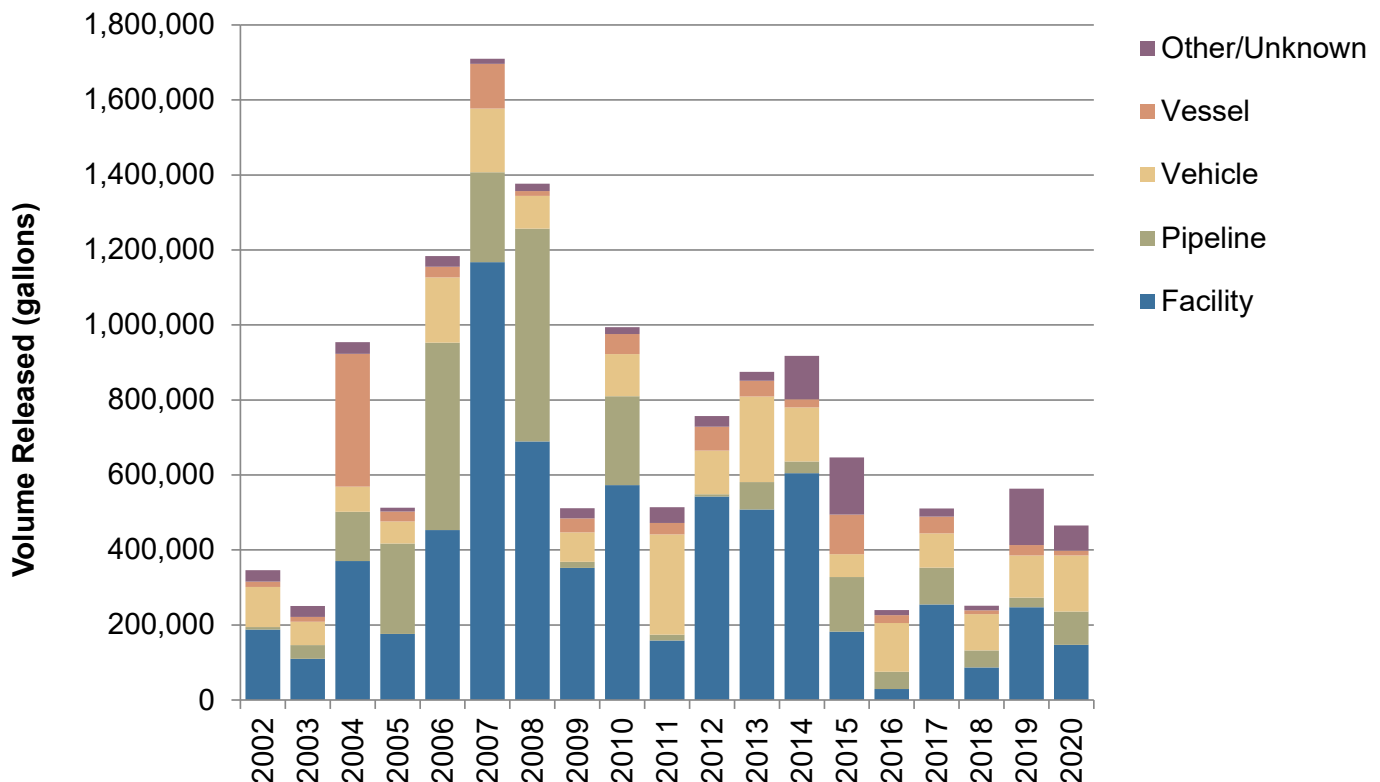
Non-Crude Oil Spill Sources

Source	gallons
Facility	5,359,262
Vehicle	2,194,602
Vessel	1,034,247
Pipeline	767,897
Other/Unknown	636,707
Public Lands	31,997
Military	25,120
Farm / Agriculture	1,188
Total	10,051,020

Crude Oil Spill Sources

Source	gallons
Pipeline	1,783,575
Facility	1,481,018
Other/Unknown	136,711
Vehicle	120,819
Vessel	5,826
Total	3,527,949

Annual Spill Volume by Source (2002-2020)



SPILL TRENDS (2002-2020)

Summary by Cause

- Overall, Equipment Failure (53.3%) and Human Error (28.5%) were the major spill causes.
- Equipment Failure (45.8%) and Human Error (35.4%) were the predominant causes for non-crude oil spills
- 74.5% of the total crude oil spill volume was due to Equipment Failure.

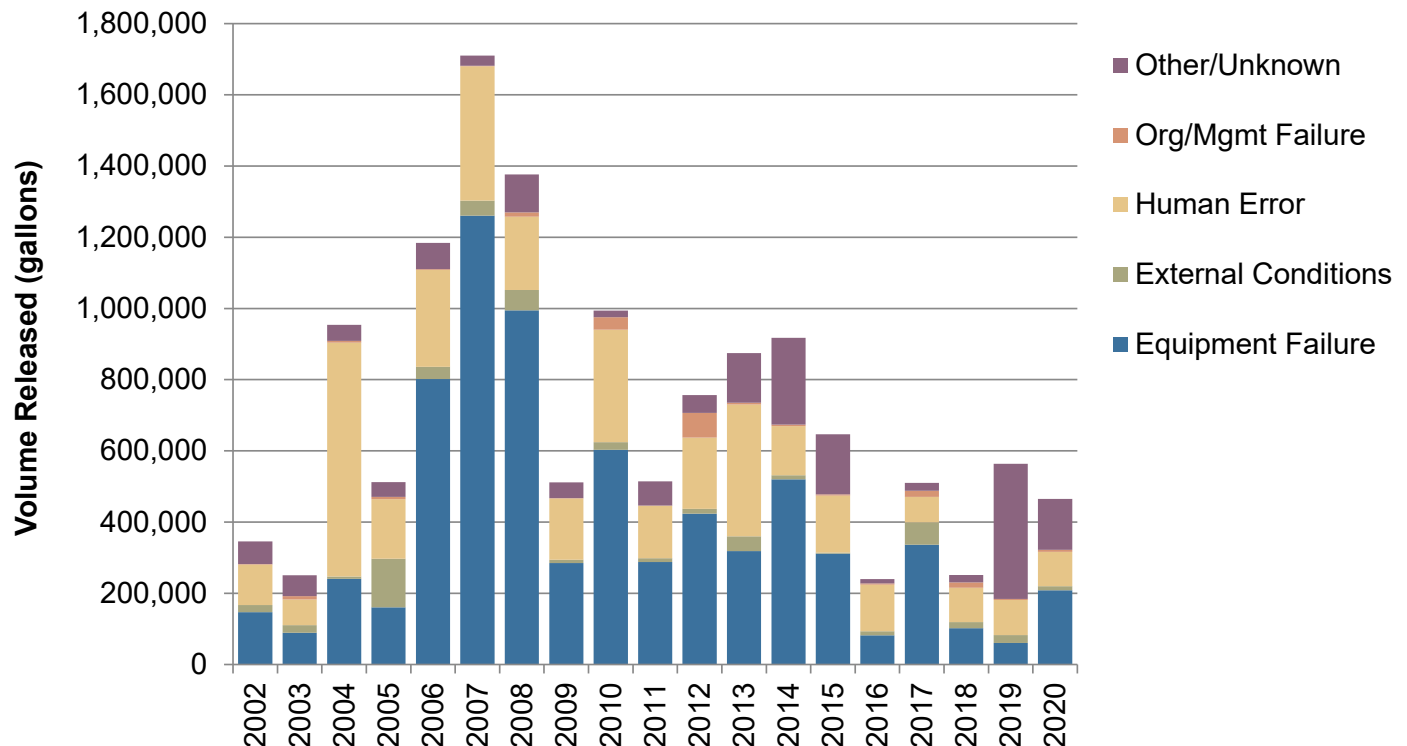
Non-Crude Oil Spills

Cause	gallons
Equipment Failure	4,605,591
Human Error	3,560,619
Other / Unknown	1,343,972
External Conditions	393,672
Organizational / Management Failure	147,166
Total	10,051,020

Crude Oil Spills

Cause	gallons
Equipment Failure	2,627,006
Other / Unknown	384,882
Human Error	302,865
External Conditions	160,695
Organizational / Management Failure	52,501
Total	3,527,949

Annual Spill Volume by Cause (2002-2020)



SPILL TRENDS (2002-2020)

Spills Greater Than 10,000 Gallons (2002-2020)

Number of Spills 168 Crude Spills 46
Releases to Water 42 Non-crude Spills 122

Product	Volume	State/Prov	Date	Source Type	Cause Type	Medium
Bunker C / IFO / HFO	321,052	Alaska	12/8/04	Vessel	Human Error	Marine
Bunker C / IFO / HFO	270,000	Washington	8/25/04	Facility	Human Error	Land
Crude Oil	267,000	Alaska	3/2/06	Pipeline	Equipment Failure	Land
Asphalt / Creosote	203,000	Washington	1/22/14	Facility	Equipment Failure	Land
Other	193,200	California	1/4/10	Facility	Equipment Failure	Land
Crude Oil	191,562	Alaska	5/25/10	Pipeline	Equipment Failure	Impermeable Surface
Other	167,202	California	9/4/17	Facility	Equipment Failure	Fresh Water
Oily Water Mixture	147,840	California	11/8/19	Facility	Unknown	Land
Diesel Oil / Marine Gas Oil	142,800	Alaska	1/11/10	Facility	Human Error	Marine
Crude Oil	140,000	California	5/19/15	Pipeline	Equipment Failure	Marine
Oily Water Mixture	128,000	California	11/26/08	Facility	Equipment Failure	Land
Crude Oil	126,000	California	3/9/07	Facility	Equipment Failure	Land
Crude Oil	126,000	California	3/23/05	Pipeline	External Conditions	Fresh Water
Aviation Gasoline	115,353	California	11/22/04	Pipeline	Equipment Failure	Land
Other	112,000	Oregon	5/4/11	Vehicle	Equipment Failure	Fresh Water
Oily Water Mixture	100,000	California	9/7/12	Facility	Equipment Failure	Fresh Water
Crude Oil	87,192	California	1/10/07	Facility	Equipment Failure	Land
Jet Fuel / Kerosene	83,000	Hawaii	5/9/17	Pipeline	Equipment Failure	Land
Gasoline	80,000	California	8/31/13	Vehicle	Human Error	Land
Diesel Oil / Marine Gas Oil	75,000	Hawaii	1/22/15	Vessel	Human Error	Marine
Asphalt / Creosote	71,000	Washington	2/8/15	Facility	Equipment Failure	Fresh Water
Mineral Oil / Transformer Oil	70,000	California	4/16/13	Facility	Human Error	Fresh Water
Crude Oil	66,318	California	10/12/19	Unknown	Unknown	Fresh Water
Oily Water Mixture	63,000	California	1/17/12	Facility	Equipment Failure	Land
Crude Oil	63,000	California	4/23/07	Facility	Equipment Failure	Land
Oily Water Mixture	63,000	California	7/29/08	Facility	Unknown	Land
Asphalt / Creosote	60,000	California	12/27/14	Facility	Unknown	Land
Diesel Oil / Marine Gas Oil	58,800	California	7/7/07	Facility	Human Error	Land
Oily Water Mixture	58,128	California	4/6/14	Facility	Equipment Failure	Land
Bunker C / IFO / HFO	58,000	California	11/7/07	Vessel	Human Error	Marine
Crude Oil	44,909	British Columbia	6/13/20	Pipeline	Equipment Failure	Land
Crude Oil	44,755	California	6/23/16	Pipeline	Human Error	Marine
Crude Oil	42,000	California	6/12/07	Pipeline	Equipment Failure	Land
Crude Oil	42,000	Oregon	6/3/16	Vehicle	Equipment Failure	Fresh Water
Oily Water Mixture	42,000	California	8/11/15	Unknown	Unknown	Land
Mineral Oil / Transformer Oil	42,000	California	12/8/10	Facility	Equipment Failure	Land
Crude Oil	42,000	California	10/23/12	Facility	Organizational / Management Failure	Fresh Water
Diesel Oil / Marine Gas Oil	40,000	Washington	8/8/05	Facility	Human Error	Land
Crude Oil	40,000	California	4/17/07	Pipeline	Equipment Failure	Land
Oily Water Mixture	37,800	California	3/21/19	Other	Unknown	Land
Oily Water Mixture	37,306	California	11/11/06	Facility	Equipment Failure	Impermeable Surface
Oily Water Mixture	36,750	California	6/24/09	Facility	Equipment Failure	Land
Unknown	35,910	California	12/3/13	Facility	Equipment Failure	Land

SPILL TRENDS (2002-2020)



Spills Greater than 10,000 Gallons -- continued

Product	Volume	State/Prov	Date	Source Type	Cause Type	Medium
Diesel Oil / Marine Gas Oil	35,456	Alaska	2/11/17	Vessel	External Conditions	Marine
Oily Water Mixture	33,600	California	4/14/06	Pipeline	Equipment Failure	Impermeable Surface
Jet Fuel / Kerosene	33,600	California	2/15/10	Vessel	Organizational / Management Failure	Marine
Oily Water Mixture	33,600	California	11/9/14	Unknown	Unknown	Land
Diesel Oil / Marine Gas Oil	32,000	California	1/25/13	Vehicle	External Conditions	Fresh Water
Oily Water Mixture	31,500	California	6/10/08	Facility	External Conditions	Land
Oily Water Mixture	31,500	California	12/3/09	Facility	Equipment Failure	Land
Diesel Oil / Marine Gas Oil	30,847	Alaska	8/15/15	Facility	Equipment Failure	Land
Oily Water Mixture	30,240	California	4/20/07	Facility	Equipment Failure	Land
Oily Water Mixture	30,000	California	2/3/14	Vehicle	Other	Fresh Water
Gasoline	29,400	California	8/14/05	Pipeline	Human Error	Land
Crude Oil	29,400	California	10/1/06	Facility	Equipment Failure	Impermeable Surface
Crude Oil	28,962	Washington	12/22/20	Vehicle	Unknown	Land
Gasoline	27,500	California	4/25/07	Vehicle	Equipment Failure	Land
Jet Fuel / Kerosene	27,000	Hawaii	1/13/14	Facility	Equipment Failure	Land
Naphtha	27,000	Washington	3/23/12	Facility	Equipment Failure	Impermeable Surface
Crude Oil	26,460	California	1/30/06	Pipeline	Human Error	Land
Oily Water Mixture	26,250	California	6/17/09	Facility	Equipment Failure	Land
Crude Oil	26,250	California	6/11/08	Facility	Equipment Failure	Land
Crude Oil	25,200	California	11/27/05	Pipeline	Equipment Failure	Land
Crude Oil	25,200	California	2/18/20	Facility	Equipment Failure	Land
Crude Oil	25,200	California	11/24/12	Facility	Equipment Failure	Land
Oily Water Mixture	25,200	California	7/7/15	Unknown	Unknown	Land
Gasoline	24,500	Hawaii	10/6/04	Unknown	Equipment Failure	Land
Oily Water Mixture	24,360	California	5/9/14	Facility	Human Error	Land
Jet Fuel / Kerosene	24,000	Washington	3/1/05	Pipeline	Equipment Failure	Fresh Water
Crude Oil	23,478	California	8/21/19	Facility	Unknown	Land
Jet Fuel / Kerosene	22,388	California	5/18/11	Vehicle	Unknown	Marine
Oily Water Mixture	21,546	California	6/27/08	Facility	Equipment Failure	Land
Diesel Oil / Marine Gas Oil	21,402	Washington	10/27/10	Facility	Equipment Failure	Fresh Water
Crude Oil	21,336	California	6/1/10	Pipeline	Equipment Failure	Land
Diesel Oil / Marine Gas Oil	21,000	California	5/18/06	Pipeline	Equipment Failure	Land
Other	21,000	California	6/4/03	Facility	Equipment Failure	Marine
Crude Oil	21,000	California	11/6/06	Facility	Unknown	Land
Oily Water Mixture	21,000	California	4/10/14	Facility	Equipment Failure	Land
Oily Water Mixture	21,000	California	3/6/18	Pipeline	Equipment Failure	Fresh Water
Asphalt / Creosote	21,000	Oregon	1/14/11	Vehicle	Equipment Failure	Land
Oily Water Mixture	21,000	California	7/11/08	Facility	Equipment Failure	Land
Oily Water Mixture	21,000	California	3/29/07	Pipeline	Human Error	Land
Crude Oil	21,000	California	12/10/13	Pipeline	Unknown	Land
Crude Oil	20,622	California	9/6/08	Facility	Equipment Failure	Land
Asphalt / Creosote	20,575	Washington	4/30/13	Facility	Unknown	Land
Diesel Oil / Marine Gas Oil	20,000	California	11/7/12	Vessel	Organizational / Management Failure	Marine
Diesel Oil / Marine Gas Oil	20,000	California	12/8/09	Facility	Human Error	Land

SPILL TRENDS (2002-2020)



Spills Greater than 10,000 Gallons -- continued

Product	Volume	State/Prov	Date	Source Type	Cause Type	Medium
Diesel Oil / Marine Gas Oil	20,000	California	5/2/05	Pipeline	Equipment Failure	Land
Diesel Oil / Marine Gas Oil	20,000	California	4/13/13	Vessel	Unknown	Marine
Mineral Oil / Transformer Oil	20,000	Washington	3/25/13	Facility	Equipment Failure	Land
Oily Waste	20,000	Washington	11/13/14	Facility	Equipment Failure	Impermeable Surface
Gasoline	18,900	Hawaii	2/13/08	Facility	Human Error	Land
Crude Oil	18,900	California	5/15/06	Facility	Human Error	Land
Diesel Oil / Marine Gas Oil	18,200	Washington	11/3/06	Facility	Equipment Failure	Fresh Water
Crude Oil	17,640	California	5/27/12	Facility	Equipment Failure	Land
Bunker C / IFO / HFO	17,000	California	9/14/11	Private Property	Equipment Failure	Marine
Crude Oil	16,800	California	6/2/06	Facility	Equipment Failure	Impermeable Surface
Bunker C / IFO / HFO	16,800	California	8/7/07	Facility	Equipment Failure	Land
Gasoline	16,800	California	3/24/06	Vehicle	Unknown	Land
Crude Oil	16,800	California	10/13/06	Pipeline	Equipment Failure	Land
Crude Oil	16,800	California	12/3/09	Facility	Equipment Failure	Land
Oily Water Mixture	16,800	California	4/9/14	Facility	Equipment Failure	Land
Crude Oil	16,800	California	6/12/20	Facility	Equipment Failure	Land
Waste Oil	15,750	Washington	6/12/06	Facility	Equipment Failure	Land
Diesel Oil / Marine Gas Oil	15,000	Oregon	10/31/05	Facility	Human Error	Fresh Water
Diesel Oil / Marine Gas Oil	15,000	Alaska	6/20/20	Public Lands	Human Error	Land
Aviation Gasoline	15,000	California	1/14/20	Other	Other	Fresh Water
Diesel Oil / Marine Gas Oil	15,000	Washington	8/1/08	Facility	Equipment Failure	Impermeable Surface
Crude Oil	14,700	California	3/2/14	Unknown	Unknown	Land
Other	14,700	California	12/4/04	Pipeline	Equipment Failure	Fresh Water
Diesel Oil / Marine Gas Oil	14,680	Alaska	12/8/04	Vessel	Human Error	Marine
Edible / Vegetable Oil	14,400	California	4/8/13	Facility	Human Error	Land
Oily Water Mixture	14,070	California	7/29/07	Facility	Human Error	Land
Crude Oil	14,000	California	3/7/03	Pipeline	Equipment Failure	Land
Diesel Oil / Marine Gas Oil	14,000	Hawaii	11/1/11	Vessel	Equipment Failure	Land
Oily Water Mixture	14,000	California	9/16/06	Pipeline	Equipment Failure	Land
Oily Water Mixture	13,659	California	1/10/07	Facility	Equipment Failure	Land
Jet Fuel / Kerosene	13,630	Alaska	10/30/08	Facility	Equipment Failure	Land
Jet Fuel / Kerosene	13,524	Washington	4/7/05	Facility	Human Error	Land
Crude Oil	13,500	Alaska	11/29/09	Facility	Equipment Failure	Land
Oily Water Mixture	13,440	California	1/21/07	Facility	External Conditions	Land
Oily Water Mixture	13,209	British Columbia	6/28/20	Pipeline	Equipment Failure	Fresh Water
Asphalt / Creosote	13,000	Oregon	8/11/04	Vehicle	Equipment Failure	Land
Mineral Oil / Transformer Oil	13,000	Hawaii	3/22/07	Vessel	Equipment Failure	Marine
Diesel Oil / Marine Gas Oil	13,000	Hawaii	7/20/06	Vessel	Equipment Failure	Marine
Asphalt / Creosote	13,000	Alaska	5/16/18	facility	Equipment failure	Land
Crude Oil	12,852	California	6/28/10	Facility	Equipment Failure	Fresh Water
Oily Water Mixture	12,684	California	4/3/08	Facility	Equipment Failure	Land
Oily Water Mixture	12,600	California	12/3/09	Facility	Equipment Failure	Land
Oily Water Mixture	12,600	Alaska	1/29/07	Facility	Equipment Failure	Land
Crude Oil	12,600	California	11/9/14	Unknown	Unknown	Land

SPILL TRENDS (2002-2020)



Spills Greater than 10,000 Gallons -- continued

Product	Volume	State/Prov	Date	Source Type	Cause Type	Medium
Oily Water Mixture	12,600	California	10/15/12	Facility	Equipment Failure	Land
Crude Oil	12,600	California	7/15/07	Facility	Equipment Failure	Land
Oily Water Mixture	12,600	California	10/12/07	Pipeline	Equipment Failure	Land
Crude Oil	12,600	California	11/26/07	Facility	Equipment Failure	Land
Asphalt / Creosote	12,600	California	11/13/09	Facility	Human Error	Land
Diesel Oil / Marine Gas Oil	12,248	Alaska	4/24/05	Facility	Human Error	Land
Other	12,118	Alaska	12/18/02	Facility	Human Error	Land
Mineral Oil / Transformer Oil	12,096	California	9/30/07	Pipeline	Equipment Failure	Land
Diesel Oil / Marine Gas Oil	12,045	Alaska	1/19/12	Facility	Human Error	Impermeable Surface
Crude Oil	12,012	California	6/28/12	Facility	Equipment Failure	Land
Diesel Oil / Marine Gas Oil	12,000	Alaska	3/14/18	Facility	Human Error	Impermeable Surface
Crude Oil	12,000	California	3/15/07	Facility	Equipment Failure	Land
Oily Water Mixture	11,970	California	5/1/07	Pipeline	Equipment Failure	Land
Oily Water Mixture	11,760	California	12/10/13	Facility	Unknown	Land
Crude Oil	11,676	California	3/4/06	Facility	Equipment Failure	Land
Other	11,611	Alaska	2/26/02	Facility	Equipment Failure	Land
Gasoline	11,600	Oregon	12/15/17	Vehicle	External Conditions	Fresh Water
Gasoline	11,300	Oregon	12/13/15	Vehicle	Human Error	Land
Diesel Oil / Marine Gas Oil	11,000	Alaska	11/17/03	Facility	Human Error	Land
Gasoline	11,000	Oregon	12/2/02	Vehicle	Human Error	Fresh Water
Gasoline	11,000	Washington	11/27/03	Vehicle	Unknown	Fresh Water
Gasoline	10,701	Washington	10/1/20	Facility	Equipment Failure	Land
Mineral Oil / Transformer Oil	10,659	Washington	4/21/02	Facility	External Conditions	Fresh Water
Diesel Oil / Marine Gas Oil	10,584	Hawaii	8/5/05	Pipeline	Equipment Failure	Land
Crude Oil	10,567	British Columbia	5/26/20	Vehicle	Unknown	Land
Oily Water Mixture	10,500	California	5/29/06	Pipeline	Equipment Failure	Fresh Water
Oily Water Mixture	10,500	California	8/12/06	Pipeline	Equipment Failure	Land
Oily Water Mixture	10,500	California	4/11/08	Facility	Human Error	Land
Asphalt / Creosote	10,500	Washington	9/13/07	Facility	Human Error	Land
Asphalt / Creosote	10,500	Washington	3/18/20	Facility	Human Error	Land
Crude Oil	10,500	California	6/8/19	Facility	Unknown	Fresh Water
Asphalt / Creosote	10,112	Oregon	6/17/19	Vehicle	Human Error	Land
Oily Water Mixture	10,080	California	9/29/14	Unknown	Unknown	Land
Asphalt / Creosote	10,080	California	2/13/13	Facility	Equipment Failure	Land
Crude Oil	10,080	California	7/21/08	Pipeline	Equipment Failure	Land