Results of Pipeline Spills Statistical Study

IOGCC Annual Business Meeting

Denver, Colorado
Tuesday, May 17, 2016

John Harju
VP for Strategic Partnerships

Critical Challenges. Practical Solutions.

Project Prescribed by HB 1358

- Project is focused on conducting analysis of crude oil and produced water gathering pipelines.
  - Phase I – Study
    - Analyze existing regulations on construction and monitoring of crude oil and produced water gathering pipelines.
    - Determine the feasibility and cost-effectiveness of requiring leak detection and monitoring technology on new and existing pipeline systems.
    - Provide a report with recommendations to NDIC and EDTC (December 1, 2015).
  - Phase II – Demonstration
    - Conduct pilot project to evaluate a pipeline leak detection and monitoring system.

Stakeholder Input

Industry

North Dakota LEGENDARY Public Service Commission

NDPA

NORTH DAKOTA DMR Department of Mineral Resources

FORT LARAMIE TREATY 1851 MANDAN · HIDATSA · ARIKARA NATION

NORTH DAKOTA DEPARTMENT of AGRICULTURE

(Ombudsman Program)

NW Land Owners NORTHWEST LANDOWNERS ASSOCIATION

Office of the Governor

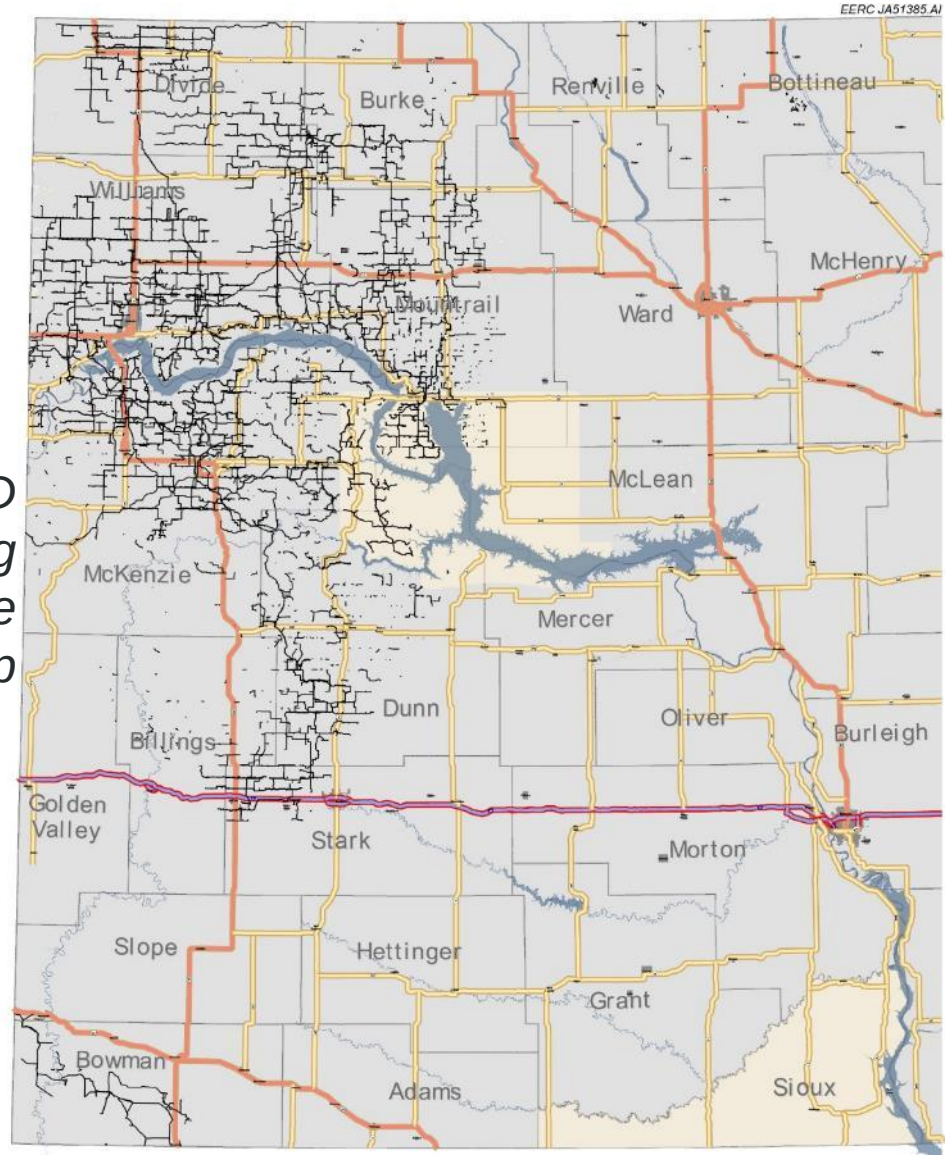
EERC

Context Is Important!

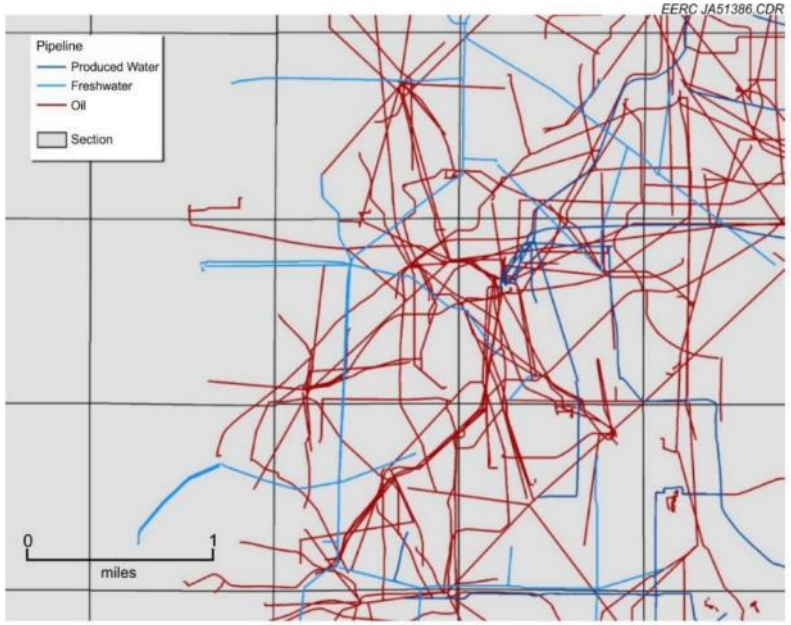
Critical Challenges. Practical Solutions.

Gathering Pipelines – A Complex Web

ND Gathering Pipeline Map

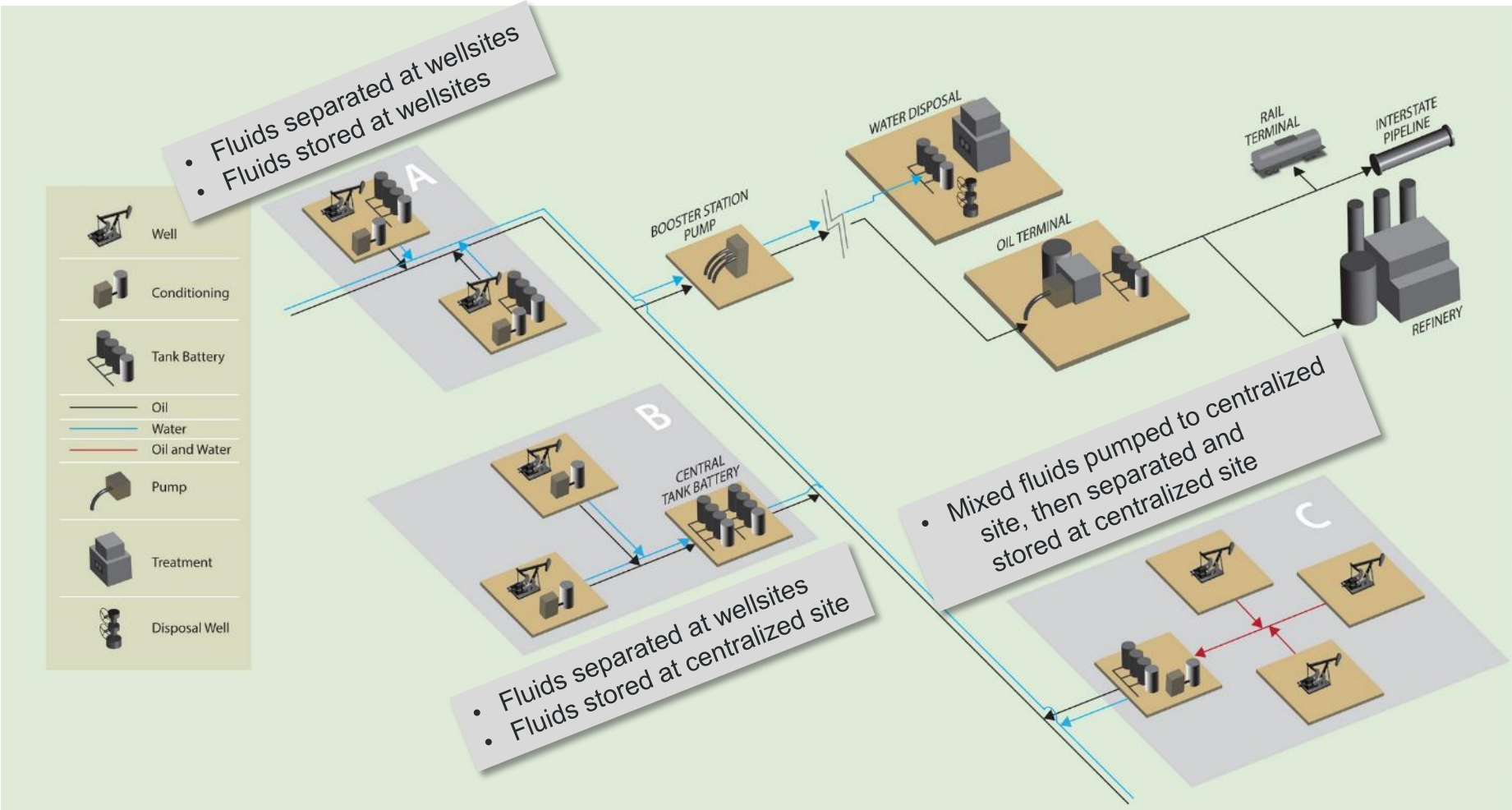


**This Represents Less Than 20% of Gathering Lines Installed



Detail on a 3-mile x 4-mile Section

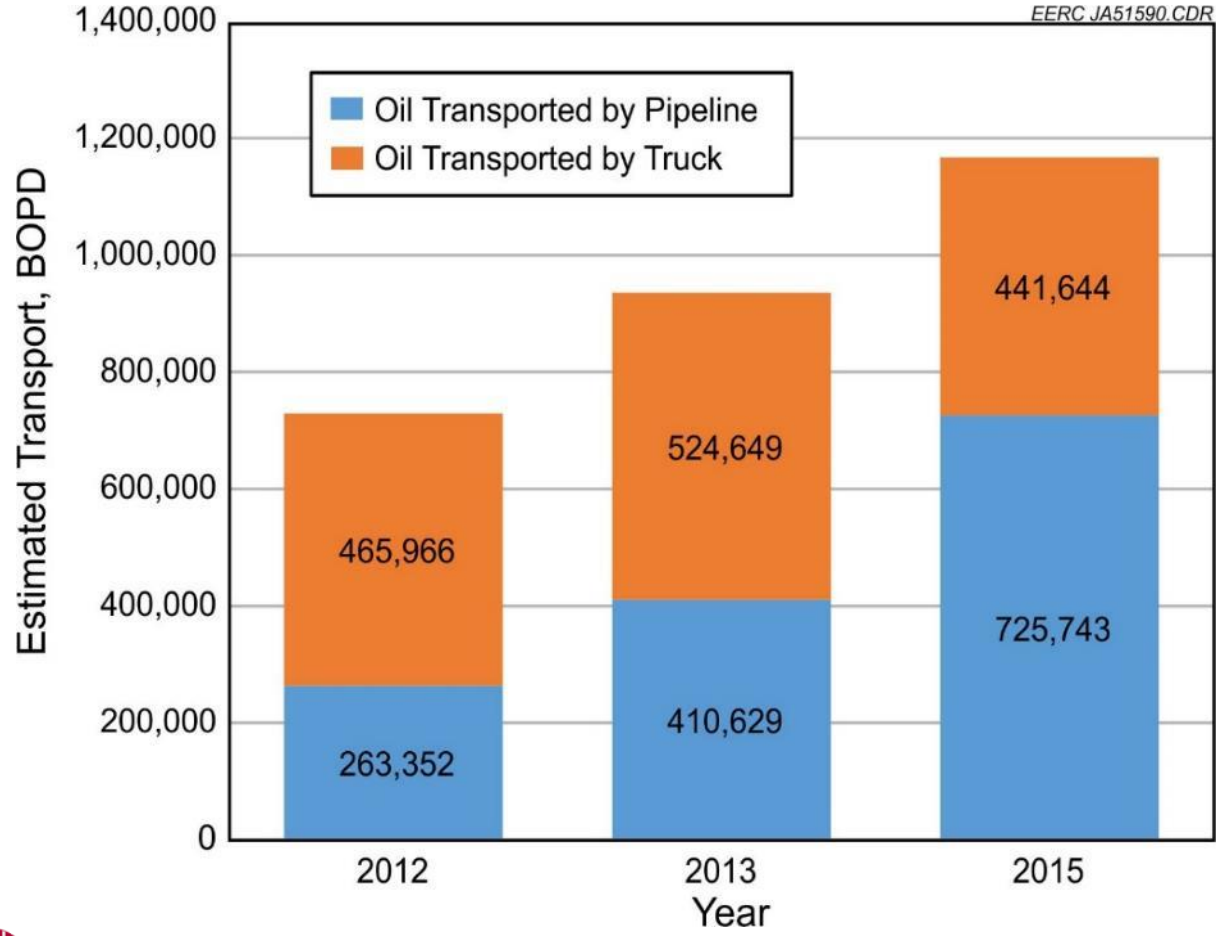
Overview of Produced Fluid Transport



Study Focus: Pipelines that transport liquids from a wellsite to aggregation points such as a crude oil refinery or pipeline terminal or water treatment/disposal sites.

Context on Gathering Pipelines

Oil Gathering in ND

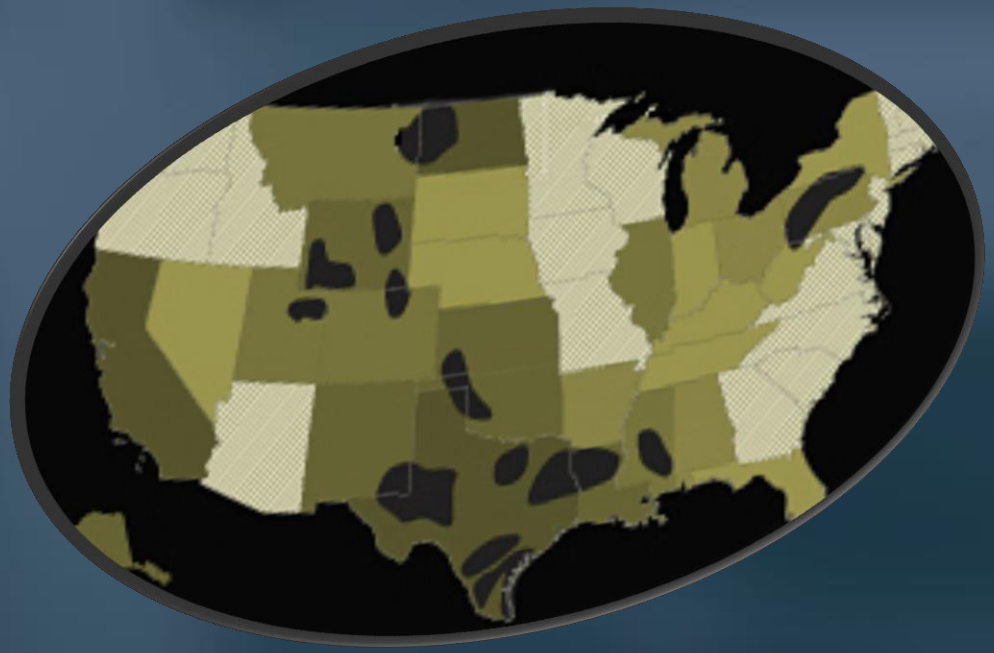


- Petroleum product must get to market:

Large Truck Fleets **VS** Extensive Pipeline Networks

- Pipelines are considered safer, more environmentally friendly, and vastly more economical.

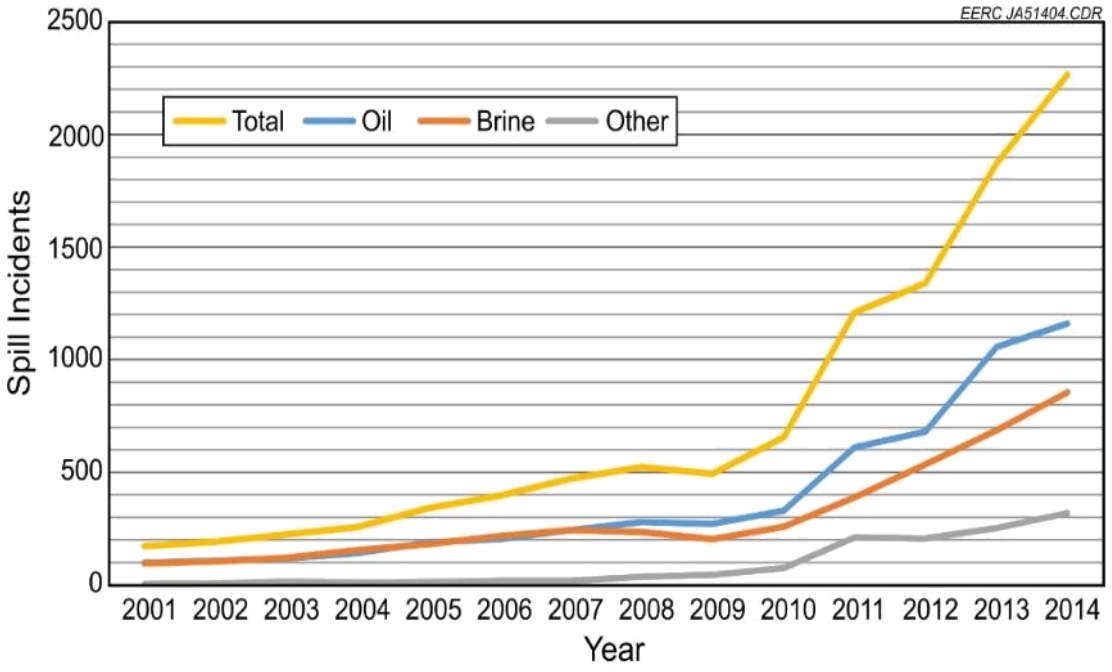
Understanding Spill Statistics and Comparisons Against Other States



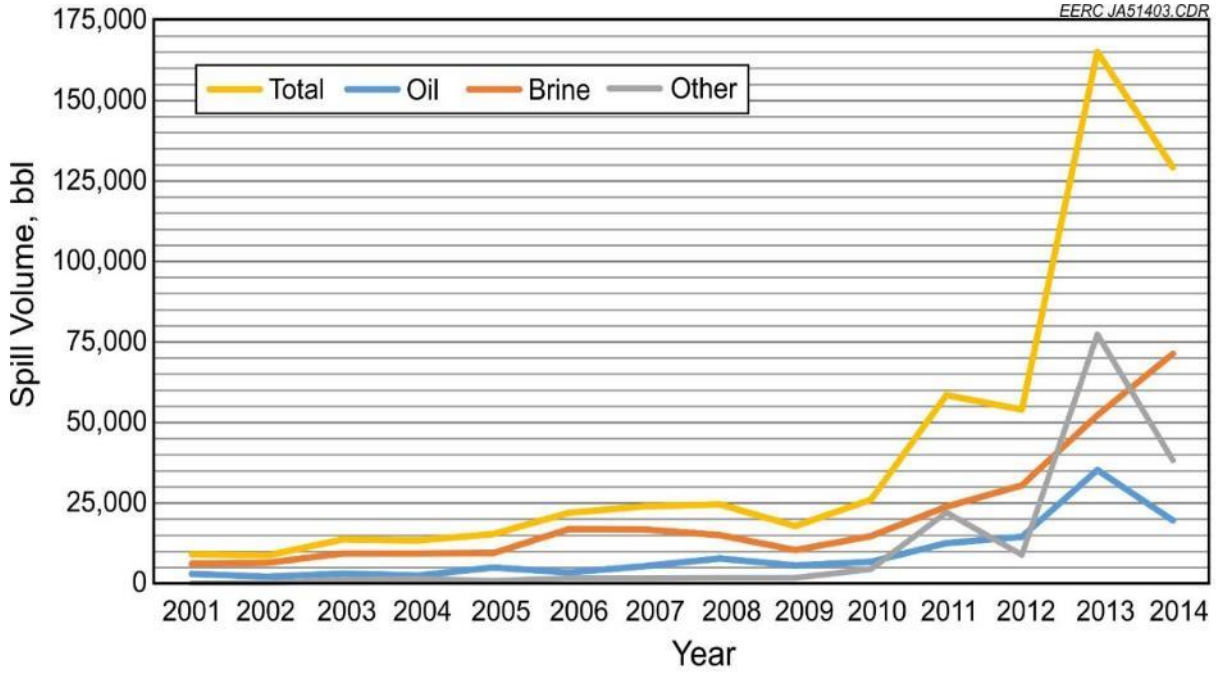
Critical Challenges. Practical Solutions.

Superficial Reporting on Pipeline Spills

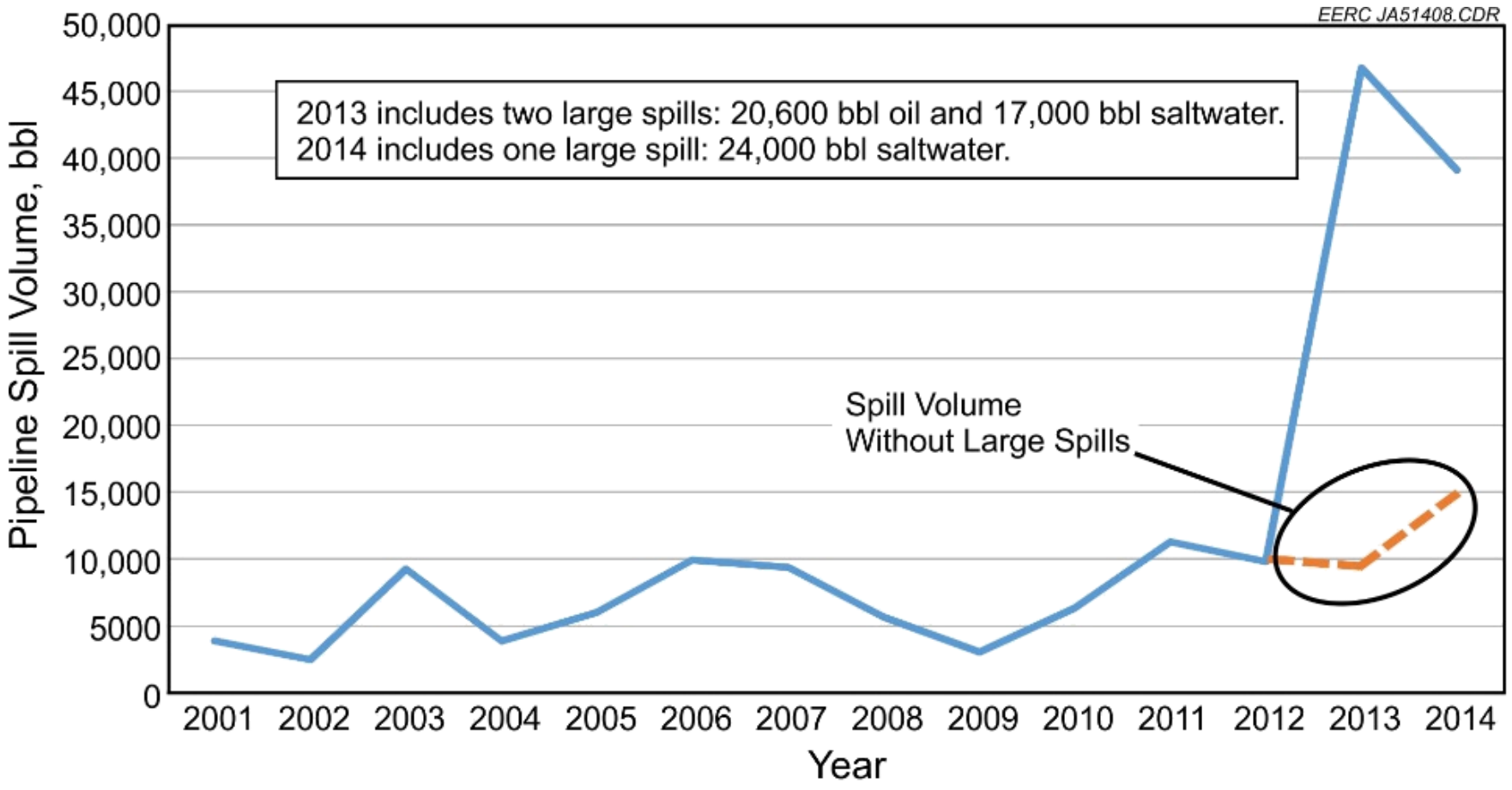
Incidents



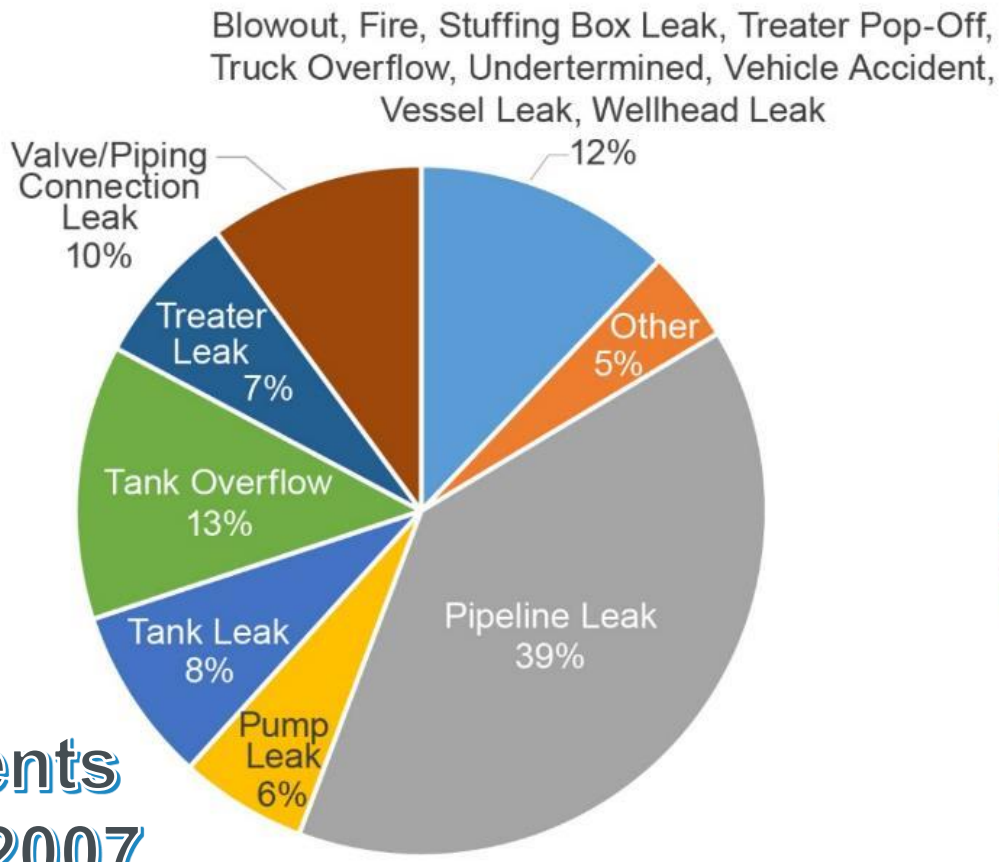
Volume



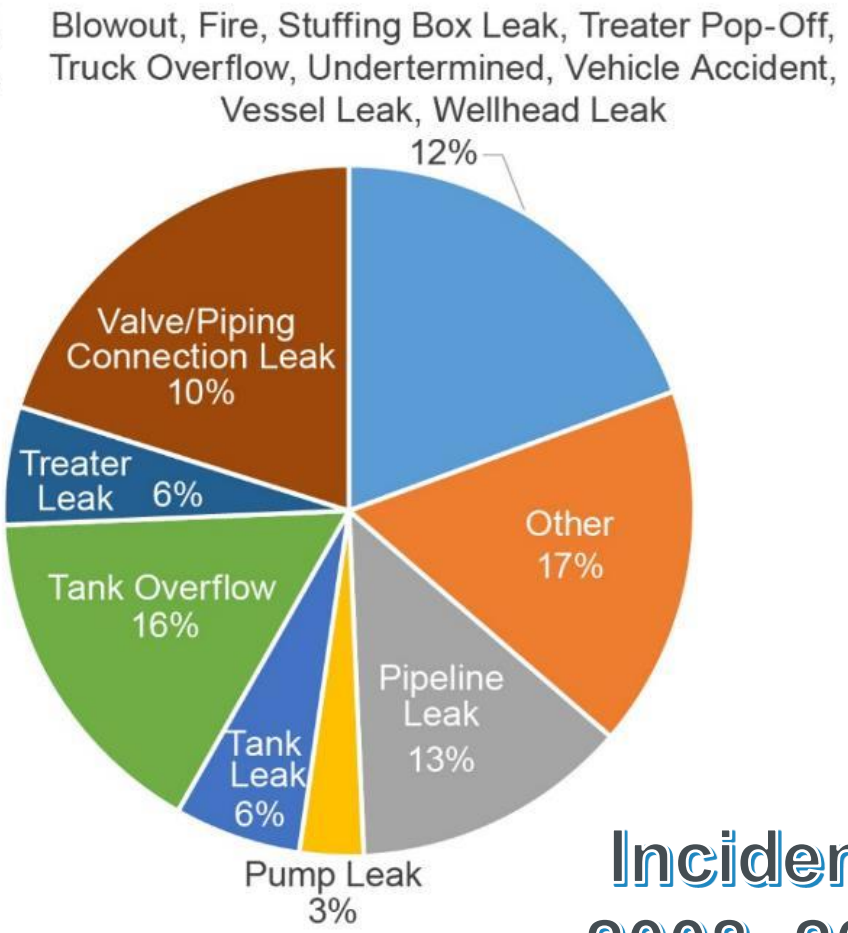
Large Spills Skew Perceptions



Pipeline Spills – A Fraction of All Spills

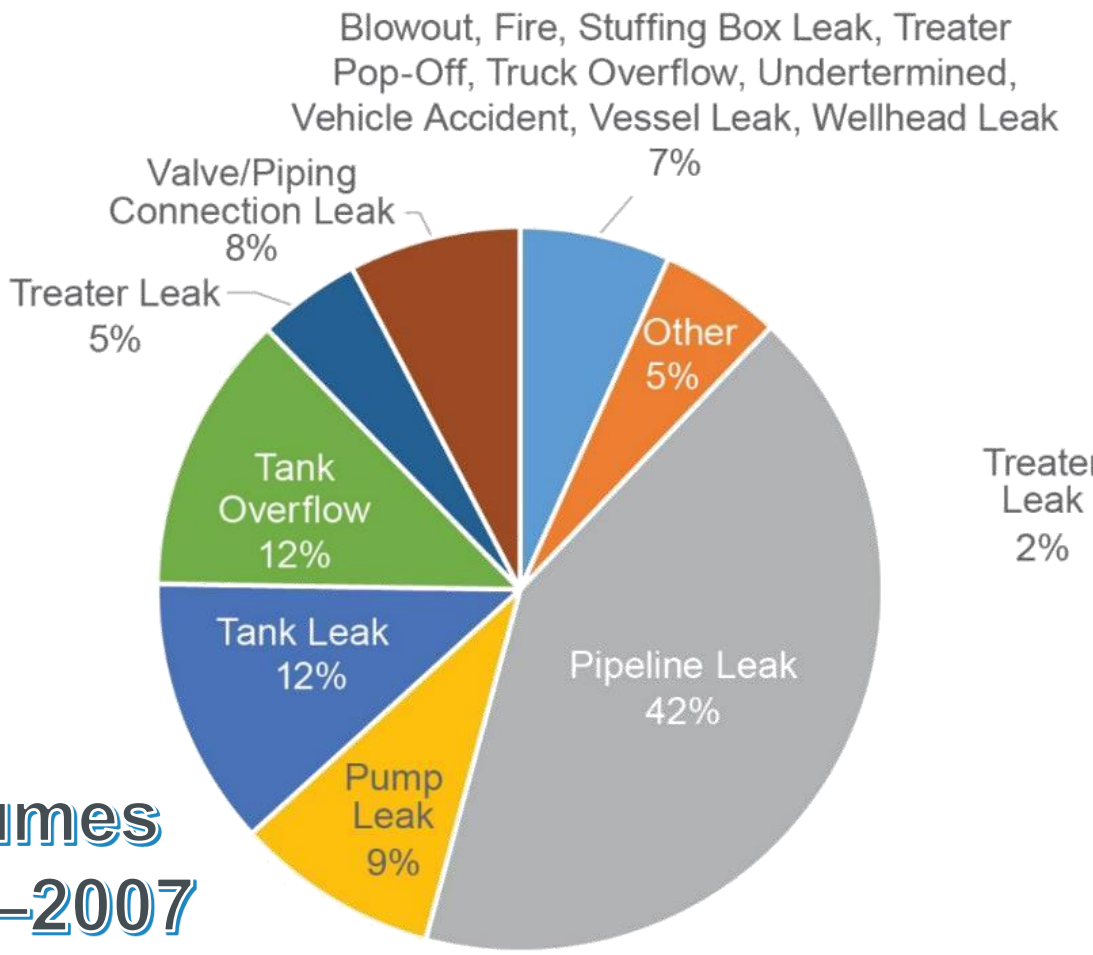


Incidents 2001–2007

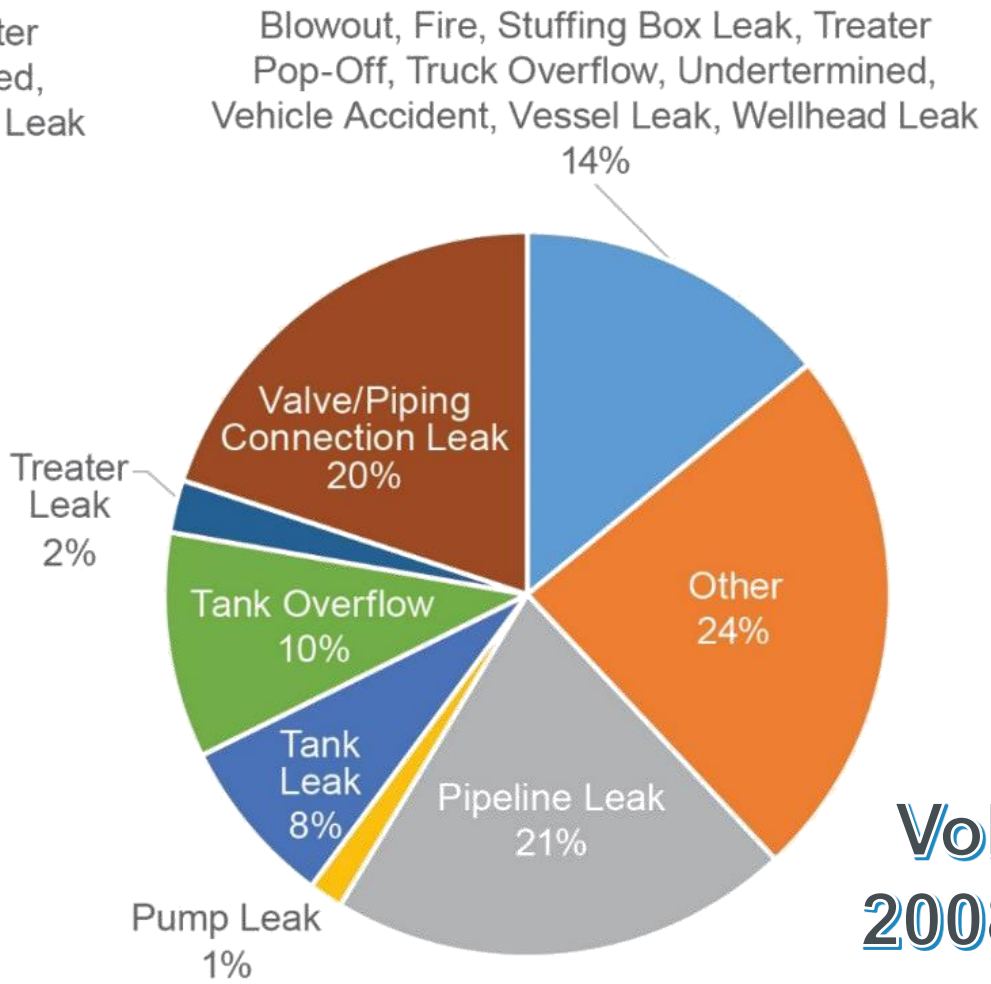


Incidents 2008–2014

Pipeline Spills – A Fraction of All Spills

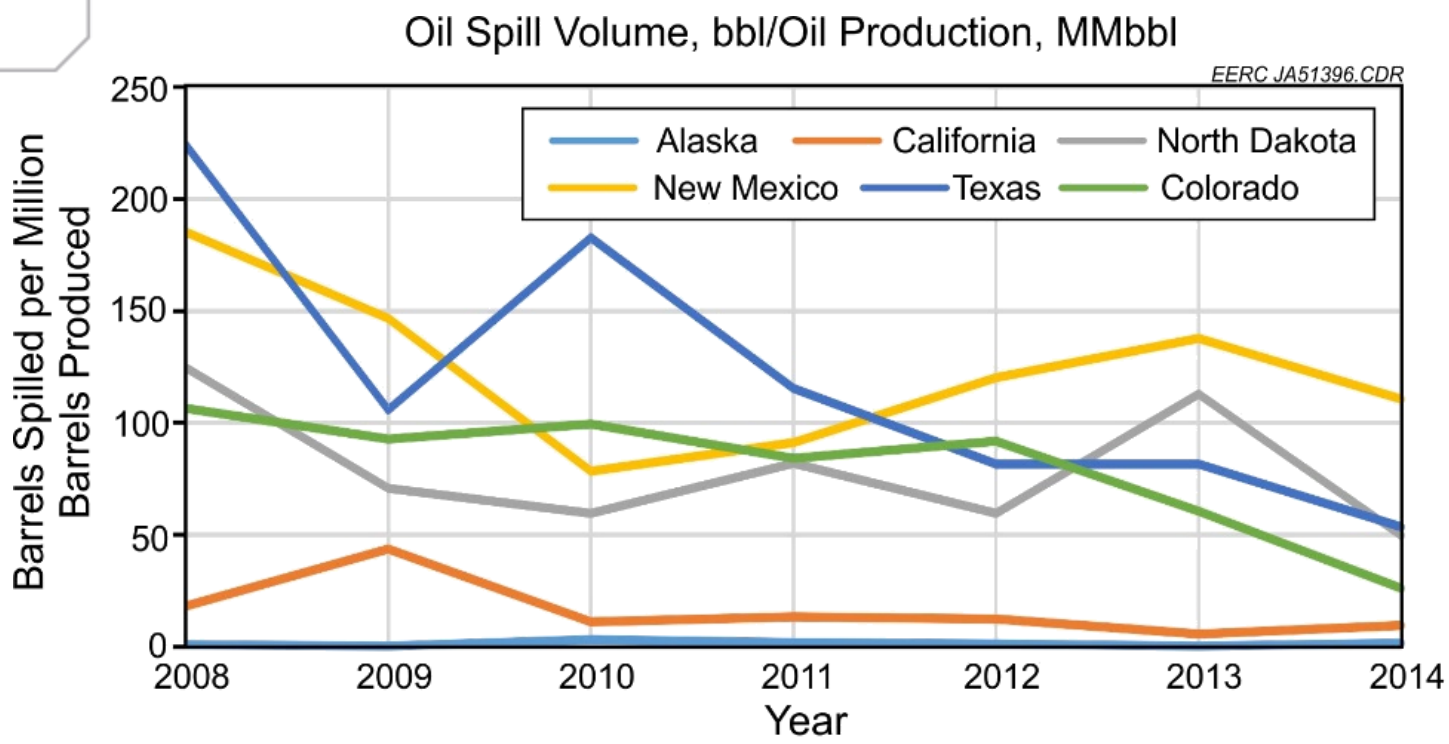


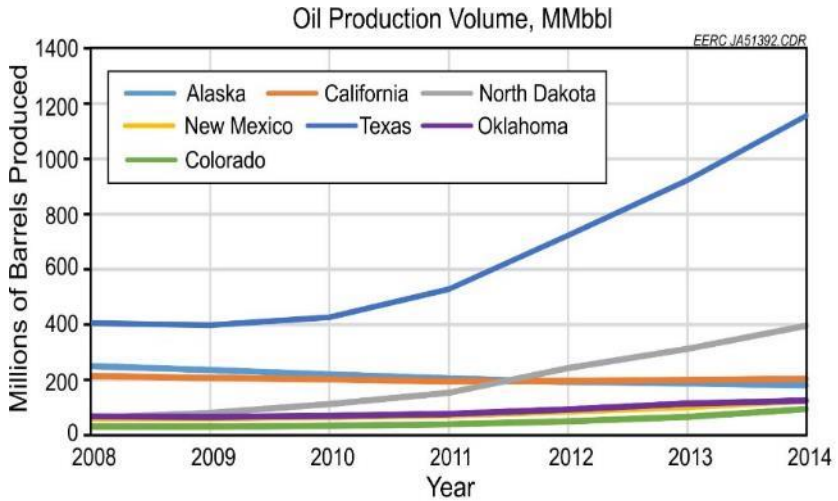
Volumes 2001–2007



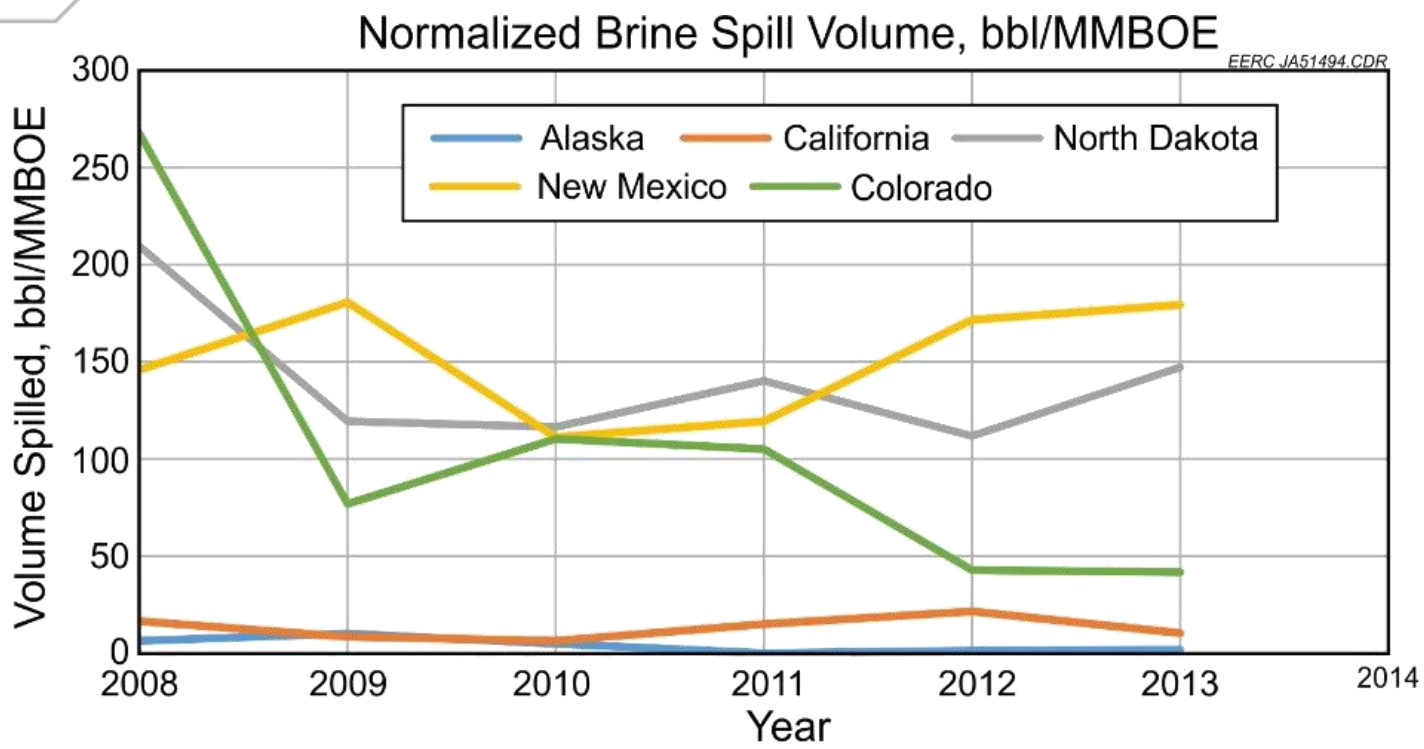
Volumes 2008–2014

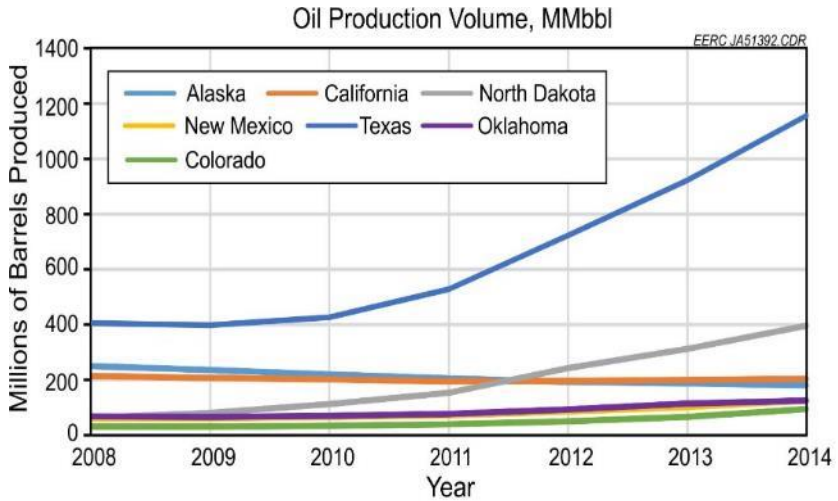
Oil Spills Normalized by Production



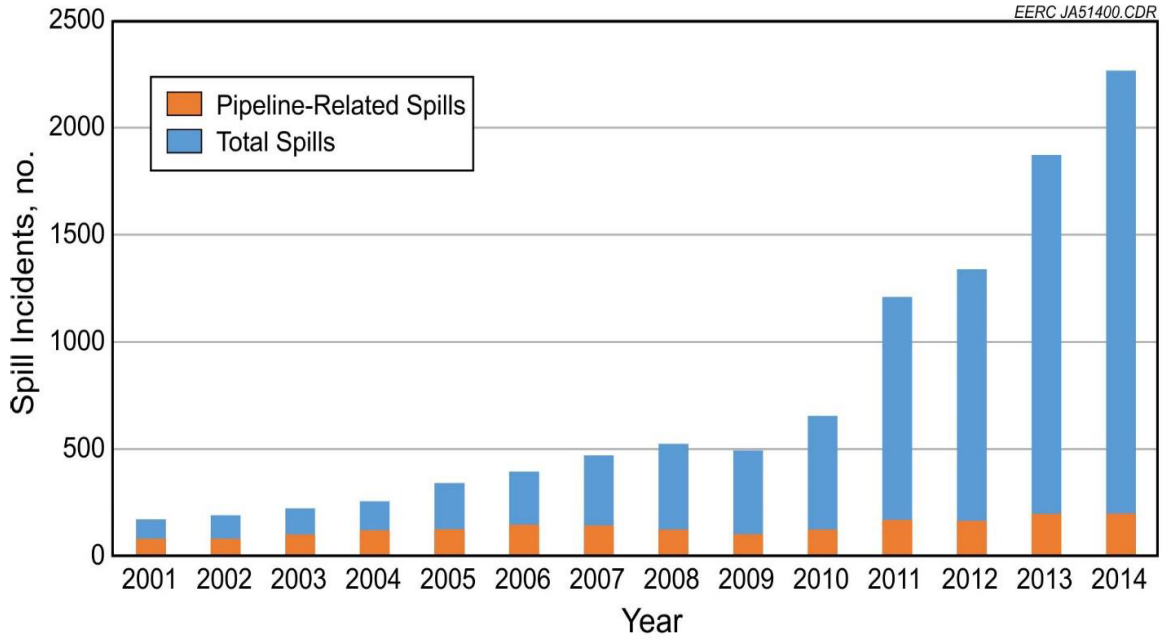


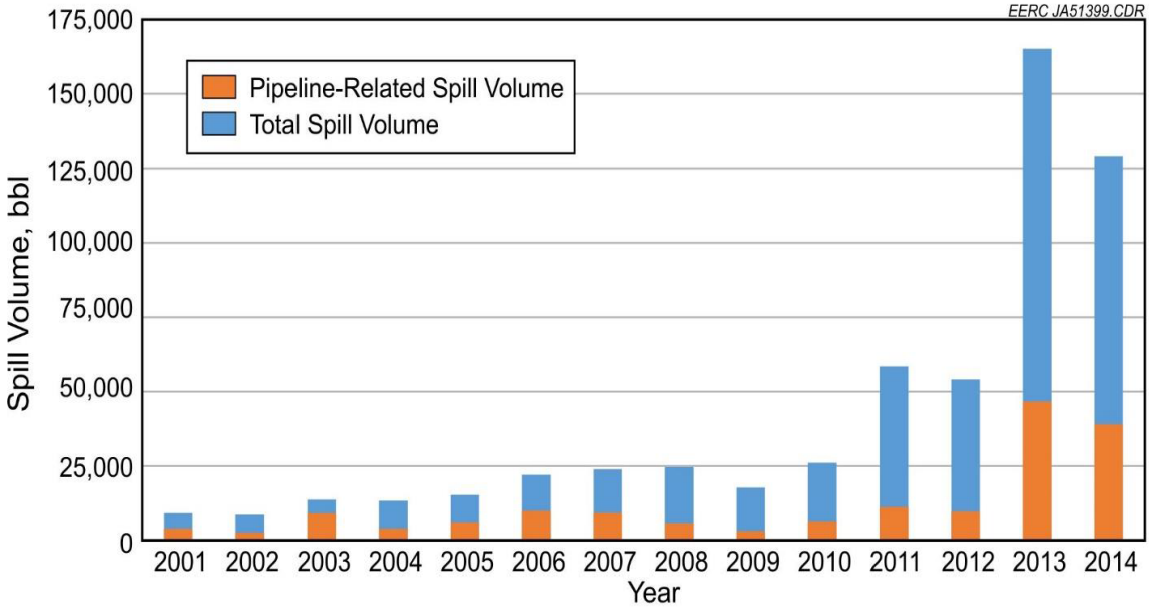
Brine Spills Normalized by Production





Pipeline Spills Compared to Total Spills





CONTACT INFORMATION

Energy & Environmental Research Center
University of North Dakota
15 North 23rd Street, Stop 9018
Grand Forks, ND 58202-9018

World Wide Web: **www.undeerc.org**
Telephone No. (701) 777-5157
Fax No. (701) 777-5181

John Harju,
VP for Strategic Partnerships
jharju@undeerc.org