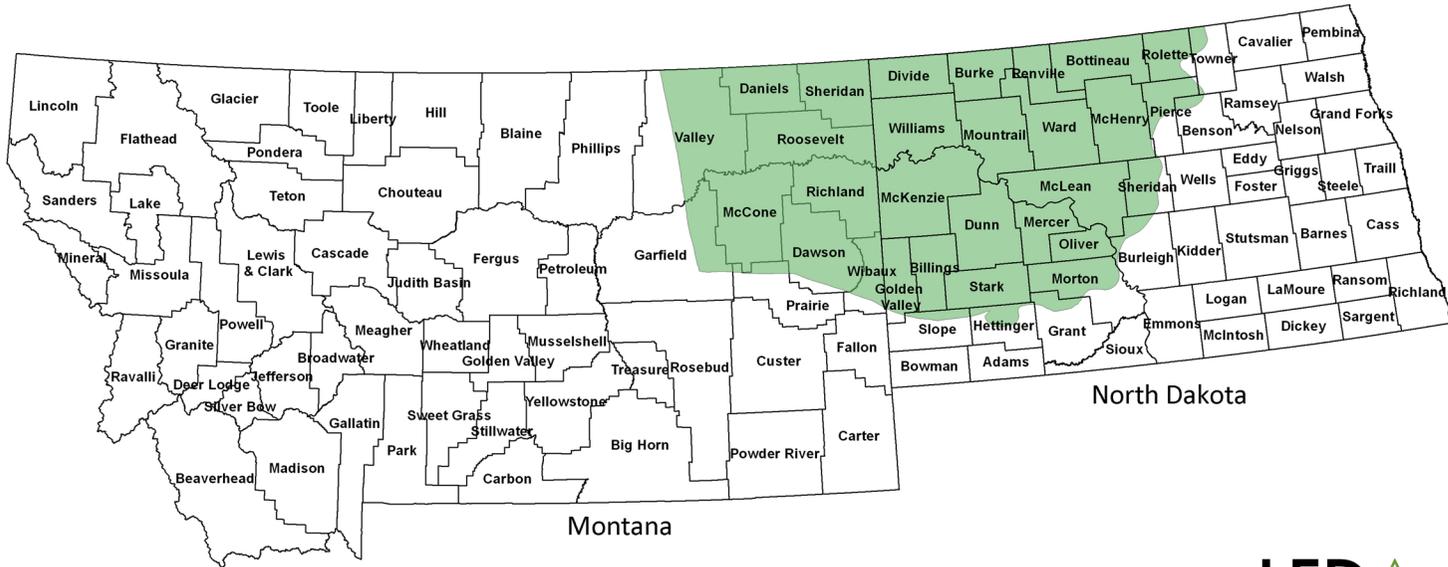


Bakken - Lodgepole Total Petroleum System



Sources: 2008 U.S. Geological Survey Natural Oil and Gas Assessment
U.S. Geological Survey; U.S. Census Bureau

The above chart shows the Bakken-Lodgepole Total Petroleum System in Montana and North Dakota. “The Bakken-Lodgepole Total Petroleum System was defined on the basis of geographic and stratigraphic distribution of both known and undiscovered hydrocarbon accumulations. . . from organic-rich marine shales of the upper and lower shale members of the Bakken Formation.”

In 1995 the United States Geological Survey (USGS) published an assessment of the technically recoverable oil and gas in the Bakken Formation located in parts of Montana and North Dakota. At that time, the USGS estimated recovering 151 million barrels from the formation. However, when they published an updated assessment in 2008 the report showed a 25 fold increase from their previous predictions.

Since 2008 the availability of new scientific information combined with increased oil production from the Bakken Formation in North Dakota prompted USGS to begin a new assessment sooner than their normally scheduled evaluations. The new findings will be published in 2013.

Source: Geologic Assessment of Technically Recoverable Oil in the Devonian and Mississippian Bakken Formation, Pollastro, Richard M., Laura N.R. Roberts, and Troy A. Cook, 2010, United States Geological Survey Williston Basin Province Assessment Team.