

Bakken Overview

May 2013



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The Bakken and Three Forks formation covers approximately 200,000 square miles of North Dakota, Montana and Saskatchewan. Today, the Williston Basin is North America's largest known reserve of light sweet crude.

North Dakota is the #2 oil producing state in the US today.

<http://online.wsj.com/article/SB10001424052702304192704577406493478214670.html>

The United States Geological Survey (USGS) estimates Bakken and Three Forks recoverable oil at:

2008 - 3.65 Billion barrels

2013 - 7.38 Billion barrels

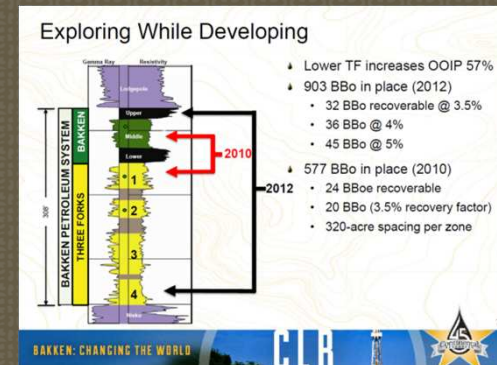
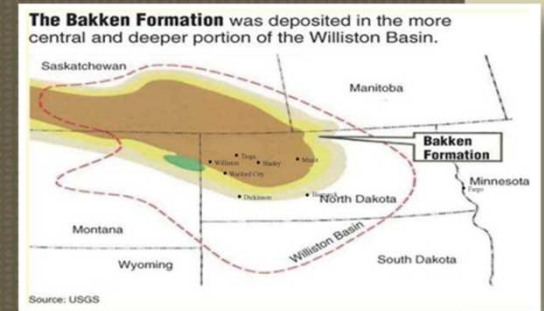
<http://pubs.usgs.gov/fs/2013/3013/fs2013-3013.pdf>

Other oil industry experts estimate recoverable oil to be much higher than the USGS. Continental Resources estimates actual oil in place to be as high as 900 billion barrels, of which they say up to 45 billion could be recoverable.

Current Monthly Record Production Numbers:

- Oil - 778,971 barrels/day
- Natural Gas - 850,335 MCF/day
- # of producing wells – 8,492

<https://www.dmr.nd.gov/oilgas/directorscut/directorscut-2013-04-16.pdf>



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Bakken Area Growth

Oil production has increased substantially from 2000-2013 due to advances in extraction technology.

Daily Oil Production Growth

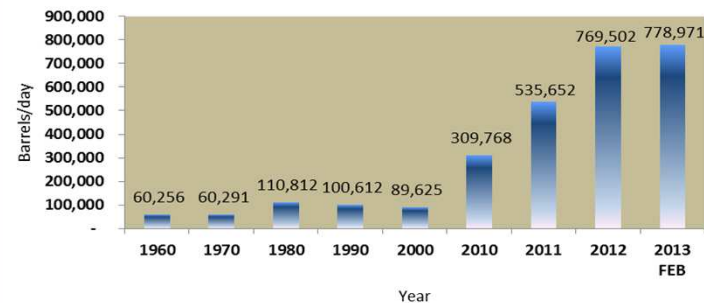
2000-2010

+245%

2010-2013

+151%

Daily Oil Production



Oil cities have experienced significant sales growth between 2008-2012, as illustrated by this table of Q3 2012 sales and purchases.

ND Q3 Taxable Sales and Purchases

City	2008	2009	2010	2011	2012	08-12 % Δ
Minot	\$226,436,743	\$247,605,437	\$292,908,514	\$387,126,306	\$434,443,169	91.86%
Williston	\$209,666,888	\$150,306,296	\$378,972,293	\$733,918,816	\$952,804,340	354.44%
Watford City	\$11,912,052	\$13,034,885	\$20,348,092	\$34,029,752	\$49,921,606	319.08%
Tioga	\$36,658,332	\$27,478,006	\$78,607,295	\$187,309,601	\$304,702,124	731.19%
Stanley	\$7,914,644	\$9,379,899	\$16,470,728	\$37,485,462	\$41,998,778	430.65%
Dickinson	\$97,283,717	\$95,492,002	\$133,360,678	\$212,284,928	\$279,631,436	187.44%
Total	\$589,872,376	\$543,296,525	\$920,667,600	\$1,592,154,865	\$2,063,501,453	249.82%



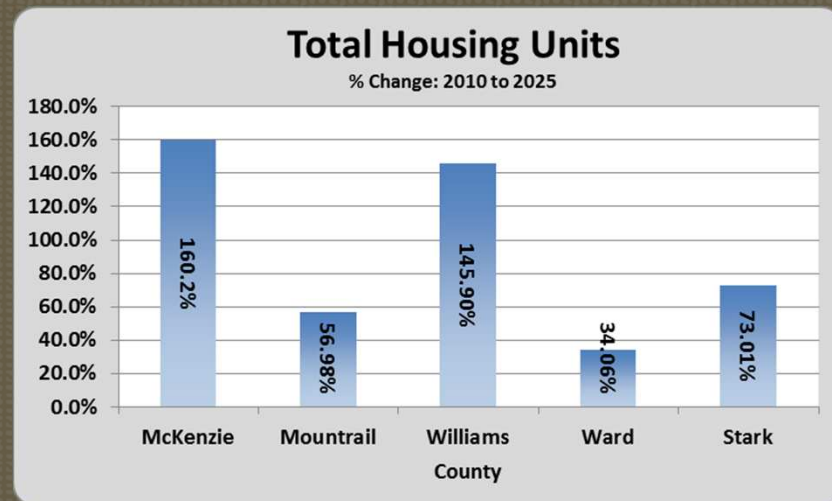
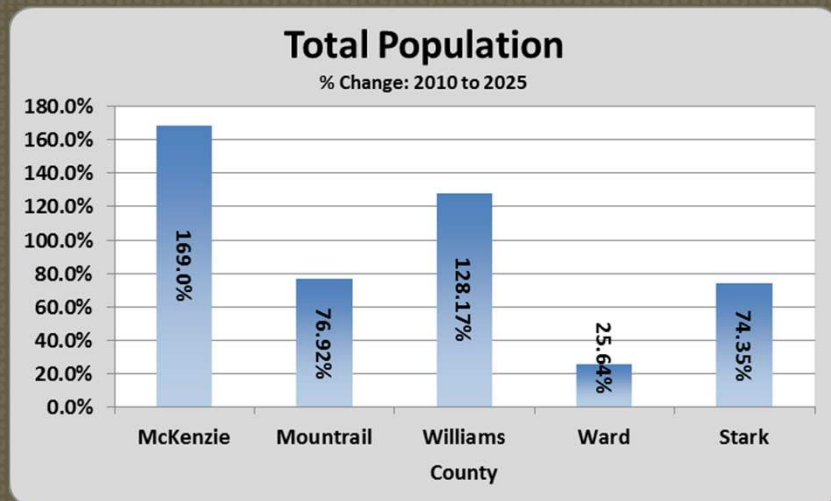
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Bakken Area Growth

North Dakota State University completed a North Dakota Housing Need Assessment in late 2012 and found that all major oil counties in Western North Dakota are anticipated to see substantial growth in population and number of housing units.



Housing Supply Model 2

Major Oil Cities and corresponding counties:

Watford City – McKenzie
Stanley – Mountrail
Williston & Tioga – Williams
Minot – Ward
Dickinson – Stark



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Bakken Investment

Oil Companies:

Oil companies are investing billions of dollars into the Bakken region. Last September, Exxon Mobil purchased Denbury Resource for \$1.6 billion to increase its Bakken presence. In 2012, Hess Corporation allocated \$2.5 billion of their budget for unconventional resource development that revolved around the Bakken shale. ONEOK Partners is working on pipeline projects in the Bakken region with investment in the \$2+ billion range.

<http://news.exxonmobil.com/press-release/exxonmobil-increase-production-and-acreage-bakken-oil-shale-region>

http://www.huffingtonpost.com/2012/04/10/bakken-crude-express-pipeline_n_1413525.html

<http://www.businesswire.com/news/home/20120112005583/en/Hess-Corporation-Announces-Capital-Exploratory-Budget-2012>

Oil Refineries and Gas Plants:

North Dakota currently has 3 oil refineries in process to be built within the next 2 years. Total investment in these projects is expected to exceed \$1 billion dollars. The last oil refinery built in the US was in 1977, 36 years ago. Hess Corporation is spending \$325 Million to expand their Tioga gas plant.

Local and State Communities:

Local communities within western North Dakota are investing millions of dollars to provide new and updated services. Examples of these are the new \$70 million dollar Williston Rec Center and the \$20 million Sanford Health Clinic in Dickinson. The state of North Dakota has allocated \$2.5 billion in funding new infrastructure projects for 2013-2015, with a large amount being allocated to Western ND communities. From 2008-2012 the state invested about \$940 million into Western ND infrastructure.

<http://bakkenoilreport.com/north-dakotas-infrastructure-to-get-2-5-billion-boost/>



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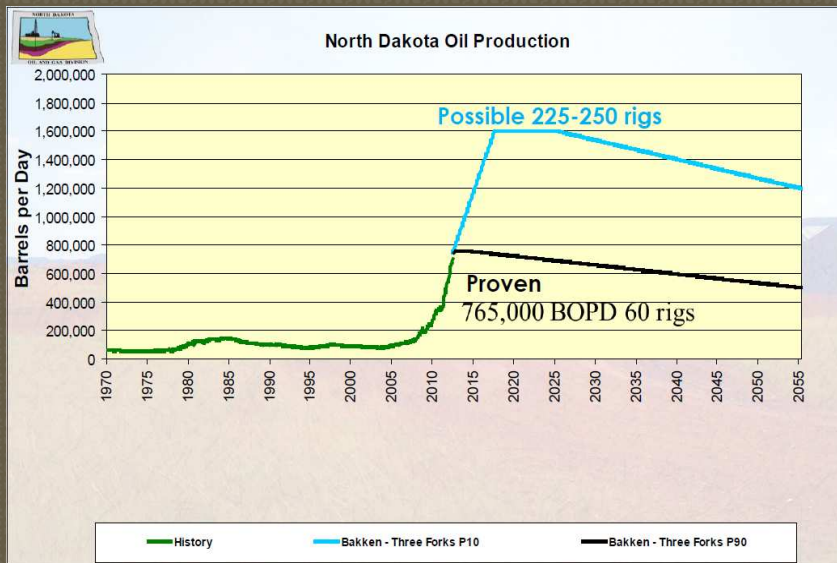
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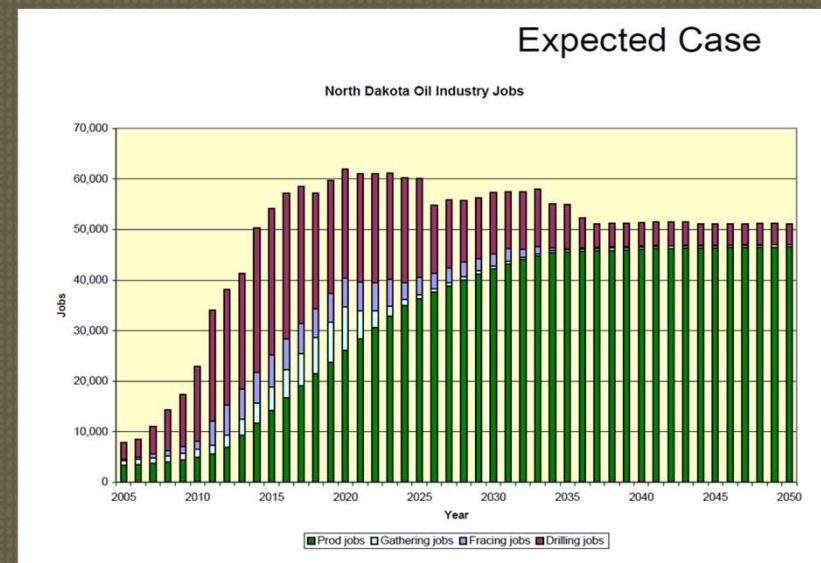
ND Production & Job Sustainability

North Dakota expects to sustain 50,000+ oil industry jobs.

Experts predict at least 40,000-45,000 additional wells to be drilled over the next 12-15 years. Oil production over this time could reach 1.6M barrels per day and sustain a minimum of 1M barrels per day through 2050.



Courtesy of North Dakota Department of Mineral Resources



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