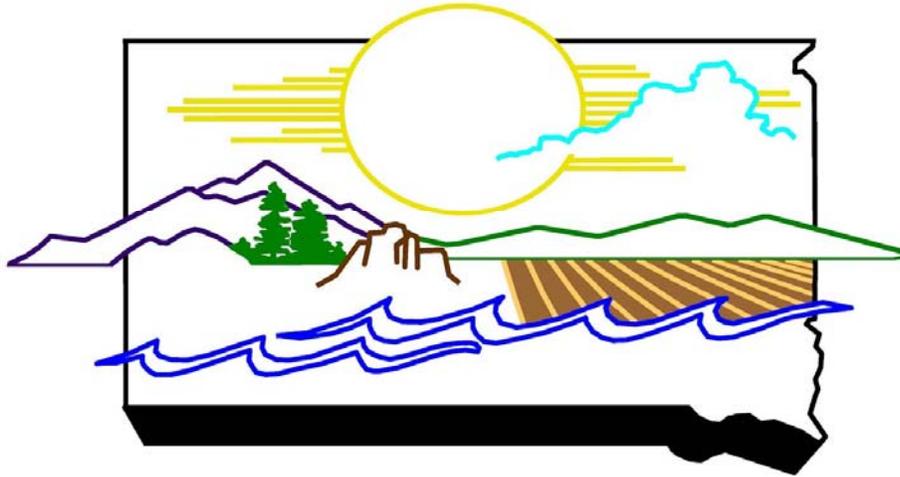


South Dakota Department of
Environment and Natural Resources



Protecting South Dakota's Tomorrow ... Today

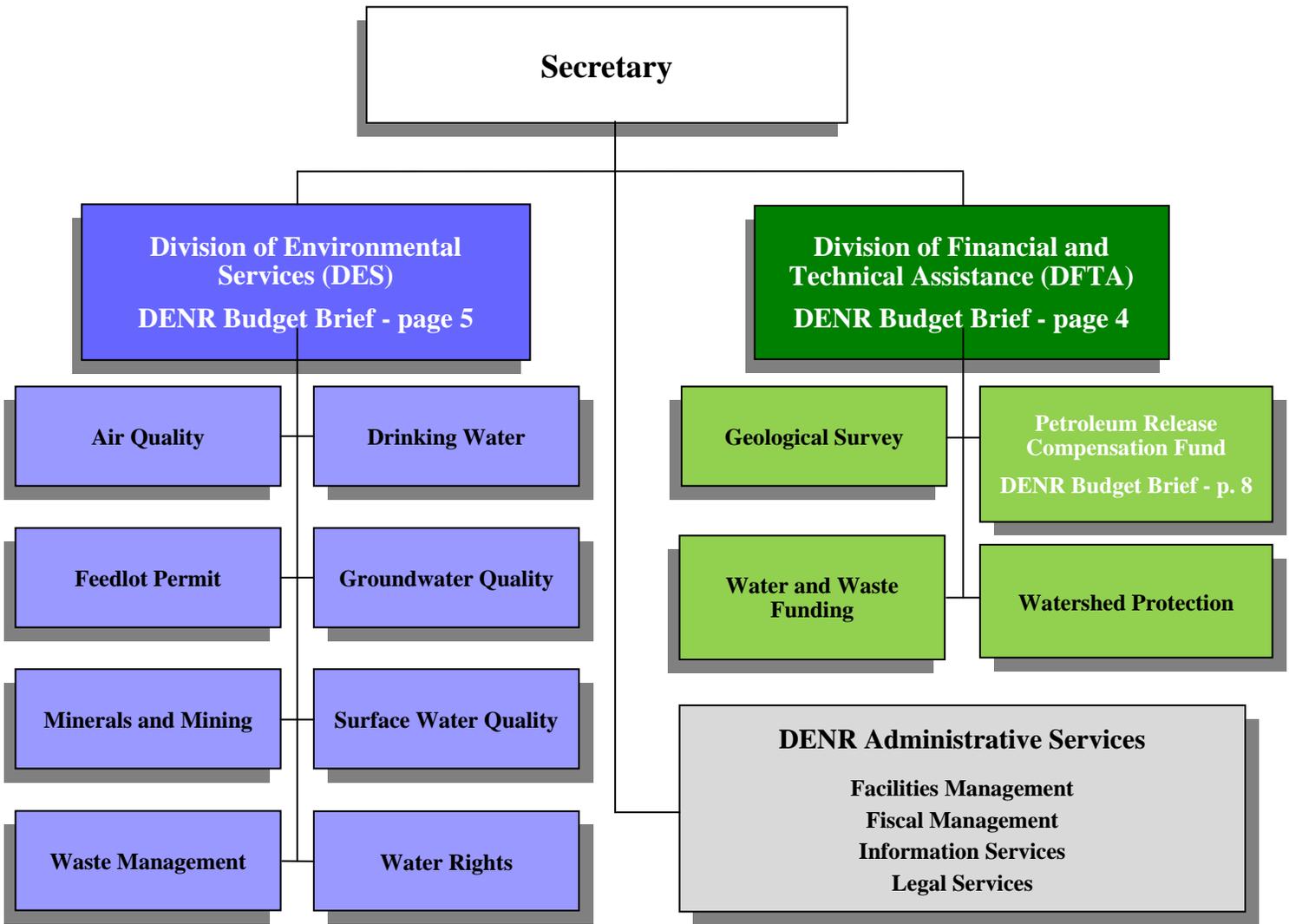
DENR FY 2016 BUDGET REQUEST

presented to the

JOINT APPROPRIATIONS COMMITTEE

February 18, 2015

DENR Programs



BOARDS AND COMMISSIONS

Board of Water Management	Board of Water & Natural Resources	Board of Minerals and Environment	State Emergency Response Commission	Board of Operator Certification	Small Business Clean Air Advisory Panel	Petroleum Release Compensation Board
<ul style="list-style-type: none"> - Water Use Appropriation - Water Quality Regulations - Drinking Water 	<ul style="list-style-type: none"> - State Water Plan - Financial Assistance for Water & Solid Waste Projects 	<ul style="list-style-type: none"> - Air Quality - Asbestos - Hazardous Waste - Mining - Oil and Gas - Solid Waste 	<ul style="list-style-type: none"> - Chemical Reporting - Community Right to Know 	<ul style="list-style-type: none"> - Water and Wastewater Operator Certification 	<ul style="list-style-type: none"> - Air Quality - Small Business Ombudsman & Assistance 	<ul style="list-style-type: none"> - Release Compensation

1. DENR's Budget

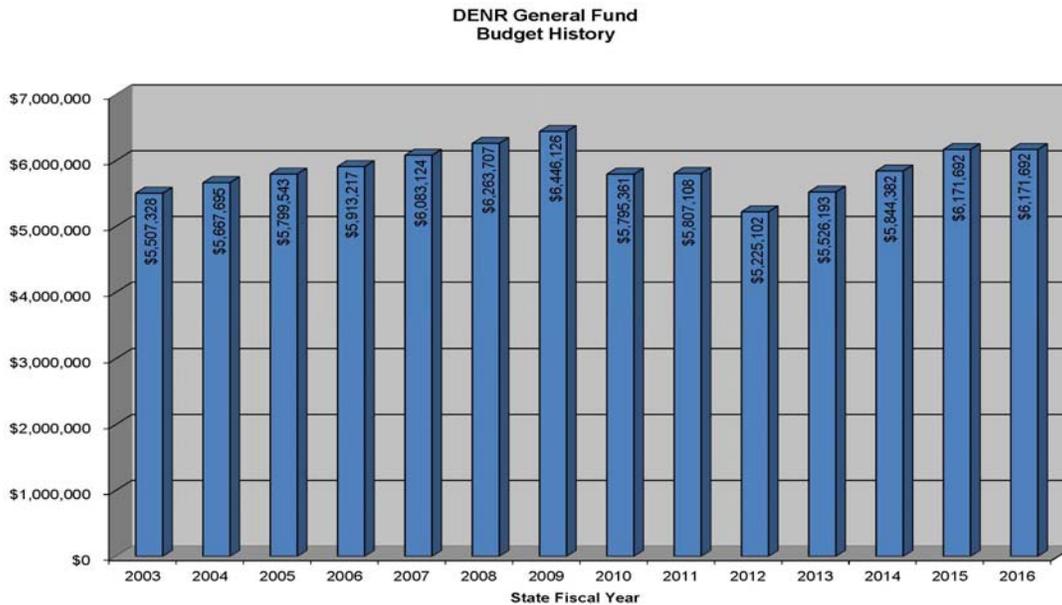
- **Excluding its informational budgets, 74% of DENR's budget is personnel services; 26% is operating; DENR utilized 91% of its total budget authority**
- **DENR utilized 98% of its FTE allocation**
- **DENR utilized 100% of its general funds**
- **No transfers between personal services and operating were needed**

2. Informational Budgets

- **Regulated Substance Response Fund**
 - a. Created by the 1988 Legislature to deal with environmental cleanups
 - b. Utilized \$262,747 last year on 3 sites
 - c. FY 2014 end-of-year balance - \$4.74 million
 - d. Includes \$1,990,000 transfer to LUST Trust subaccount established by SDCL 34A-12-3.1 to provide EPA-mandated reimbursement for cleanup of 42 petroleum release sites.
 - e. Future liabilities to the Fund
 - ◆ Environmental cleanups - about 200 to 250 spills per year
 - ◆ EPA Brohm Mine Superfund site - state must provide 10% match for the projected \$97 million EPA Superfund cleanup; the state is then 100% liable for long-term water treatment costs after EPA leaves
 - ◆ Subaccount - cleanup of petroleum release sites eligible for LUST Trust
- **Environmental Livestock Cleanup Fund**
 - a. Created by the 1998 Legislature to act as a safety net for environmental livestock cleanups; the Legislature capped the fund at \$2 million
 - b. Utilized \$0 last year
 - c. FY 2014 end-of-year balance - \$1.25 million
 - d. Future liabilities to the Fund
 - ◆ Safety net for agricultural livestock operations
 - ◆ Potential bankruptcies pose largest risks
- **Petroleum Release Compensation Fund**
 - a. Created by the 1988 Legislature to financially assist tank owners with the cleanup cost of petroleum releases and to meet the federal financial responsibility requirements for regulated underground tank owners
 - b. Utilized \$720,591 of the informational budget to pay 210 claims at 111 sites; includes removal of 121 abandoned underground petroleum storage tanks
 - c. FY 2014 end-of-year balance - \$4.03 million
 - d. Future liabilities to the Fund
 - ◆ Reimbursement for cleanup of petroleum leaks and spills from tanks
 - ◆ Reimbursement for eligible cases cleaned up with federal LUST Trust funds
 - ◆ Provide training to tank owners to comply with federal training requirements
 - ◆ Abandoned underground petroleum tank removals

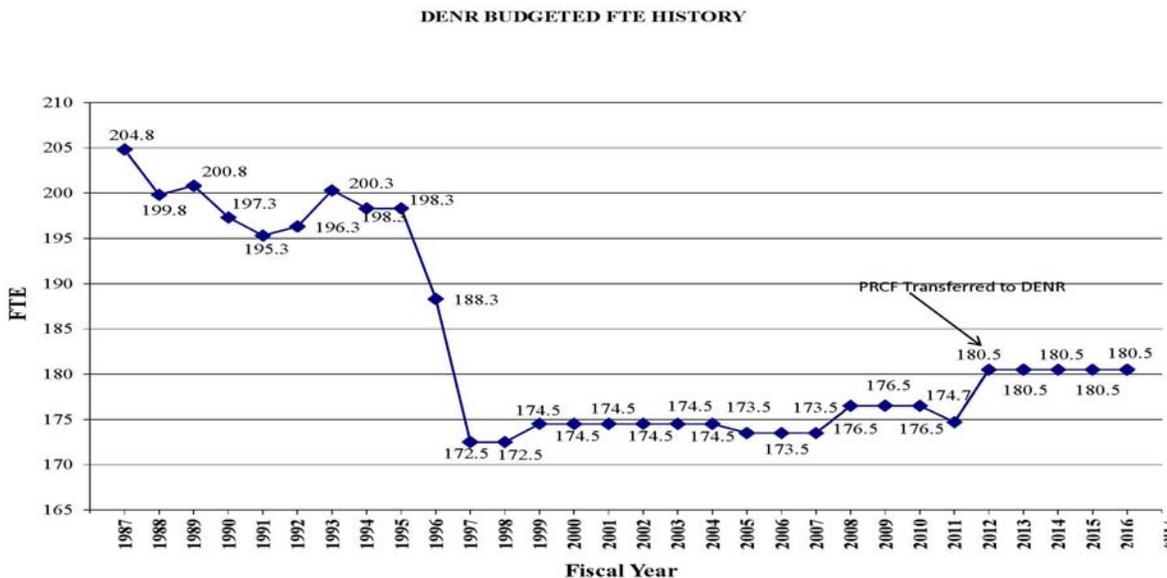
DENR FY 2016 Budget Request

- **Status Quo Budget Request**
 - A. DENR is requesting **NO** expansion in FTEs
 - B. DENR is requesting **NO** expansion in personal services
 - C. DENR is requesting **NO** expansion in operating expenses
 - D. DENR will continue to use its existing resources to get the job done



Putting DENR's FY 2016 Budget Request in context with historical budget history:

- DENR's 2016 general fund budget request is **(\$274,434) less** than its FY 2009 budget.
- DENR's 2016 general fund budget request has **fewer general funds** than in FY 2008.
- DENR'S 2016 budget request has **(24.3) fewer** FTE than FY 1987.



DENR GOALS

1. Protect public health and the environment,
2. Maintain a business-friendly climate, and
3. Treat everyone as our customer.

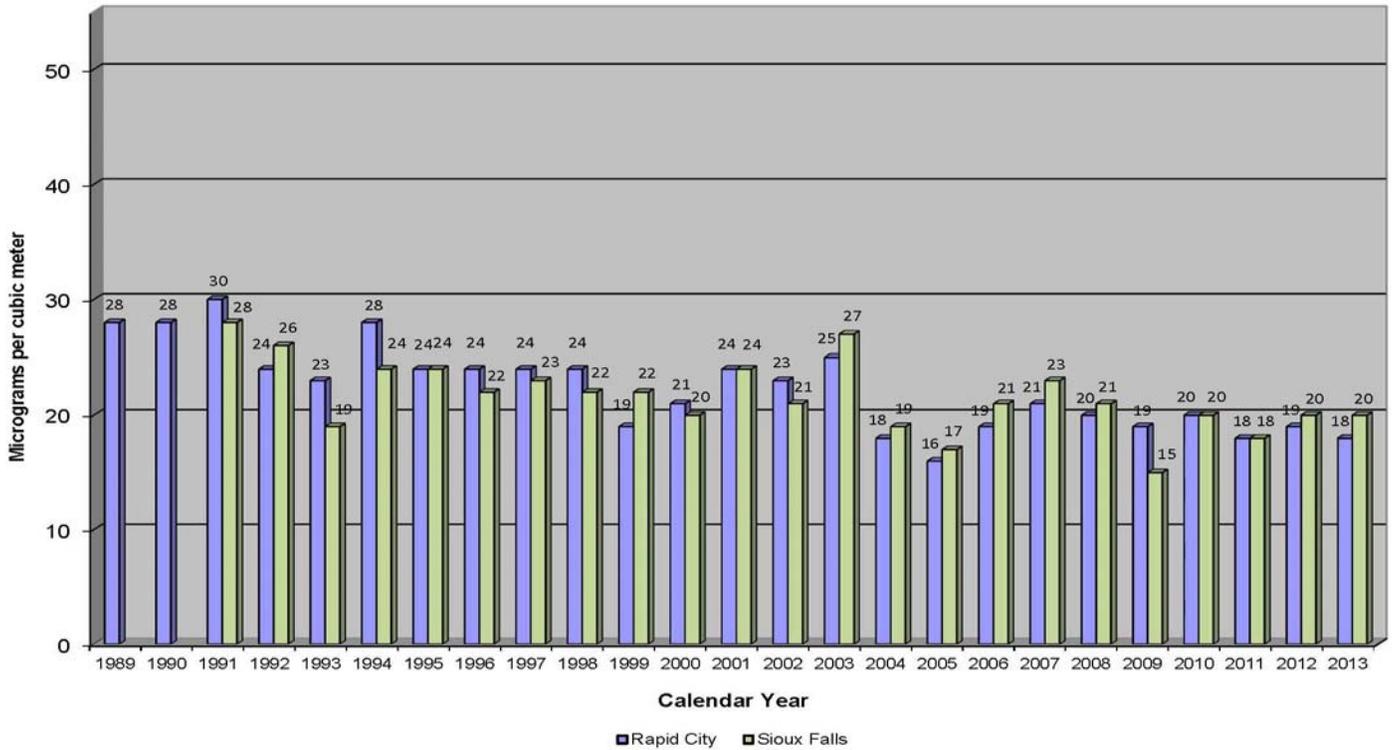


Including federal grant commitments, DENR uses hundreds of measures to see if it is getting the job done; the number of Performance Indicators in the Budget Book are:

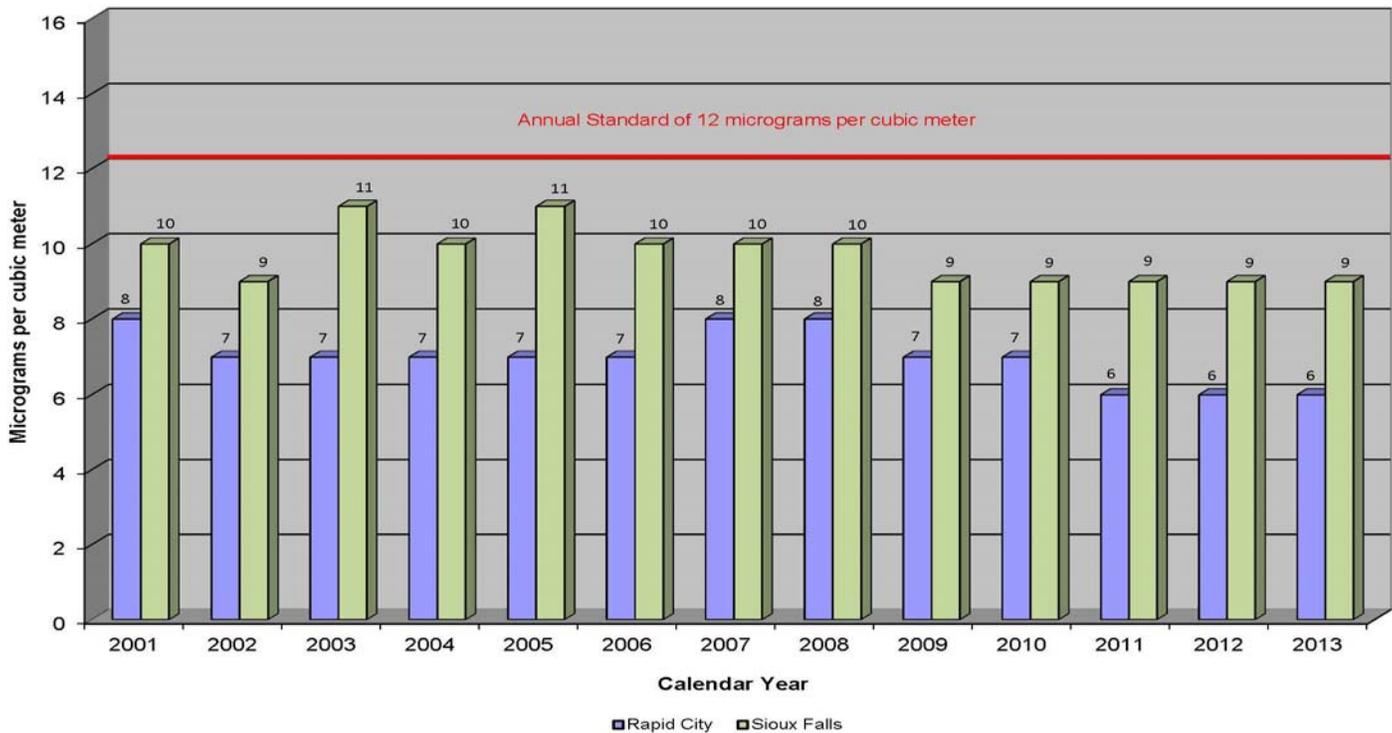
- 40 for the Division of Technical and Financial Assistance,
- 240 for the Division of Environmental Services, and
- 14 for the Petroleum Release Compensation Program.

Key Environmental Measure: Meeting Federal Ambient Air Quality Standards

Particulate Matter 10 Trends in South Dakota



Particulate Matter 2.5 Trends for South Dakota



SD is 1 of only 7 states in full "Attainment"

Looming Air Quality Issues that could impact South Dakota's Full Attainment Status

1. EPA's Proposed 111(b) Rules

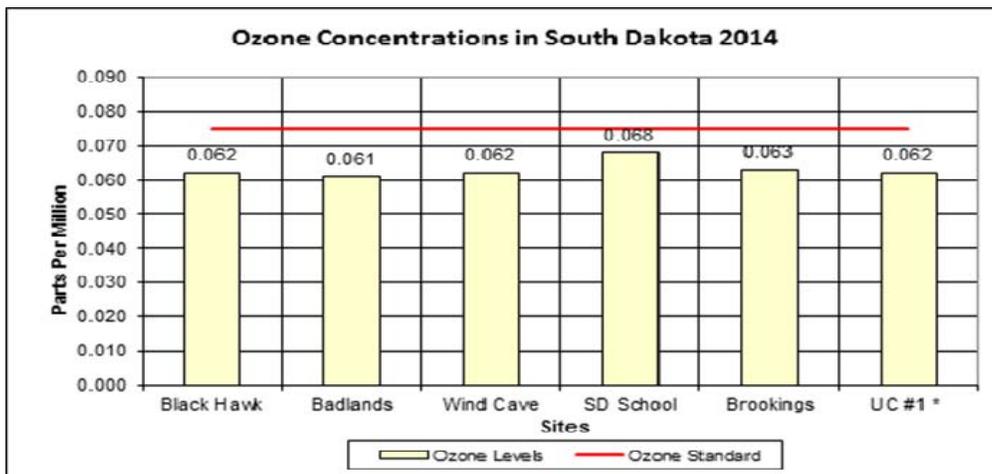
- EPA's plan to cut carbon dioxide emissions from **NEW** power plants.
 - * EPA's carbon dioxide limit for coal-fired plants - 1,100 pounds per megawatt-hour
 - * EPA's carbon dioxide limit for natural-gas fired plants - 1,000 pounds per megawatt-hour for larger units
 - * Result will be **no** new coal-fired plants built as the technology to meet the limits for new coal-fired plants is not commercially available.

2. EPA's Proposed 111(d) Rules

- EPA's plan to cut carbon dioxide emissions from **EXISTING** power plants
 - * South Dakota has only one coal-fired power plant (Big Stone near Milbank) and one natural gas combined cycle plant (Deer Creek near Brookings).
 - * About 74 percent of our electrical production in 2012 was renewable (50 percent hydropower and 24 percent wind) making us a leader in low carbon emissions with only three states emitting less carbon dioxide than South Dakota.
 - * Result will be EPA's standard for SD of only 741 pounds per megawatt-hour is not possible without shutting down the Big Stone plant and stranding \$384 million of pollution controls currently under construction to meet EPA's Regional Haze rule.
 - * HB 1203 jeopardizes our potential litigation against EPA.

3. EPA's Proposed Ozone Rules

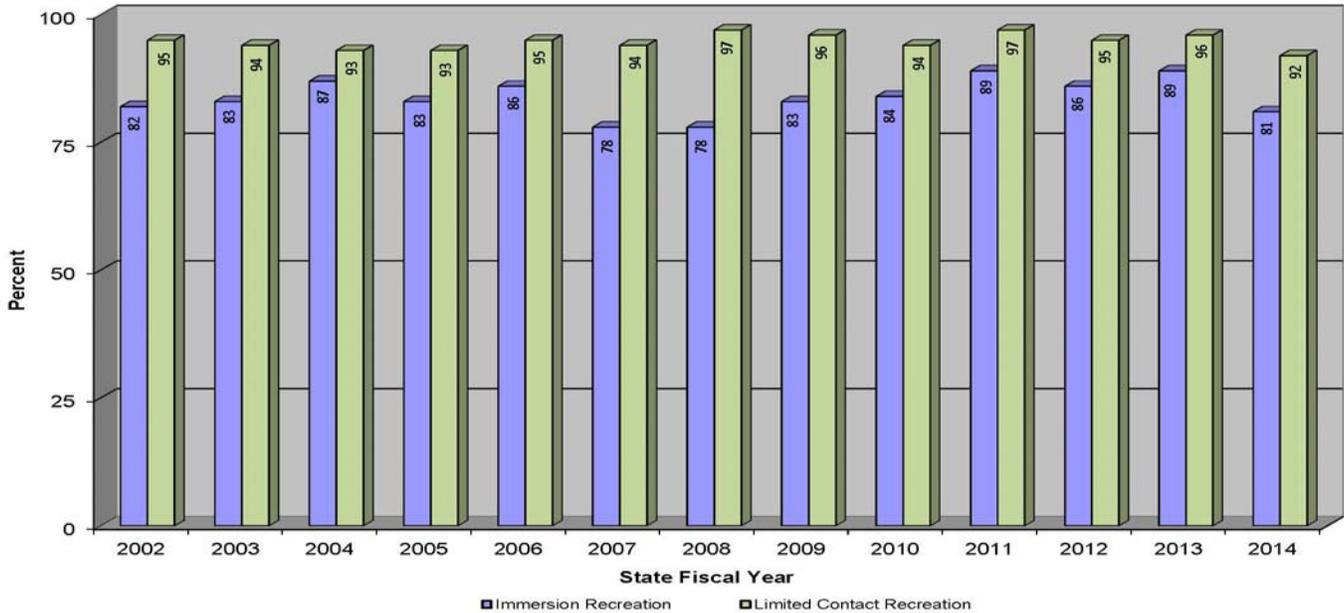
- As indicated by graphs on preceding page, South Dakota's air meets **ALL** federal ambient air quality standards, but EPA recently proposed to lower the air quality standard for ozone from the current level of 0.075 parts per million to between 0.060 and 0.070.
- DENR monitors ozone at six sites throughout the state; the graph below shows ozone concentrations at all six sites are **GREATER** than 0.060 parts per million.
- If South Dakota does not meet the new lower ozone standard, EPA will impose control measures at a significant cost that will result in no environmental benefit.



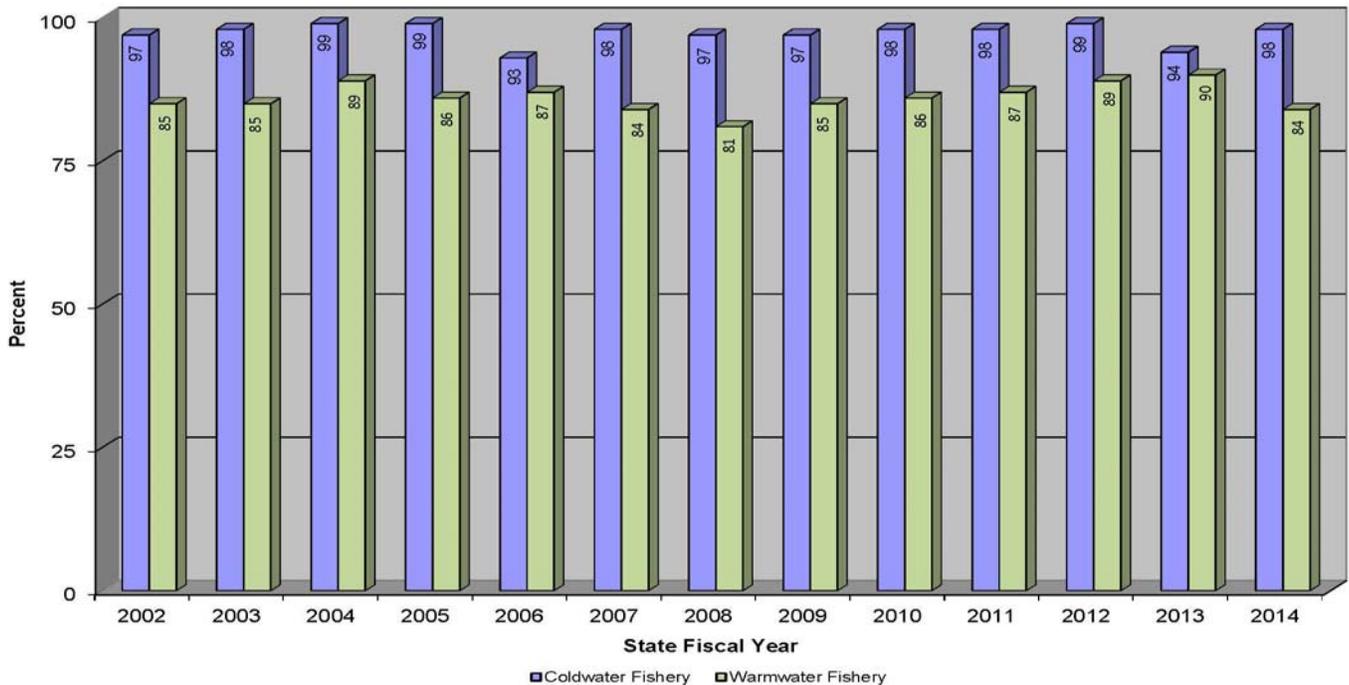


Key Environmental Measure: Meeting Surface Water Quality Standards

Percent of Fecal Coliform Samples That Meet South Dakota Surface Water Quality Standards



Percent of Total Suspended Solids Samples That Meet South Dakota Surface Water Quality Standards



While 78 to 99 percent of the samples are meeting standards, some waters are listed as *“impaired”* under federal definitions.

Big Sioux Segments in Red and Orange are "Impaired" on Total Maximum Daily Load List

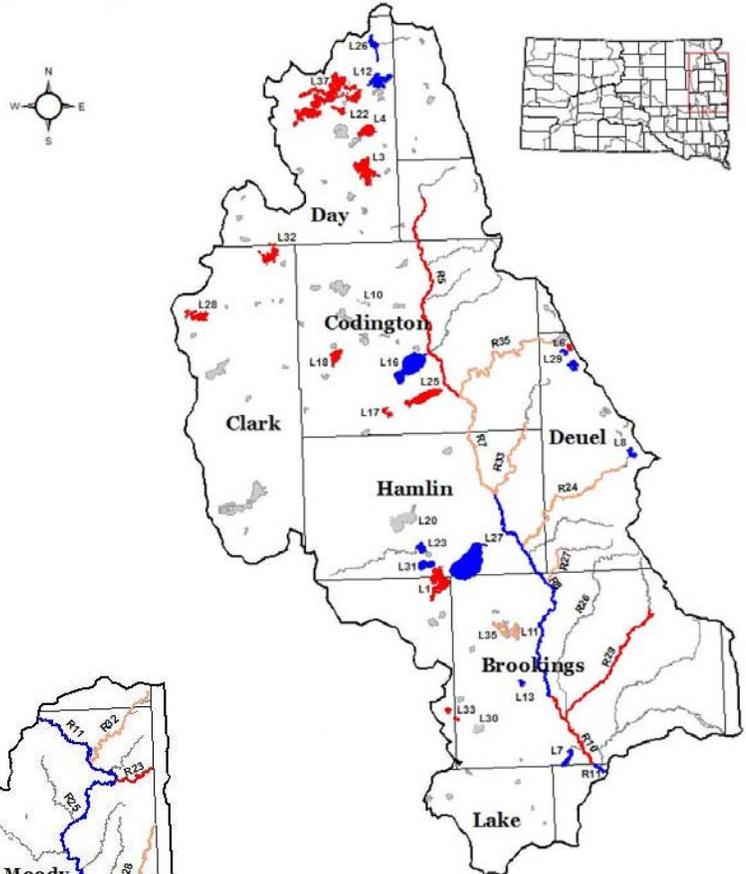
THE 2014 SOUTH DAKOTA
 INTEGRATED REPORT FOR
 SURFACE WATER QUALITY
 ASSESSMENT



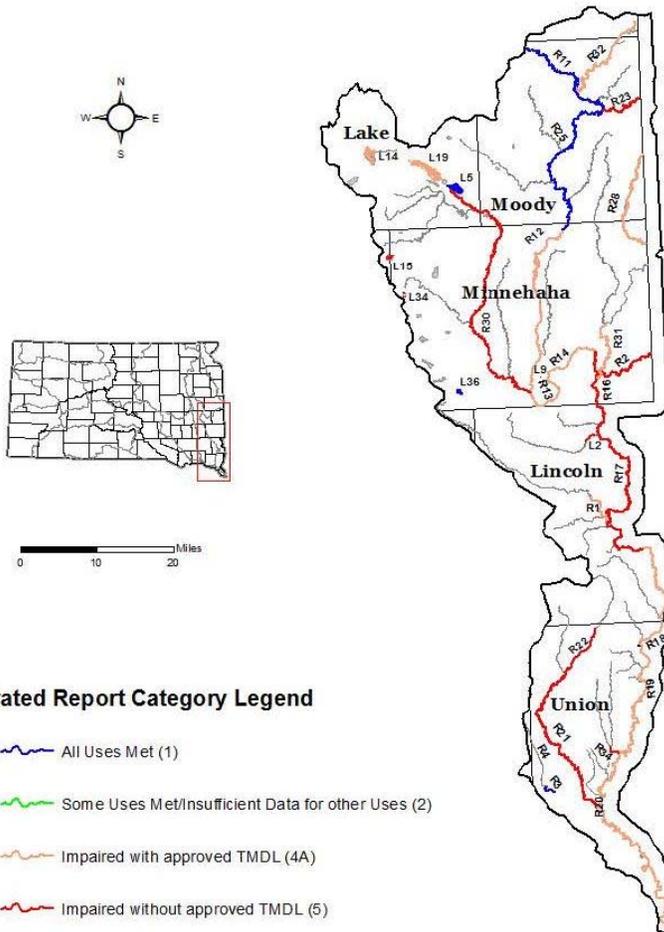
Protecting South Dakota's
 Tomorrow... Today

Prepared By
 SOUTH DAKOTA DEPARTMENT OF
 ENVIRONMENT AND NATURAL
 RESOURCES

Upper Big Sioux River Basin



Lower Big Sioux River Basin



Integrated Report Category Legend

-  All Uses Met (1)
-  Some Uses Met/Insufficient Data for other Uses (2)
-  Impaired with approved TMDL (4A)
-  Impaired without approved TMDL (5)
-  Insufficient Data (3)

“Impaired” segments of the Big Sioux River have generated some unflattering headlines during the past year:

1. Programs created to further improve Big Sioux River

Mar. 21, 2014, Written by Nick Lowrey

2. Officials: Clean up Big Sioux River, Skunk Creek in Sioux Falls

By Peter Harriman - Argus Leader, May 26, 2014

3. Lalley: Lawmaker reaction to Skunk Creek pollution stinks

Patrick Lalley, plalley@argusleader.com 9:23 a.m. CDT June 29, 2014

4. Big Sioux water quality at risk, board chairman warns

Peter Harriman, SFA 12:28 a.m. CDT June 16, 2014

5. Group mulls signs to warn of pollution in Big Sioux

J.L. Atyeo, jatyeo@argusleader.com 12:37 a.m. CDT July 11, 2014

6. Skunk Creek pollution incentives catch on

Peter Harriman, pharrima@argusleader.com 12:22 a.m. CDT August 8, 2014



◇ Watershed

- 5,382 square miles in South Dakota
- 3,000 square miles in Minnesota and Iowa

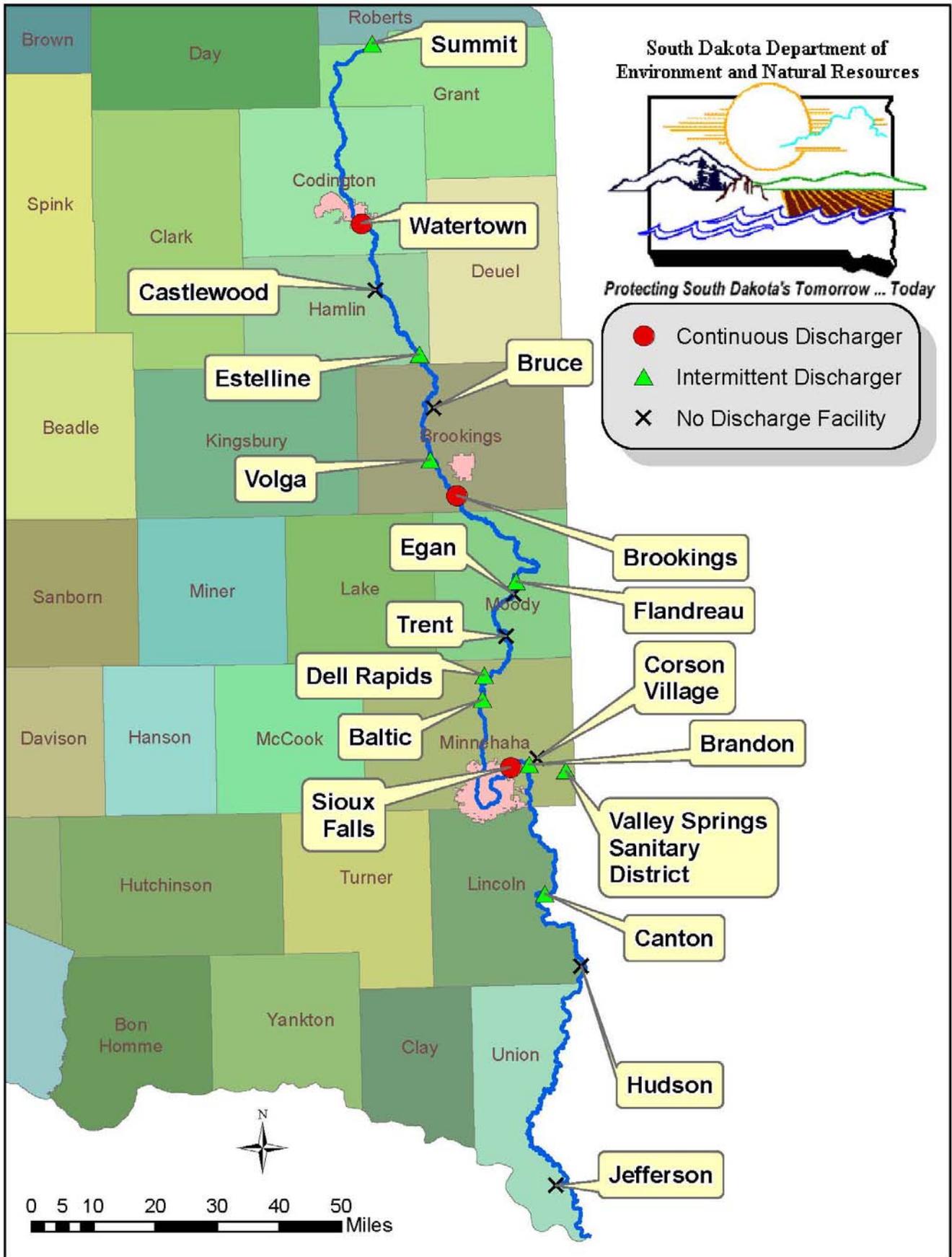
◇ Monitoring

- 19 DENR water quality monitoring stations
- 23 USGS flow gauging stations
- 37 lakes

◇ Water quality impairments

- Too many bacteria (fecal coliform & E. Coli) impair recreational use
- Too much sediment (Total Suspended Solids) impairs fishery use
- Too many nutrients (nitrogen & phosphorus) in lakes promote algae growth which impairs fishery and recreational use

Point Source Municipal Pollution: Communities along Big Sioux River that have Upgraded Wastewater Treatment Facilities



Costs to Reduce Point Source Municipal Pollution to the Big Sioux River

COMMUNITY	CONSTRUCTION YEARS	TYPE OF WASTEWATER TREATMENT SYSTEM	TREATMENT CAPITAL COSTS ONLY; NO SEWER LINE COSTS
Summit	1959, 2000, 2010	4 cell pond system	\$100,000
Watertown	1930, 1960, 1085, 1992, 1998	mechanical plant with infiltration/ percolation basins	\$33,727,272
Castlewood	1957	2 cell pond with artificial wetlands	\$264,000
Estelline	1963, 1985, 1996	5 cell pond system	\$704,767
Bruce	1977	3 cell pond system	\$256,000
Volga	1959, 1970, 1990, 2013	3 cell pond system with aeration cells and artificial wetlands	\$1,316,993
Brookings	1980, 2013-2015	advanced mechanical plant	\$44,154,000
Flandreau	1979	3 cell pond system	\$1,295,000
Egan	1973	2 cell pond with artificial wetlands	\$67,000
Trent	1972, 1999	3 cell pond with artificial wetlands	\$173,000
Dell Rapids	1975, 2001	5 cell pond system with aeration	\$1,301,818
Baltic	1994	2 cell pond	\$565,909
Sioux Falls	1985	advanced mechanical plant	\$86,392,344
Corson Village	1970	septic tanks with 2 cell pond	unknown
Brandon	1983, 1991, 1993, 2002	3 cell pond system with aeration	\$1,430,393
Valley Springs	1999	3 cell pond with artificial wetlands	\$420,000
Canton	1956, 1980, 2010	4 cell pond system with aeration	\$3,358,000
Hudson	1974	2 cell pond system with infiltration/percolation basins	\$101,000
Jefferson	1961, 2004	4 cell pond with artificial wetlands	\$635,000

TOTAL

\$176,266,521

Color legend: - continuous discharger
 - intermittent discharger
 - no discharge

Examples of Municipal Wastewater Treatment in the Big Sioux Basin

DENR provides financial assistance to publicly owned wastewater treatment systems through the State Water Planning Process using funds from the state Water and Environment Fund and EPA State Revolving Funds to build:



Wastewater stabilization pond

Artificial wetlands for wastewater treatment

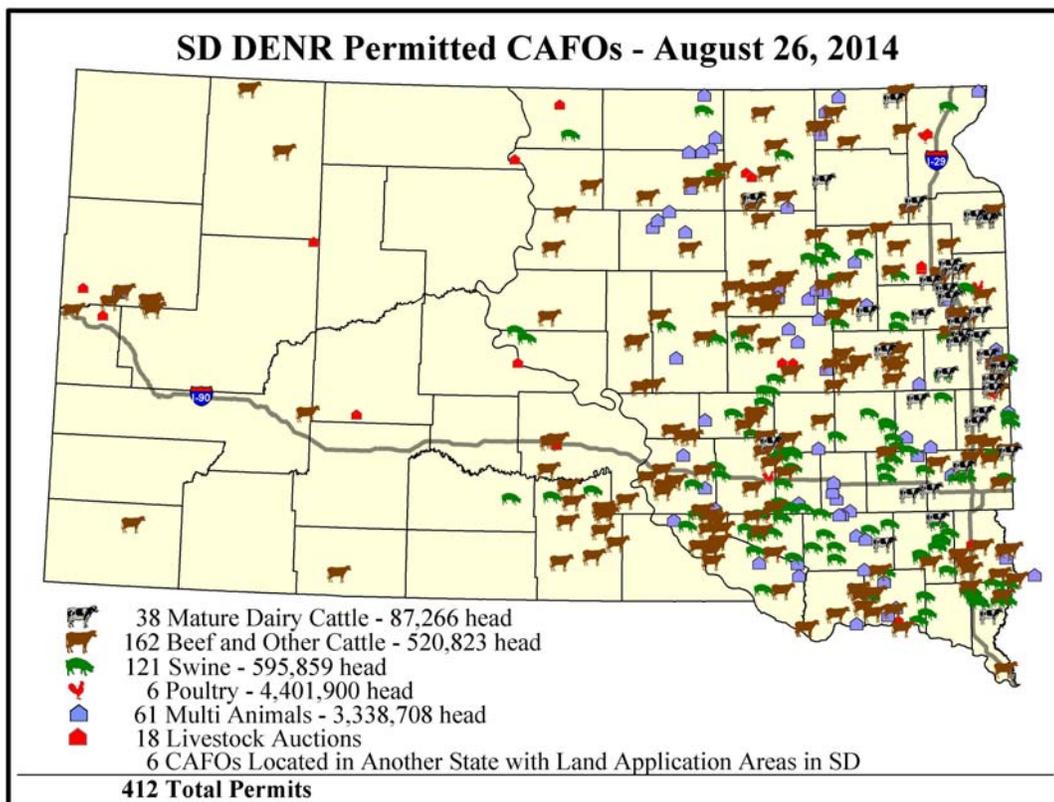


Aerial view of Sioux Falls advanced mechanical plant

Large Livestock Operations Are Also Point Sources



Runoff and manure
regulated by DENR's
General Water Pollution
Control Permit for
Concentrated Animal
Feeding Operations



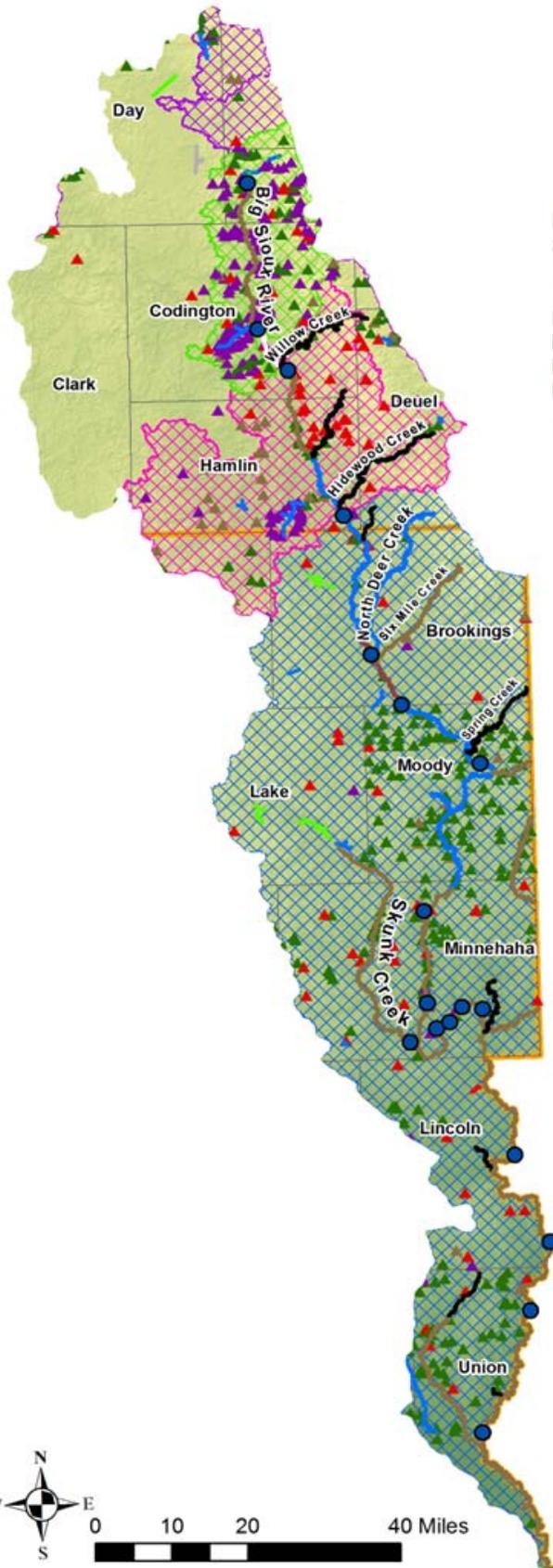
* Concentrated Animal Feeding Operation (CAFO)

- ◇ South Dakota Department of Agriculture's County Site Analysis Program helps local officials site new livestock operations.
- ◇ Working together, growing our livestock industry protects water quality.

Best Management Practices Used to Reduce Nonpoint Source Pollution in the Big Sioux

Big Sioux Basin Best Management Practices Implementation

Four projects support improvements to water quality within the Big Sioux River Basin. The NE Glacial Lakes project seeks to improve and preserve the water quality of natural lakes in the northeast region. Other projects include improvements to the popular Lake Poinsett Area and the Central and Upper Big Sioux. Major impairments in the region include exceedances for sediment and bacteria in streams, chlorophyll and pH impairments in lakes. BMPs to minimize impairments include ag waste systems, critical planting areas, bank stabilization and sediment traps.



Water Quality Monitoring Sites
 ● Water Quality Monitoring Sites

Impaired Waters

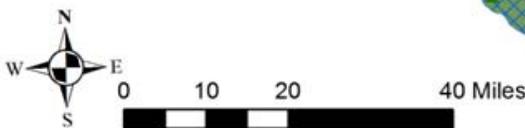
- Unlisted
- Chlorophyll-a
- Escherichia coli
- Fecal Coliform
- Mercury
- Dissolved Oxygen
- Water Temperature
- Total Suspended Solids (TSS)
- pH

Best Management Practices

- ▲ Ag Waste
- ▲ Critical Planting
- ▲ Grazing Management
- ▲ Other BMP

Open Implementation Projects

- ▨ NE Glacial Lakes
- ▨ Upper Big Sioux River
- ▨ Lake Poinsett
- ▨ Central Big Sioux River



Best Management Practices Used to Reduce Nonpoint Source Pollution in the Big Sioux



Animal Waste Pond for Open Lot



Monoslope Barn for Cattle



Riparian Buffers



Grassed Waterways



Bank Stabilization

Practices and Costs to Reduce Nonpoint Source Pollution to the Big Sioux River

Big Sioux River Best Management Practice (BMPs) Implemented 2005 - 2014 Using Cost-Share

Best Management Practices	Number Completed
1. Animal Waste System Installations	43
2. Feedlot Relocation	3
3. Stream Bank & Shoreline Protection (linear feet)	66,624 lf.
4. Conservation Reserve Program Acres Enrolled	1,849 ac.
5. Conservation Tillage (acres)	4,814 ac.
6. Riparian Easements (acres)	5,662 ac.
7. Wetland Restoration (acres)	1,481 ac.
8. Planned Grazing Systems (acres)	5,573 ac.
9. Alternative Water systems	13
10. Terrace installation / Restoration (linear feet)	92,736 lf.
11. Grass Waterways (linear feet)	38,476 lf.
12. Filter Strips / Critical Area Plantings ac.	1,689 ac.
13. Riparian Buffers / Protection (linear feet)	416,498 lf.
14. Sediment Traps	118

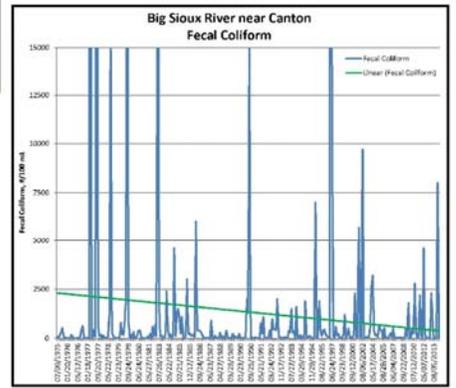
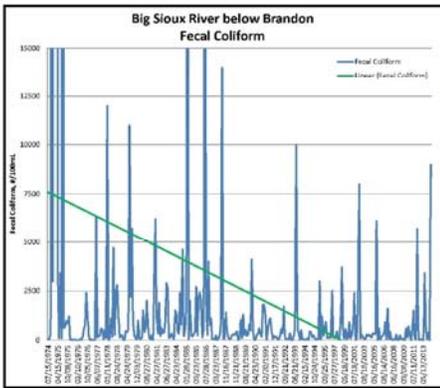
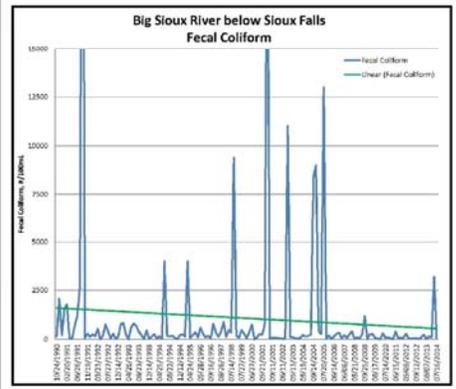
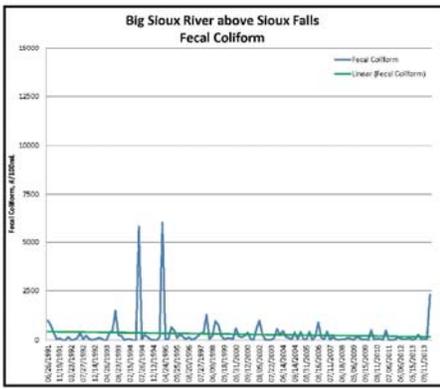
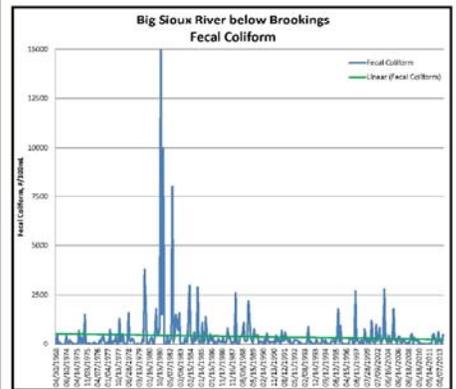
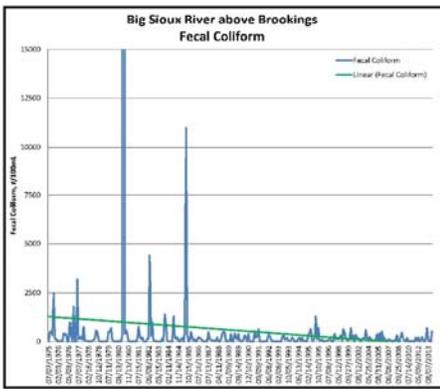
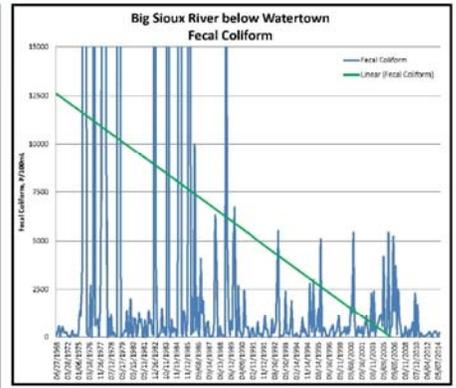
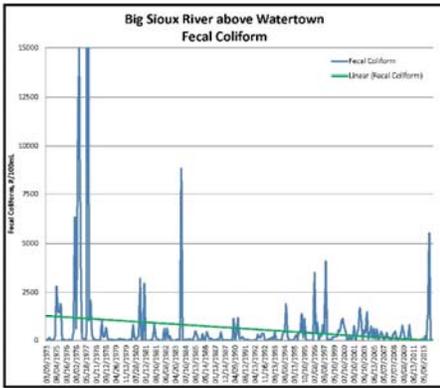
Funding Sources & Dollars Spent 2005 – 2014

Projects	EPA Section 319	Other State Funds	Clean Water Revolving	Local	Other Federal	Total
Northeast Glacial Lakes	\$694,909	\$1,584,579	\$0.00	\$238,374	\$343,178	\$2,861,040
Upper Big Sioux	\$1,578,595	\$0.00	\$253,937	\$2,168,727	\$55,341	\$4,056,600
Lake Poinsett	\$613,125	\$8,561	\$0.00	\$1,650,559	\$170,128	\$2,442,373
Central Big Sioux	\$2,117,812	\$91,548	\$5,200,953	\$2,338,641	\$1,430,261	\$11,179,215
Total Funding	\$5,004,441	\$1,684,688	\$5,454,890	\$6,396,301	\$1,998,908	\$20,539,228

Pollutant Load Reductions from Best Management Practices Installed between 2005 - 2014

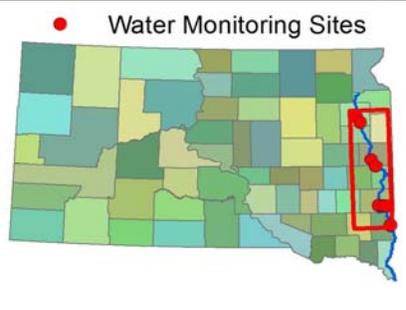
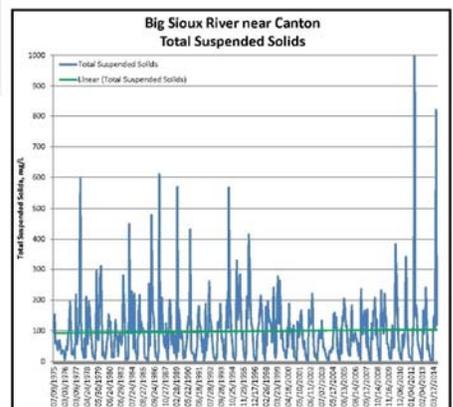
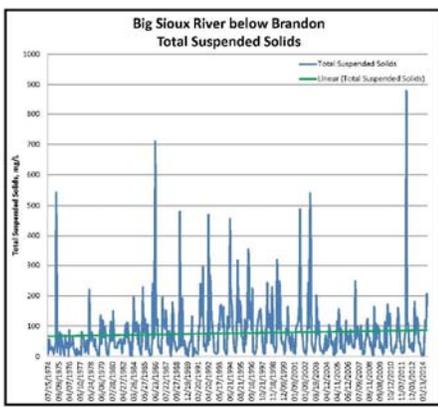
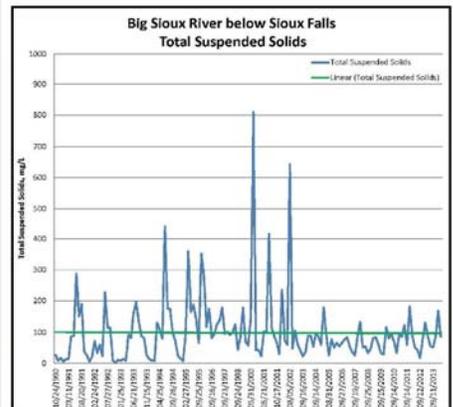
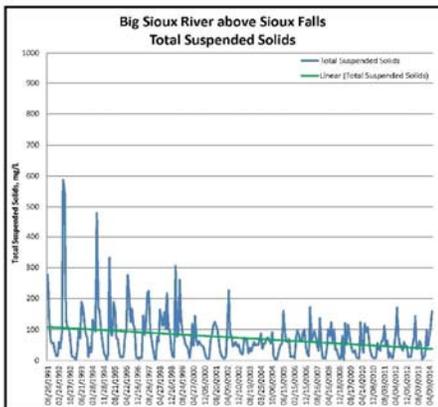
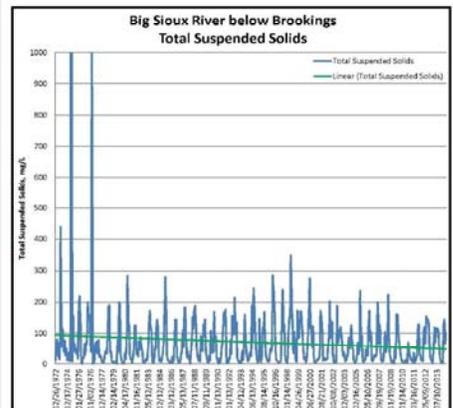
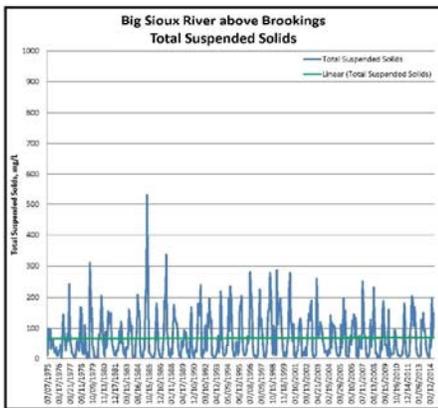
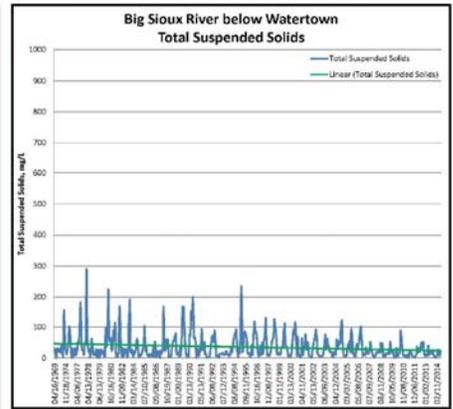
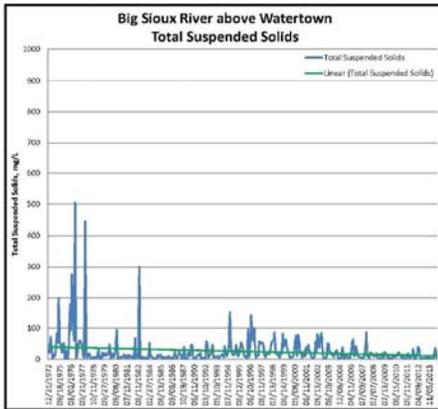
Nitrogen	Phosphorous	Sediment
436,791 pounds	136,524 pounds	89,036 tons

Historical Fecal Coliform Trends in Big Sioux River

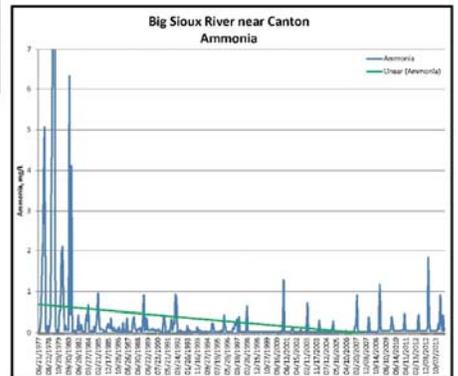
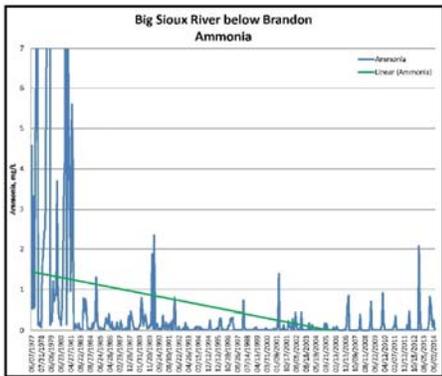
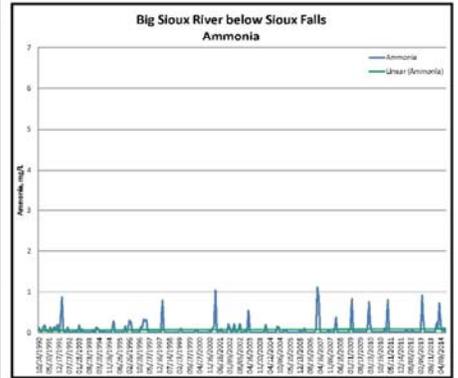
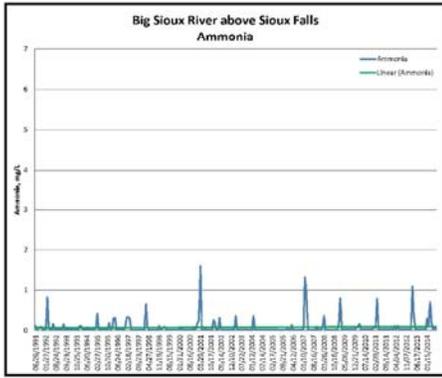
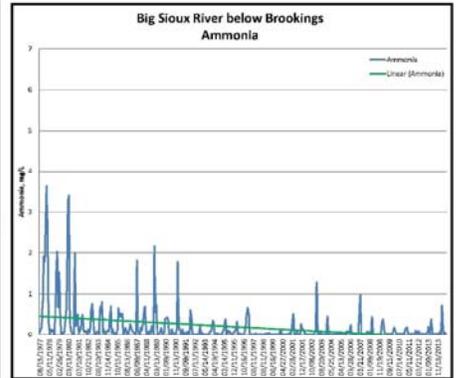
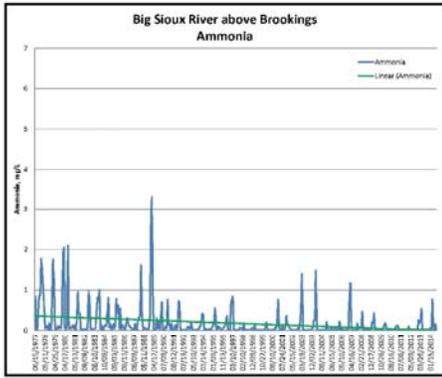
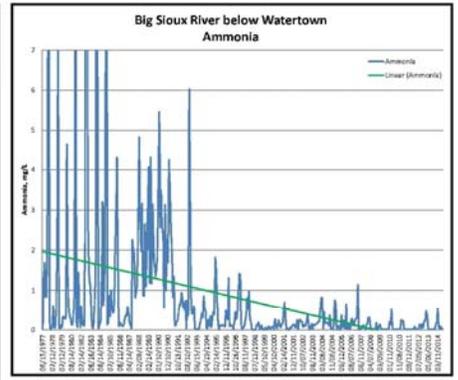
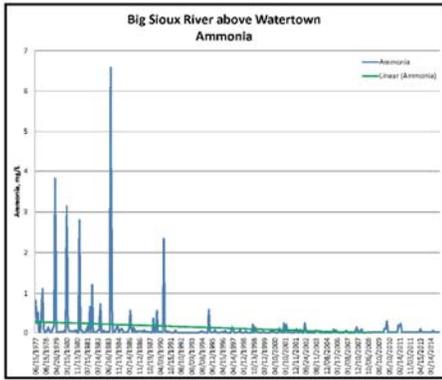




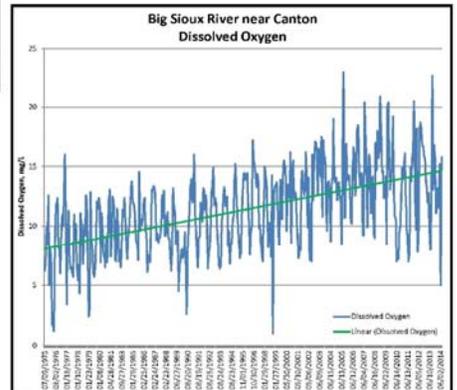
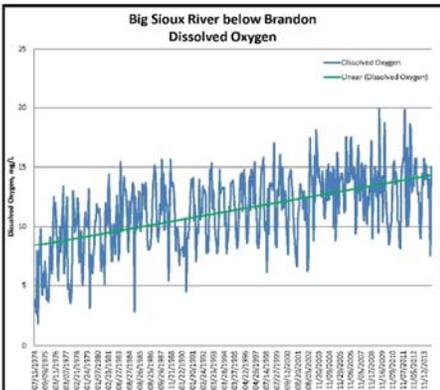
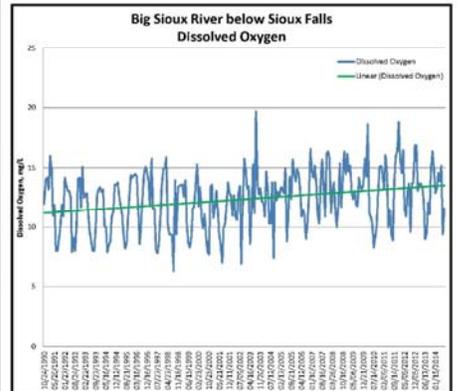
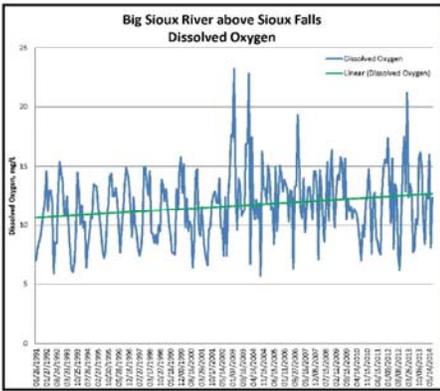
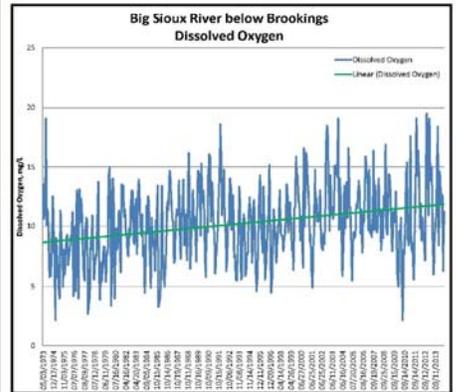
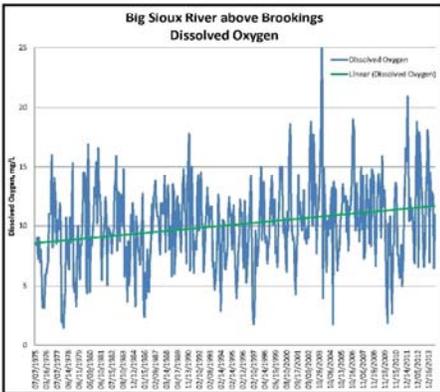
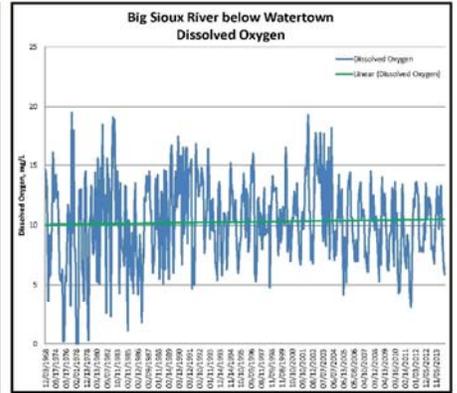
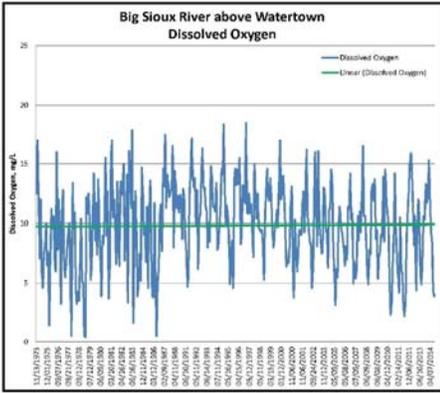
Historical Trends in Total Suspended Solids in Big Sioux River



Historical Trends in Ammonia in Big Sioux River

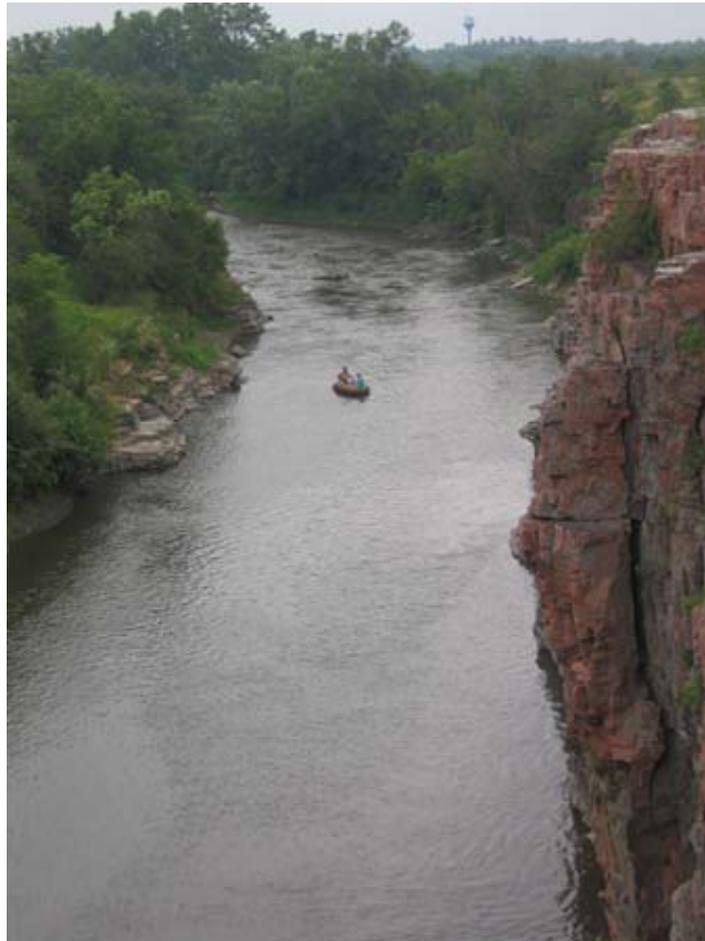


Historical Trends in Dissolved Oxygen in Big Sioux River



Summary of Water Quality of the Big Sioux River

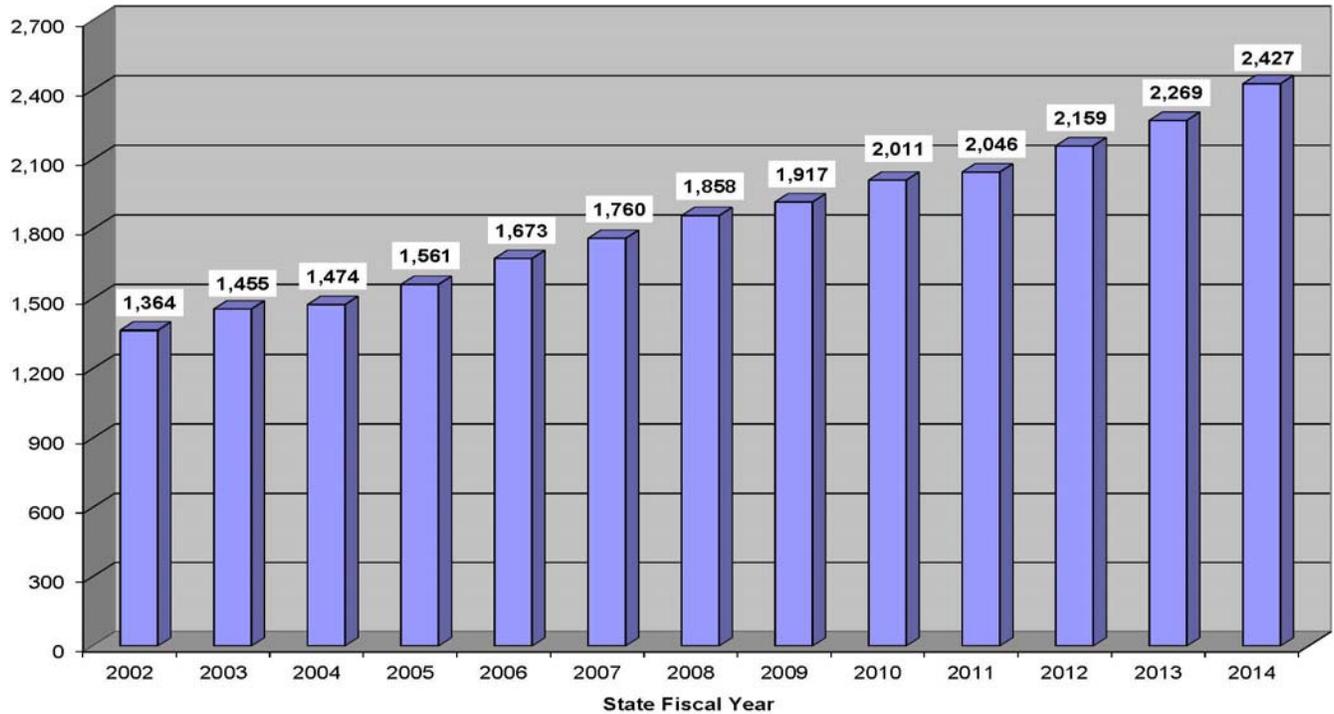
1. In spite of increased development, population, and agricultural production throughout the basin, water quality in the Big Sioux River during the last 35 years has generally improved, but progress is slow, intermittent, and dependent on precipitation and river flows;
2. Reducing pollution from both point and nonpoint sources will remain a high priority as evidenced by the Big Sioux River being recently named as a “High Impact” project by the US Department of Agriculture; and
3. DENR will continue to provide resources as available to local sponsors to continue making more water quality improvement projects a reality.



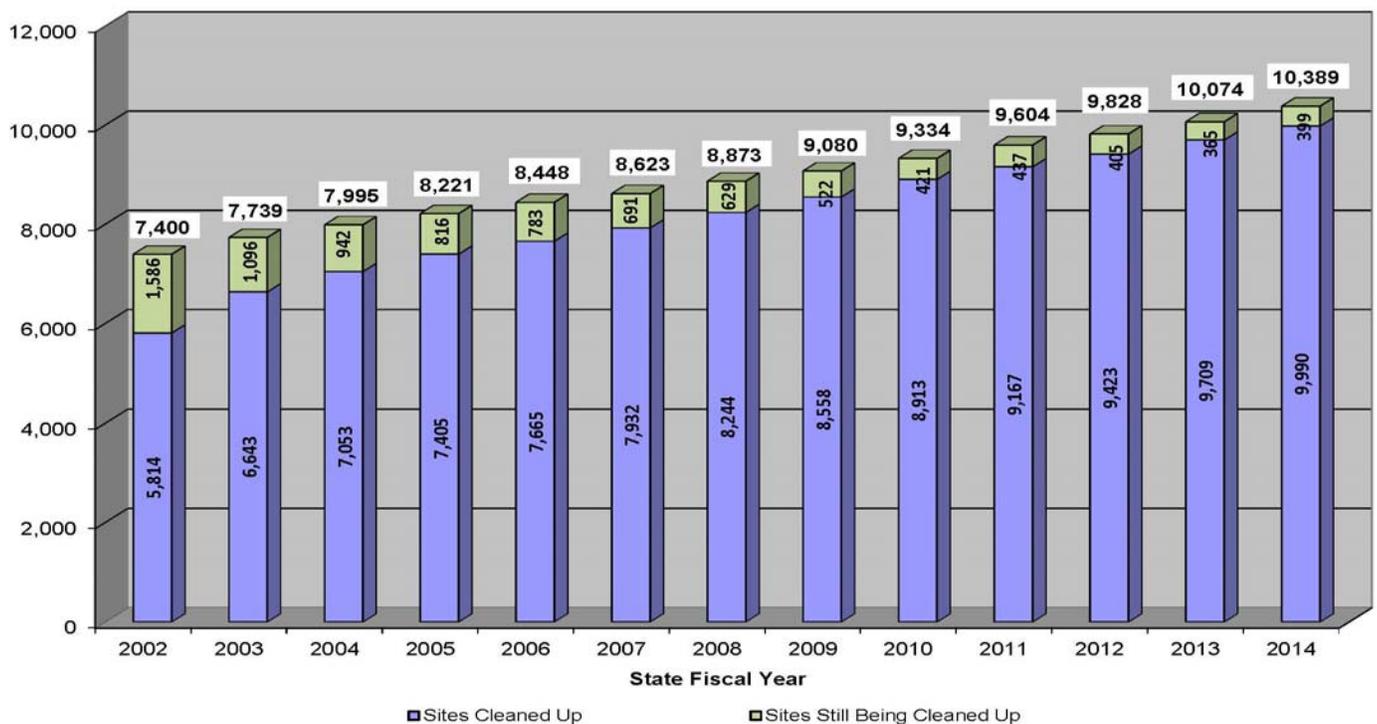
Meanwhile, DENR will continue to manage growing workloads. Examples of growing workloads are:

Key Environmental Measure: DENR's Increasing Workloads

Hazardous Waste Generators



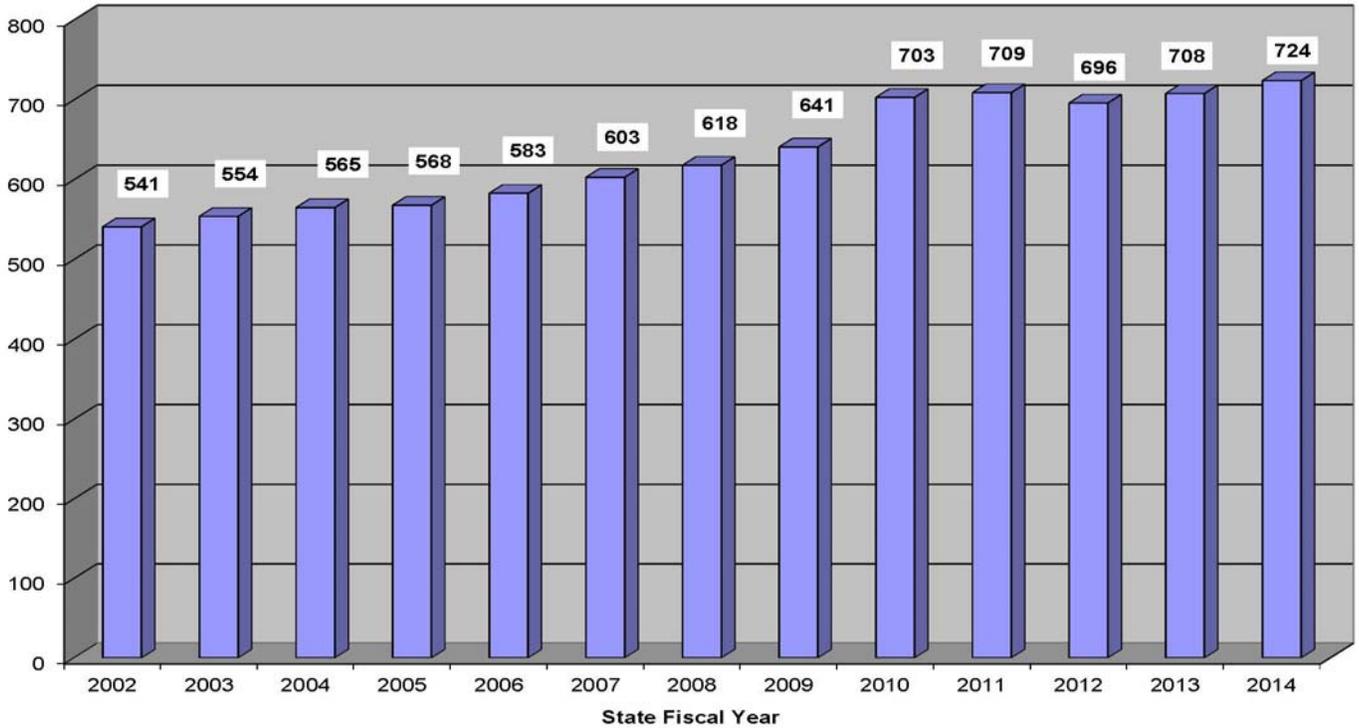
Contaminated Spill Sites (Since 1972)



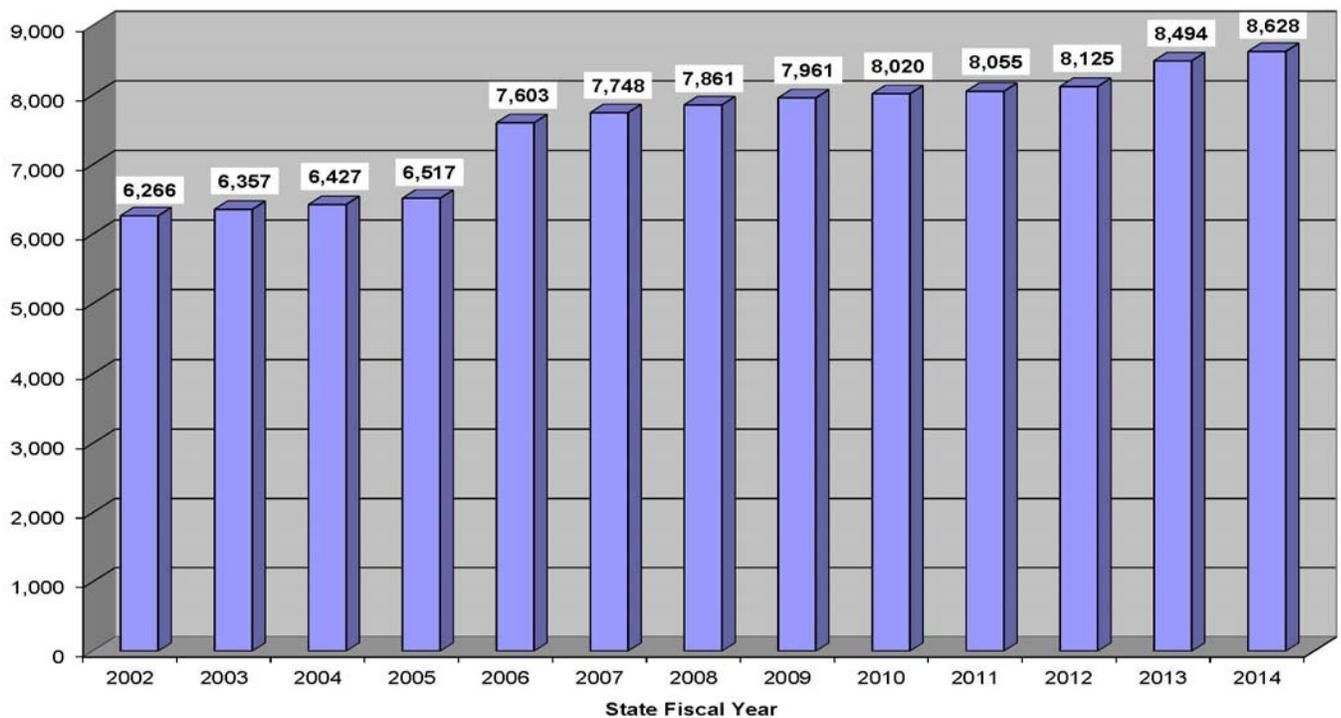


Key Environmental Measure: DENR's Increasing Workloads

Air Quality Permits Regulated



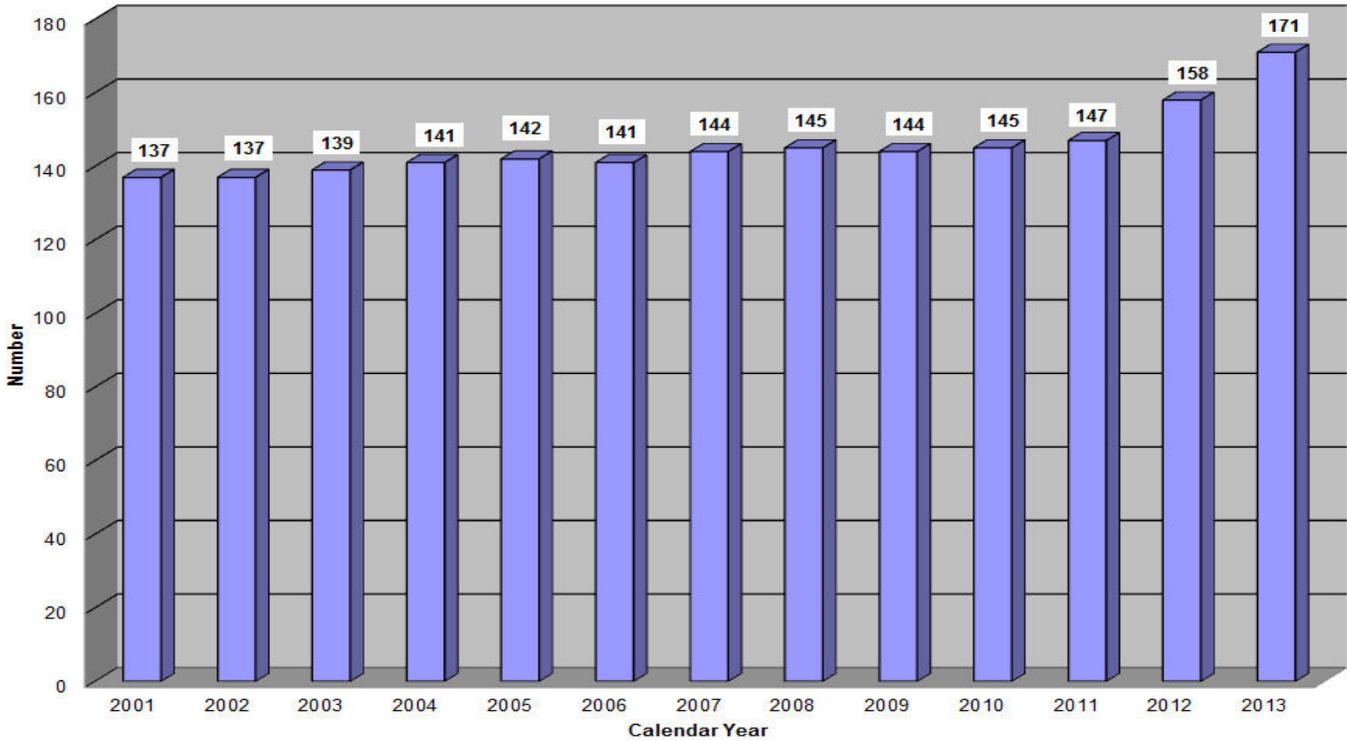
Water Right Permits Regulated



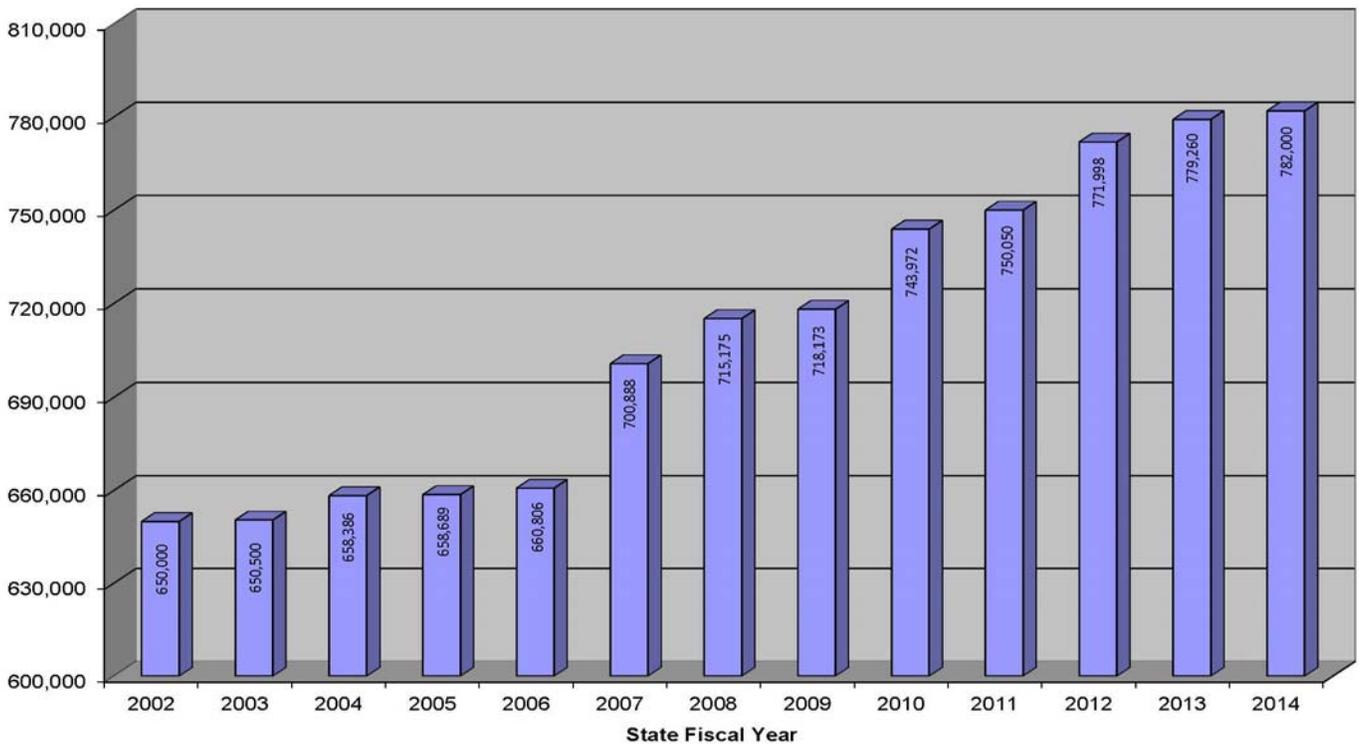


Key Environmental Measure: DENR's Increasing Workloads

Number of Producing Oil Wells in South Dakota



People Served by Regulated Public Drinking Water Systems



DENR's 37 FoxPro Databases Conversion Project

DENR uses technology to boost productivity, efficiency, effectiveness, communication, and services to our customers.

- DENR has kept up with increased workloads largely by DENR staff building, maintaining, and using 37 FoxPro databases to manage work, track records, and provide automated customer services.
- However, Microsoft has announced no FoxPro support after 2015.
- DENR has committed \$16,020 per month or \$192,240 per year from our existing budget to BIT to convert the FoxPro databases over a period of years and include Geographic Information System (GIS) applications to provide on-line access to our customers.
- BIT's current status is below; additional resources in SB 55 will be used to accelerate remaining conversions.



Database Name/Description	
1. Airdatabase - track air pollutants air permits, fees, models - 4% complete	13. ConAgg - tracks licensed construction aggregate mines - 100% complete
2. Environmental Fees - wastewater, water, air, solid waste- 20% complete	14. EXNI - tracks mineral exploration and mine permits
3. New Well - track water quality samples from new domestic wells	15. Air - tracks permitted asphalt plant and nonmetallic mineral processing plants
4. Operator Certification - water and wastewater operators, hours, and tests	16. Wells - tracks permitted oil, gas, and underground injection wells - 100% complete
5. SYSNames - track regulated public drinking water systems & water quality	17. Feedlots - tracks permitted concentrated animal feeding operations
6. Project Management - track plans for water, wastewater, waste - 76% complete	18. Storm Water Database - tracks permits from construction and industrial
7. Source Water Assessments - source water areas & pollution sources	19. Surface Water Discharge Database - tracks permits/feeds ICIS - 32% complete
8. Environmental Events Database - internet spill tracking- 100% complete	20. Temporary Dewatering Database - tracks approved dewatering operations
9. TANK DATABASE - tracks regulated storage tanks - 100% complete	21. Recycling Database - inventory of all recycling facilities in state - 100% complete
10. Tier II & TRI - SARA chemical storage reports and toxic releases - 93%	22. Hazardous Waste Database - tracks hazardous waste generators-100% complete
11. Ground Water Monitoring - data from facilities on shallow aquifers - 6%	23. Asbestos Database - certification data from workers and demolition notices -100%
12. MIS or Abandoned Mined Lands - Black Hills inventory	24. Solid Waste Database - tracks permitted solid waste disposal sites - 4%
	25. Location Notice - dam/dugout notices - 100% complete
	26. Drillers - lists and tracks well drillers licensed in South Dakota
	27. Pump Installers - lists and tracks pump installers licensed in SD
	28. Iquest - generates and tracks annual irrigation water use reports
	29. Lakeinfo - lake data to include id, name, legal, high & low water marks
	30. Lakelev1 - tables of water levels measured semi-annually in lakes
	31. Logs - well construction data to include legal, depth, log, and driller
	32. Obs94a - water right observation wells to include legal, yield, and depth
	33. Snatdam2 - state Safety of Dams inventory to include legal, owner, size
	34. Wlevel - observation well measurements
	35. Wpapp - track new applications for water right permits
	36. Wrinfo - series of water right Tables and water use data
	37. Lookup Tables - tables to replace abbreviations in reports and Caspio



PREVIOUS ROLLOUTS OF DENR GIS INTERACTIVE MAPS

1. **2012 and 2013 Legislatures - Oil and Gas Interactive Map** provides links to files for 1,900 oil and gas holes plus 34,350 test holes and 62,245 water well logs.
2. **2014 Legislature - Construction Aggregate Interactive Map** with 4,651 active and reclaimed construction aggregate mines such as sand and gravel pits, pegmatite mines, and mineral mines for materials used in cement.

2015 GIS INTERACTIVE MAP ROLLOUTS

1. **Property Search for Spill Sites and Sites with Environmental Reports** - identifies more than 13,250 sites; demonstrated by Rick Lancaster, DENR
2. **Tanks Database** - find tank information for about 5,000 closed and active regulated storage tanks; demonstrated by Nayyer Syed, DENR
3. **Recycling Facilities in South Dakota** - search 156 different locations for materials they take to recycle; demonstrated by Nick Emme, DENR
4. **Dry Draw Location Notice** - search 97,620 filings for water right dry draw location notices; demonstrated by Ron Duvall, DENR

BILLS

1. Governor Dugaard's 2015 Executive Reorganization Order No. 2015-01

- ⇒ Transfers authority to regulate bottled water quality from the Department of Public Safety to DENR.

2. Bureau of Finance and Management's SB 55 to Amend FY 2015 Budget

- ⇒ Includes special appropriation of \$350,000 for the Bureau of Information and Technology to speed up work on DENR's 37 FoxPro Database Conversion Project and provide natural resource data online using GIS interactive maps.

3. Governor Dugaard's 2015 Water and Environment Funding Bill SB 173 (also known as the Annual Governor's Omnibus Water Funding Bill)

- ⇒ Innovative Wheeling Option gets water to all South Dakota members of Lewis & Clark Regional Water System by putting West River/Lyman-Jones \$12.5 million loan prepayment immediately back to work.
 - Bill appropriates \$7.7 million to Lewis & Clark Regional Water and authorizes \$4.8 million in state Consolidated funding for Big Sioux Community Water and Minnehaha Community Water System for Madison Wheeling Option.
 - Wheeling Option saves \$17 million of state dollars needed to construct the remaining segments of the Lewis & Clark service line to Madison.

4. DENR's HB 1014 from Governor Dugaard's Red Tape Review

- ⇒ Repeals five unnecessary statutes that have been executed or are obsolete.
 - Deletes another 392 words from the code.

5. Governor Dugaard's Bill to Develop Model of the lower Big Sioux HB 1188

- ⇒ The extensive development in the lower Big Sioux basin makes it the most vulnerable river segment in South Dakota to threaten loss of life and property from flood damage.
 - Appropriates \$500,000 to develop a flood model to predict inundation areas.
 - Amended by House Appropriations to \$1

6. Governor Dugaard's Recommended FY 2016 Budget Request for DENR

- ⇒ Status Quo Budget Request
 - DENR is requesting NO expansion in FTEs
 - DENR is requesting NO expansion in personal services
 - DENR is requesting NO expansion in operating