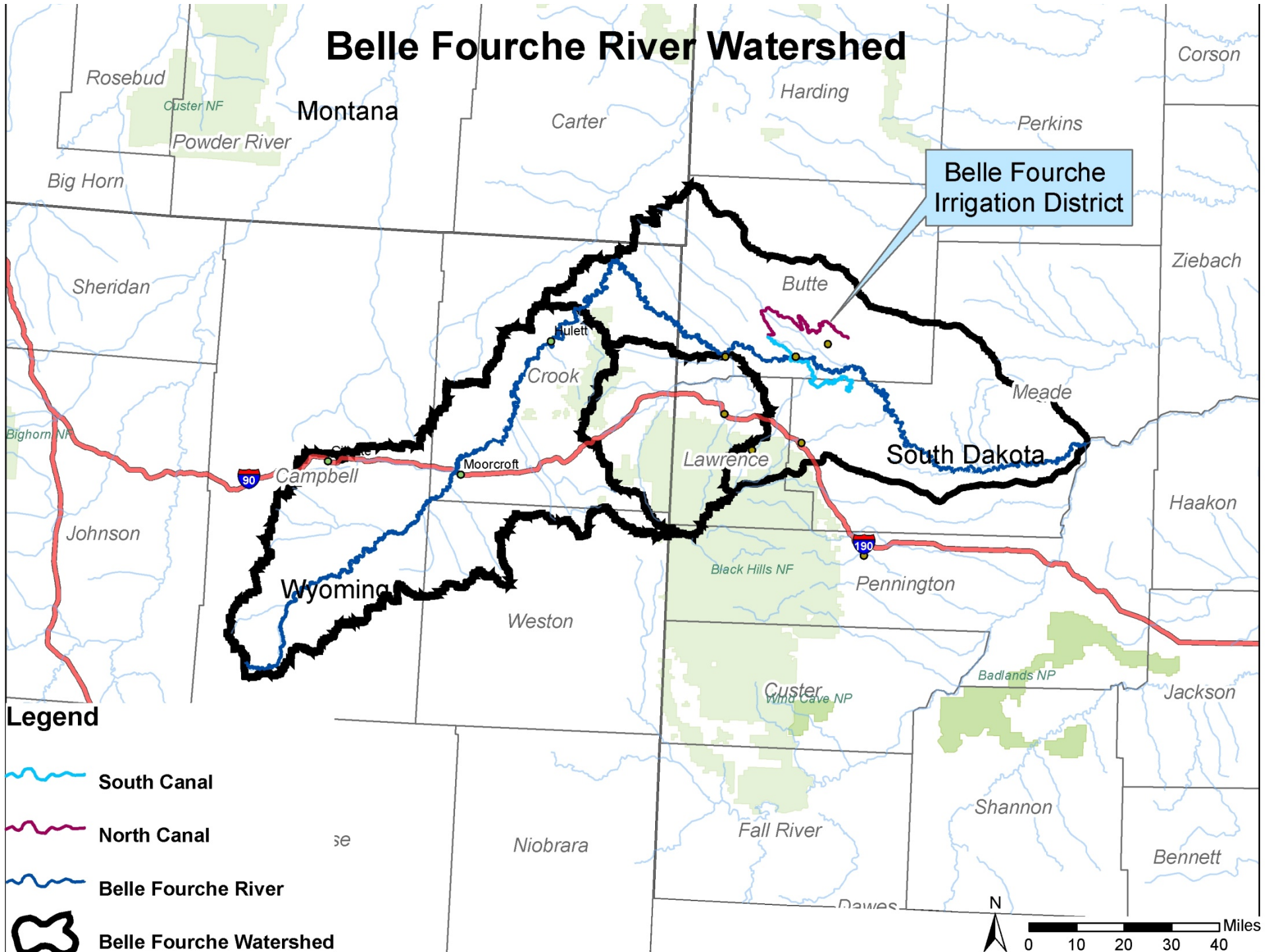


South Dakota Belle Fourche River Watershed Management Plan and Implementation



Belle Fourche River Watershed



Belle Fourche River Watershed Partnership

- ❖ Started Mid-1990, Formalized 2003
- ❖ Nonprofit 503c
- ❖ Membership
 - *Four voting members*
 - ◆ Butte, Elk Creek, and Lawrence Conservation Districts
 - ◆ Belle Fourche Irrigation District
 - *All stakeholders welcomed*
 - ◆ United States Geological Society (USGS)
 - ◆ United States Fish and Wildlife Service (USFWS)
 - ◆ Bureau of Reclamation (BOR)
 - ◆ Natural Resources Conservation Service (NRCS)
 - ◆ South Dakota Department of Environment and Natural Services (SD DENR)



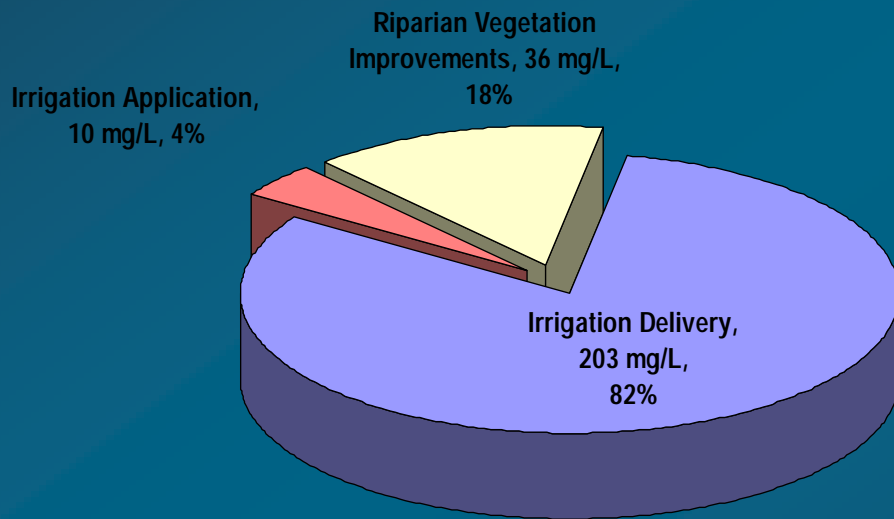
South Dakota Belle Fourche River Watershed Assessment

- ❖ Total Maximum Daily Load (TMDL) Report Approved by Environmental Protection Agency (EPA)
- ❖ NRCS Completed and Approved River Basin Study
- ❖ Problem – Belle Fourche River and Horse Creek Carry Excessive Sediment Loads
- ❖ Recommendations
 - ➔ *Reduce irrigation return flows 12,000 acre-feet through conservation*
 - ➔ *500,000 acres of managed grazing*
 - ➔ *Track progress toward accomplishing TMDL goals*

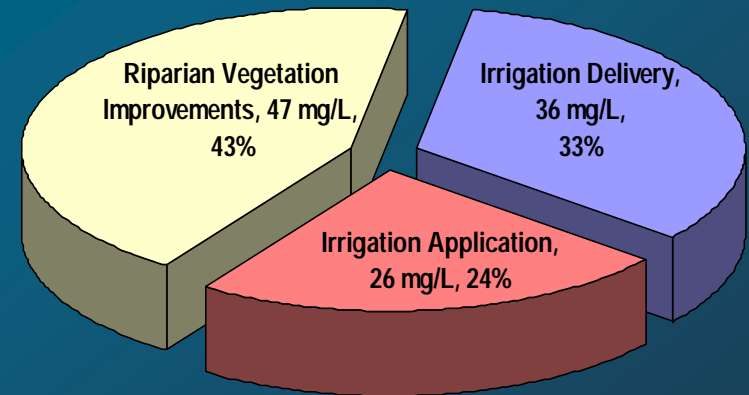


Modeled Source of Total Suspended Solids

❖ Belle Fourche River and Horse Creek Impaired by Total Suspended Solids (TSS)

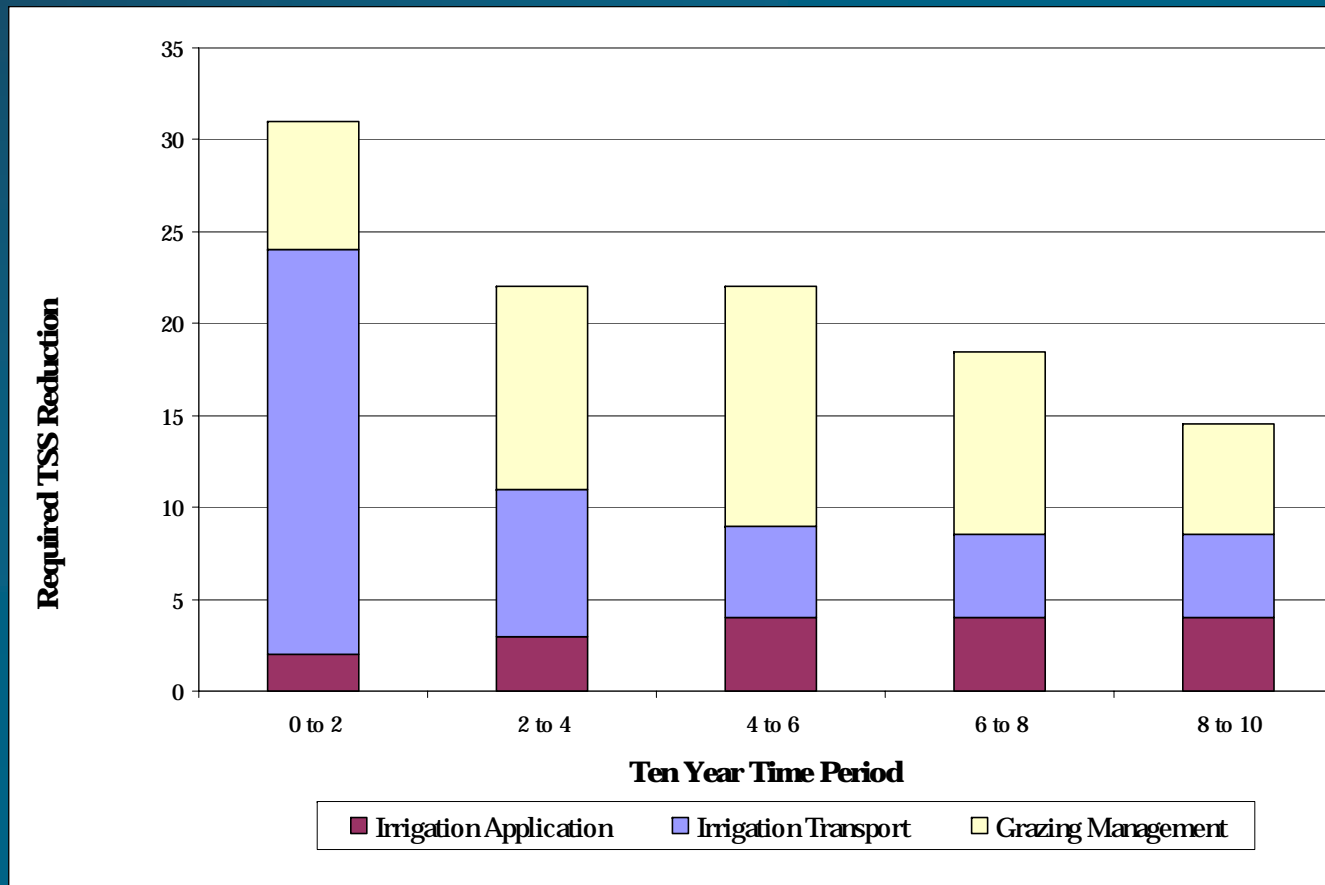


Above Orman Dam



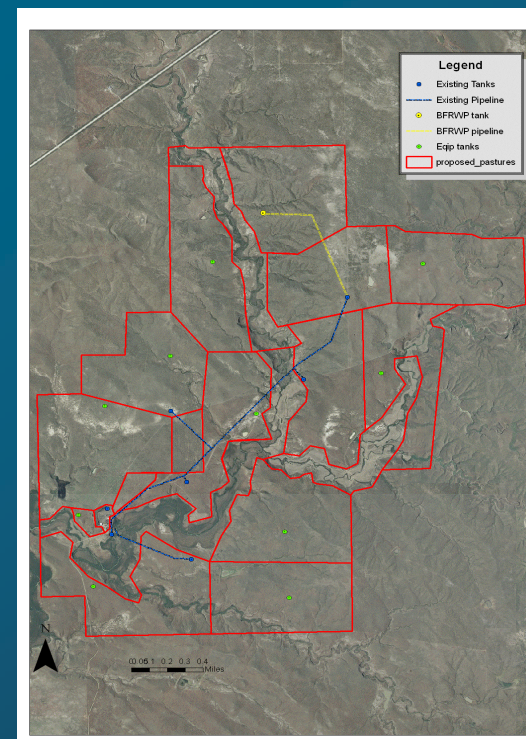
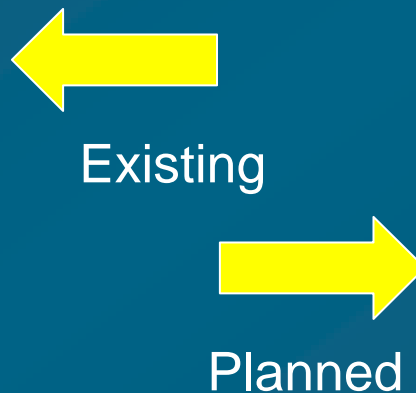
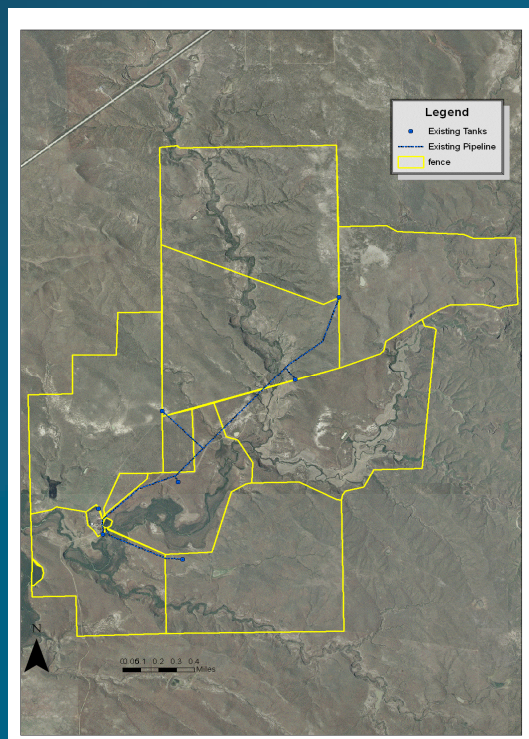
Below Orman Dam

10-Year Plan



2007-2008 Range Planning

- ❖ 200,000+ acres planned grazing
- ❖ 21,000 acres of planned riparian grazing



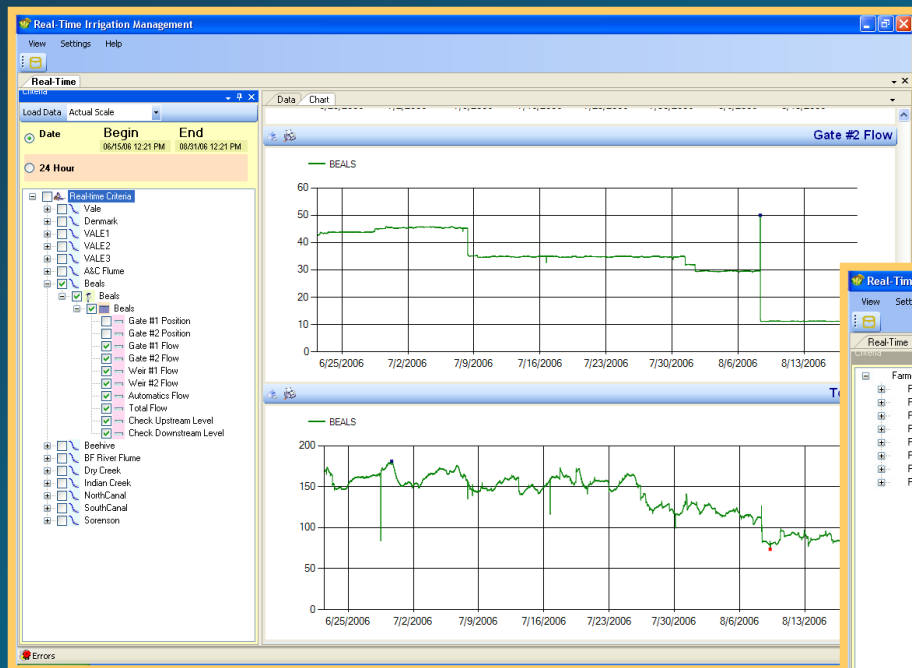
2007-2008 Range Projects

- ❖ Pipeline- 53 miles
- ❖ Watering Facilities- 53
- ❖ Cross Fence- 13,542 feet
- ❖ Streambank Stabilization- 7580 Cubic Yards





Updated Water Order/Billing



Real-Time Irrigation Management - Farmer Billing Summary Sheet

Saturday, July 08, 2006

	Acres	Allotment	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Left
W	21.00	21.00	0.00	0.00	0.00	0.00	0.00	8.00	8.00	8.00	0.00	0.00	0.00	0.00	24.00	-3.00
	273.80	273.80	0.00	0.00	0.00	0.00	0.00	92.00	150.00	0.00	0.00	0.00	0.00	0.00	242.00	31.80
	16.60	16.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.60
	11.00	11.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.00	0.00	0.00	0.00	0.00	12.00	-1.00
	62.70	62.70	0.00	0.00	0.00	0.00	0.00	27.00	19.00	20.00	0.00	0.00	0.00	0.00	66.00	-3.30
W	4.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00
W	340.10	340.10	0.00	0.00	0.00	0.00	0.00	179.00	81.00	64.00	0.00	0.00	0.00	0.00	324.00	16.10
	70.30	70.30	0.00	0.00	0.00	0.00	0.00	27.00	14.00	0.00	0.00	0.00	0.00	0.00	41.00	29.30
S	1.20	1.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.20
D	83.20	83.20	0.00	0.00	0.00	0.00	0.00	8.00	68.00	12.00	0.00	0.00	0.00	0.00	88.00	-4.80
W	180.80	180.80	0.00	0.00	0.00	0.00	0.00	0.00	48.00	144.00	0.00	0.00	0.00	0.00	192.00	-11.20
Ja	95.90	95.90	0.00	0.00	0.00	0.00	0.00	28.00	48.00	0.00	0.00	0.00	0.00	0.00	76.00	19.90
J_F	32.30	32.30	0.00	0.00	0.00	0.00	0.00	0.00	36.00	0.00	0.00	0.00	0.00	0.00	36.00	-3.70
Ed Mx	306.40	306.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	306.40
	90.00	90.00	0.00	0.00	0.00	0.00	0.00	4.00	68.00	20.00	0.00	0.00	0.00	0.00	92.00	-2.00
D	82.10	82.10	0.00	0.00	0.00	0.00	0.00	64.00	16.00	0.00	0.00	0.00	0.00	0.00	80.00	2.10
D	288.10	288.10	0.00	0.00	0.00	0.00	0.00	0.00	164.00	104.00	0.00	0.00	0.00	0.00	268.00	20.10
	10.80	10.80	0.00	0.00	0.00	0.00	0.00	0.00	0.00	56.00	0.00	0.00	0.00	0.00	56.00	-45.20
nu 5	33.40	33.40	0.00	0.00	0.00	0.00	0.00	20.00	12.00	0.00	0.00	0.00	0.00	0.00	32.00	1.40
	239.00	239.00	0.00	0.00	0.00	0.00	0.00	48.00	44.00	52.00	0.00	0.00	0.00	0.00	144.00	95.00
	101.50	101.50	0.00	0.00	0.00	0.00	0.00	76.00	100.00	0.00	0.00	0.00	0.00	0.00	176.00	-74.50
R	43.80	43.80	0.00	0.00	0.00	0.00	0.00	174.00	32.00	0.00	0.00	0.00	0.00	0.00	206.00	-162.20
	244.20	244.20	0.00	0.00	0.00	0.00	0.00	120.00	32.00	108.00	0.00	0.00	0.00	0.00	260.00	-15.80
A	246.50	246.50	0.00	0.00	0.00	0.00	0.00	80.00	156.00	152.00	0.00	0.00	0.00	0.00	388.00	-141.50
D.	98.70	98.70	0.00	0.00	0.00	0.00	0.00	52.00	84.00	0.00	0.00	0.00	0.00	0.00	136.00	-37.30



Belle Fourche River
Watershed Partnership

2004-2008 Irrigation Delivery Projects

- ❖ Lining Canals – 8,600 Ft.
- ❖ Replacing Irrigation Laterals With Pipelines – 5488 Ft.



2004~2008 Irrigation Application Projects

- ❖ 18 Center Pivot Sprinklers
- ❖ 35,000 Feet of Irrigation Pipeline



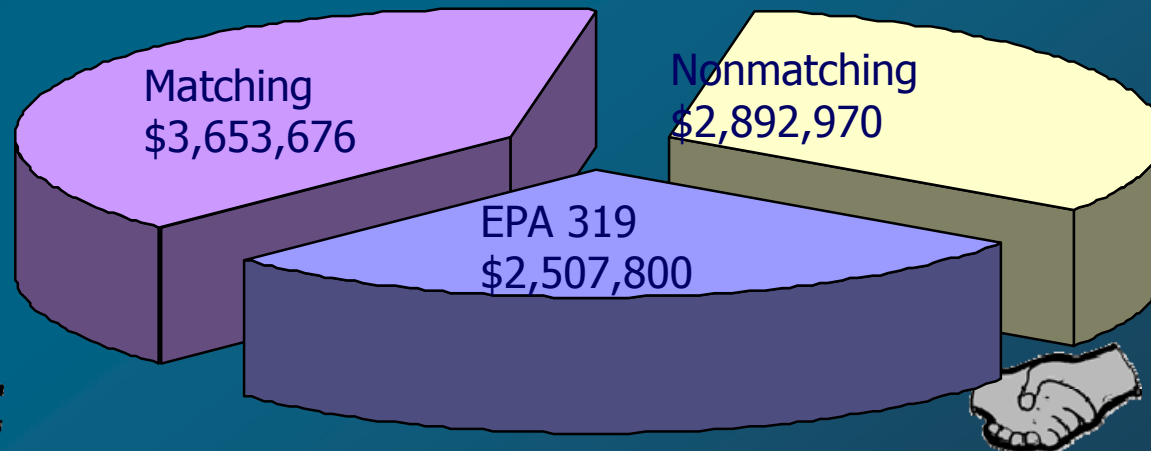
Funding Segment I~III 2004~2009

❖ Matching Funds

- Producers
- BFRWP
- SD DENR
- Lawrence County
- BFID
- Wyoming Department of Environmental Quality (WY DEQ)
- Conservation Commission

❖ Nonmatching Funds

- USFWS
- SDGF&P
- NRCS
 - CRP
 - WHIP
 - EQIP
 - CCPI
- COE
- BOR
- USGS



Water Quality Improvements

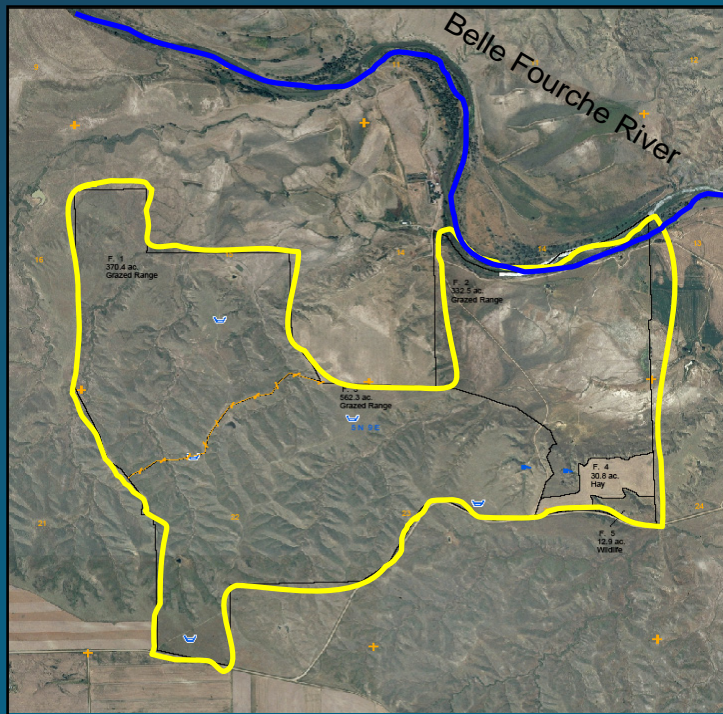


- ❖ 2004 SD DENR Integrated Report for Surface Water Quality
 - *5 segments of the Belle Fourche River Impaired*
 - *All of Horse Creek Impaired*

- ❖ 2008 SD DENR Integrated Report for Surface Water Quality
 - *1 Segment of the Belle Fourche River Impaired*
 - *1 Segment of Horse Creek Impaired*



NRCS Cooperative Conservation Partnership Initiative Grant

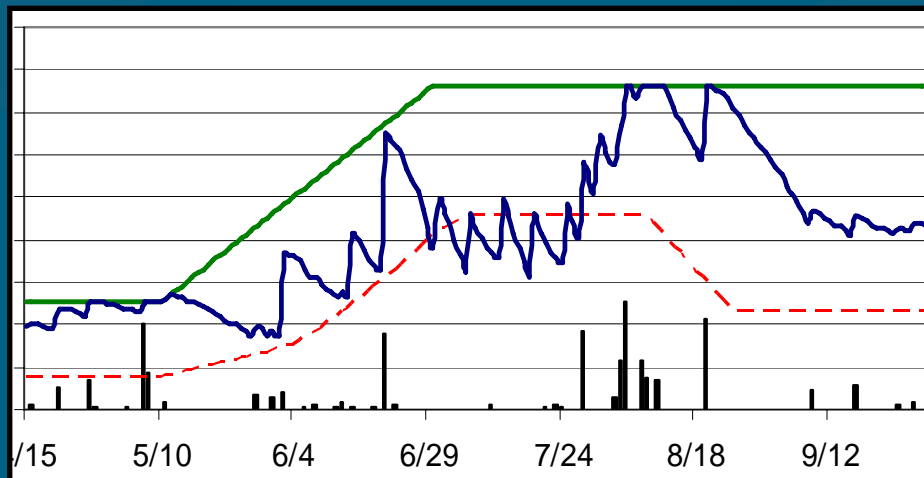


- ❖ Inventory Range Resource for Producers
- ❖ Develop Improved Grazing Systems That Include 9,000 Acres of Riparian Area to Reduce TSS
- ❖ Plan Off-Stream Livestock Watering Sites and Cross Fences to Facilitate Grazing System



NRCS Conservation Innovation Grant

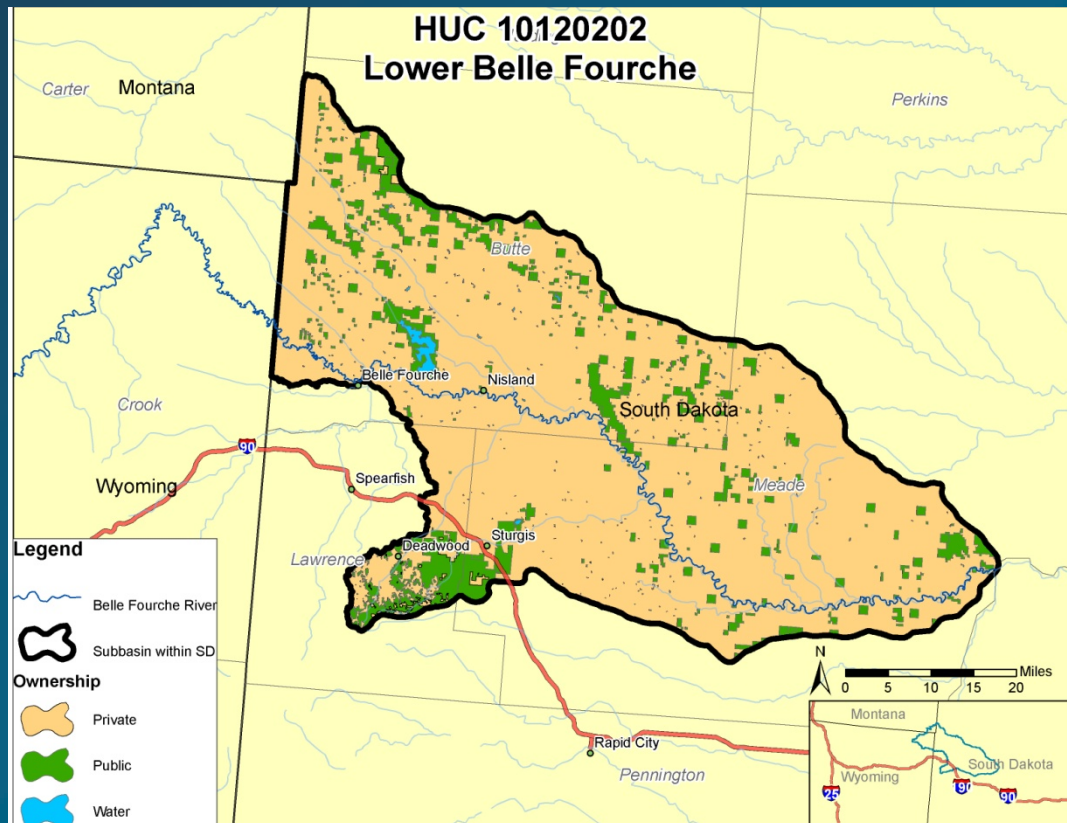
- ❖ Web-Based Irrigation Scheduling Tool for Producers in BFID – GIS Interface
- ❖ Extensive Rainfall and Weather Network Using Automated Sites



■ Rainfall - - - Minimum Water Balance — Field Capacity — Actual Balance



NRCS Rapid Watershed Assessment



- **Compile resource information**
- **Identify and prioritize resource concerns**
- **Identify best use of conservation implementation**
- **Priority funding**



Education and Outreach

- ❖ <http://www.bellefourchewatershed.org/>
- ❖ Belle Fourche Irrigation District (BFID) Meetings
- ❖ Belle Fourche River Watershed Partnership (BFRWP) Meetings
- ❖ Newsletters
- ❖ Fairs
- ❖ Local Newspapers
- ❖ Watershed Tours





Websites

- ❖ Bellefourchewatershed.org
- ❖ Bfidsite.respec.com
- ❖ Respec.com

