

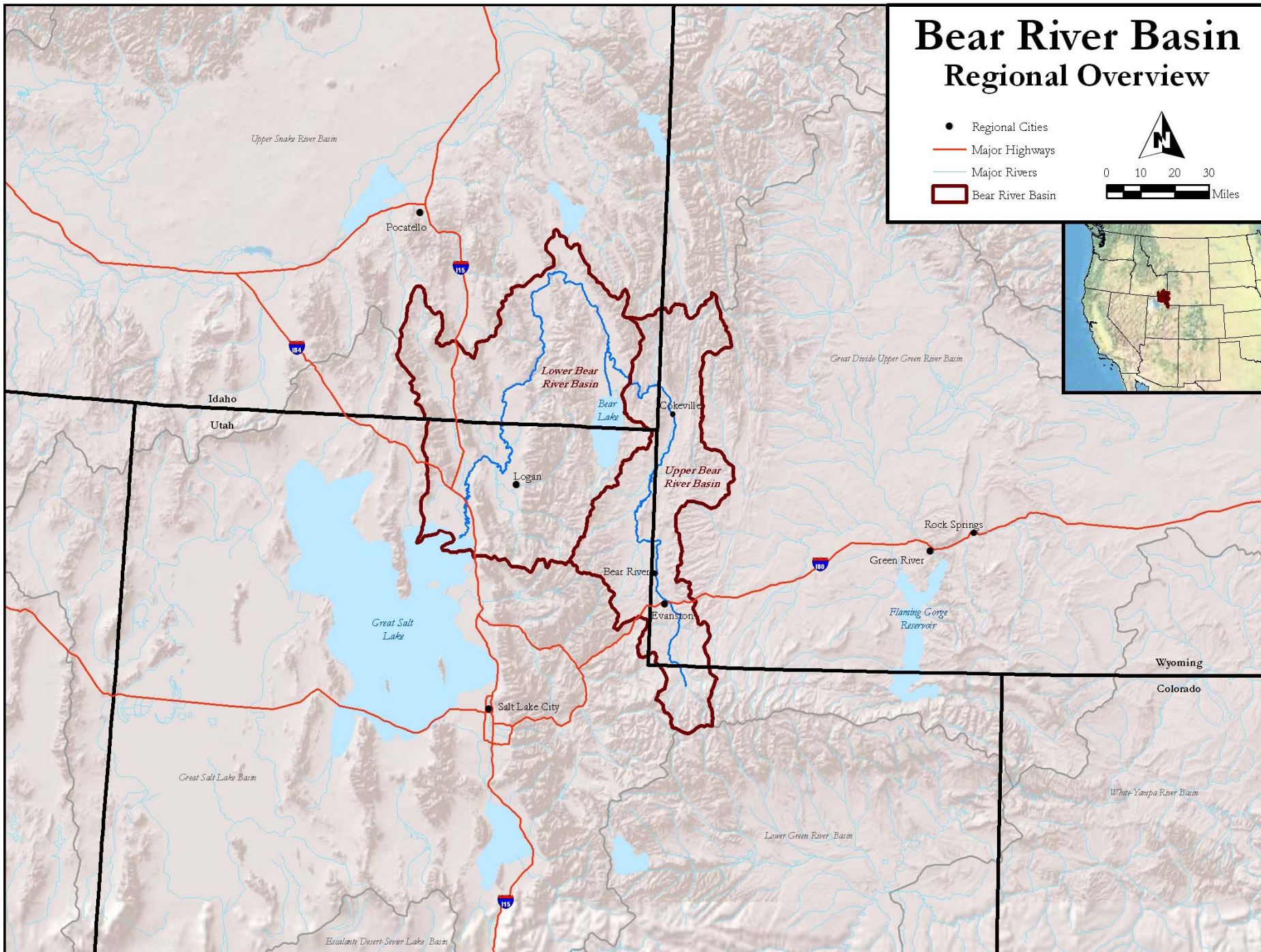
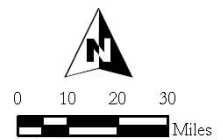
# Bear River Basin Plan

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Update

# Bear River Basin Regional Overview

- Regional Cities
- Major Highways
- Major Rivers
- ▭ Bear River Basin



# Bear River Plan Work Tasks

- Background Info Review
- Water Use Profile
- Surface & Ground Water Availability
- Future Water Use Opportunities
- Basin Issues & Strategies
- Reporting

# Bear River Plan Table of Contents

- Introduction
- Presentation Tool
- Setting
- Water Resources
- Current Water Use
- Water Use Projections
- Water Availability
- Basin Issues, Strategies and Water Use Opportunities
- Program Strategies and Recommendations

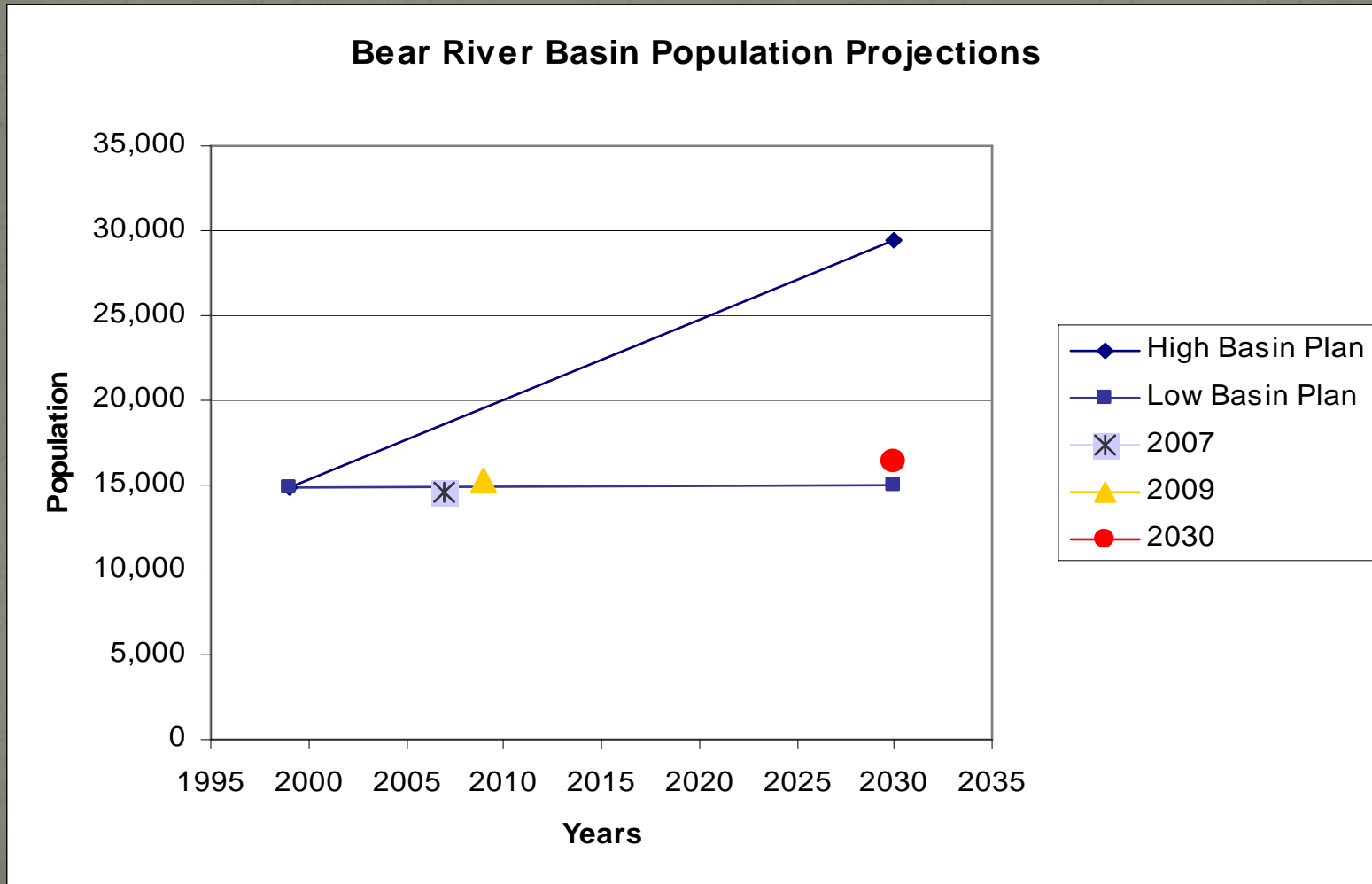
# Bear River Basin Plan Technical Memoranda

- There were 24 Technical Memoranda prepared for the 2001 Bear river Basin Plan.
- We will update and change 10 of those Memoranda
- The other 14 will remain unchanged
- A new Technical Memorandum discussing Climate will be added.

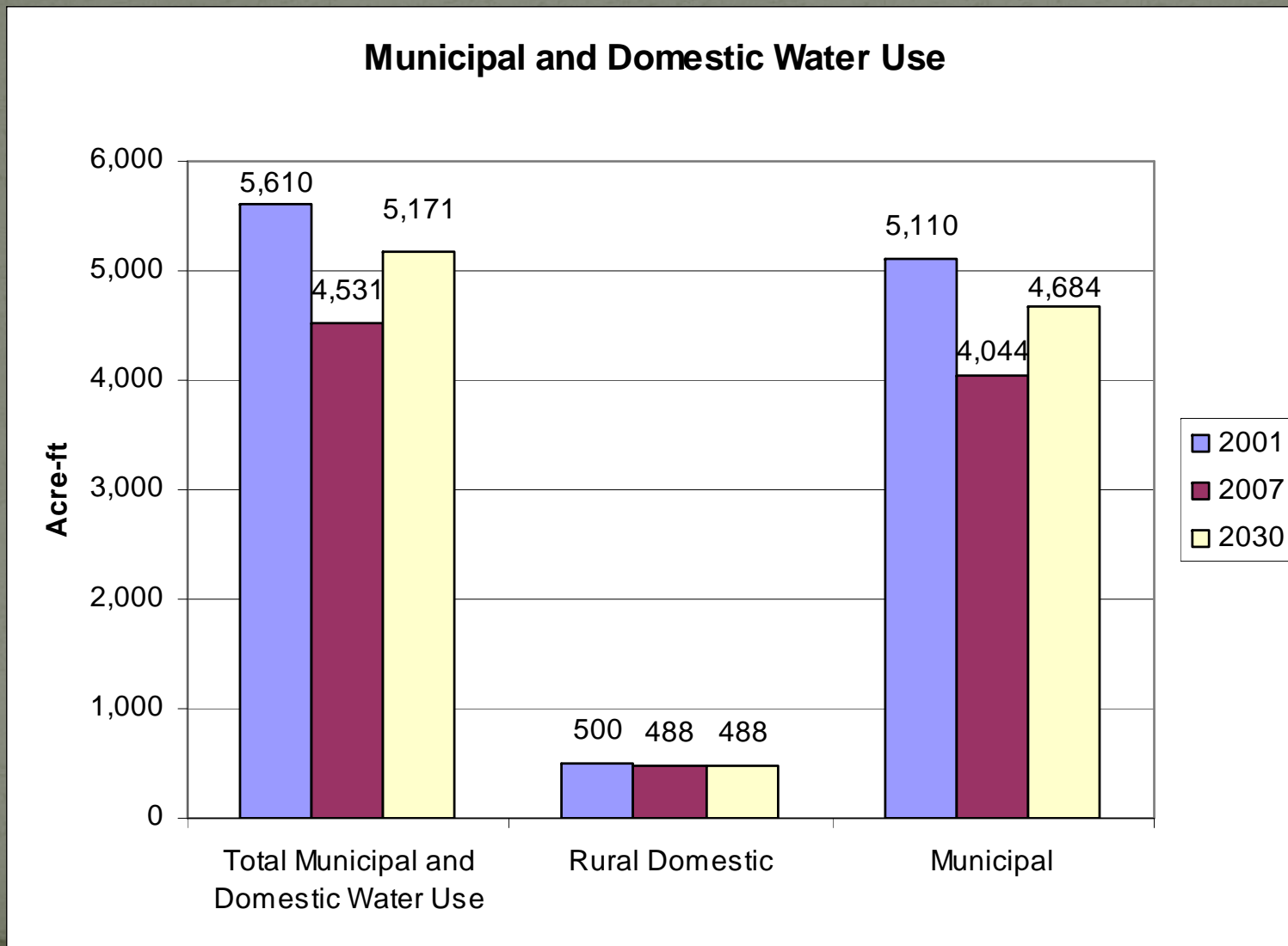
# Bear River Basin Plan Technical Memoranda Updates

- Surface Water Data Collection and Study Period Selection
- Diversion Operation
- Crop Consumptive Use
- Storage Summaries
- Groundwater Resources
- Spreadsheet Model Development
- Use of the Bear River spreadsheet Model
- Surface Water Calibration
- Available Surface Water Determination
- Climate (New)

# Population and Economics



# Municipal and Domestic Use





# Industrial Water Use

Year	Surface Water	Ground Water	Total
2001	310 AF	90 AF	400 AF
2008	37 AF	5 AF	42 AF

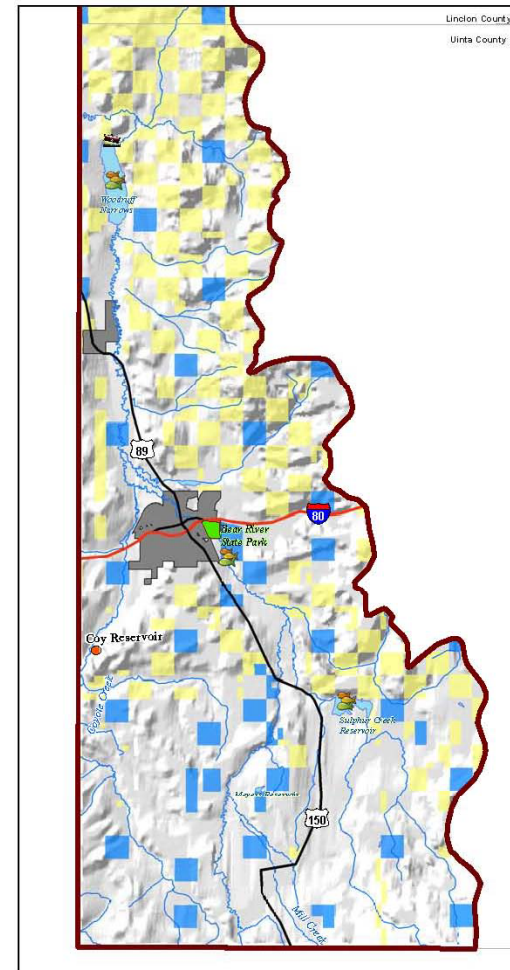
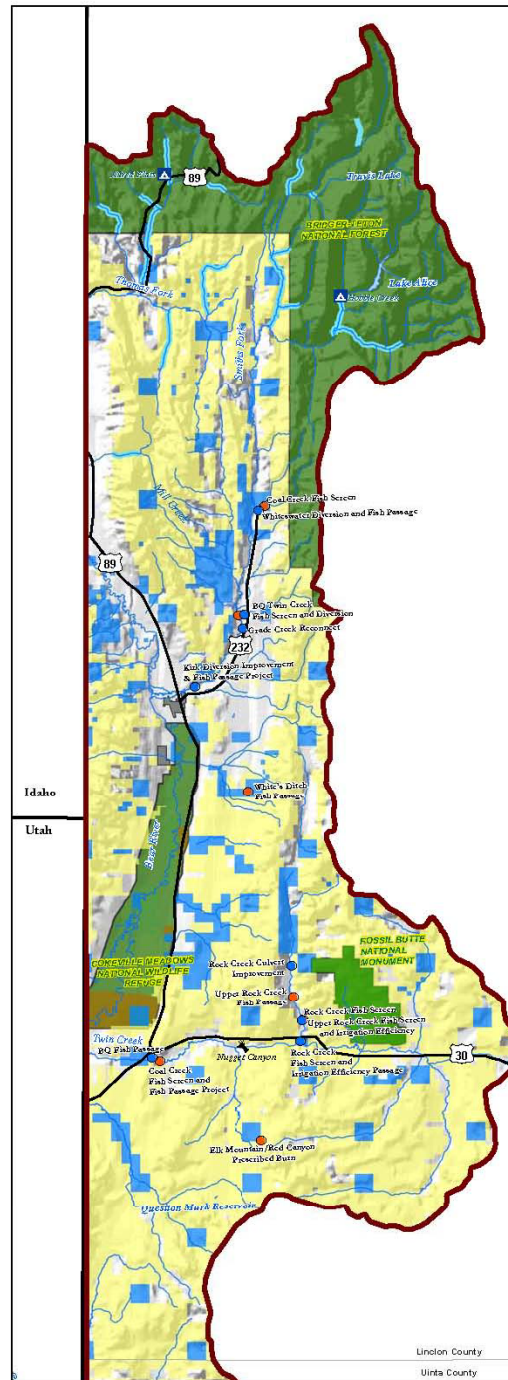
# Bear River Basin Groundwater Use

Use	2001	2009
Crop Irrigation Use	1,900 AF	?
Municipal & Domestic Use	540 AF	1,000 AF
Industrial Use	90 AF	5 AF

# Bear River Basin

## Recreational & Environment

- |                                |                             |
|--------------------------------|-----------------------------|
| National Forest Service Lands  | <b>Restoration Projects</b> |
| National Park Service Lands    | Trout Unlimited             |
| USFWS National Wildlife Refuge | WWNRT                       |
| BLM                            | Fishing Access Points       |
| Wyoming State Lands            | Instream Flows              |
| Municipalities                 |                             |



# Water Use / Availability

- Hydrology
  - Bear 1 → 1971 – 1998
  - Bear 2 → 1971 – 2008
- Diversion Data
- Consumptive Use
- Spreadsheet Model
  - Dry
  - Wet
  - Normal

# Hydrology (dry, wet, normal)

USGS Gage	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989
Bear Riv. State Line					Wet		Dry		Dry			Wet	Wet	Wet		Wet		Dry	
Bear Riv. @ Evanston	Wet	Wet		Wet			Dry		Dry			Wet	Wet	Wet		Wet			Dry
Bear Riv. above Woodruff	Wet	Wet		Wet			Dry		Dry				Wet	Wet		Wet			Dry
Bear Riv. below Woodruff				Wet			Dry		Dry				Wet	Wet	Wet	Wet			Dry
Bear Riv. near Randolph		Wet					Dry						Wet	Wet	Wet	Wet			Dry
Bear Riv. below Pixley	Wet	Wet					Dry						Wet	Wet	Wet	Wet			Dry
Smiths Fork near Border	Wet	Wet					Dry				Dry	Wet	Wet	Wet		Wet			
Bear Riv. below Smiths Fork	Wet	Wet					Dry						Wet	Wet	Wet	Wet			
Bear Riv. at Border	Wet	Wet				Dry	Dry						Wet	Wet		Wet			

USGS Gage	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Bear Riv. State Line			Dry		Dry	Wet		Wet	Wet			Dry	Dry		Dry				
Bear Riv. @ Evanston			Dry						Wet			Dry	Dry	Dry	Dry				
Bear Riv. above Woodruff	Dry		Dry			Wet			Wet			Dry	Dry	Dry	Dry				
Bear Riv. below Woodruff	Dry							Wet	Wet	Wet		Dry	Dry	Dry	Dry				
Bear Riv. near Randolph	Dry				Dry			Wet	Wet	Wet		Dry	Dry	Dry	Dry				
Bear Riv. below Pixley	Dry		Dry						Wet	Wet		Dry	Dry	Dry	Dry				
Smiths Fork near Border			Dry		Dry			Wet	Wet	Wet	Dry	Dry	Dry	Dry	Dry			Dry	
Bear Riv. below Smiths Fork	Dry		Dry		Dry			Wet	Wet	Wet		Dry	Dry	Dry	Dry				
Bear Riv. at Border	Dry		Dry		Dry			Wet	Wet	Wet		Dry	Dry	Dry	Dry				

Dry	Dry Year
Normal	Normal Year
Wet	Wet Year

# Diversion Data

Booth					
	MAY	JUN	JUL	AUG	SEP
1971	99.2	894.5	934.2	902.5	753.7
1972	232.1	967.9	882.6	918.3	216.2
1973	265.8	829.1	696.2	515.7	386.8
1974	489.9	894.5	846.9	743.8	372.9
1975	232.1	571.2	956.0	700.2	835.0
1976	462.1	777.5	775.5	255.9	238.0
1977	480.0	660.5	281.7	222.1	35.7
1978	172.6	1207.9	993.7	724.0	567.3
1979	357.0	1001.7	731.9	353.1	47.6
1980	0.0	946.1	747.8	634.7	295.5
1981	198.3	779.5	585.1	581.2	73.4
1982	309.4	981.8	1075.0	551.4	751.7
1983	240.0	222.1	1110.7	841.0	610.9
1984	125.0	944.1	1031.4	404.6	192.4
1985	186.4	585.1	1019.5	382.8	575.2
1986	240.0	912.4	710.1	456.2	416.5
1987	372.9	894.5	811.2	878.7	343.1
1988	430.4	1061.2	440.3	180.5	261.8
1989	359.0	680.3	519.7	295.5	244.0
1990	444.3	640.7	729.9	626.8	305.5
1991	317.4	726.0	890.6	412.6	414.5
1992	458.2	658.5	442.3	325.3	132.9
1993	224.1	632.7	515.7	573.2	416.5
1994	452.2	519.7	388.8	301.5	228.1
1995	194.4	484.0	654.5	460.2	271.7
1996	523.6	273.7	406.6	466.1	511.7
1997	554.8	557.4	549.6	368.3	302.3
1998	444.3	465.3	696.0	217.8	112.5

Bear River Commission  
Biennial Reports

SEO Hydrographer  
Commissioner Reports

Booth					
	MAY	JUN	JUL	AUG	SEP
1999	247.99	388.85	597.17	200.38	188.48
2000	306.12	545.59	462.26	379.53	90.86
2001	329.34	573.36	378.93	214.27	136.89
2002	377.74	421.99	482.50	114.87	484.88
2003	590.22	1281.04	1073.91	289.26	183.71
2004	351.16	538.84	514.64	295.01	290.05
2005	188.67	867.38	908.65	732.87	271.40
2006	284.70	1236.00	594.79	419.61	305.13
2007	335.49	732.87	536.46	301.56	68.84
2008	165.06	687.64	625.34	580.31	156.53

# Spreadsheet Model

## Bear River Planning Model: Dry Year Condition

## Central Navigation Worksheet

### Select a reach to view:

Reach 1

View a Diagram of  
the Basin

Go to this Reach

### Select an Input Table:

Options Tables

View List of All Nodes

Diversion Data

Evaporative Losses

Reach Gain/Loss

Return Flows

USGS Gage Data

Imports & Exports

Results Options

### This reach is defined as:

Reach 1: Wyoming/Utah State Line to Confluence with Sulphur Creek

### It contains the following Nodes:

Node 1.00 USGS 10011500: Bear River near UT-WY State Line  
Node 1.01 Lannon & Lone Mountain  
Node 1.02 Hilliard West Side  
Node 1.03 Bear Canal  
Node 1.04 Crown & Pine Grove  
Node 1.05 McGraw & Big Bend  
Node 1.06 Lewis  
Node 1.07 Meyers No. 2  
Node 1.08 Meyers No. 1  
Node 1.09 Meyers Irrigation  
Node 1.10 Evanston Pipeline  
Node 1.11 Booth  
Node 1.12 Anel  
Node 1.13 Evanston Water Supply  
Node 1.15 AggDiv BR-1

# Total Annual Stream Flow

Acre - Feet

Plan	Dry	Normal	Wet
2001	234,000	526,000	888,000
2011	212,441	507,360	844,455
	9%	3.5%	5%