Water Demand Projections in the Northeast Wyoming River Basin

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Water Demand Categories

- Agricultural Demands
- Municipal/Domestic Demands
- Industrial Demands
- Recreational and Environmental Demands

Agricultural Use Scenarios

Low Growth

- No changes in crop or livestock prices
- No changes in funding sources for new projects

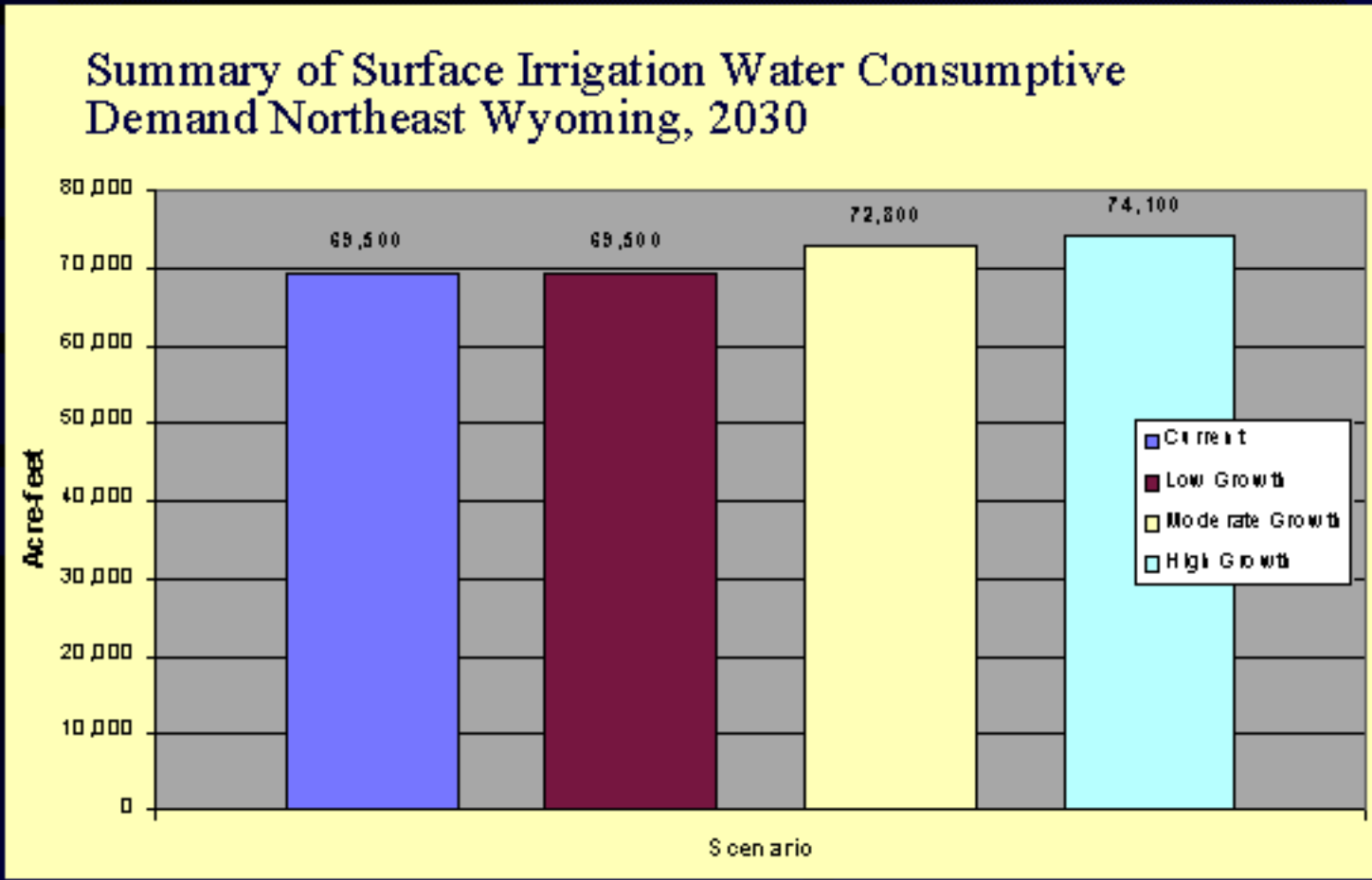
Moderate Growth

- Long-term increase in cattle prices
- Increased WWDC assistance

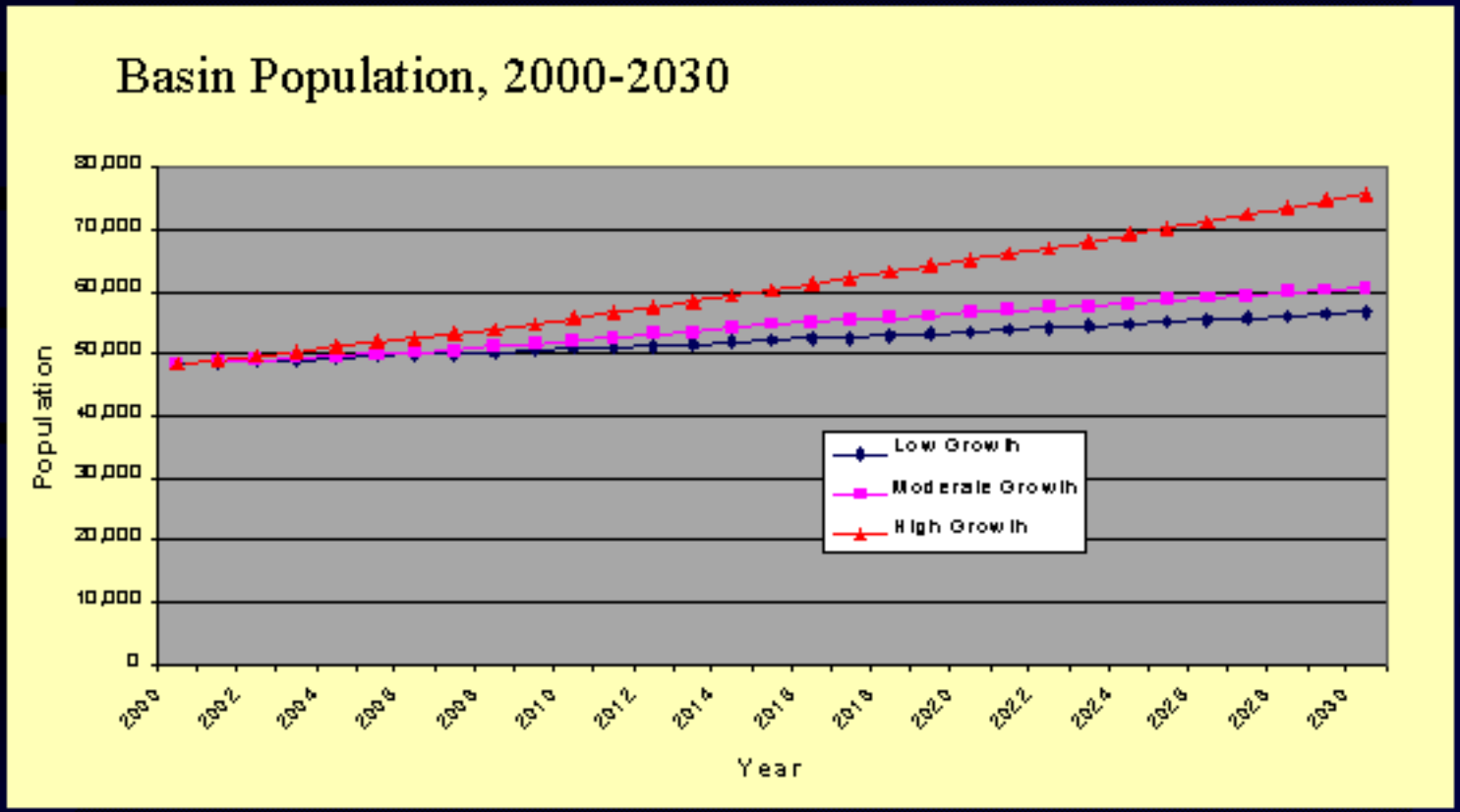
High Growth

- Moderate growth assumptions
- Forage becomes more valuable as a cash crop

Irrigation Water Demand Projections



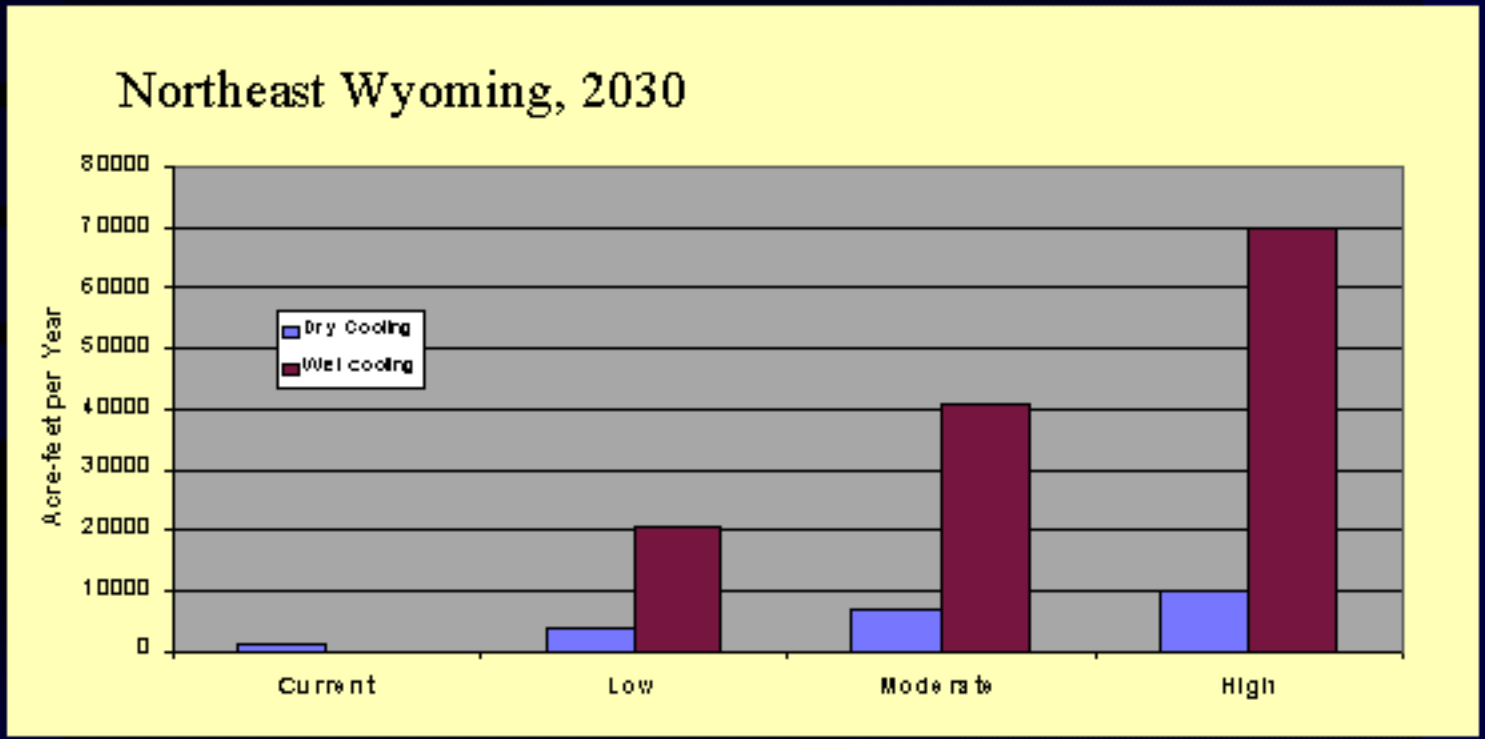
Population Projections



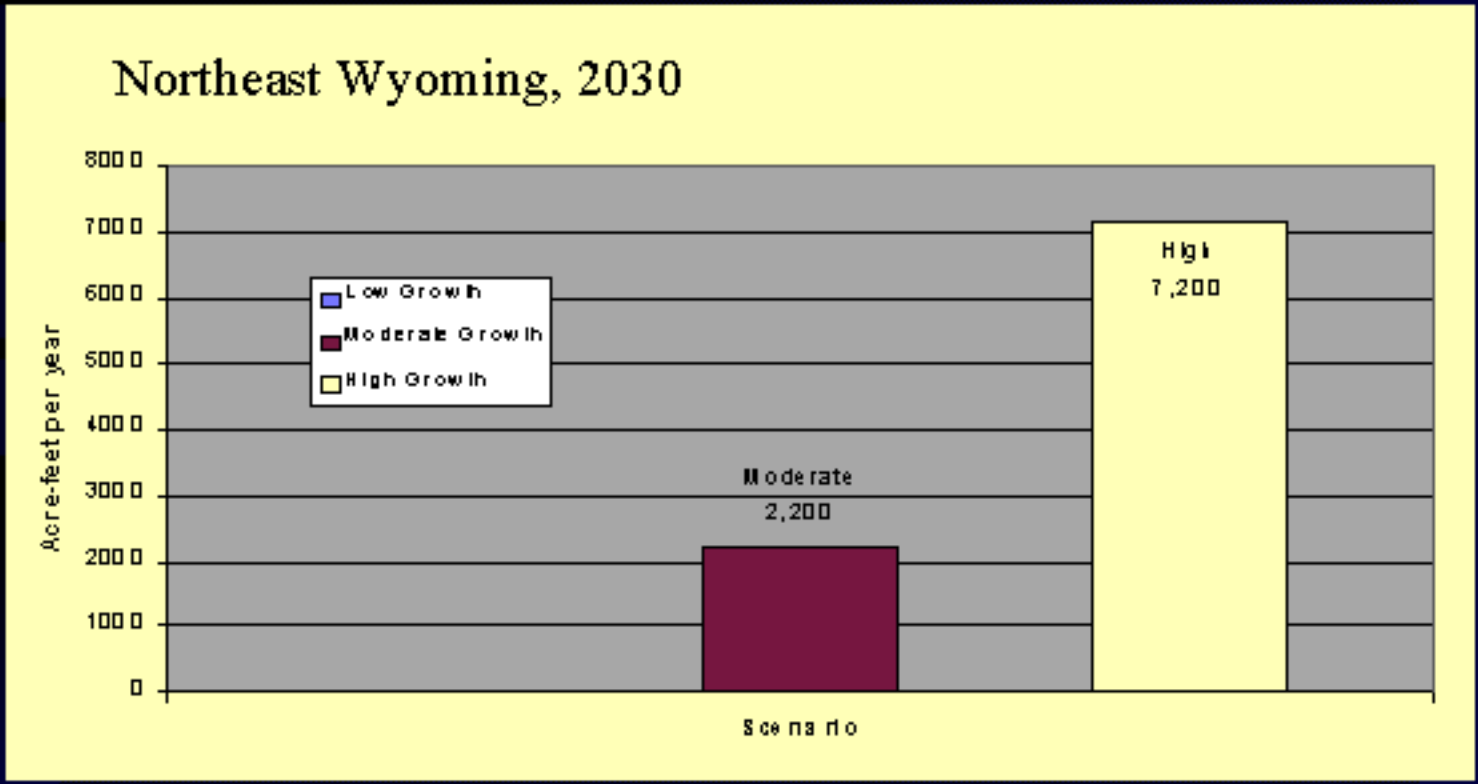
Communities Projected to Need Additional Municipal Water

Growth Scenario			
Community	Low	Moderate	High
Gillette			X
Hulett			
Lusk			
Manville			
Moorcroft	X	X	X
Newcastle			
Pine Haven			
Sundance			
Upton			
Van Tassell			
Wright			
Rural Districts Near Capacity			
Crestview			
Force Road 5PB			
Lance Creek Water & Sewer			
Westridge WUA			

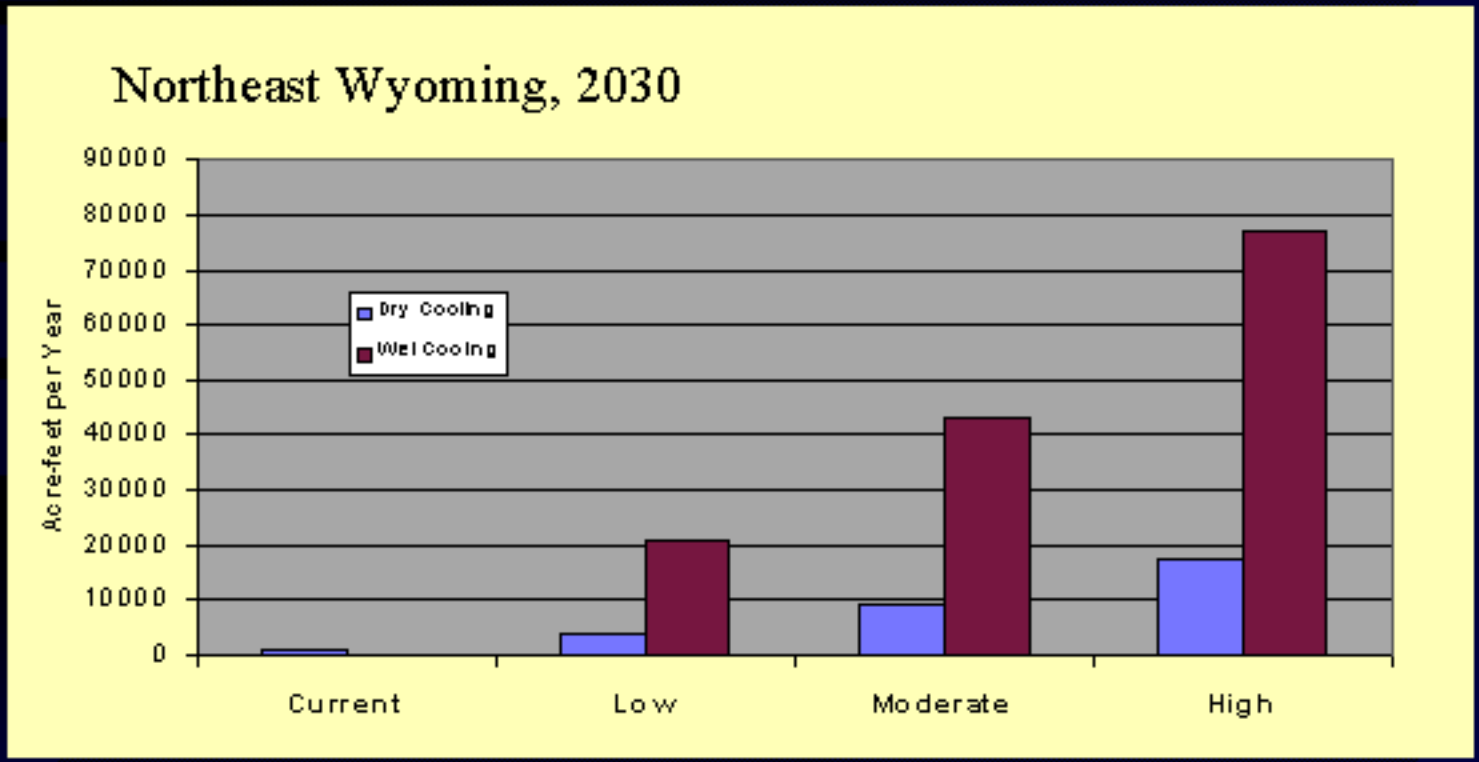
Electric Power Water Demand Projections



Coal Conversion Water Demand Projections



Total Industrial Water Demand Projections



Current and Projected Water-Based Recreational Activity Days – Northeast Wyoming Basin 2000-2030

	Activity Days			
Activity	Current	Low Growth	Moderate Growth	High Growth
Stillwater fishing	50,000	62,000	72,000	93,000
Stream fishing	15,000	19,000	22,000	28,000
Waterfowl hunting	3,000	3,500	4,000	5,000
Totals	**68,000**	**84,500**	**98,000**	**126,000**

Implications

- The amount of stream fishing resources is fixed.
  - *Opportunities lie in habitat improvements and access.*
- Basin is under-endowed with stillwater fisheries.
  - *Best opportunity for improvement lies in stabilizing Keyhole Reservoir levels.*

Summary of Findings

- Small increases in surface irrigation water demands
- Municipal water supplies generally adequate
- Modest increases in industrial water demands
- Demand for reservoir recreation exceeds supply

Questions?

Institutional Constraints

Purpose

To identify and discuss
federal and state laws,
rules, and policies
that affect water development
and management

Topics

- Federal environmental laws
- Federal lands
- Wyoming environmental laws
- Wyoming water law
- River Basin Compacts
- Wyoming Water Development Program

Future Water Use Opportunities

Purpose

To identify future water use opportunities that will satisfy present and projected demands

Product

A list of opportunities or projects ranked according to the likelihood the project:

- is desirable
- is functional
- will receive the support required for implementation

The "ranked short list" will be used by individuals and organizations to develop a water supply to satisfy their specific needs.

The list will **not** be used to establish State of Wyoming funding priorities.

Procedure

Step 1: Develop screening criteria

Step 2: Develop long list

Step 3: Develop short list

Step 4: Rank the short list

Step 1:
Screening Criteria

- Water availability
- Financial feasibility
- Public acceptance
- Number of sponsors, beneficiaries, participants
- Legal and Institutional concerns
- Environmental and recreational benefits

Step 2: Long list

Compiled from:

- Projects identified in previous studies
- Input from BAG members

Step 3: Short list

Two steps:

- Remove projects from long-list
- Divide projects into categories based on purpose

Project categories

- Rehabilitation projects that preserve existing uses
- Projects that satisfy existing shortages
- Projects that meet future demands
- Projects that enhance uses in other Wyoming basins

Step 4:
Short-list ranking

- Subjective analysis
- Assign weights to criteria
- Assign scores to projects
- Ranked by sub-basin
- Ranked by category

Short-list ranking

Project Type (see below) Project Title	PID	Est. Yield (y), Cap(c) or Depl(d) (AF)	Project Ranking Criteria: Water Availability	Financial Feasibility	Public Acceptance	No. of Sponsors/ Beneficiaries	Legal/ Institutional Constraints	Environmental/ Recreation Benefits	Score
Type 1 (None)									
Type 2			***6***	***7***	***4***	***5***	***7***	***6***	
Inyan Kara Creek Reservoir		1,000 c	7	6	8	5	8	5	227
Enl. Driskill No. 1 Reservoir		2,800 c	7	8	6	5	5	7	224
Miller Creek Reservoir		1,000 c	6	6	8	5	8	5	221
Lytle Creek Reservoir		1,000 c	6	6	8	5	8	5	221
Blacktail Creek Reservoir		1,000 c	6	6	8	5	8	5	221
Beaver Creek Reservoir		1,000 c	6	6	8	5	8	5	221
Livingston Creek Reservoir		955 c	5	6	8	5	8	5	215
Type 3			***6***	***8***	***4***	***5***	***5***	***6***	
CBM Aquifer Storage and Retrieval		unk	7	6	7	7	4	7	215
Groundwater Development		unk	6	5	8	4	7	5	193
Transbasin diversions to Gillette		unk	8	4	7	6	3	5	183
Type 4 (None)									

Use of the plan

- Understanding basin water resources
- Planning and decision-making
- Establish purpose and need
- Funding decision evaluation
- Identify study and evaluation needs

Questions?