

# WYOMING WATER MANAGEMENT AND CONSERVATION

WYOMING WATER DEVELOPMENT COMMISSION  
U.S. BUREAU OF RECLAMATION

RON VORE  
WATER CONSERVATIONIST

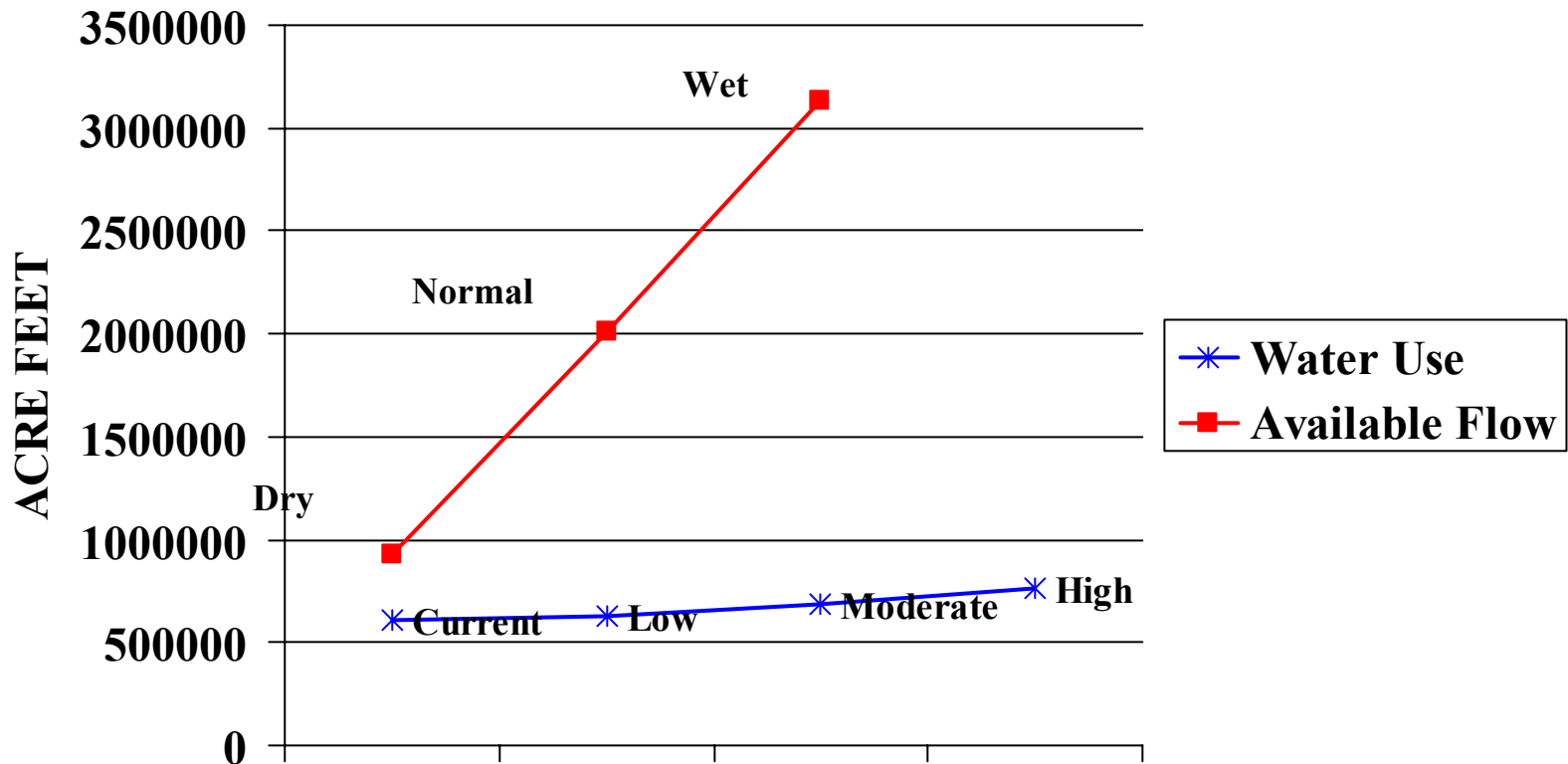
## HISTORICAL SNAPSHOTS OF CONSERVATION IN AMERICA

- 1847 – A REPORT ON THE TREES AND SHRUBS GROWING NATURALLY IN THE FORESTS OF MASSACHUSETTS by George Emerson; reveals insights advocating a conservationist approach to forest management.
- 1869 – John Wesley Powell expedition through Colorado; report published in 1875 as EXPLORATION OF THE COLORADO RIVER OF THE WEST AND ITS TRIBUTARIES.
- 1891 – First International Irrigation Congress meets in Salt Lake City to promote large-scale irrigation in the west.
- 1901 – Theodore Roosevelt becomes President and has conservation as a cornerstone of his domestic policy. In his First Annual Message, he outlines the need for government sponsored irrigation in the arid west.
- 1902 – Reclamation Act passed.

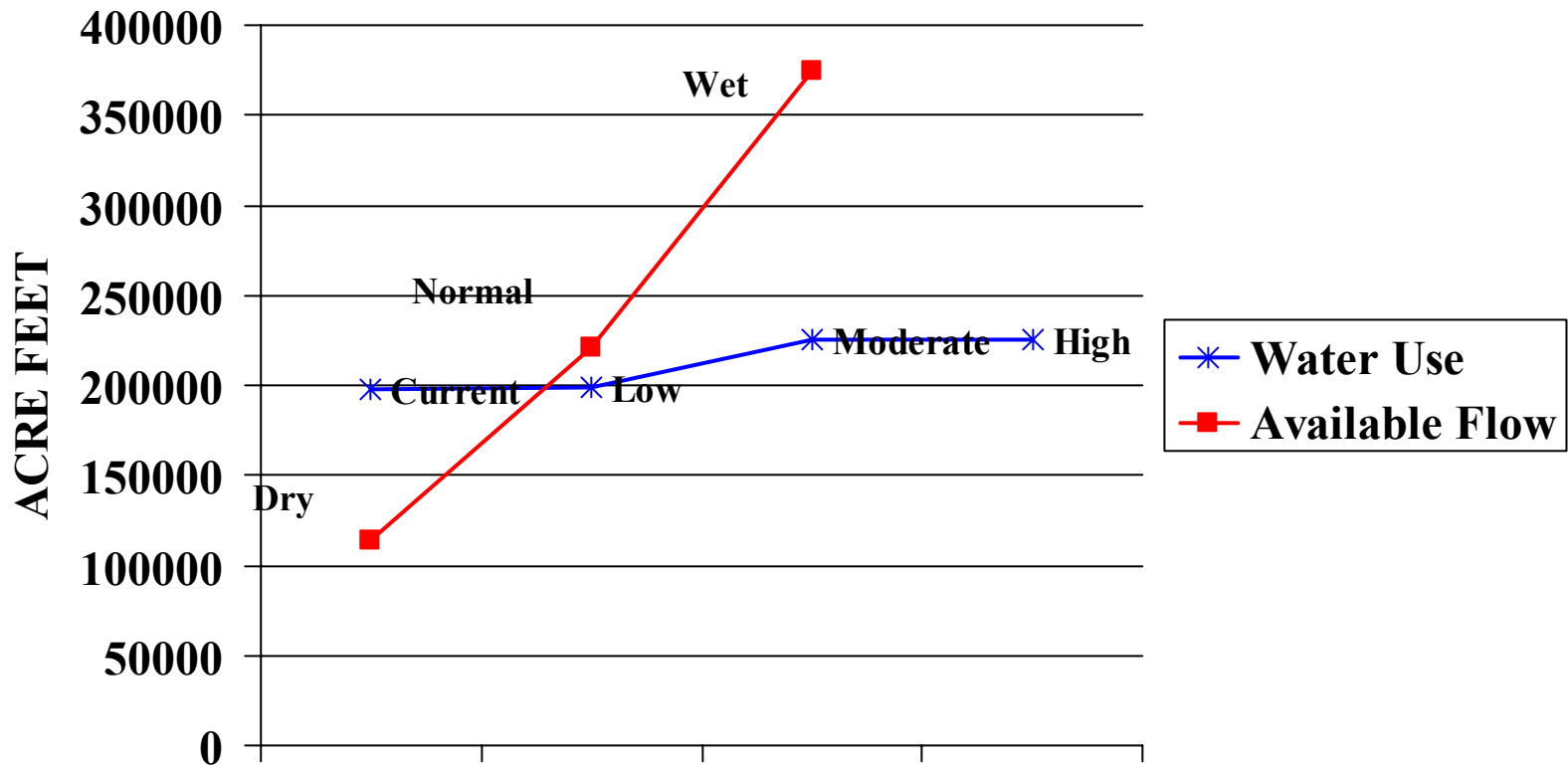
## HISTORICAL SNAPSHOTS OF CONSERVATION IN AMERICA

- 1910 – Pinchot publishes THE FIGHT FOR CONSERVATION and states that “conservation means the greatest good to the greatest number for the longest time”.
- 1923 – US Reclamation Service becomes the Bureau of Reclamation.
- 1935 – Soil Conservation Act passed; SCS created.
- 1937 – First conservation district formed.
- 1979 – WWDC formed; responsible for coordinating Wyoming’s water and related land resources planning, administering the water development program, and identifying and selecting projects to include in the program.

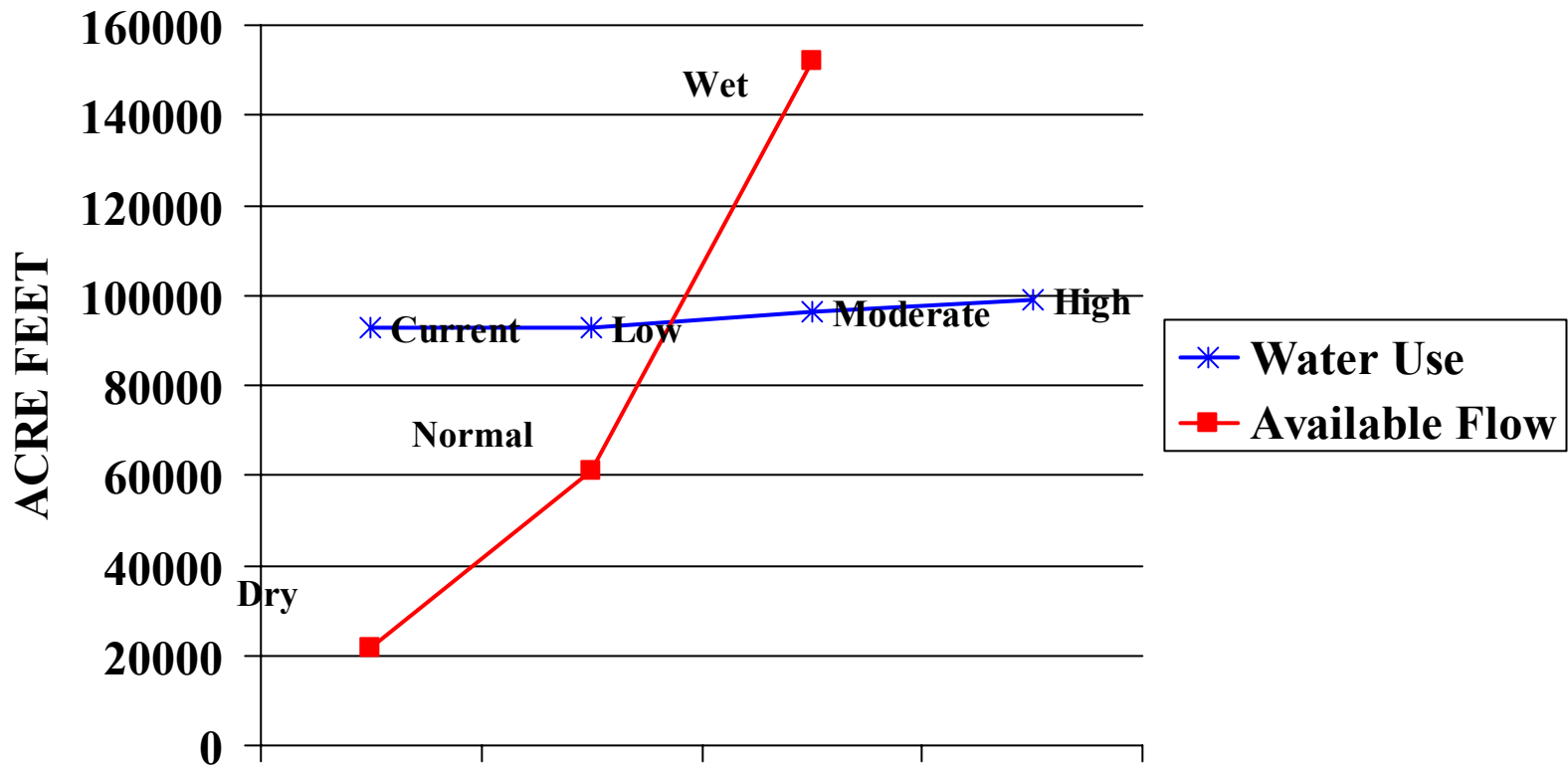
# Green River Basin



# Powder/Tongue River Basin

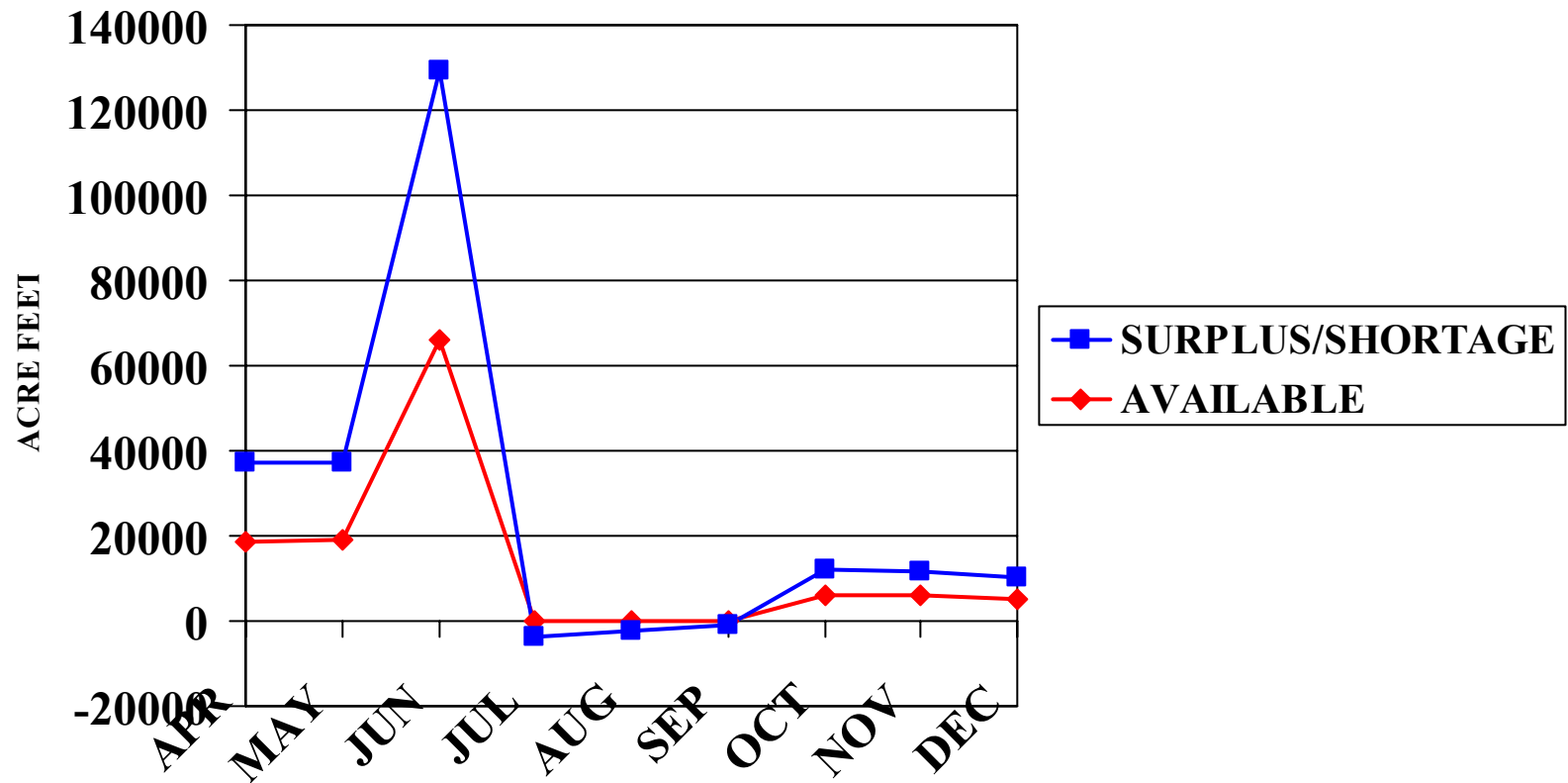



# Northeast Basin



# UPPER BEAR RIVER BASIN

NORMAL YEAR CONDITION



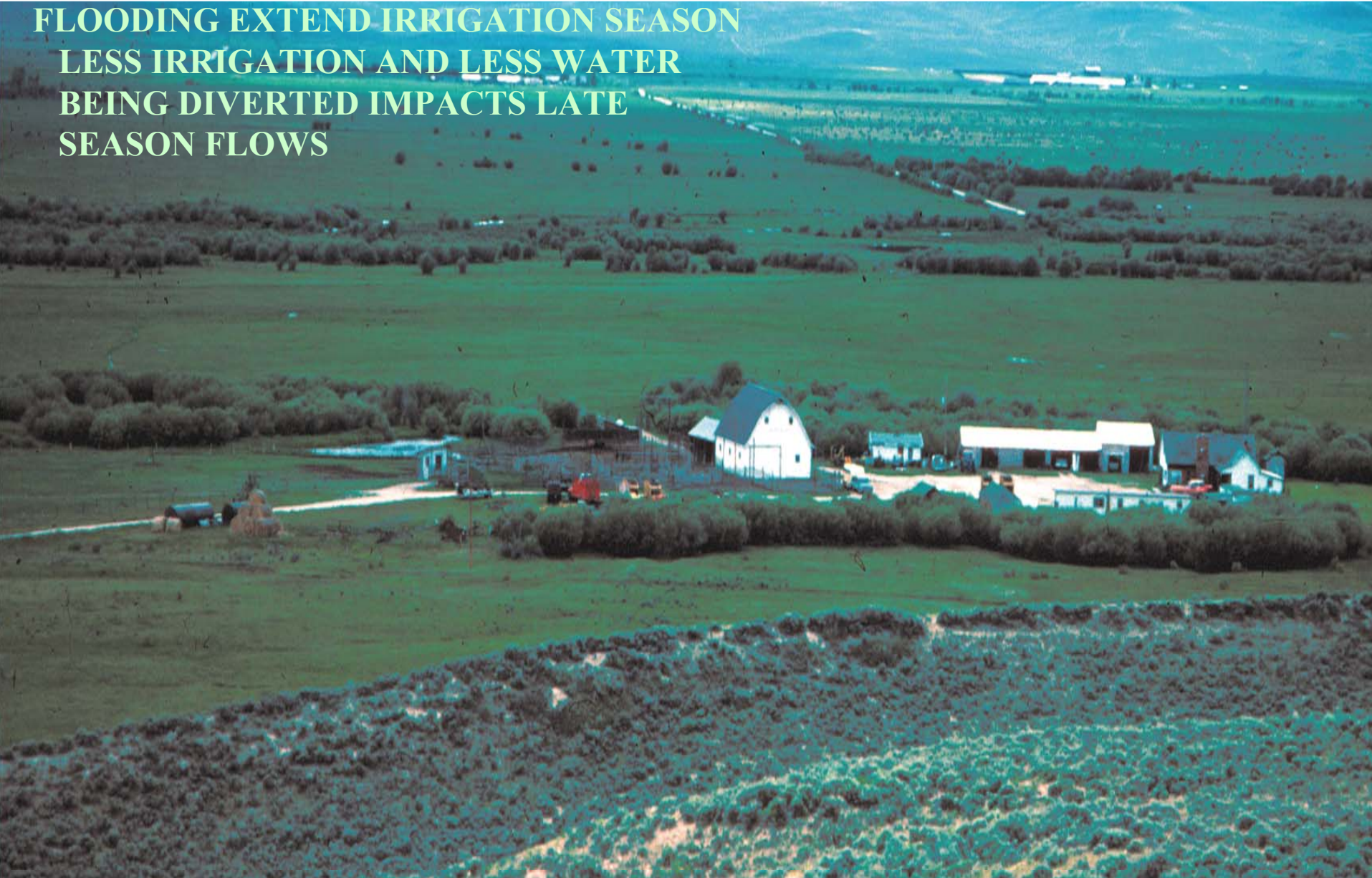


WIND/BIG HORN  
381 MILES DIRT  
CANALS AND  
DITCHES  
LOSSES TO 40%  
0.27-2.89 AF/FOOT



# SNAKE/SALT RIVER BASIN

FLOODING EXTEND IRRIGATION SEASON  
LESS IRRIGATION AND LESS WATER  
BEING DIVERTED IMPACTS LATE  
SEASON FLOWS

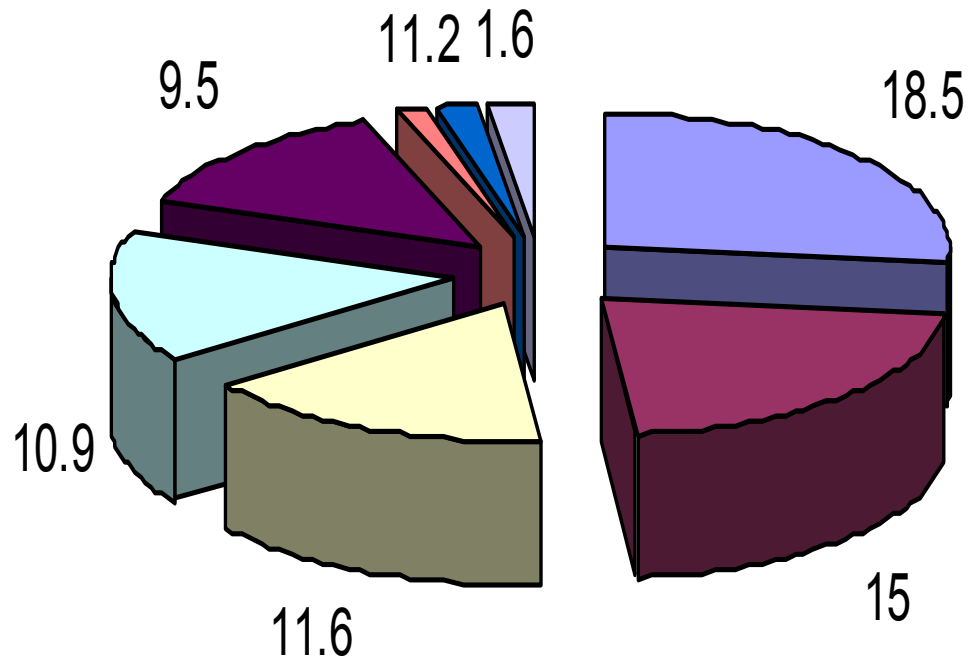


**MUNICIPAL**



# AVERAGE INDOOR USE W/O CONSERVATION

GPCD

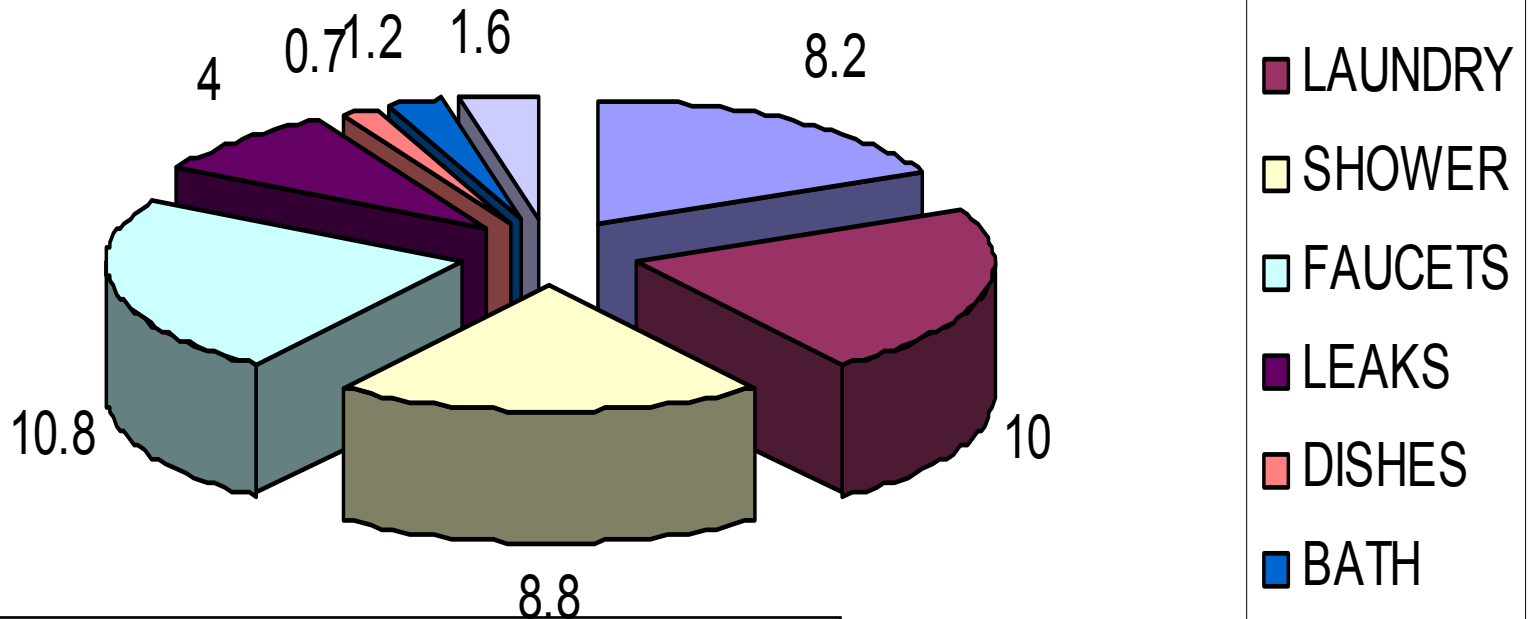


**69.3 GPCD**

- TOILETS
- LAUNDRY
- SHOWER
- FAUCETS
- LEAKS
- DISHES
- BATH
- OTHER

# AVERAGE INDOOR USE WITH CONSERVATION

GPCD



**45.2 GPCD**







# OUTDOOR WATER SAVING OPPORTUNITIES

Ave. outdoor use is 31.7 gpcd

80 – 90% is for lawns, plants and gardens

K. Bluegrass-35 to 40"/yr

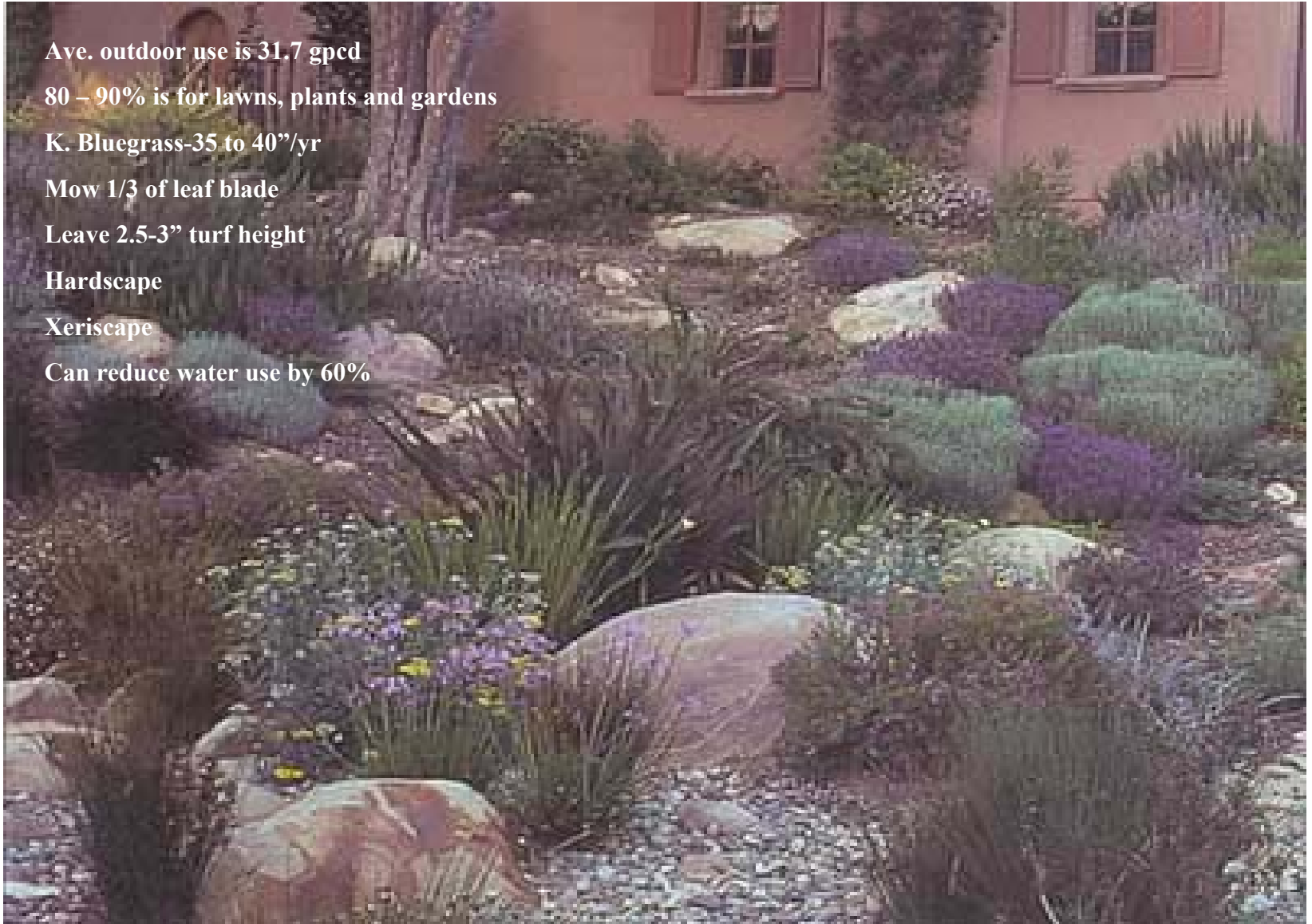
Mow 1/3 of leaf blade

Leave 2.5-3" turf height

Hardscape

Xeriscape

Can reduce water use by 60%



# AGRICULTURE



# STORAGE





# CONVEYANCE





**DIRT DITCH AFTER LINING  
REDUCES CONVEYANCE LOSS  
REDUCES MAINTENANCE  
DROUGHT INSURANCE  
IMPROVES WATER QUALITY**

22 448



**IRRIGATION  
APPLICATION  
EFFICIENCY**

# FLOOD IRRIGATION

An aerial photograph showing a vast agricultural field under flood irrigation. The field is divided into numerous long, straight, parallel furrows that stretch from the foreground towards the horizon. Each furrow is filled with a layer of water, creating a series of light blue channels. The furrows are separated by dark brown, moist soil. In the far distance, a range of rugged, blue-toned mountains is visible under a clear sky.

50 % EFFICIENT



# GATED PIPE/SURGE VALVE





**EFFICIENCY OF  
APPLICATION**

**75% EFFICIENT**

An aerial photograph of a center pivot irrigation system. The system consists of a large circular wheel with multiple spokes, each ending in a pivot point where a long arm extends outwards. These arms are supported by a series of smaller wheels or piers. The entire system is situated in a dry, hilly landscape with sparse vegetation. In the background, a range of mountains is visible under a clear sky. The foreground shows the intricate network of the irrigation system's arms and wheels, highlighting its scale and design.

## **EFFICIENCY OF APPLICATION**

**80% TO 90%**

**EFFICIENT**

# MICRO IRRIGATION

- 95% EFFICIENCY
- 2.67 M ACRES IN US
- ADAPTED TO UNEVEN SURFACE OR IRREGULAR FIELD SHAPES





# WATER MEASUREMENT



- METERS
- WIERS
- FLUMES
- WATER MANAGEMENT IS ENHANCED THROUGH MEASUREMENT



**LAND TREATMENTS**

**IRRIGATION SCHEDULING**

**CROP SELECTION**

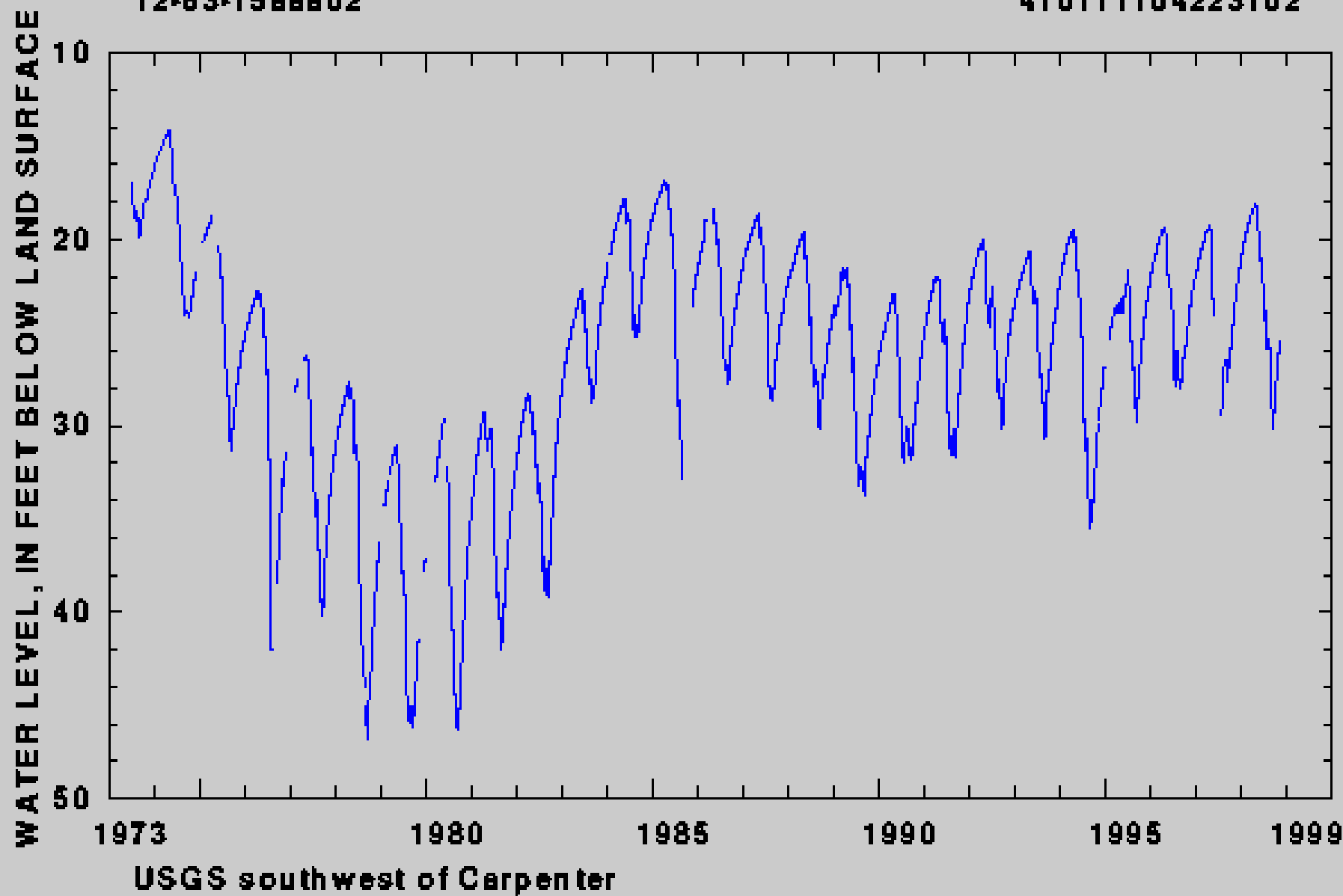




# LARAMIE COUNTY

12-63-15 AAA02

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**38 MILLION GALLONS SAVED PER DAY  
MOST DUE TO EFFICIENT IRRIGATION**





- STREAM BANK STORAGE
- RETURN FLOWS
- STREAM BANK STABILITY

