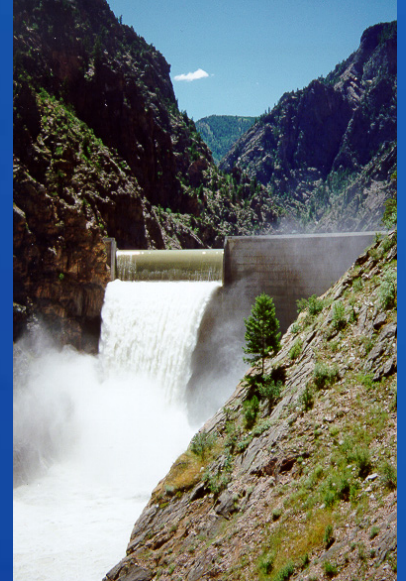


# Aspinall Operations Meeting

April 27, 2017

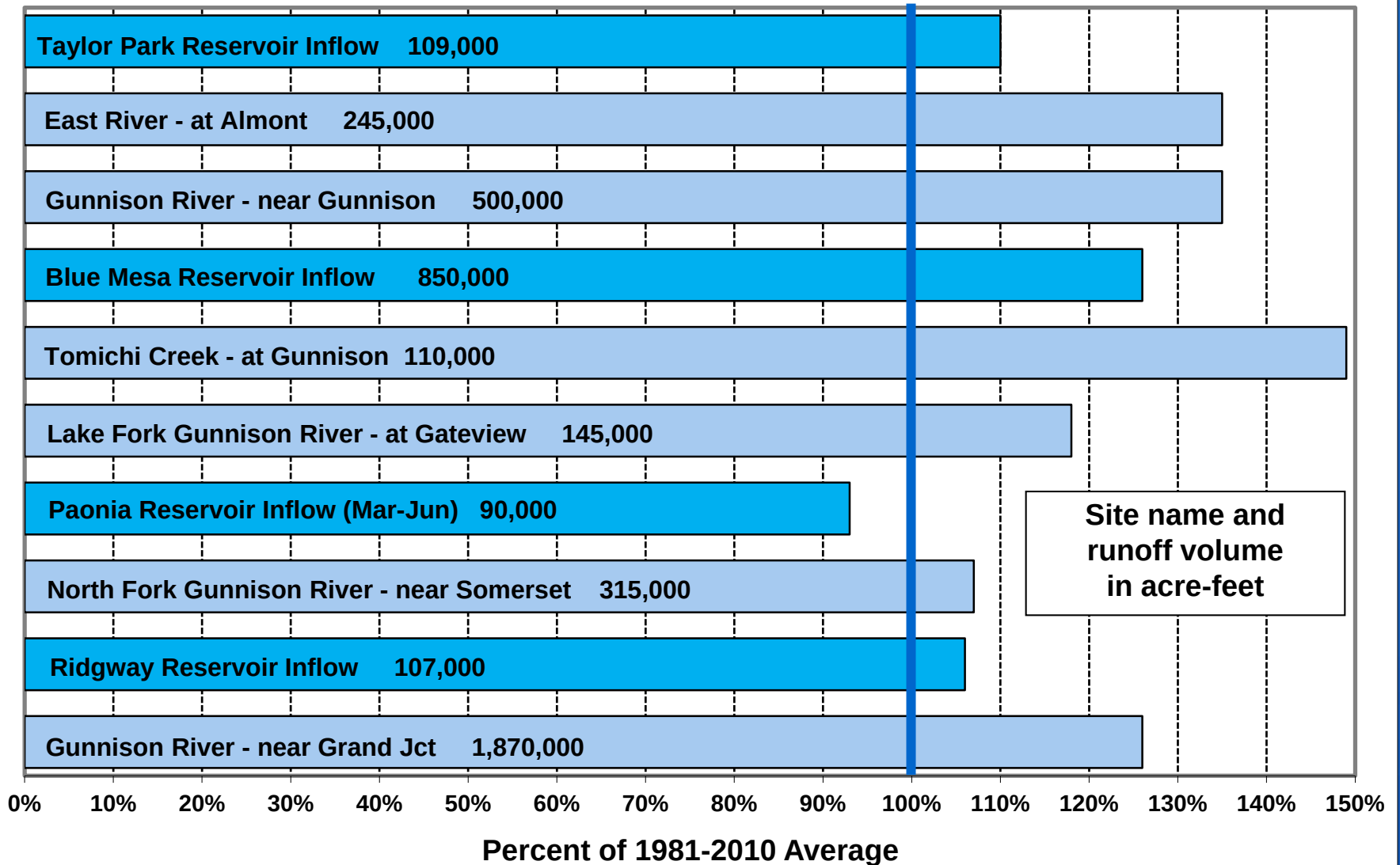


RECLAMATION

# SPRING RUNOFF FORECASTS AND TARGETS

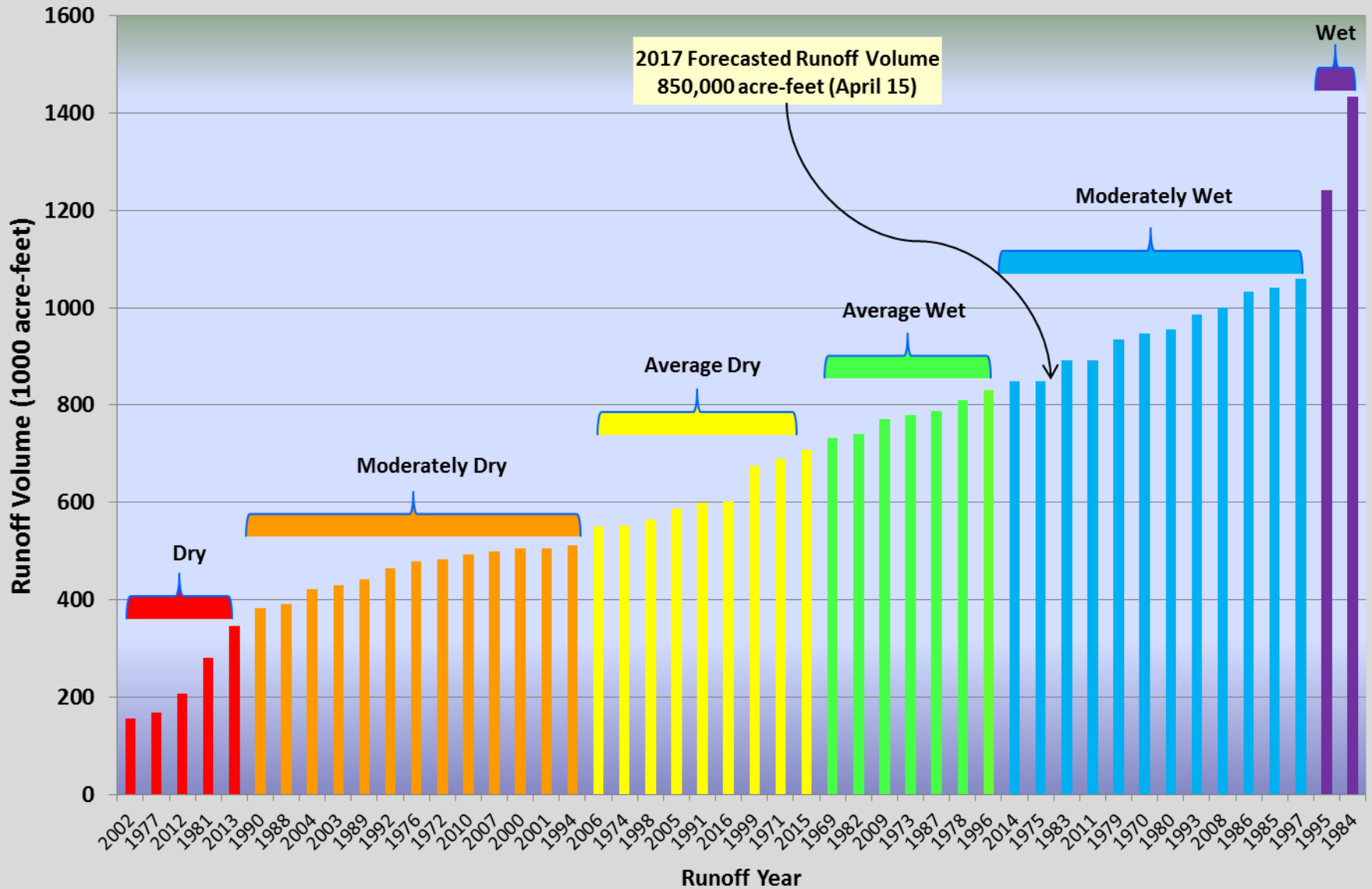
RECLAMATION

## Forecasted April-July Runoff As of April 1st



# Blue Mesa Reservoir

## Historic Apr-July Unregulated Inflow Volume Ranking (1969-2016)



# RECLAMATION

# Spring Peak & Duration Targets Based on Hydrologic Year Type

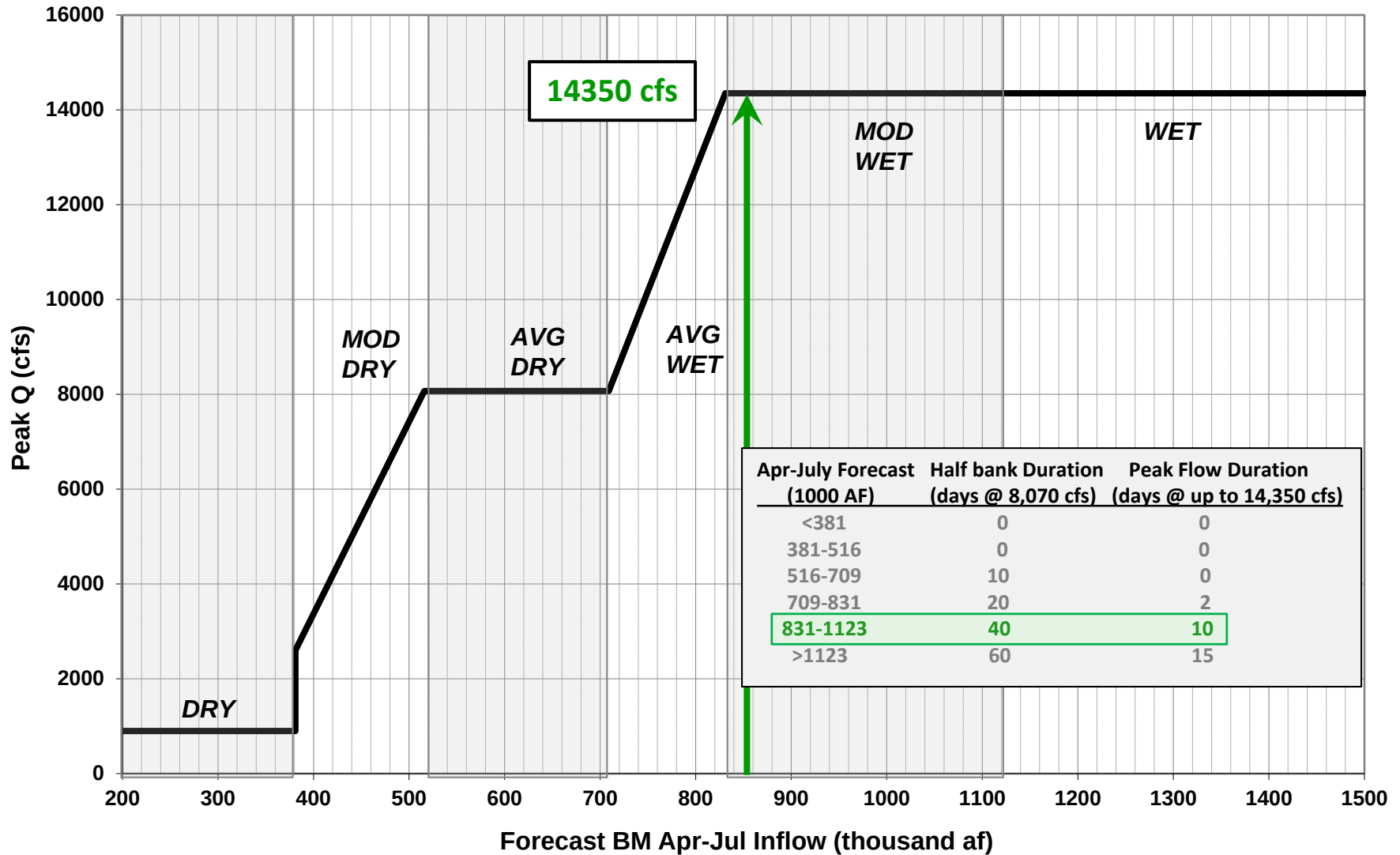
| Year Type | Blue Mesa Forecasted | Desired Peak at<br>Whitewater | Duration of Half Bank<br>(8,070 cfs) | Duration of Peak Flow<br>(up to 14,350 cfs) |
|-----------|----------------------|-------------------------------|--------------------------------------|---------------------------------------------|
|           | April-July Inflow    |                               |                                      |                                             |
|           | Af                   | cfs                           | Days                                 | Days                                        |
| DRY       | < 381,000            | 900                           | 0                                    | 0                                           |
| MOD DRY   | 381,000 to 516,000   | 2,600 to 8,070                | 0                                    | 0                                           |
| AVG DRY   | 516,001 to 709,000   | 8,070                         | 10                                   | 0                                           |
| AVG WET   | 709,001 to 831,000   | 8,070 to 14,350               | 20                                   | 2                                           |
| MOD WET   | 831,001 to 1,123,000 | 14,350                        | 40                                   | 10                                          |
| WET       | >1,123,000           | 14,350                        | 60                                   | 15                                          |

Mid-Apr  
850,000



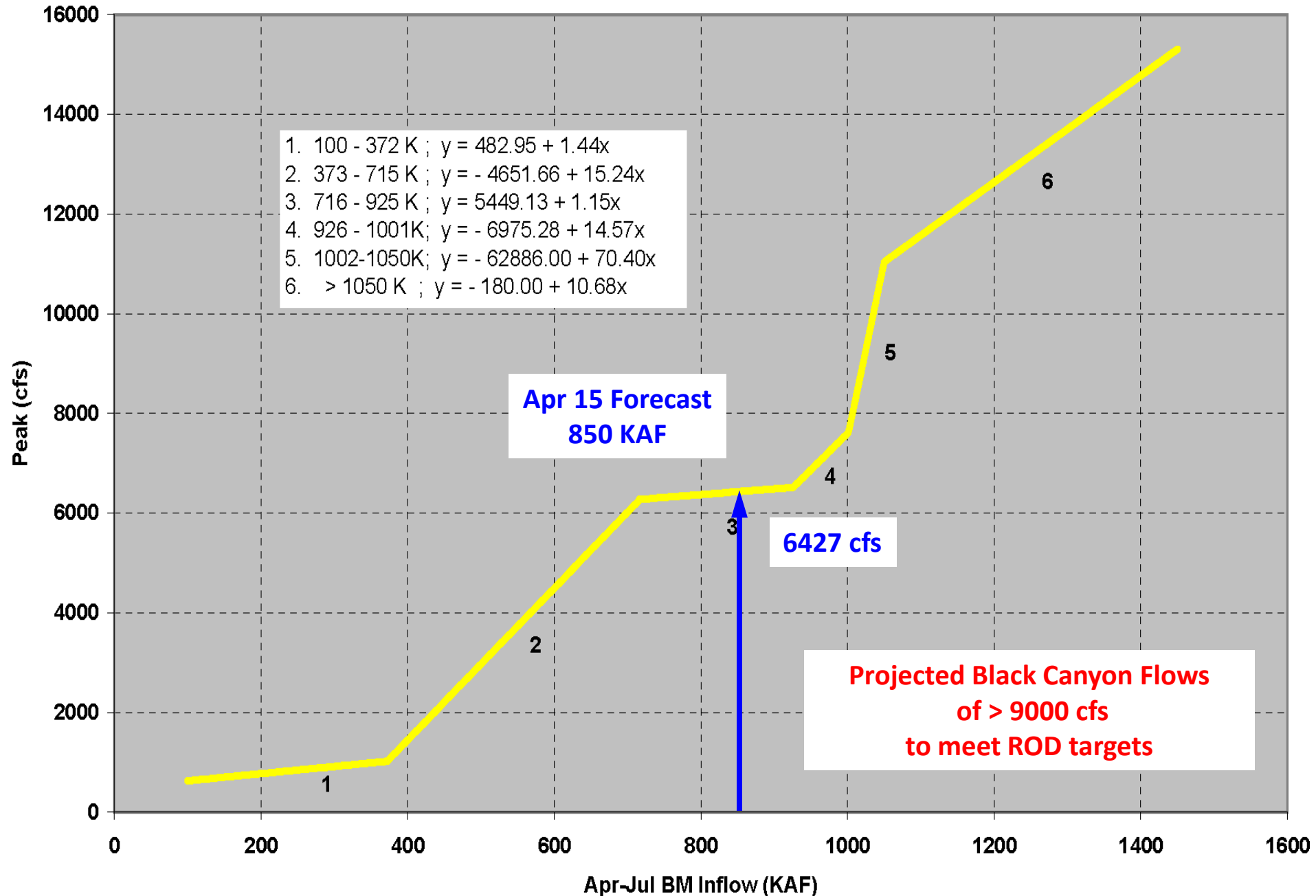
RECLAMATION

# Peak Flow and Duration Day Targets at Whitewater

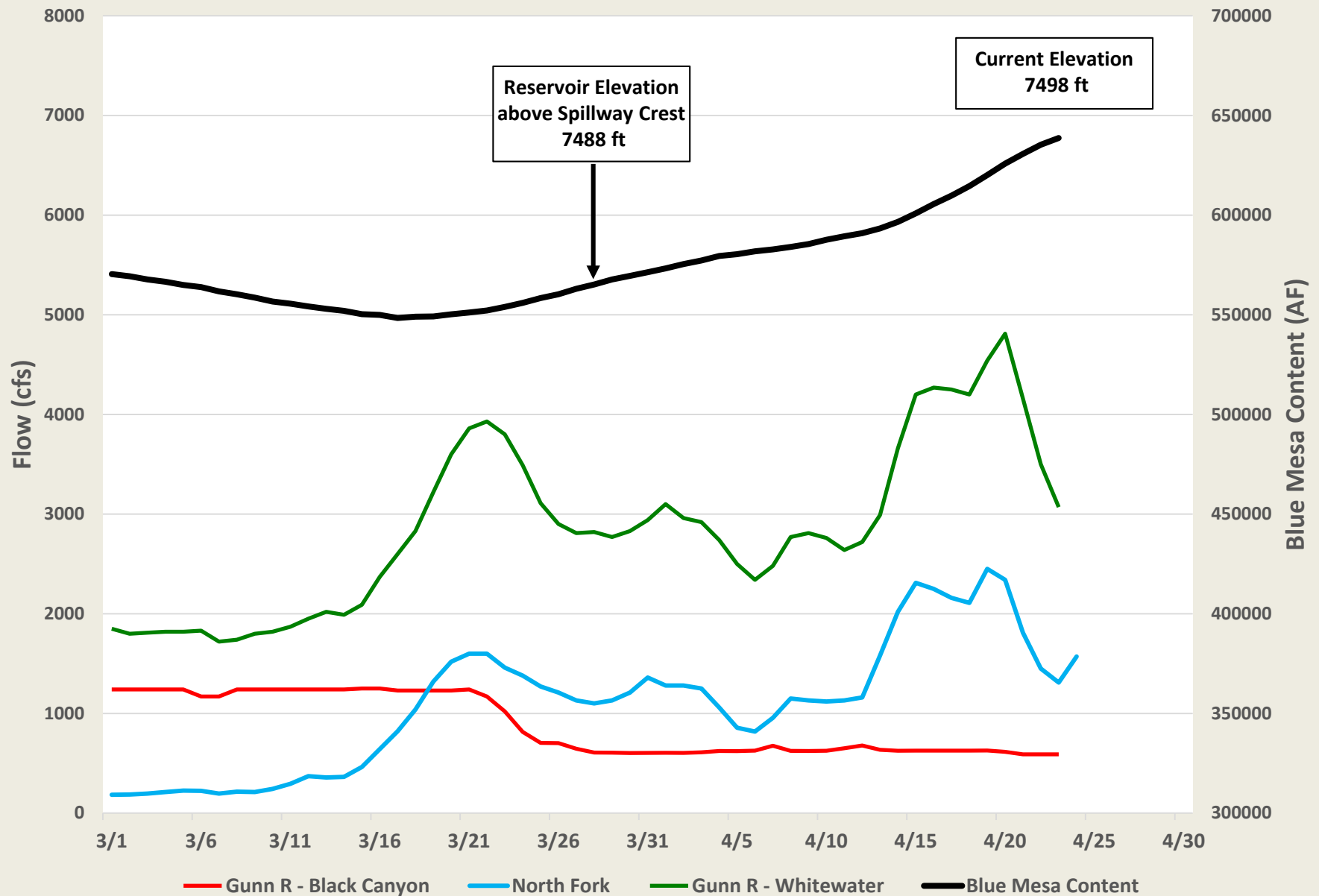


# Black Canyon Peak Flow Determination

based on Blue Mesa May 1 forecast



# Reservoir and River Conditions



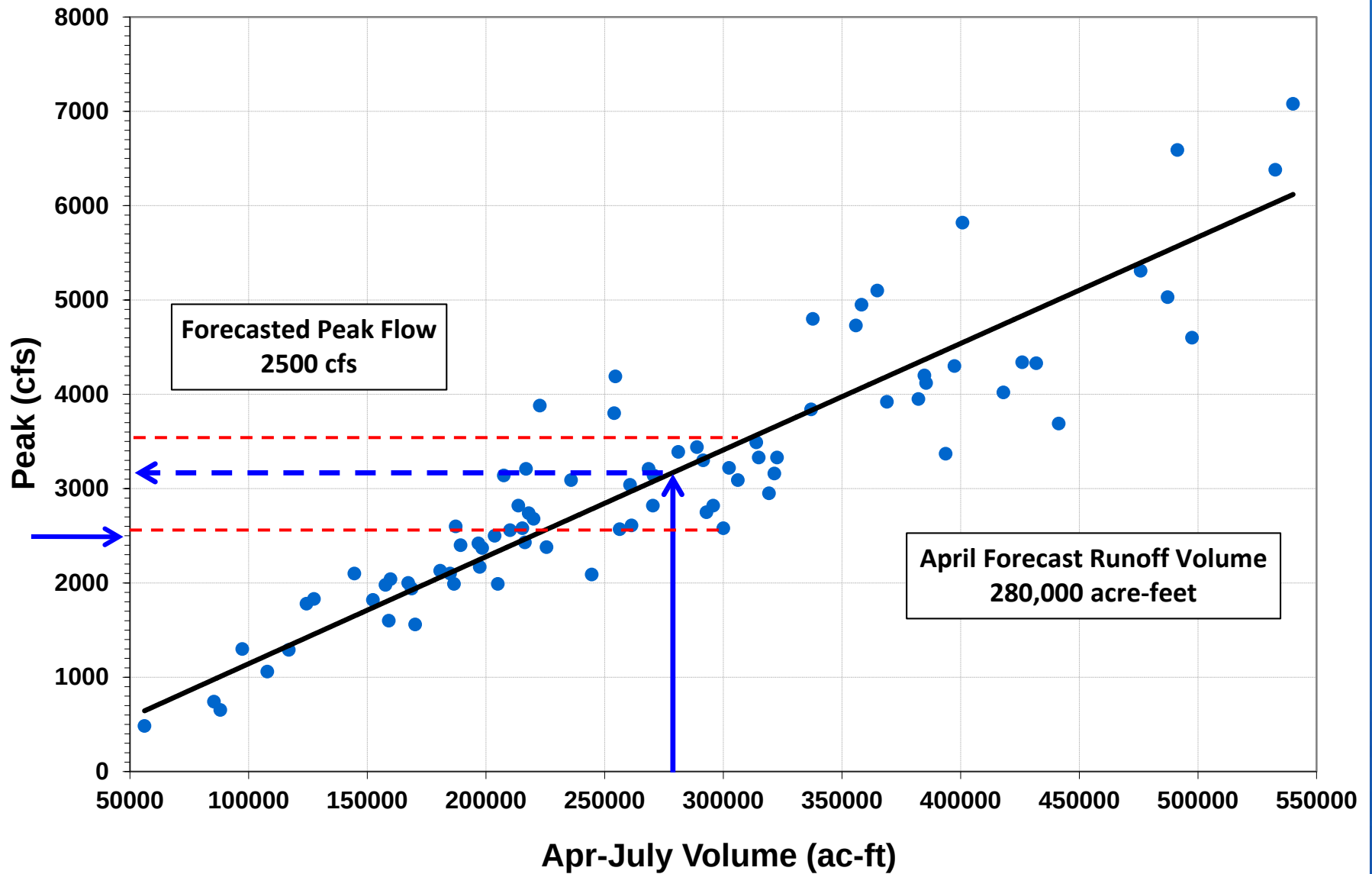
# RECLAMATION



# PROJECTED SPRING OPERATIONS

RECLAMATION

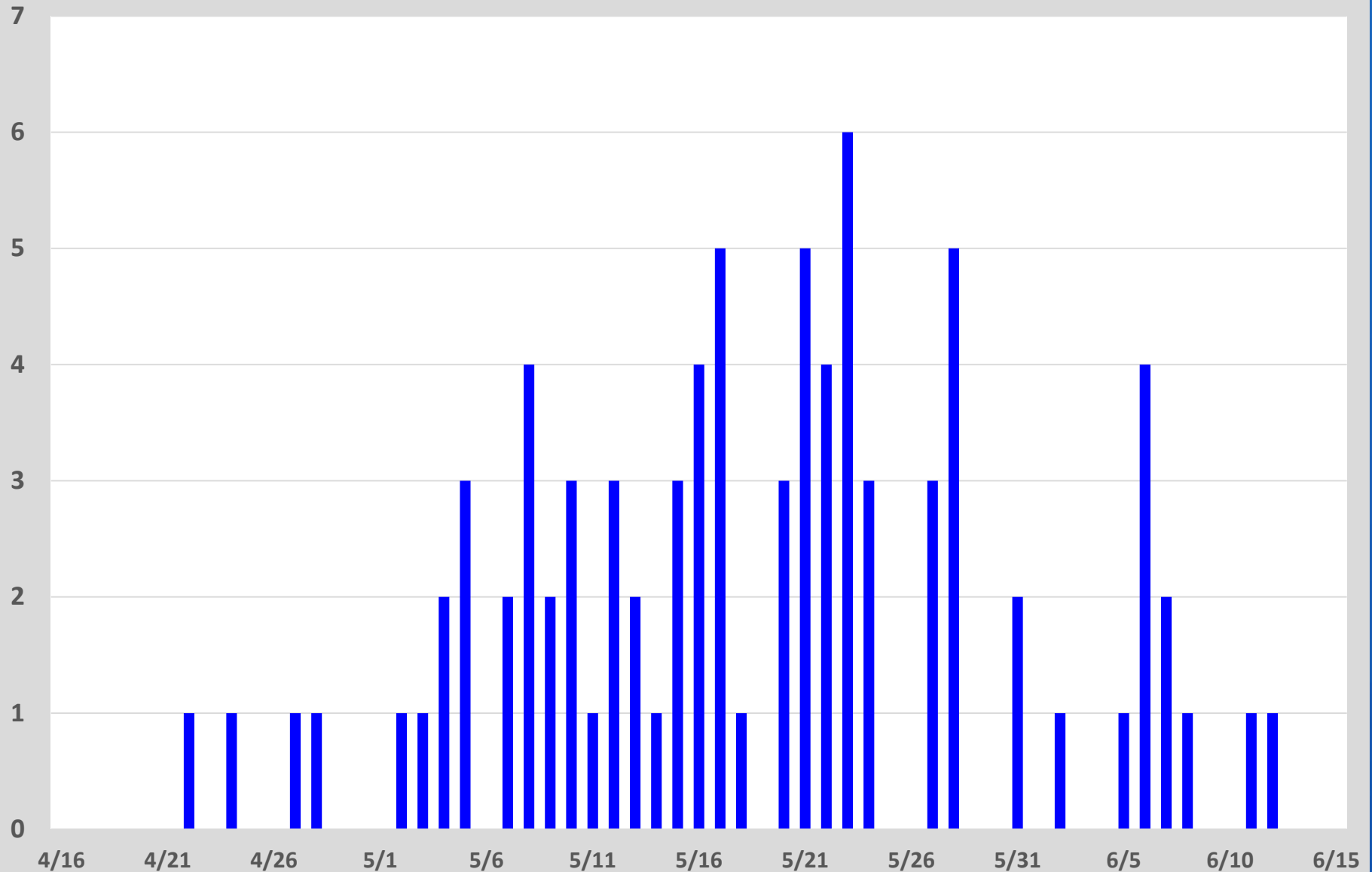
# North Fork of the Gunnison River @ Somerset



RECLAMATION

# North Fork of the Gunnison River

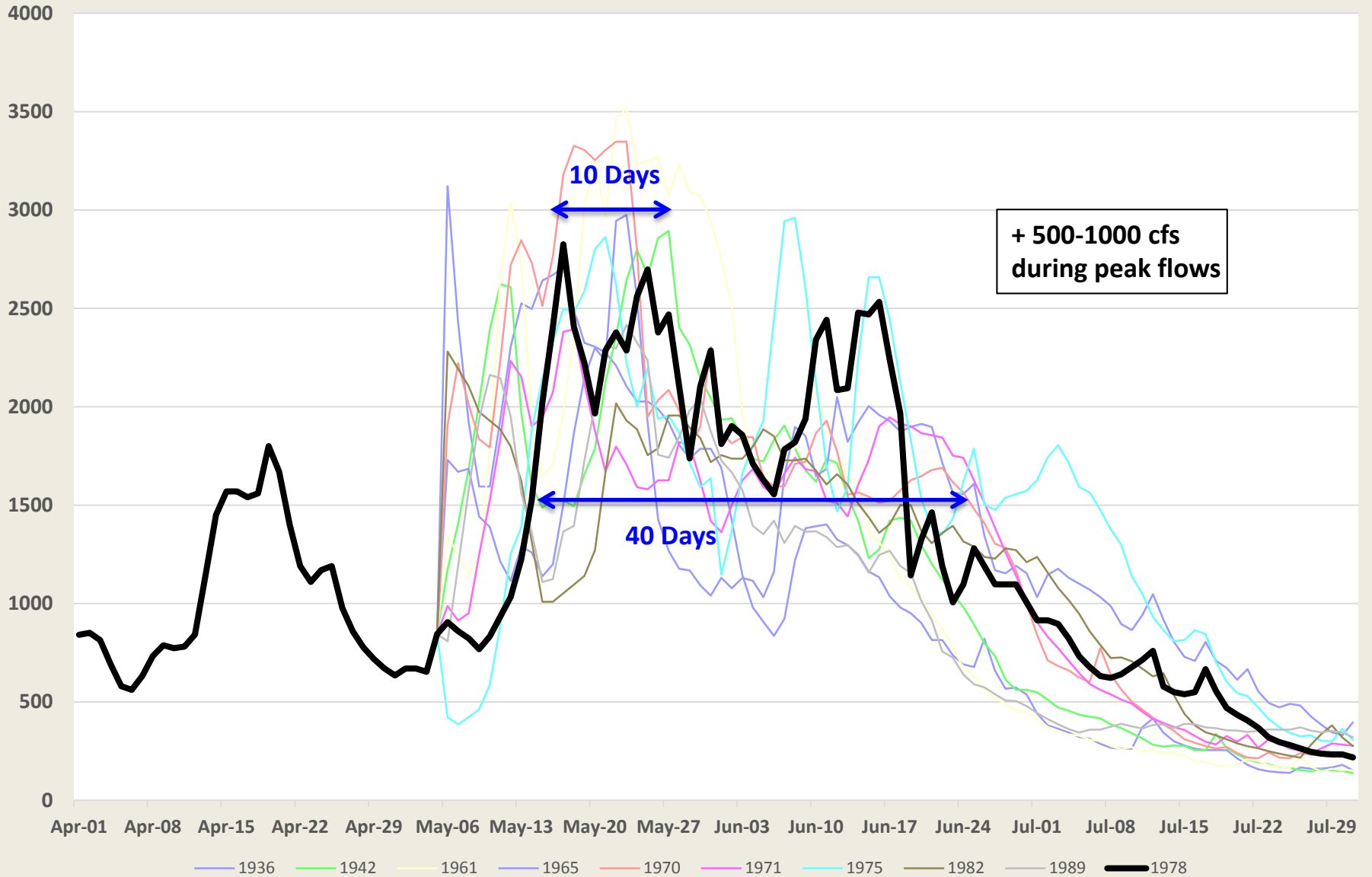
## Peak Flow Timing at Somerset (1934-2016)



RECLAMATION

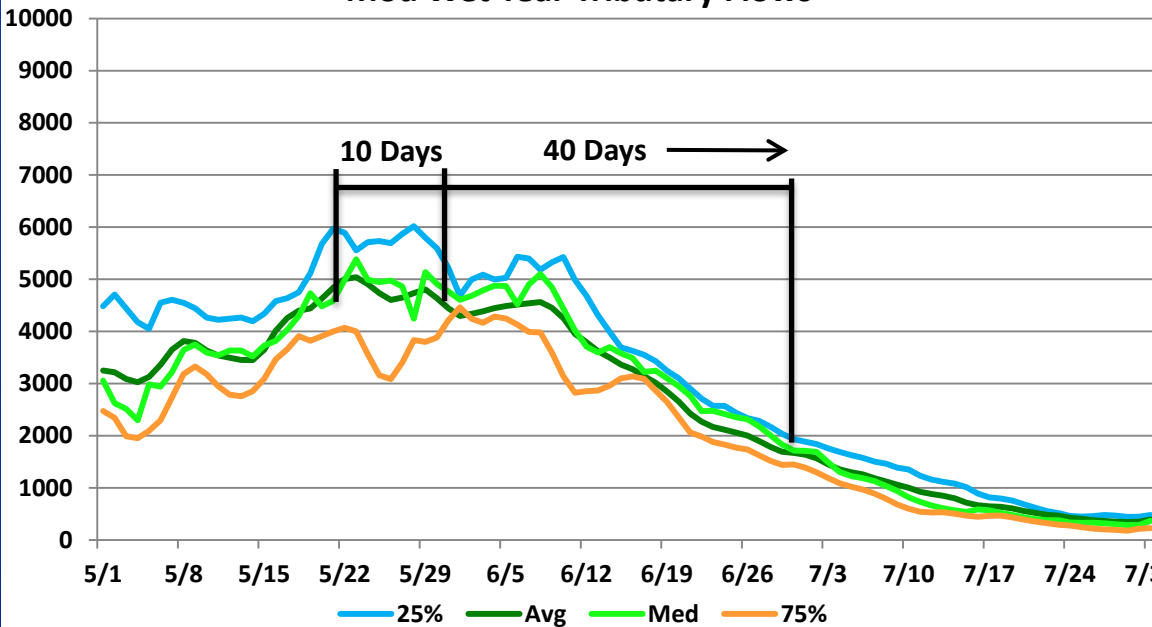
# North Fork @ Somerset

## April-July Runoff



# RECLAMATION

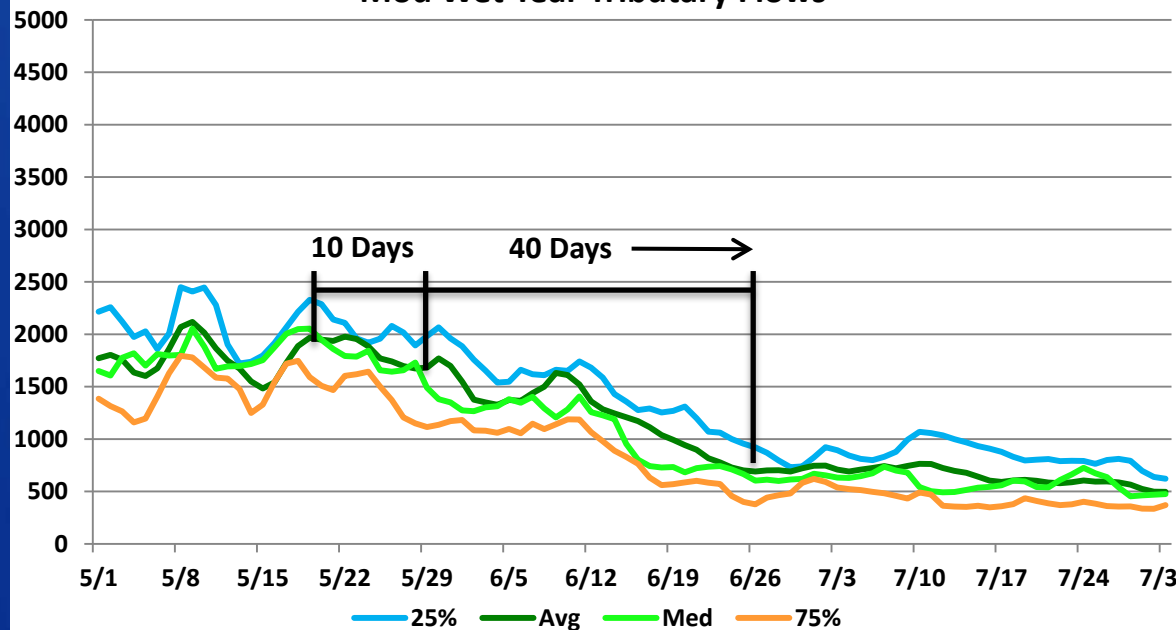
Mod Wet Year Tributary Flows



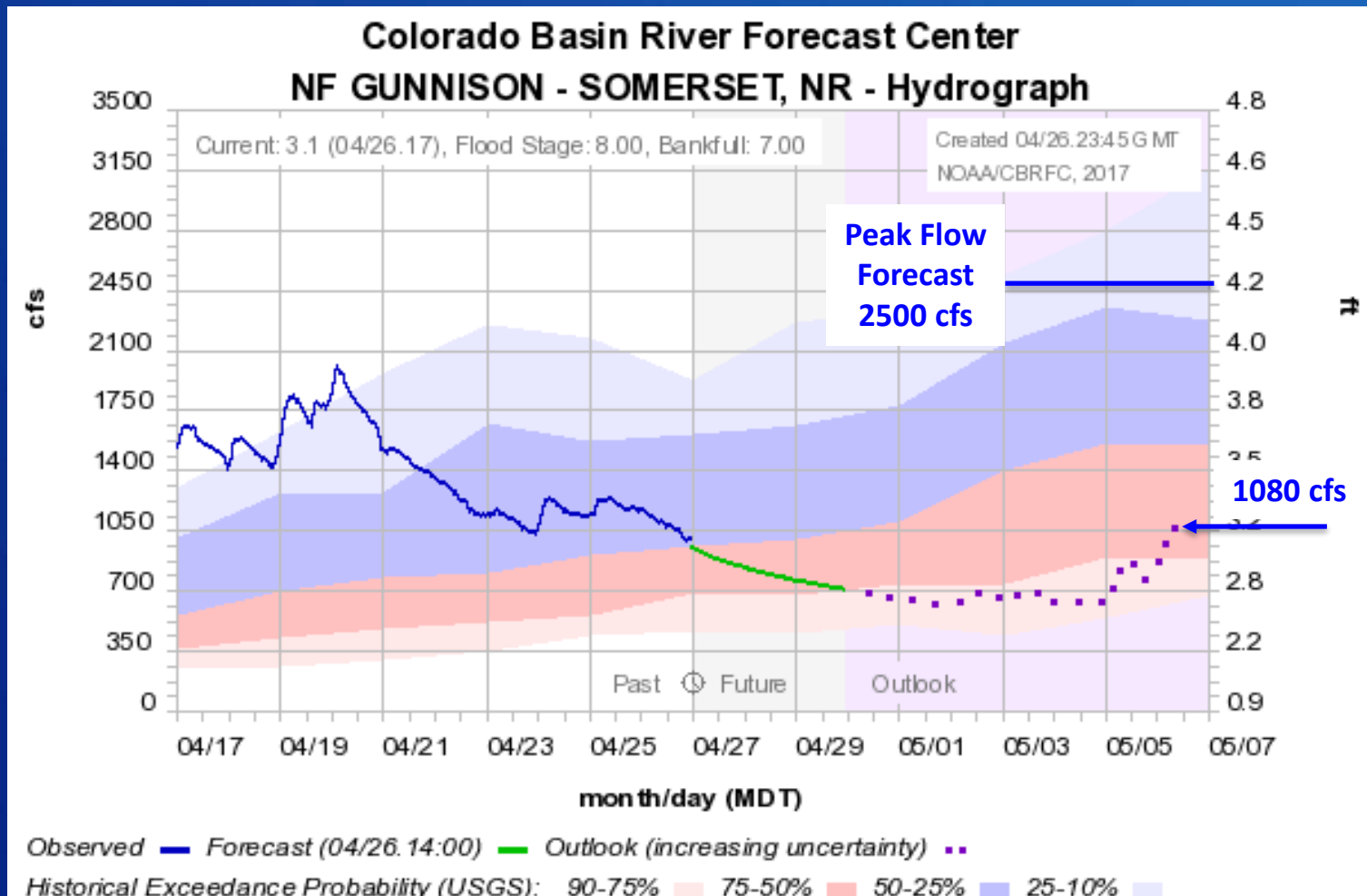
Tributary Flows between  
Black Canyon and Delta

Tributary Flows between  
Delta and Whitewater

Mod Wet Year Tributary Flows

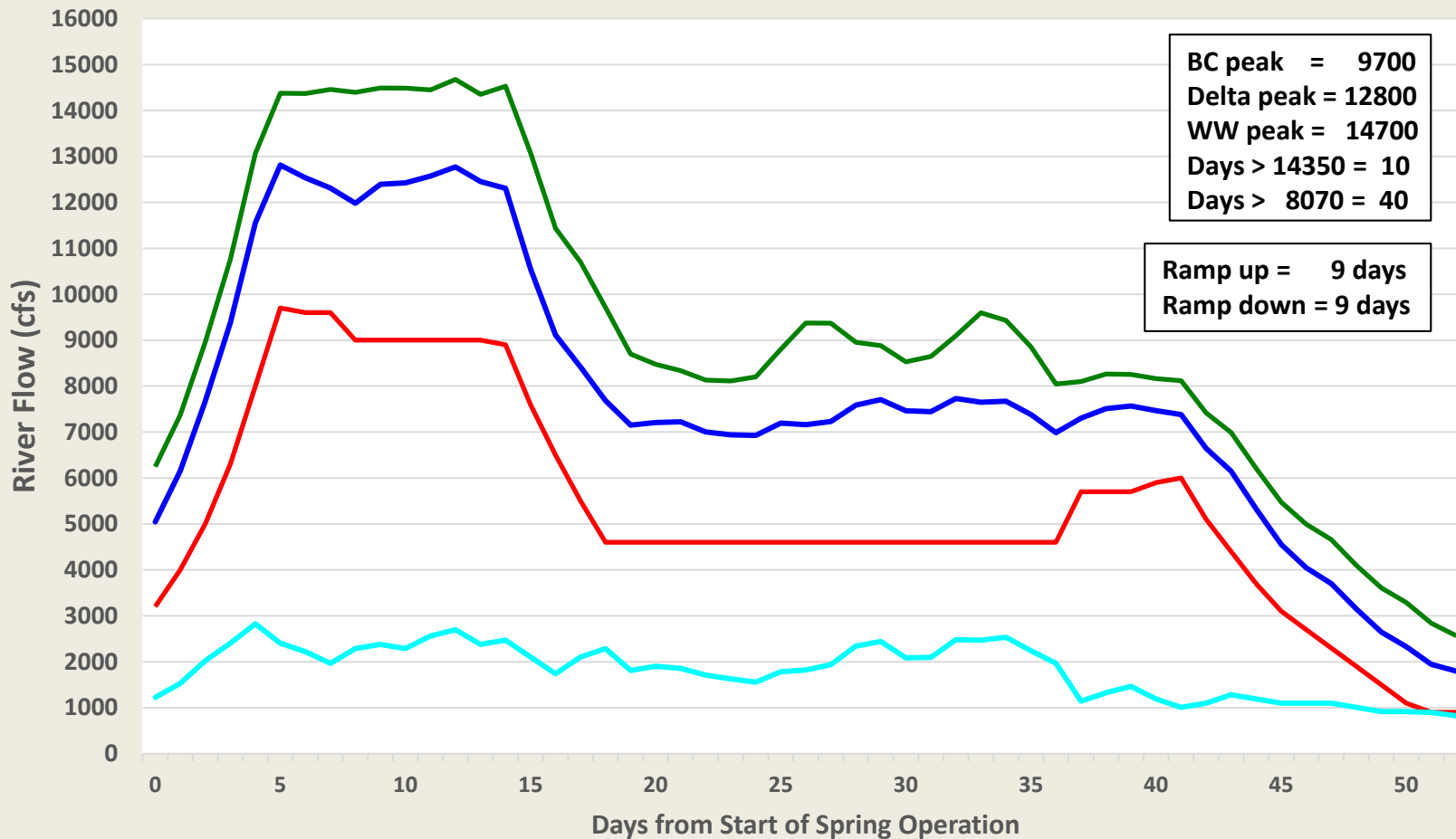


# North Fork of the Gunnison River Forecasted Streamflows



# Projection of Flows in the Gunnison River while meeting the Aspinall ROD Flow Targets

**Gunnison River Flows**  
from Start Day of Spring Operation



— Gunnison R - Black Canyon — North Fork Gunnison R — Gunnison R @ Delta — Gunnison R @ Whitewater

RECLAMATION

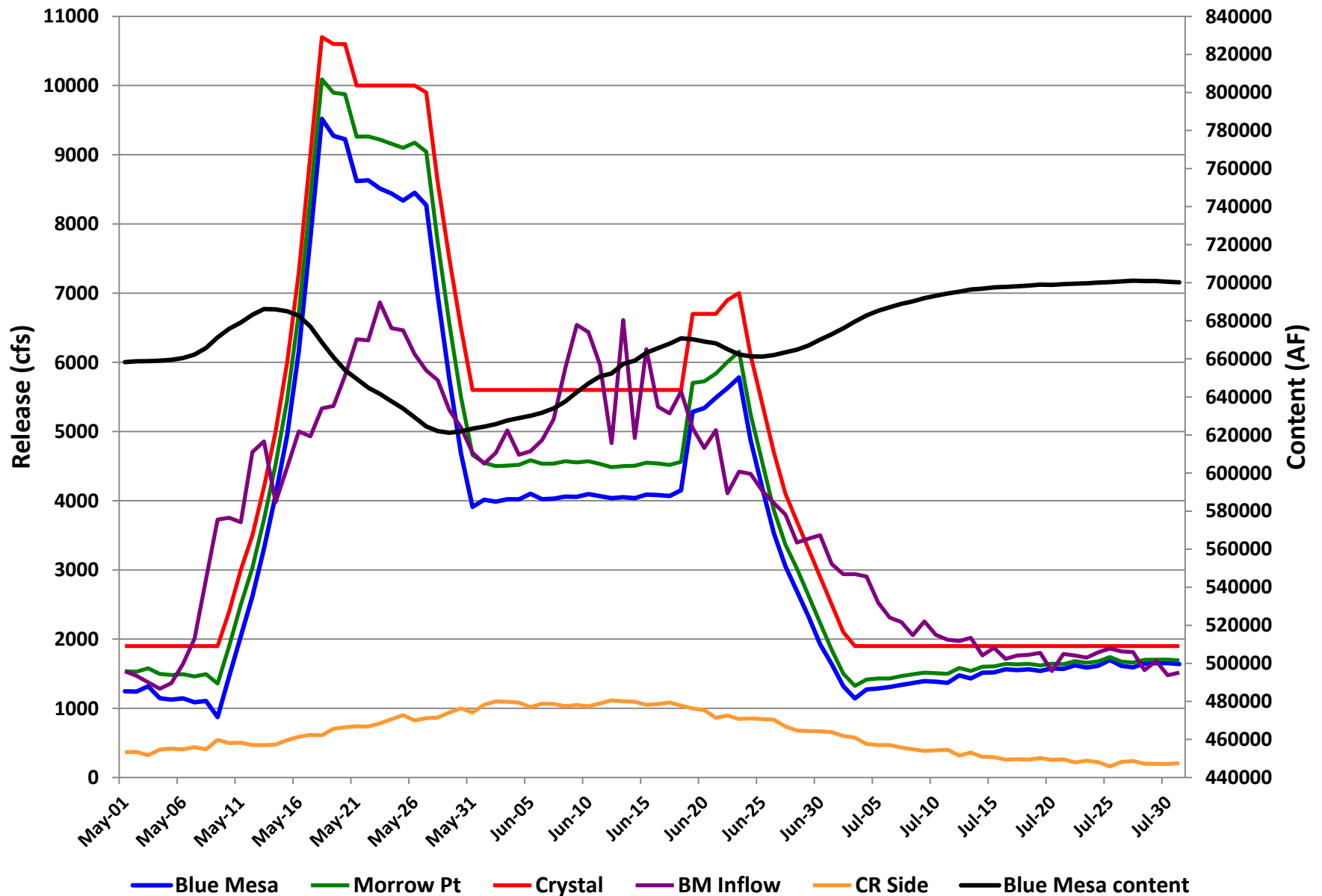
## Release Capability at the Aspinall Unit

| Outlet Capacities (cfs) | Blue Mesa | Morrow Point | Crystal  |
|-------------------------|-----------|--------------|----------|
| Powerplant              | 3380 cfs  | 4900 cfs     | 1950 cfs |
| Powerplant + Bypass     | 6030 cfs  | 6400 cfs     | 4100 cfs |
| Spillway Elevation      | 7488 ft   | 7129.5 ft    | 6756 ft  |

RECLAMATION

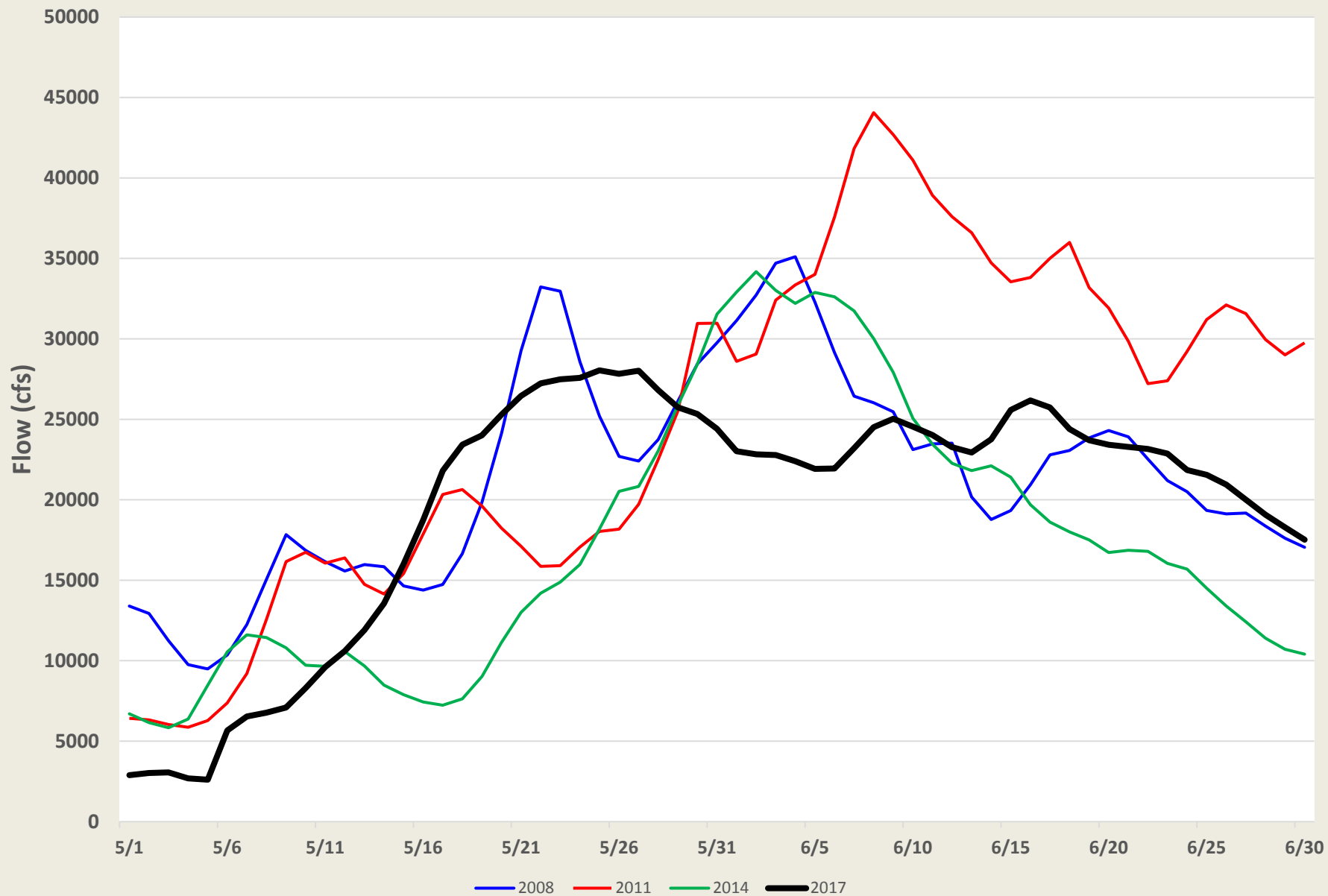


# Aspinall Unit Operations



# RECLAMATION

## Colorado River - Grand Junction

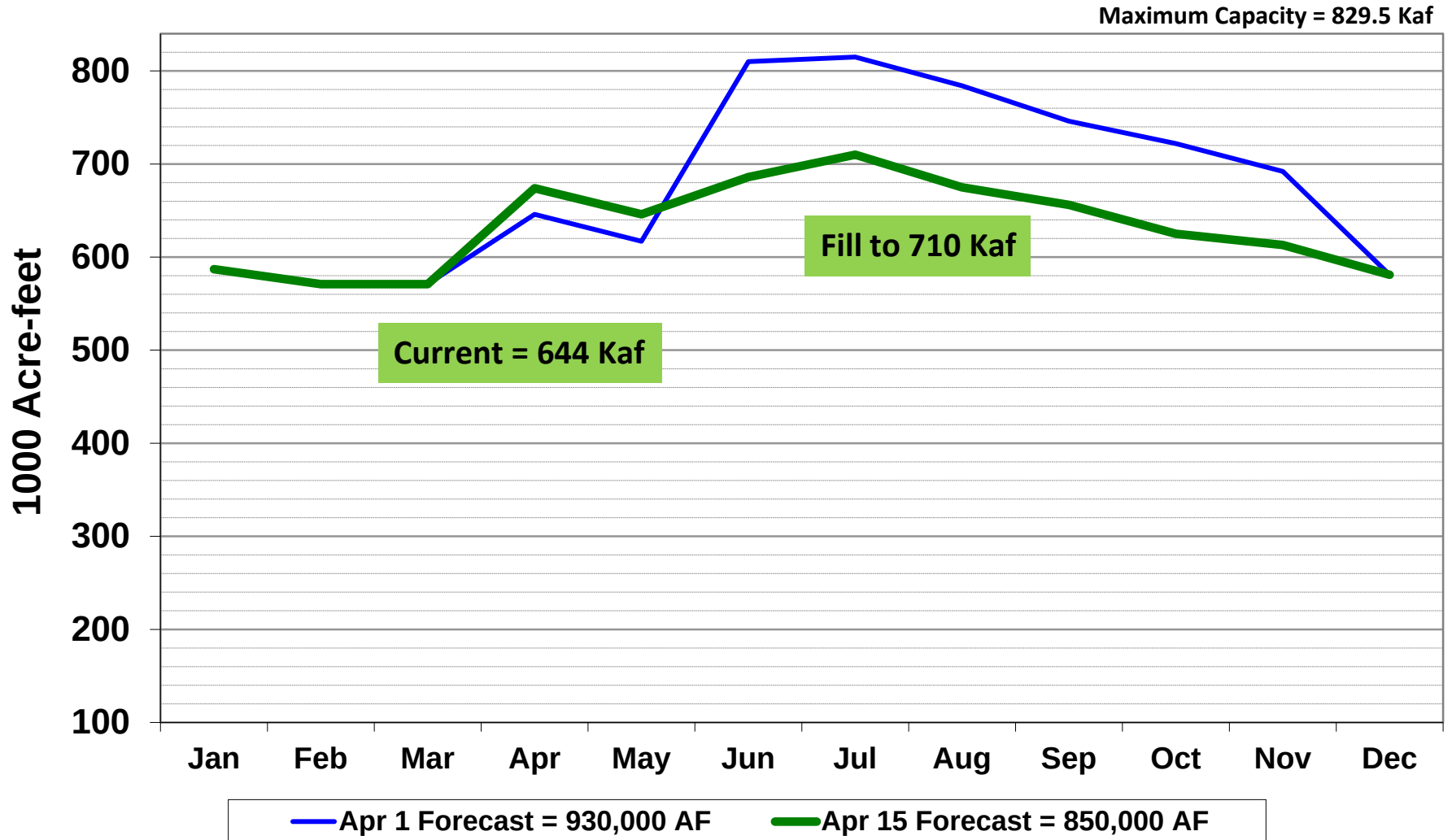


RECLAMATION

OPERATIONS – REMAINDER OF YEAR

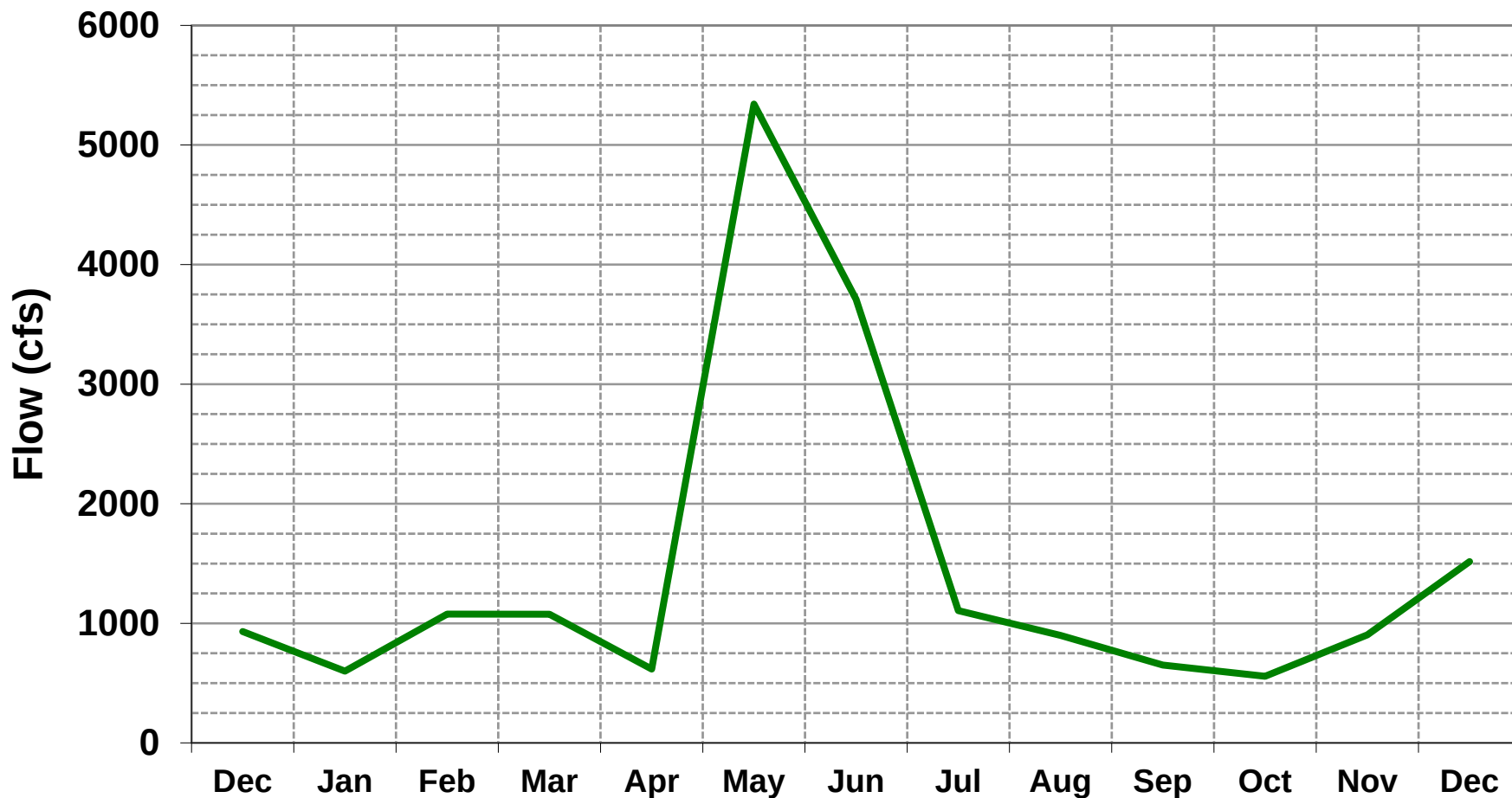
RECLAMATION

# Blue Mesa Content End of Month



# Gunnison River - Black Canyon

## Monthly Average Flow



RECLAMATION

# Baseflow Targets

|                 | Jan         | Feb         | Mar            | Apr            | May            | Jun         | Jul         | Aug            | Sep            | Oct            | Nov            | Dec         |
|-----------------|-------------|-------------|----------------|----------------|----------------|-------------|-------------|----------------|----------------|----------------|----------------|-------------|
| <b>Wet</b>      | <b>1050</b> | <b>1050</b> | <b>1050</b>    | <b>1050</b>    | <b>1050</b>    | <b>1500</b> | <b>1500</b> | <b>1500</b>    | <b>1050</b>    | <b>1050</b>    | <b>1050</b>    | <b>1050</b> |
| <b>Mod Wet</b>  | <b>1050</b> | <b>1050</b> | <b>1050</b>    | <b>1050</b>    | <b>1050</b>    | <b>1500</b> | <b>1500</b> | <b>1500</b>    | <b>1050</b>    | <b>1050</b>    | <b>1050</b>    | <b>1050</b> |
| <b>Avg Wet</b>  | <b>1050</b> | <b>1050</b> | <b>1050</b>    | <b>1050</b>    | <b>1050</b>    | <b>1500</b> | <b>1500</b> | <b>1050</b>    | <b>1050</b>    | <b>1050</b>    | <b>1050</b>    | <b>1050</b> |
| <b>Avg Dry</b>  | <b>1050</b> | <b>1050</b> | <b>1050</b>    | <b>1050</b>    | <b>1050</b>    | <b>1500</b> | <b>1500</b> | <b>1050</b>    | <b>1050</b>    | <b>1050</b>    | <b>1050</b>    | <b>1050</b> |
| <b>Mod Dry*</b> | <b>750</b>  | <b>750</b>  | <b>750/790</b> | <b>750/890</b> | <b>750/890</b> | <b>1050</b> | <b>1050</b> | <b>1050</b>    | <b>750/890</b> | <b>750/790</b> | <b>750/790</b> | <b>750</b>  |
| <b>Dry*</b>     | <b>750</b>  | <b>750</b>  | <b>750/790</b> | <b>750/890</b> | <b>750/890</b> | <b>1050</b> | <b>1050</b> | <b>750/890</b> | <b>750/890</b> | <b>750/790</b> | <b>750/790</b> | <b>750</b>  |

\*During March through November in Moderately Dry and Dry type years, additional releases will be made as necessary to provide flows above the 750 cfs anticipated to be diverted by the Redlands Water and Power Company, for the fish ladder and fish screen as shown.



RECLAMATION