FORECASTS AND ACTUAL RUNOFF
2002: Peak Snow = 65% avg | 157 KAF (4/1 forecast 310 KAF)
2012: Peak Snow = 67% avg | 206 KAF (4/1 forecast 330 KAF)
2018: Peak Snow = 72% avg | 238 KAF (4/1 forecast 345 KAF)

Blue Mesa
April 1st Forecast
50%: 345 KAF
70%: 310 KAF
90%: 260 KAF
Observed
238 KAF
Breaking down the Forecast: Seasonal Forecast Progression for Blue Mesa Reservoir Inflow

**Water Supply Forecast**

Gunnison - Blue Mesa Res (BMDC2)

Period: Apr-Jul, Observed Volume: 239 kaf (35% Average, 42% Median)

ESP is Unregulated and No Precipitation Forecast Included

- Initial low forecasts continued to slowly trend lower as dry weather persisted
- Increase due to storm system in early April
- Dry weather returned. June and especially May volumes came in much lower than anticipated

Observed Apr-Jul volume also fell near or below several of the 90% exceedance forecasts

2018/08/01:
- **Max 1994**: 1433.01
- **Min 2002**: 156.55
- **Average**: 675
- **Median**: 575
- **Observed Accumulation**: 239
- **Observed Total**: 239
A good early April storm resulted in increased forecasts in mid April.

Another storm system was advertised by weather models that suggested April could end up wetter than normal over southwest Colorado.

That system did not materialize and April ended up near to below average for precipitation.

Very dry through the first 6 days of April

By mid April precipitation was running above average. Then things dried out again
May – July precipitation for several sites were the lowest on record. The model does not have this type of scenario therefore it is not unreasonable that resulting observed streamflow volumes would fall below the 90% exceedance forecasts.
Blue Mesa Inflows

<table>
<thead>
<tr>
<th></th>
<th>APR</th>
<th>MAY</th>
<th>JUNE</th>
<th>JULY</th>
<th>RUNOFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>59%</td>
<td>50%</td>
<td>23%</td>
<td>25%</td>
<td>34%</td>
</tr>
<tr>
<td>2012</td>
<td>65%</td>
<td>33%</td>
<td>20%</td>
<td>32%</td>
<td>34%</td>
</tr>
<tr>
<td>2002</td>
<td>63%</td>
<td>25%</td>
<td>17%</td>
<td>20%</td>
<td>26%</td>
</tr>
</tbody>
</table>
Actual April-July Runoff

- Taylor Park Reservoir Inflow: 51,000
- East River - at Almont: 78,000
- Gunnison River - Gunnison: 149,000
- Tomichi Creek - Gunnison: 14,000
- Blue Mesa Reservoir Inflow: 239,000
- Lake Fork Gunnison River - Gateview: 57,000
- Paonia Reservoir Inflow (Mar-Jun): 18,500
- North Fork Gunnison River - Somerset: 97,000
- Ridgway Reservoir Inflow: 31,000
- Gunnison River - Grand Jct: 397,000

Site name and runoff volume in acre-feet
BLACK CANYON PEAK
AND LOWER GUNNISON RIVER TARGETS
Black Canyon Peak Flow Determination
based on Blue Mesa May 1 forecast

1. 100 - 372 K; y = 462.95 + 1.44x
2. 373 - 715 K; y = -4651.66 + 15.24x
3. 716 - 925 K; y = 5449.13 + 1.15x
4. 926 - 1001 K; y = -6975.28 + 14.57x
5. 1002-1050 K; y = -62886.00 + 70.40x
6. > 1050 K; y = -180.00 + 10.68x

May 1 Forecast
350 KAF

987 cfs

May 14-15 - 24 Hr Peak
1010 cfs

RECLAMATION
Peak Flow and Duration Day Targets at Whitewater

<table>
<thead>
<tr>
<th>Apr-July Forecast (1000 AF)</th>
<th>Half bank Duration (days @ 8,070 cfs)</th>
<th>Peak Flow Duration (days @ up to 14,350 cfs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;381</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>381-516</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>516-709</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>709-831</td>
<td>20</td>
<td>2</td>
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<tr>
<td>831-1123</td>
<td>40</td>
<td>10</td>
</tr>
<tr>
<td>&gt;1123</td>
<td>60</td>
<td>15</td>
</tr>
</tbody>
</table>

- **Peak Flow (cfs)**:
  - 900 cfs
  - 2030 cfs

- **Duration Day Targets**:
  - Dry
  - Mod
  - Wet
SUMMER/FALL OPERATIONS
### Drought Rules

- During Dry and Moderately Dry years, if Blue Mesa Reservoir content drops below 600,000 af, the Whitewater baseflow target is reduced from 1050 cfs to 900 cfs until Blue Mesa Reservoir content exceeds 600,000 af

### Baseflow Targets

<table>
<thead>
<tr>
<th></th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
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</thead>
<tbody>
<tr>
<td><strong>Wet</strong></td>
<td>1050</td>
<td>1050</td>
<td>1050</td>
<td>1050</td>
<td>1050</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1050</td>
<td>1050</td>
<td>1050</td>
<td>1050</td>
</tr>
<tr>
<td><strong>Mod Wet</strong></td>
<td>1050</td>
<td>1050</td>
<td>1050</td>
<td>1050</td>
<td>1050</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1050</td>
<td>1050</td>
<td>1050</td>
<td>1050</td>
</tr>
<tr>
<td><strong>Avg Wet</strong></td>
<td>1050</td>
<td>1050</td>
<td>1050</td>
<td>1050</td>
<td>1050</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1050</td>
<td>1050</td>
<td>1050</td>
<td>1050</td>
</tr>
<tr>
<td><strong>Avg Dry</strong></td>
<td>1050</td>
<td>1050</td>
<td>1050</td>
<td>1050</td>
<td>1050</td>
<td>1500</td>
<td>1500</td>
<td>1500</td>
<td>1050</td>
<td>1050</td>
<td>1050</td>
<td>1050</td>
</tr>
<tr>
<td><strong>Mod Dry</strong></td>
<td>750</td>
<td>750</td>
<td>750/790</td>
<td>750/890</td>
<td>750/890</td>
<td>1050</td>
<td>1050</td>
<td>1050</td>
<td>750/890</td>
<td>750/790</td>
<td>750/790</td>
<td>750</td>
</tr>
<tr>
<td><strong>Dry</strong></td>
<td>750</td>
<td>750</td>
<td>750/790</td>
<td>750/890</td>
<td>750/890</td>
<td>1050</td>
<td>1050</td>
<td>1050</td>
<td>750/890</td>
<td>750/890</td>
<td>750/790</td>
<td>750</td>
</tr>
</tbody>
</table>

*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.*
Colorado Basin River Forecast Center

GUNNISON - GRAND JUNCTION, NR - Hydrograph

Current: 2.7 (08/15.10), Flood Stage: 13.00, Bankfull: 8.60

Created 08/15.16:50 GMT
NOAA/CRBFC, 2018

Observed  ◀ Forecast (08/15.14:00)  ◀ Outlook (increasing uncertainty)  ◀