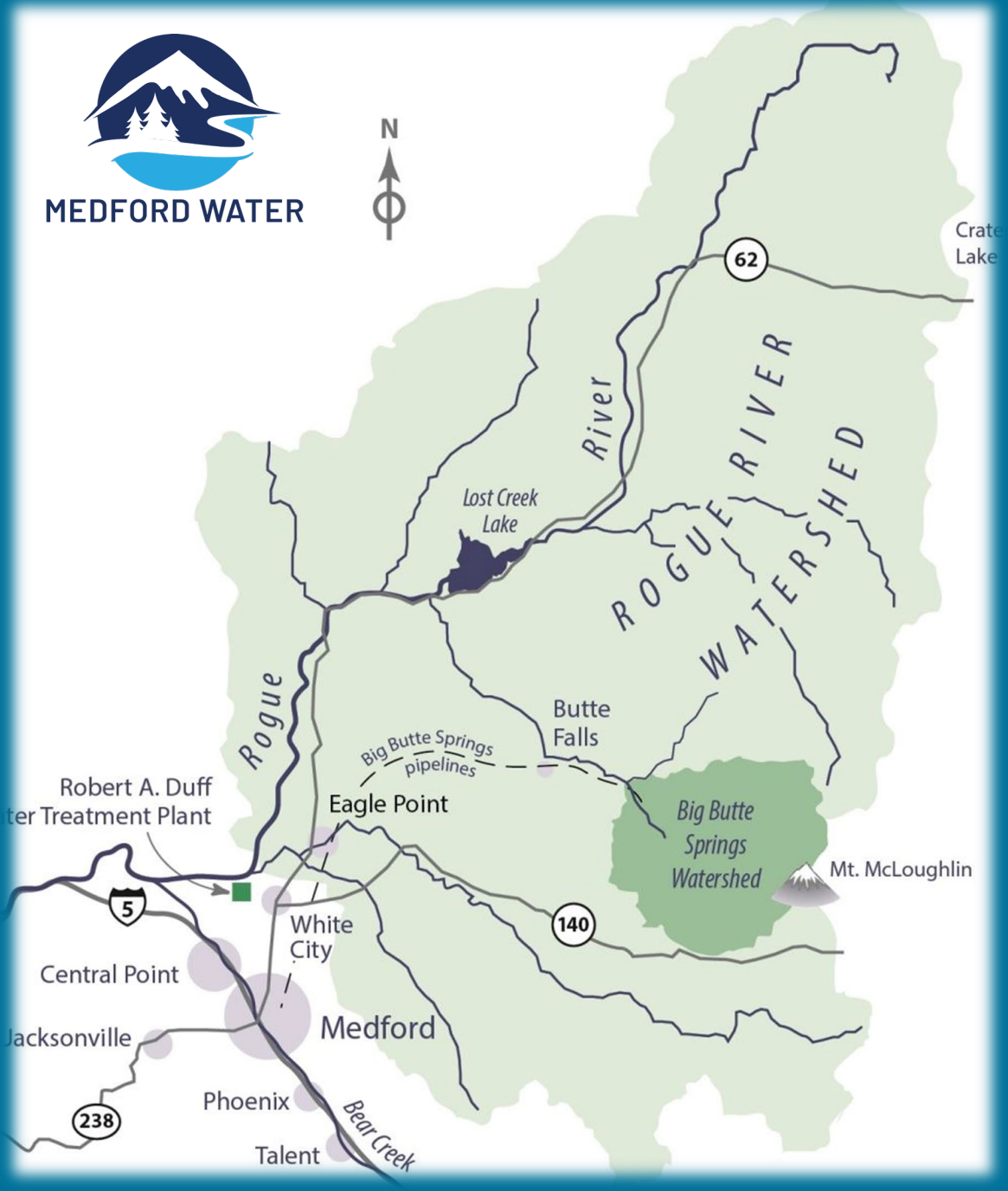
ROGUE VALLEY, OR WATER RESOURCES & 2021 CHALLENGES

MEDFORD WATER

Julie Smitherman
Water Resources Coordinator
November 16, 2021

- Jackson County
- Known for: Agriculture - Pears , vineyards, and most recently, hemp and cannabis
- Nearby Crater Lake, rivers, lakes and streams
- Cascades to the east and Siskiyou's to the south.
- Average rainfall per year 18”

Photo Courtesy of Planetware.com – Brad Lane



BIG BUTTE SPRINGS & ROGUE RIVER WATERSHEDS

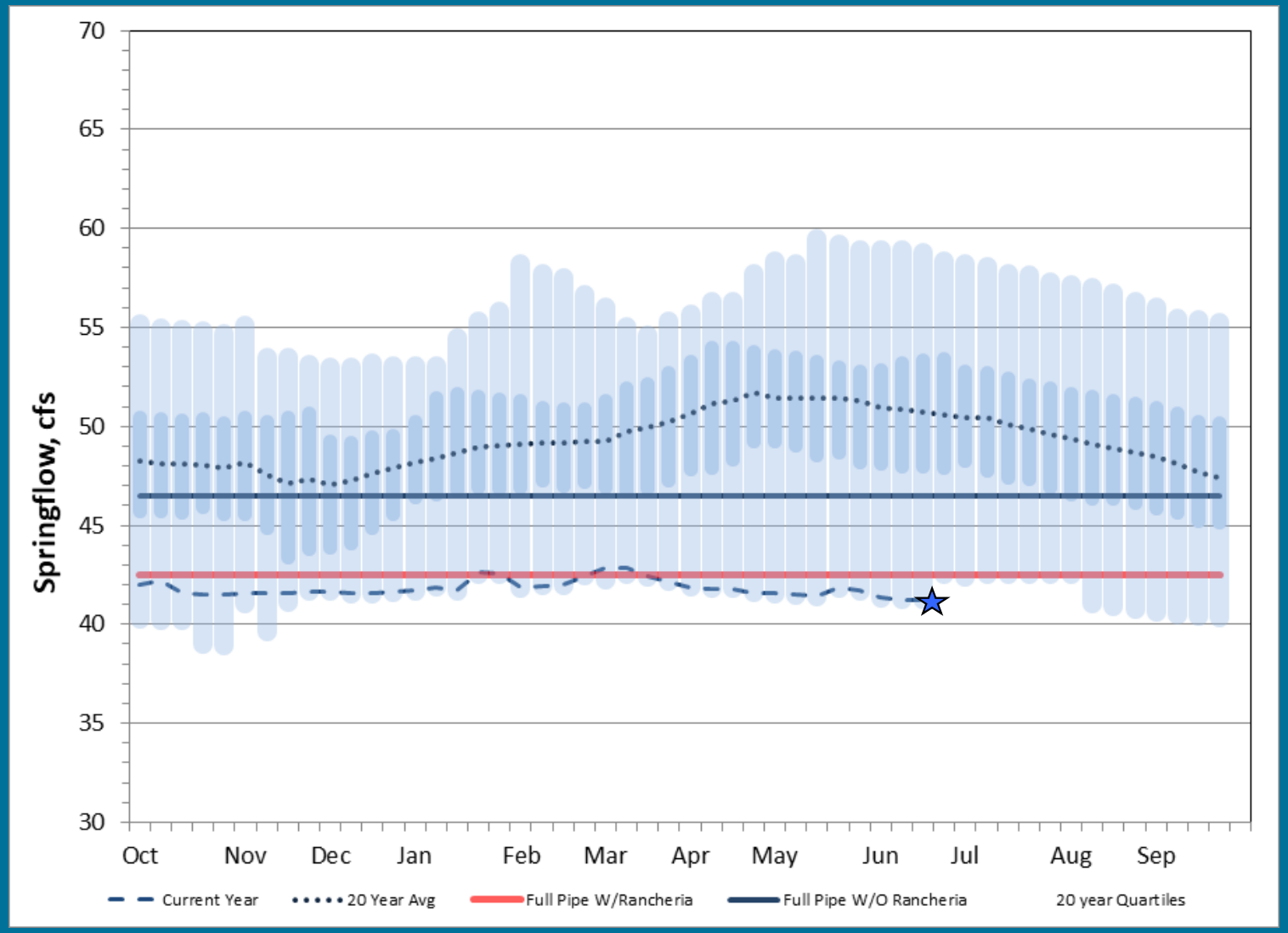
- Provides water to ~140,000 customers
  - Eight cities served
- Big Butte Springs 1927 Primary Source
  - Supplies water all year round - up to 19 MGD
  - Decreased by 20% in past few years
- Rogue River – 1968 Secondary Source
  - Duff plant can supply up to 45 MGD
  - Historically runs May – Oct. but now April – Nov.
  - Makes up the difference for lower spring flows

Big Butte Springs, Photo Credit: Robert Hunting

Duff Treatment Plant Intake on Rogue River

MEDFORD WATER

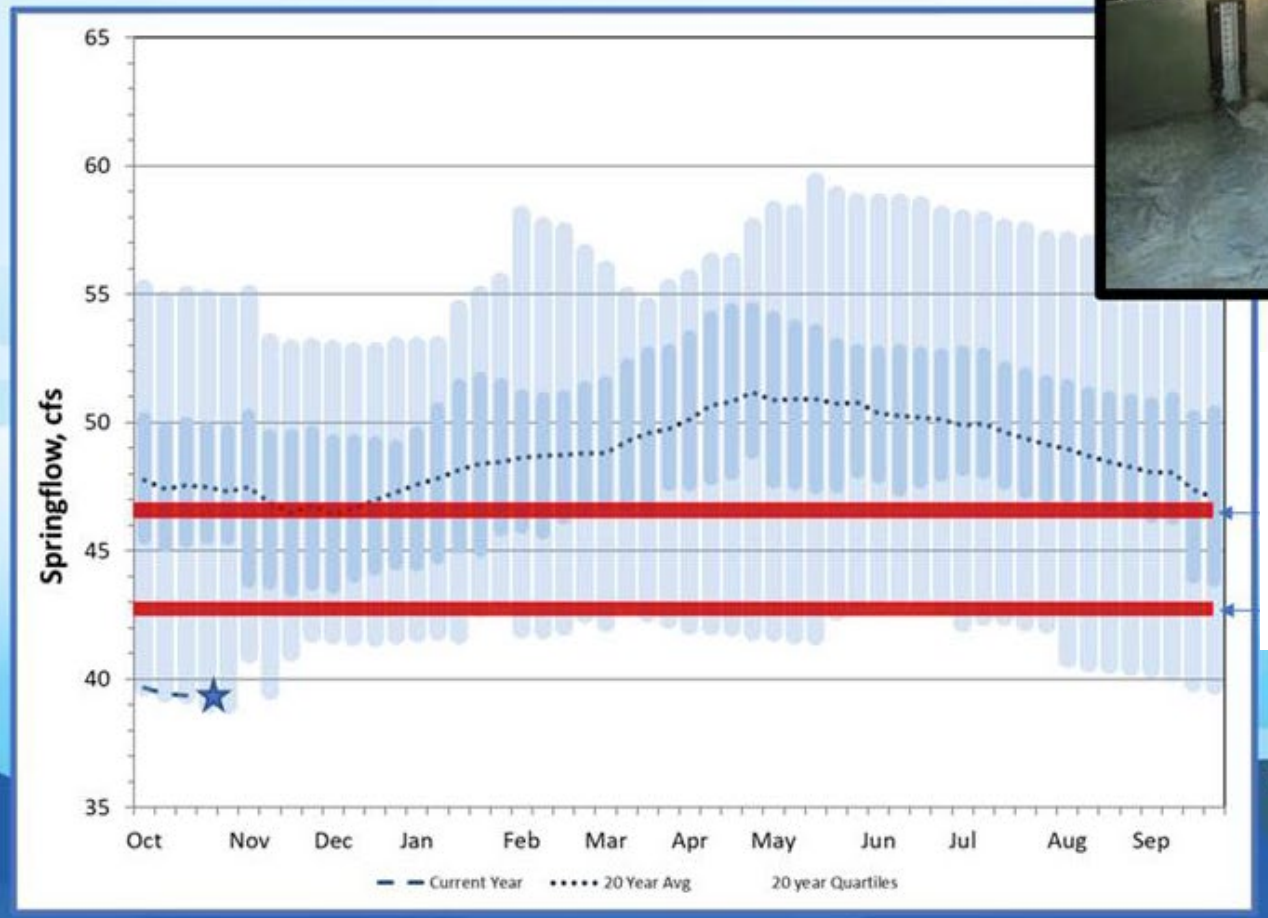
2020/2021 WATER YEAR BIG BUTTE SPRINGS FLOW



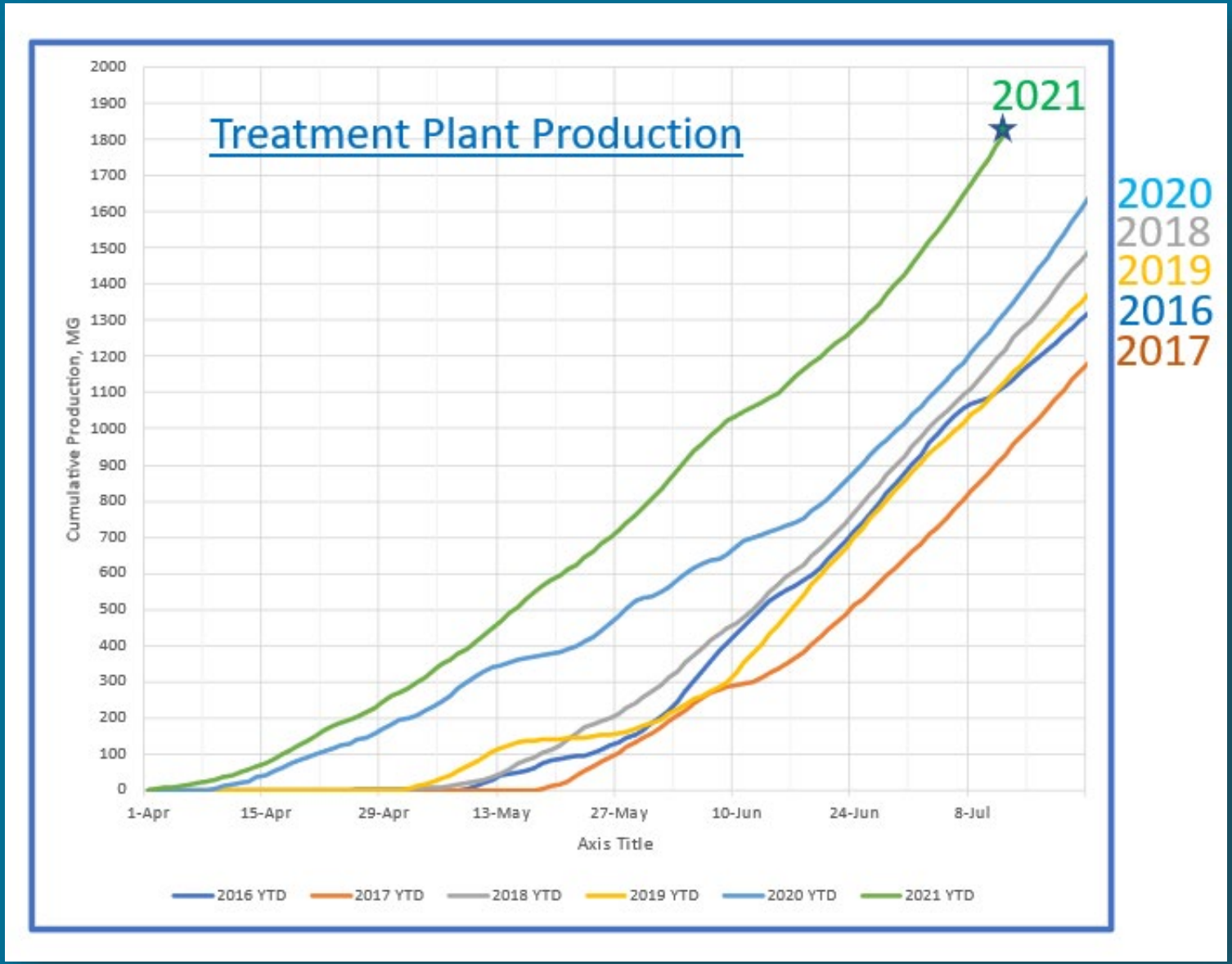
MEDFORD WATER

CURRENT WATER YEAR SPRINGS FLOW

Setting new historic lows each week; 80% of average



MEDFORD WATER

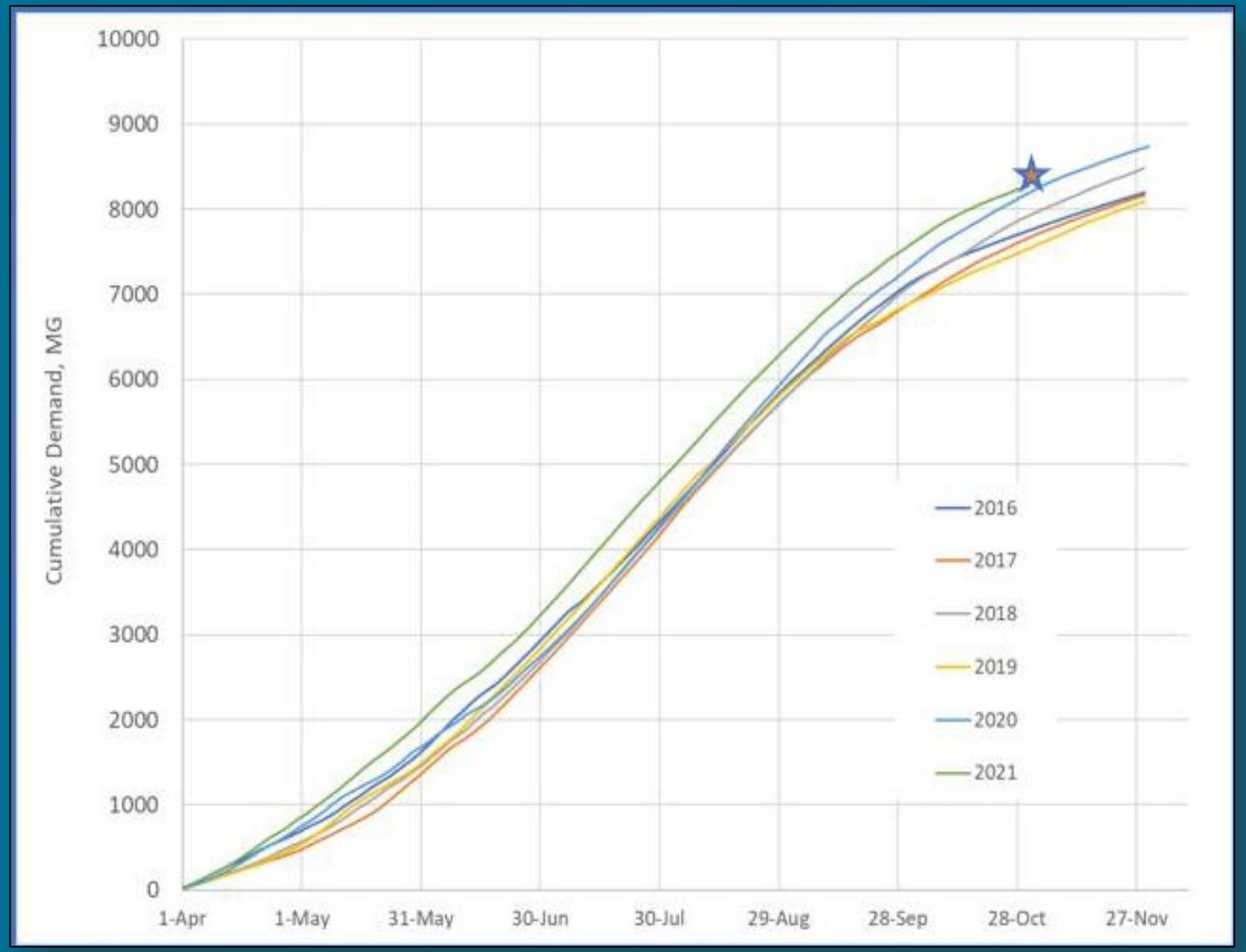


MWC DUFF (ROGUE RIVER) PRODUCTION DATA

- Record production, a result of record demand and reduced supply from the springs
- Duff runs May–Oct. now April–Nov.
- 35 MGD from Duff, 19 MGD Springs
- Max capacity at Duff 45 MGD (70 cfs)
- Typical summer river flows between 1,500 and 2,500 cfs

MEDFORD WATER

TOTAL SYSTEM WATER DEMAND

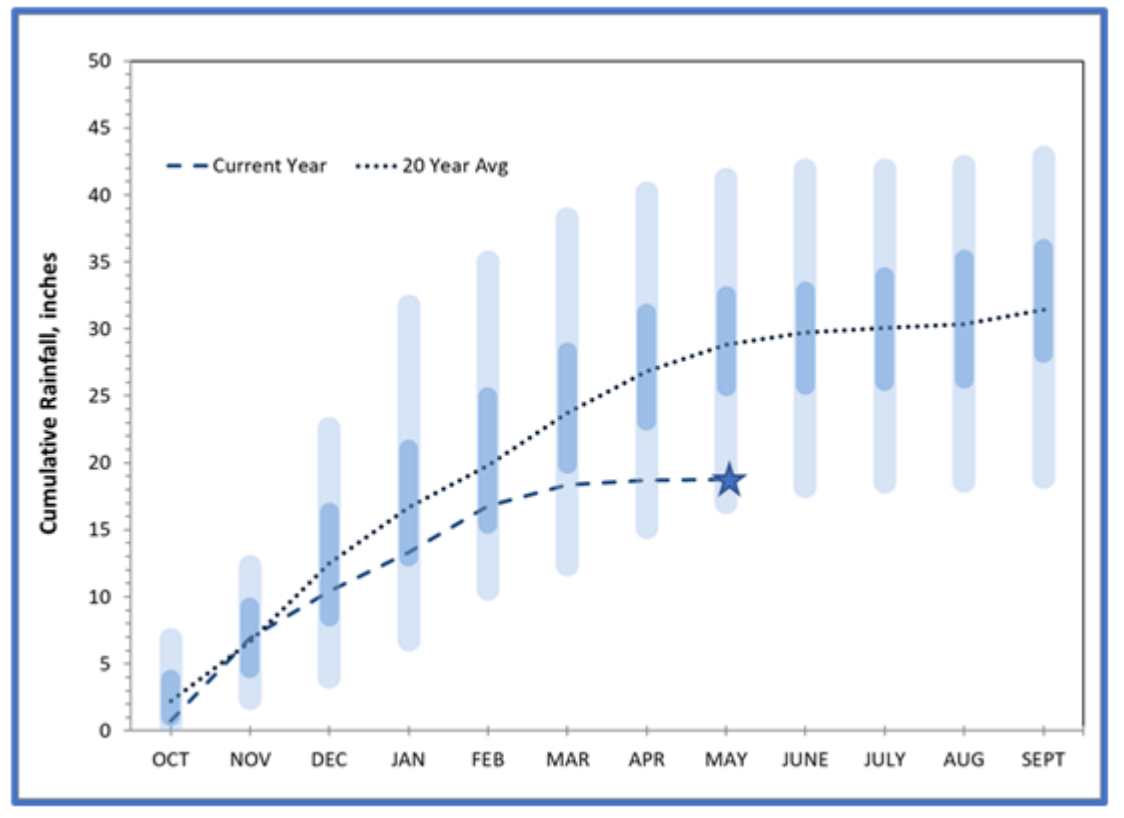


- 2021 Peak System Demand 54 MGD
- Record high demand in past two years
- Total Capacity: Approx. 62 MGD
- Average winter demand: 17 MGD
- Average summer demand: 47 MGD
- Peak day normally early July - August

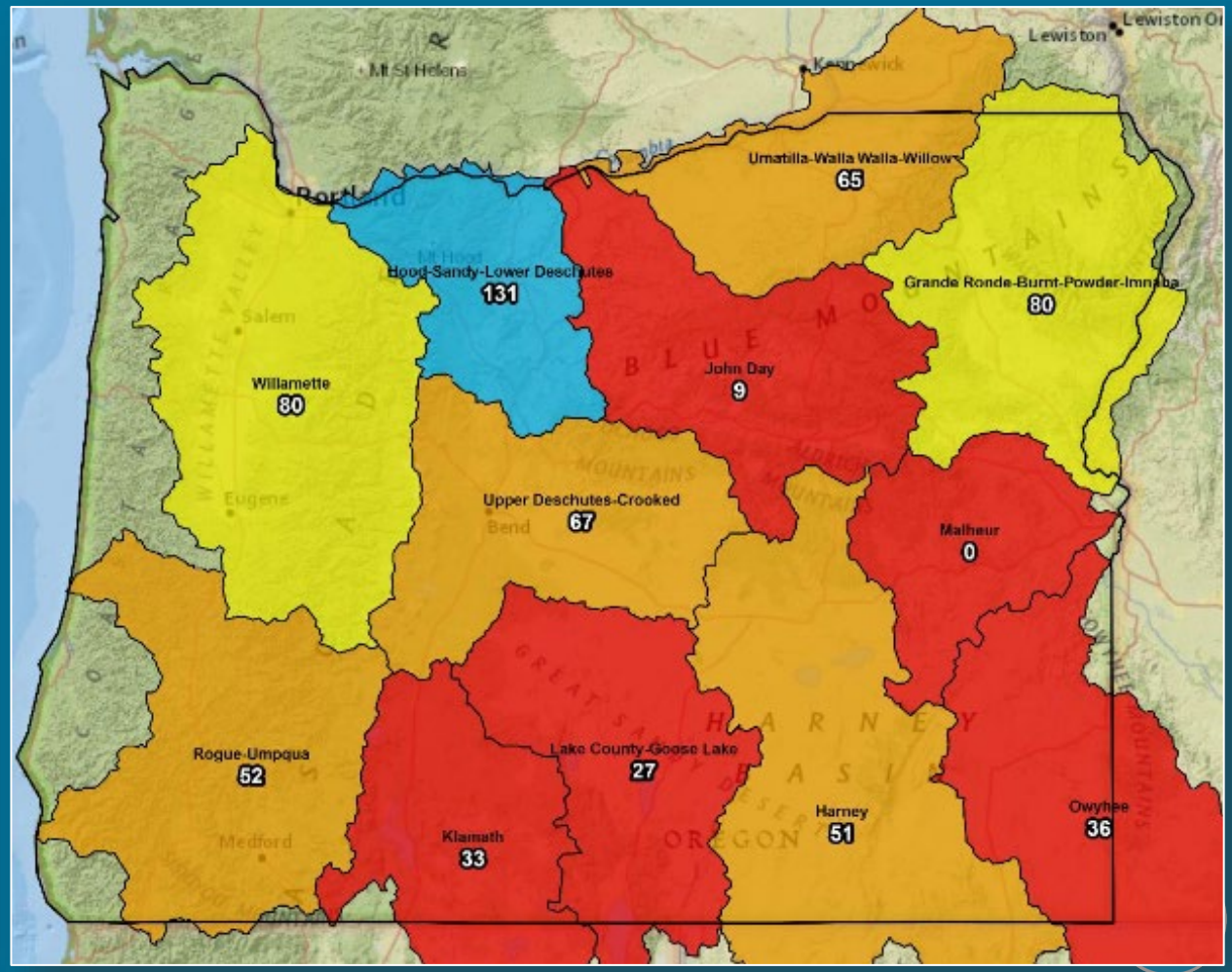
MEDFORD WATER

CASCADES: WATER YEAR RAINFALL & SNOWPACK

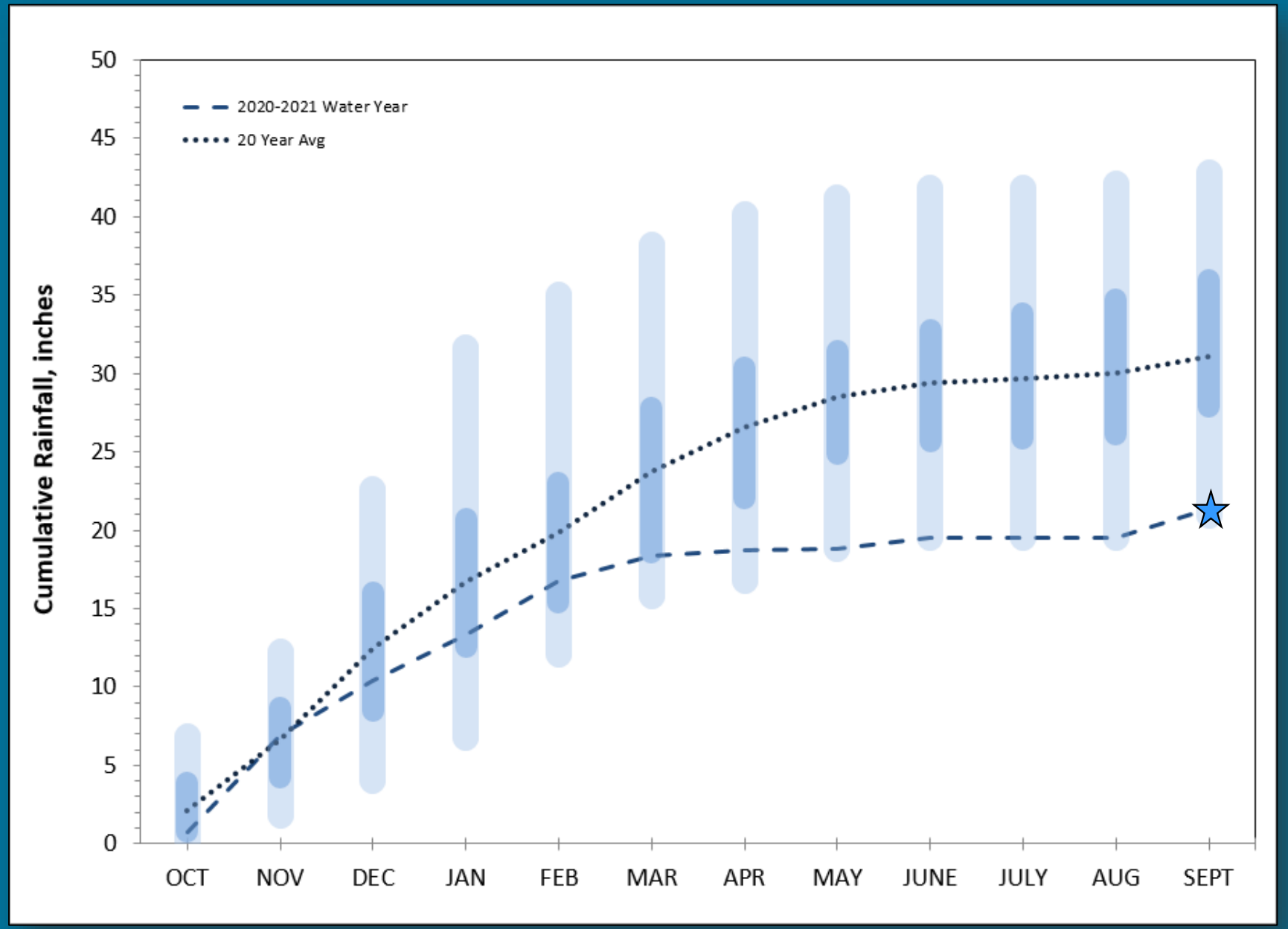
Precipitation at BBS (70% of average)



Basin Snowpack (52% of average)



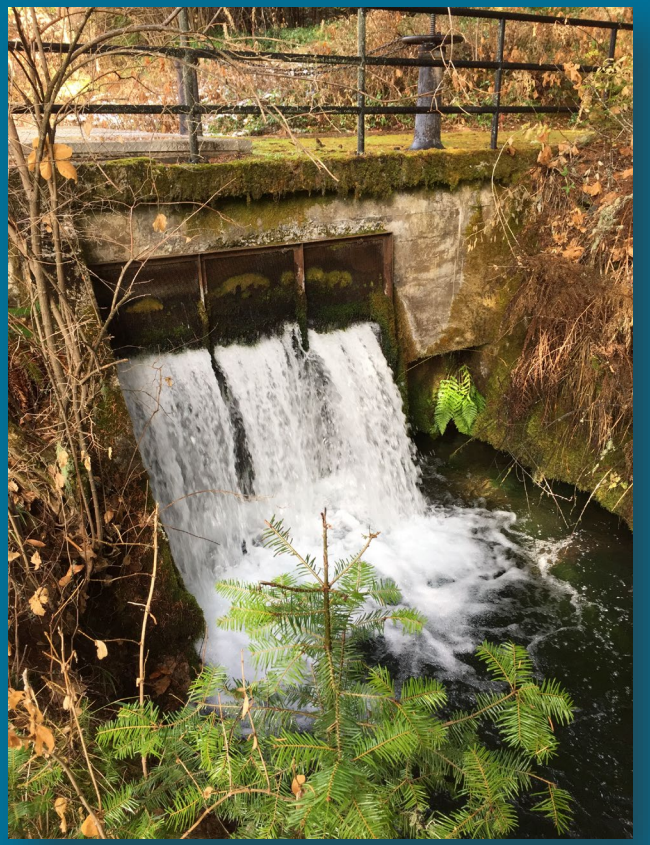
CUMULATIVE RAINFALL AT BIG BUTTE SPRINGS



MEDFORD WATER

2021 DROUGHT SUMMARY OF EVENTS

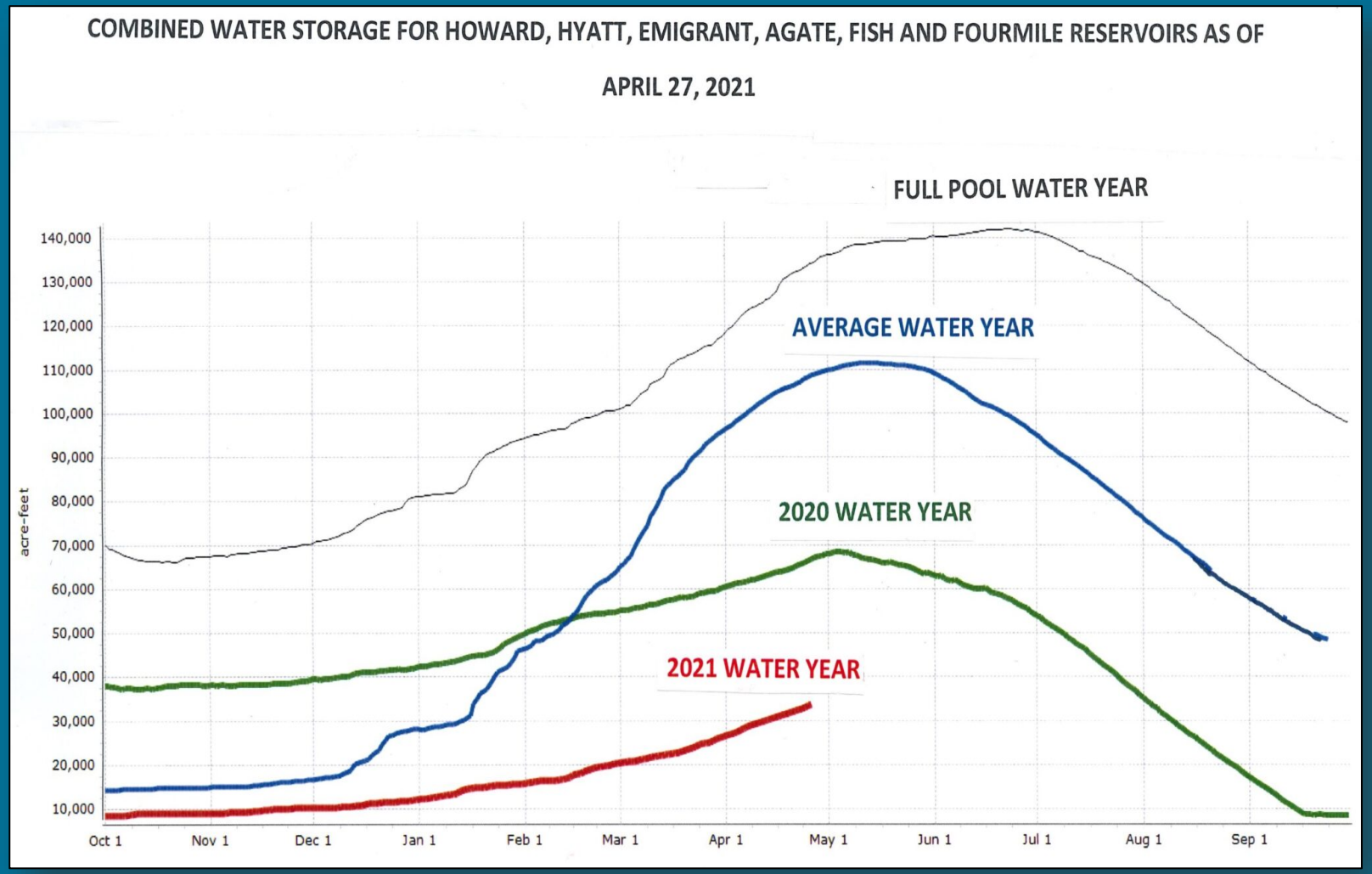
Municipal Supply



- Higher water demand earlier in year – for the past 2 years
- Earliest start up of our secondary source – April 1st, 2021
- Record production, record demand and reduced Springs supply
- Lowest BBS spring flows in past 20 years – reduced by 20%
- June – Chlorine Shortage – triggered our curtailment plan
- Voluntary water reductions requested throughout the summer
- Encouraged customers to participate in our efficiency programs
- Emergency agreements for water supply enacted with provisions
- Water theft from hydrants – more than any previous years
- More water used at our fill stations than in previous years
- Still had a sufficient supply of water to meet the needs of all our communities

MEDFORD WATER

Irrigation District Reservoirs



Emigrant Lake

MEDFORD WATER

OREGON DROUGHT MONITOR

D0 - Abnormally Dry — **100.0%** of OR
- Ski season is impacted

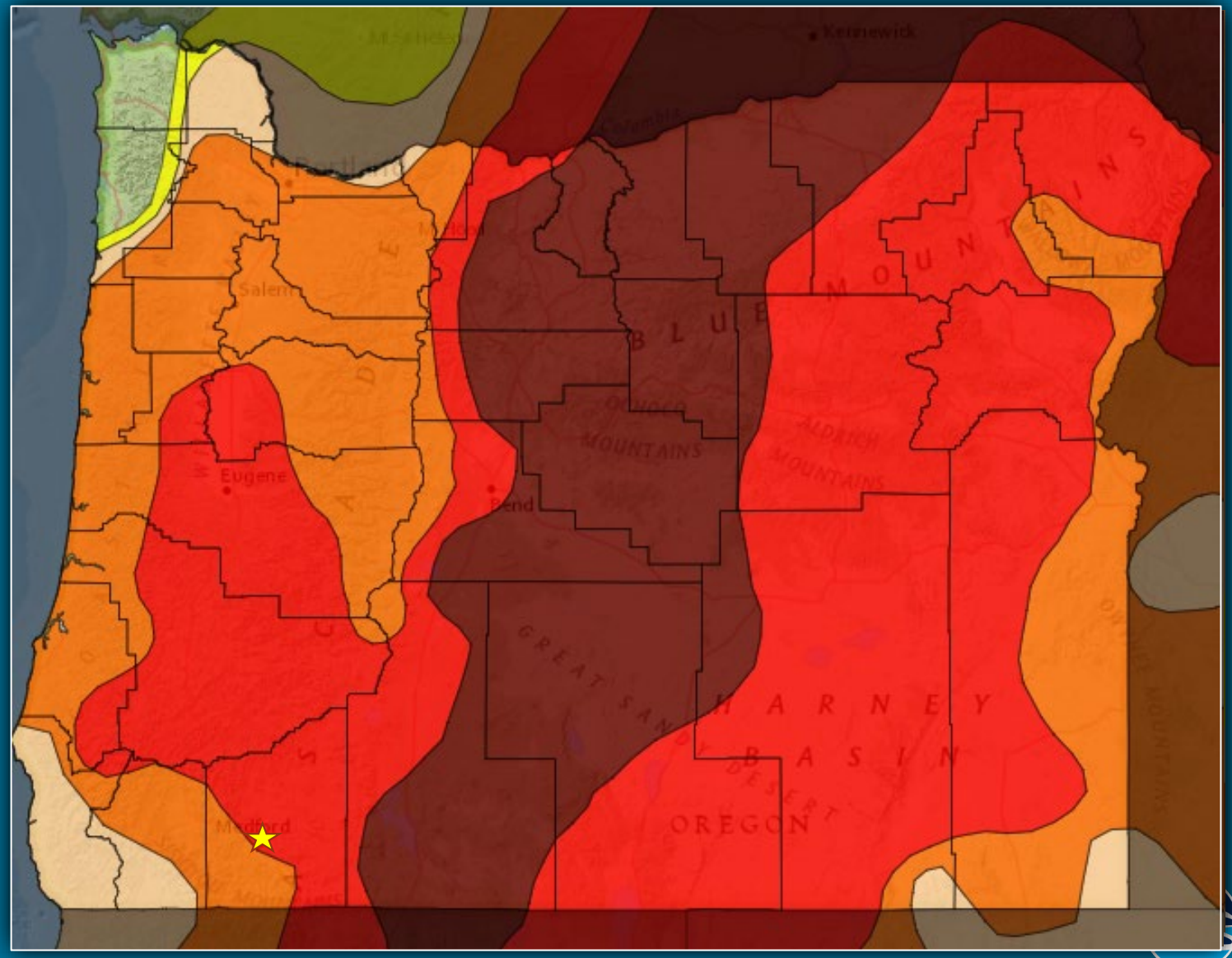
D1 - Moderate Drought — **91.5%** of OR
- Some fields are left fallow
- Water levels begin to decline; recreation and other uses are impacted

D2 - Severe Drought — **71.7%** of OR
- Pastures are brown; hay yields are down, and prices are up; producers are selling cattle
- Fire risk increases
- Marshes are drying up, little water is available for waterfowl and wildlife; bears are moving into urban areas

D3 - Extreme Drought — **26.1%** of OR
- Planting is delayed
- Wildfire activity is high
- Reservoirs and lakes are very low compared to normal; irrigation water is scarce

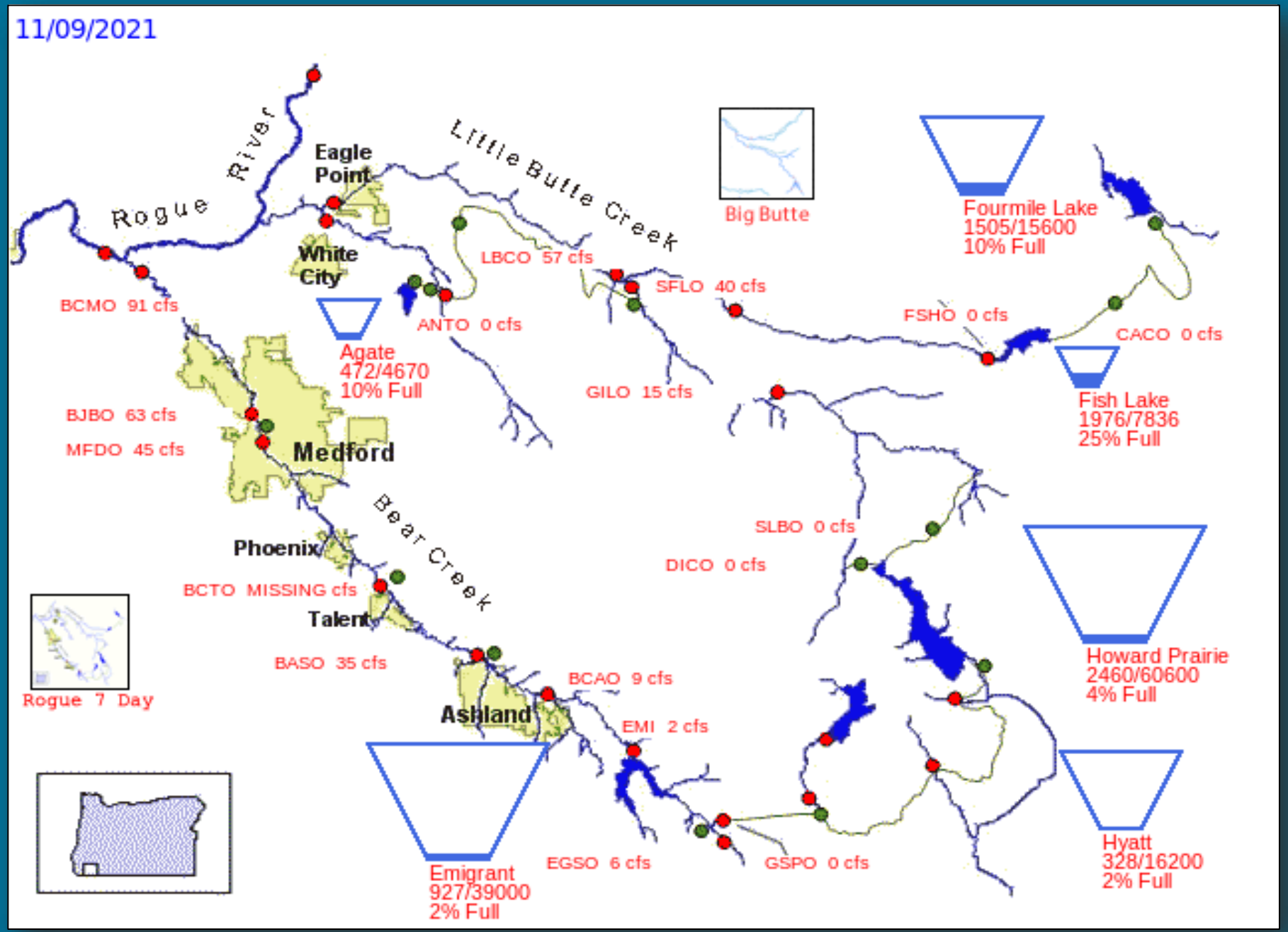
D4 - Exceptional Drought — **3.6%** of OR
- Power generation is reduced

May July November



MEDFORD WATER

US BUREAU OF RECLAMATION, RESERVOIR LEVELS



MEDFORD WATER

2021 DROUGHT SUMMARY OF EVENTS

Weather

- Compounding years of low precipitation and snow accumulation
- 2021 –little precipitation, warmer temperatures, snow melts early
- Trends - more frequent drought years, heavier rain, less snowpack
- High Fire Danger –local fires, drier soils, higher evapotranspiration

Photos Courtesy of Mail Tribune – Jamie Lusch

Irrigation Districts

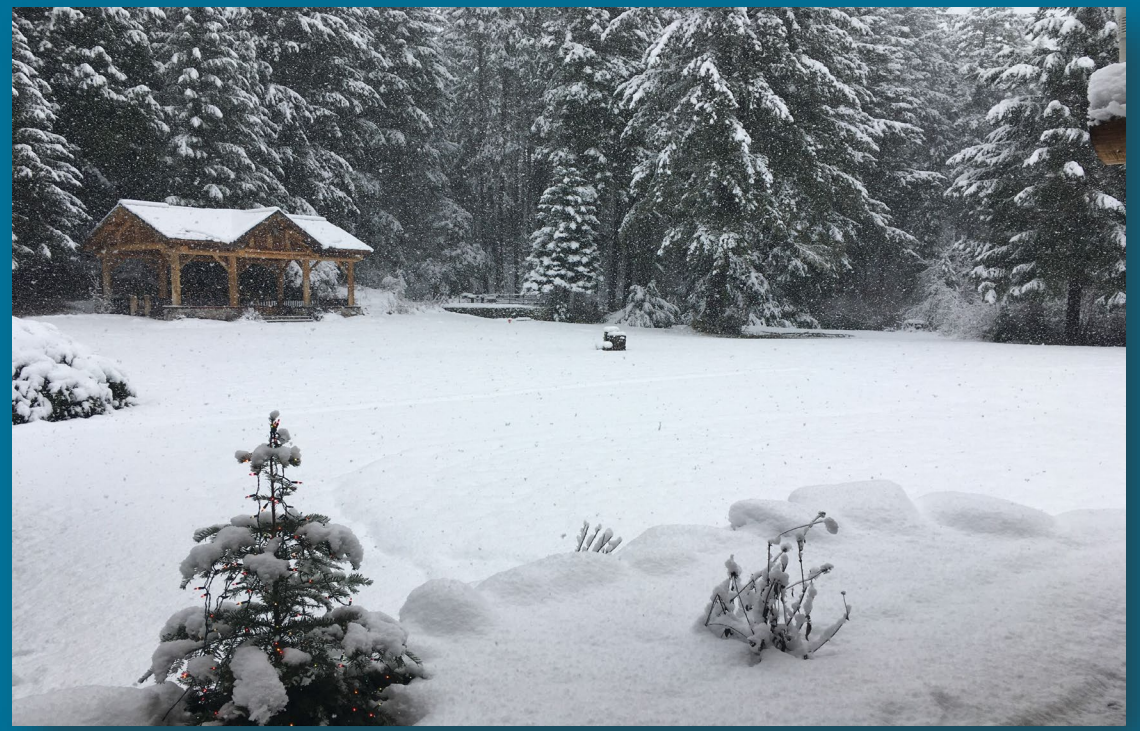
- Late start ups and water rotations
- Shut off early mid July & August 1st
- Rural customers using fill stations because of shortage
- Illegal growing operations in question – Water Rights
- Some crops were left fallow this year or had minimal production

MEDFORD WATER

Storage Reservoirs For Irrigation Districts

MEDFORD WATER

BRING ON THE SNOW!



julie.smitherman@medfordwater.org

541-774-2435

www.medfordwater.org

MEDFORD WATER