

2020 Water Management Plan

Water Operations Committee
Meeting

May 19, 2021



LCRA's Water Management Plan

- **Operations plan for supplying water from lakes Buchanan and Travis to users throughout the lower Colorado River basin**
- **Allows for supply of interruptible water provided we don't impair our ability to meet the needs of our firm customers**
- **Developed with significant input from participants, and approved by the Texas Commission on Environmental Quality**

2020 Water Management Plan

- **WMP substantially revised in 2015, with further updates in 2020**
 - Hydrology through 2016
 - Firm demand projections through 2025
- **WMP has safeguards and is responsive to:**
 - Inflows
 - Storage conditions
 - Actual operations and demands
 - Possible future conditions
 - Increased firm demands

WMP Safeguards – Responsive to Inflow and Storage Conditions

- **Storage in the Highland Lakes and recent inflows are evaluated when allocating interruptible supply**
- **Separate evaluation dates before first and second seasons factor in the most recent conditions**
- **Water supply conditions determined based on storage and inflows**

WMP Safeguards – Water Supply Conditions

- **Enter Less Severe Drought if:**
 - Storage below 1.5 million acre-feet and three-month inflows less than 50,000 a-f; or
 - Storage below 1.4 million a-f and three-month inflows below 33rd percentile

WMP Safeguards – Water Supply Conditions (Continued)

- **Extraordinary Drought if:**
 - Storage below 1.3 million a-f, drought duration since full at least 18 months, and inflows worse than drought intensity curve; or
 - Storage below 1.4 million a-f and storage dropped 300,000 a-f between March 1 and July 1

WMP Safeguards – Reduced Agricultural Supply and Operational Considerations

- **Allocations for agricultural supply reduced or cut off based on conditions at beginning of season**
 - Curtailment curves for Normal or Less Severe Drought
 - Cut off if in Extraordinary Drought

WMP Safeguards – Reduced Agricultural Supply and Operational Considerations (Continued)

- **Agricultural supply can be cut off midseason:**
 - If diversions exceed allocations;
 - If releases from Highland Lakes exceed release caps; or
 - If storage falls to 1 million a-f

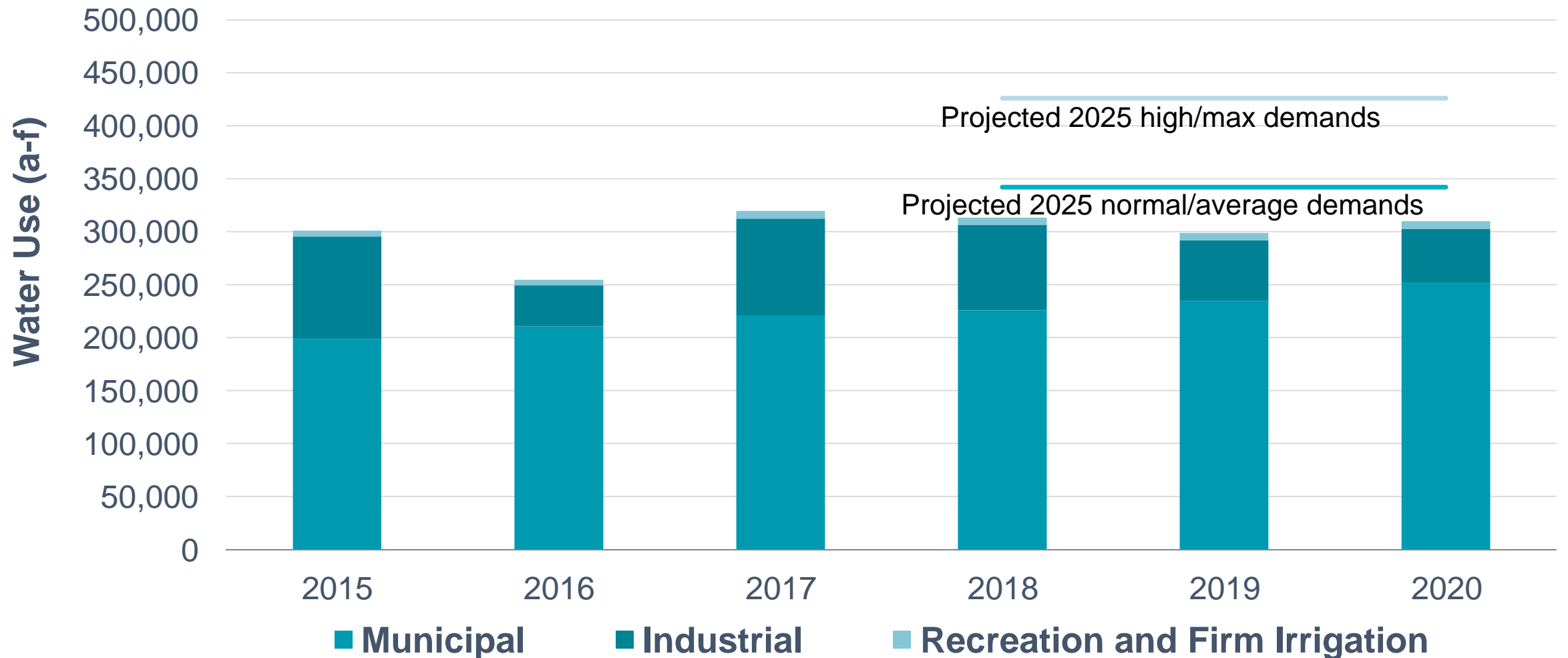
WMP Safeguards – Possible Future Conditions

- **Look-Ahead Test** – additional curtailment of agricultural supply if necessary:
 - 12 months: Stay above 600,000 a-f
 - Upcoming season: Stay above 900,000 a-f

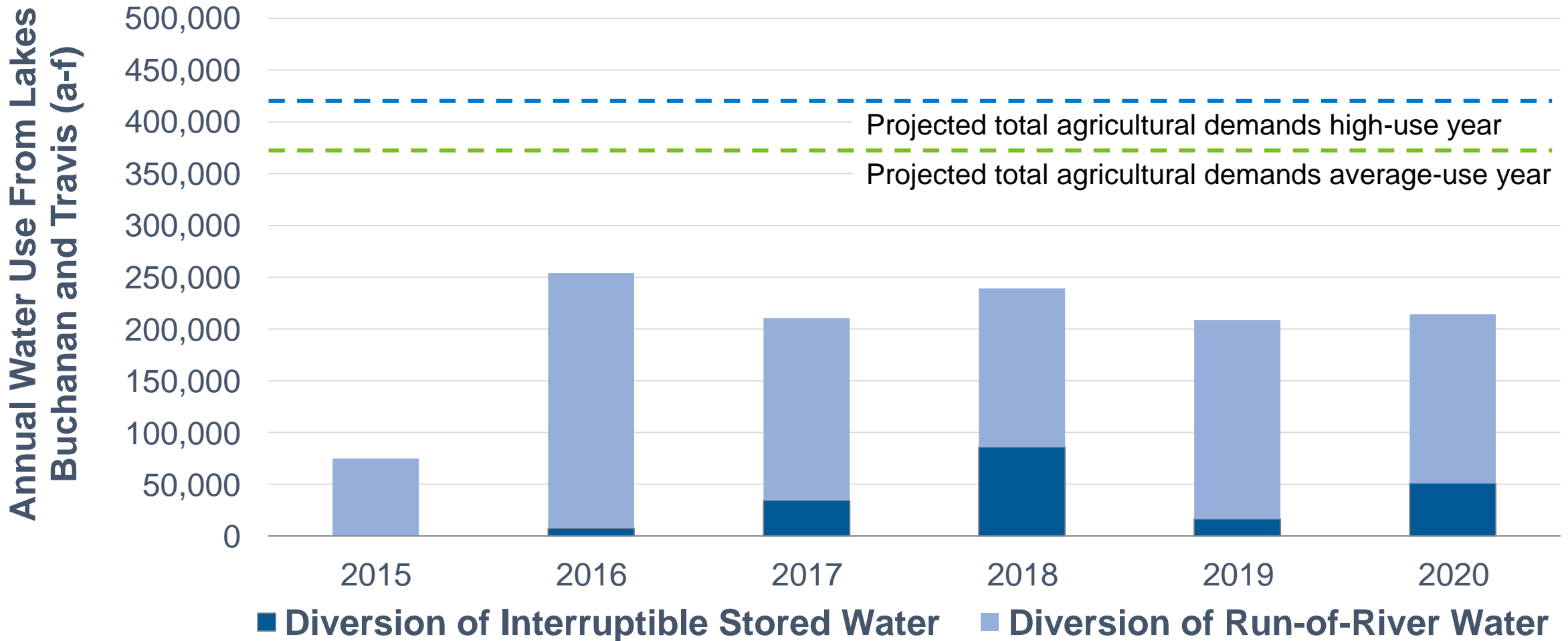
WMP Safeguards – Possible Future Conditions (Continued)

- **Drought Worse Than Drought of Record**
 - If storage below 600,000 a-f, drought at least 24 months and inflows worse than historic drought
- **WMP firm demands based on year 2025 projections**
 - Will begin revision process ahead of demands being realized

Municipal, Industrial, Recreation and Firm Irrigation Use From Lakes Buchanan and Travis and Colorado River



Use of Interruptible Stored Water and Run-of-River at the Four Downstream Agricultural Operations

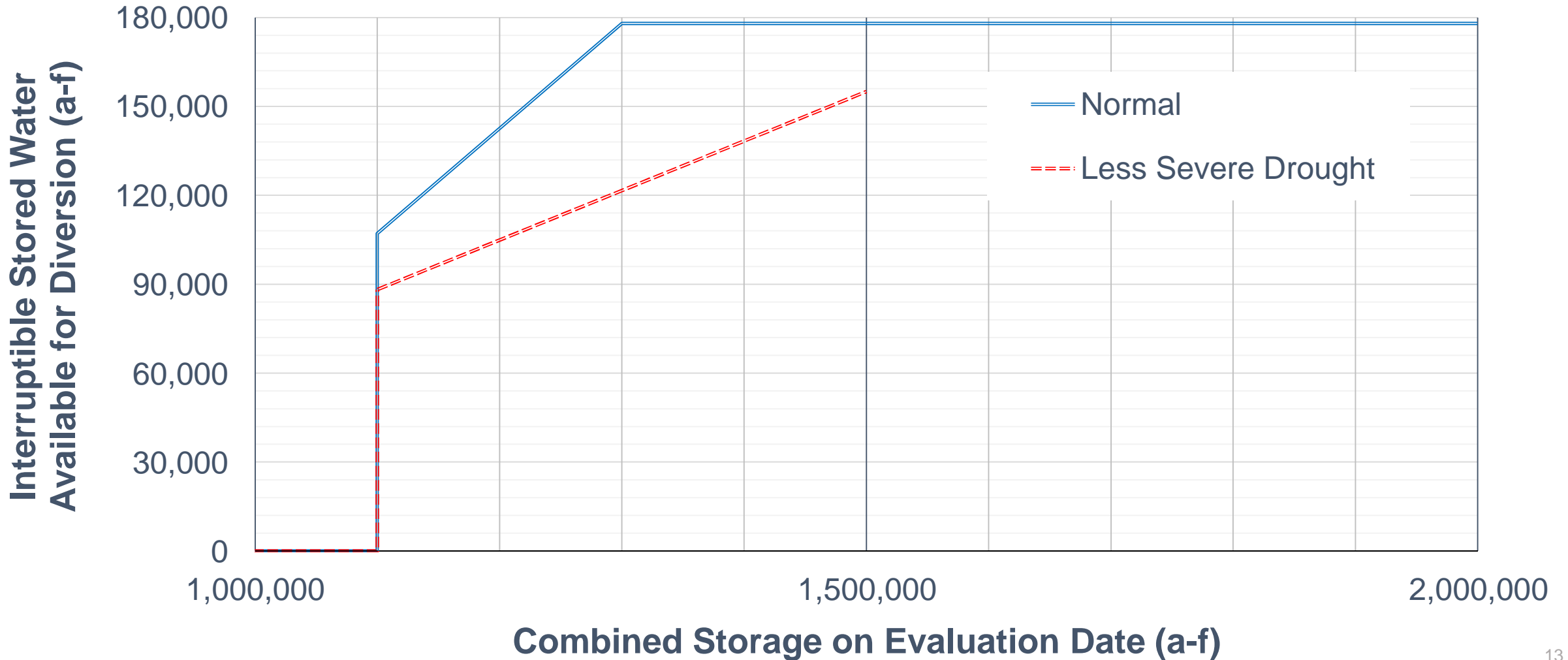


First Season Interruptible Stored Water Availability

| First Season – Normal | | First Season – Less Severe Drought | |
|---|---|---|---|
| Combined storage on March 1 (million a-f) | Interruptible stored water (a-f)* | Combined storage on March 1 (million a-f) | Interruptible stored water (a-f)* |
| Above 1.3 | 178,000 | Above 1.5 | N/A |
| 1.1 to 1.3 | 107,100 to 178,000 | 1.1 to 1.499 | 88,200 to 155,000 |
| Below 1.1 | 0 | Below 1.1 | 0 |

**Anytime cutoff if storage drops to or below 1 million a-f*

First Season Interruptible Stored Water Availability (Continued)



Environmental Flows During First Season

- **Instream flow criteria at Subsistence* level**
- **Bay inflow criteria at OP-3* level**
 - Two-month bay inflow target of 164,000 a-f
- **Limitations on bay obligation:**
 - Limited to storable inflows into Highland Lakes
 - Maximum release as a percentage of storable inflows
 - Maximum monthly release

*Subsistence, OP-3, OP-2 and other levels of instream flows and freshwater inflows are defined in the 2020 WMP

Applying 2020 WMP to 2021 Second Season

- **July 1 evaluation date**
 - Projected combined storage:
 - Median about 1.29 million a-f
 - 99th percentile exceedance projection of about 1.15 million a-f

Applying 2020 WMP to 2021 Second Season (Continued)

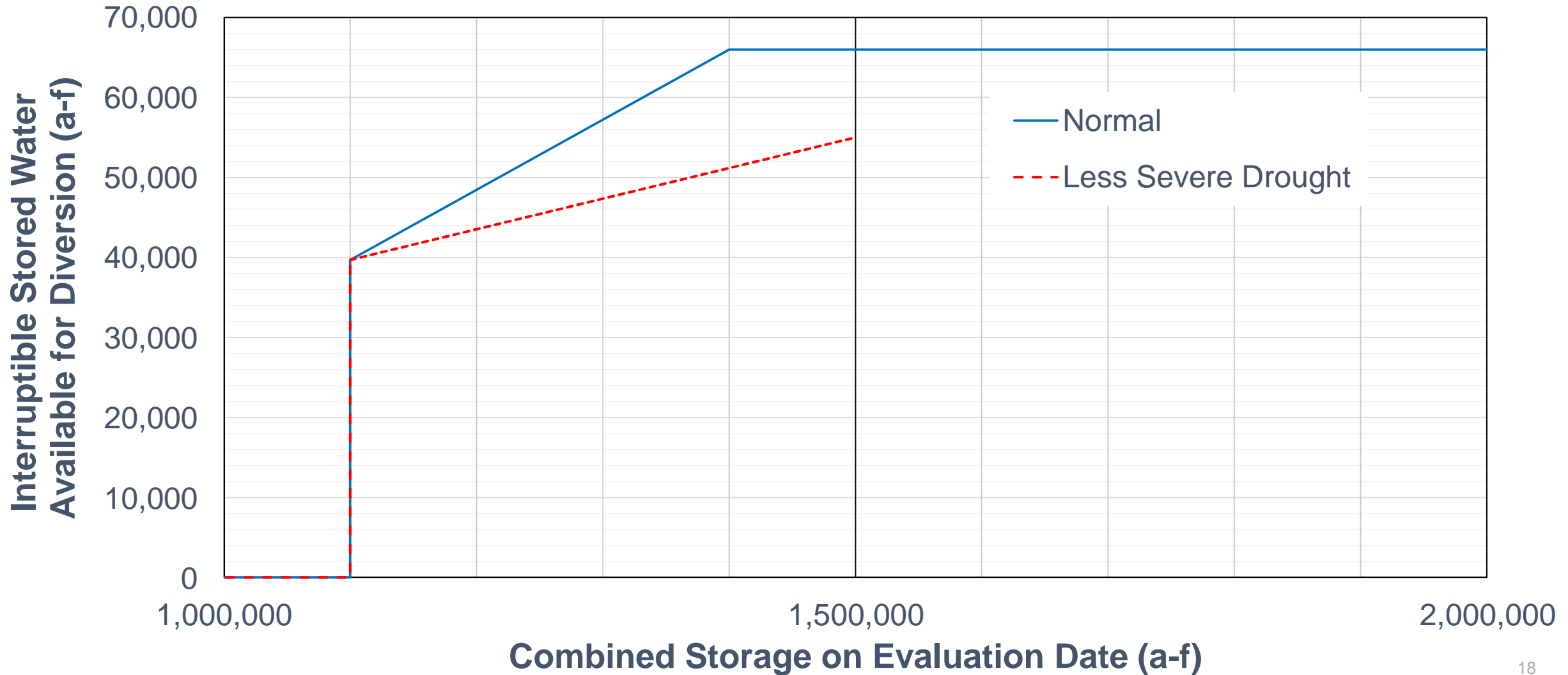
- Agricultural supply
 - For storage just above 1.3 million a-f, would be significantly curtailed
 - If storage below 1.3 million a-f and low inflows continue, likely cut off under Extraordinary Drought
- Environmental flow criteria
 - For storage between 1.3 and 1.5 million a-f, would reduce criteria to OP-2
 - If agricultural supply is cut off, bay criteria reduces to Threshold only

Second Season Interruptible Stored Water Availability

| Second Season – Normal | | Second Season – Less Severe Drought | |
|--|-----------------------------------|--|-----------------------------------|
| Combined storage on July 1 (million a-f) | Interruptible stored water (a-f)* | Combined storage on July 1 (million a-f) | Interruptible stored water (a-f)* |
| Above 1.4 | 66,000 | Above 1.5 | N/A |
| 1.1 to 1.4 | 39,700 to 66,000 | 1.1 to 1.499 | 39,700 to 55,000 |
| Below 1.1 | 0 | Below 1.1 | 0 |

**Anytime cutoff if storage drops to or below 1 million a-f*

Second Season Interruptible Stored Water Availability (Continued)



Summary of Current Status

First season:

- Normal water supply condition
- Instream flows = Subsistence; bay inflows = OP-3

Second season:

- Look at July 1st combined storage and inflows
- Current projections indicate greatly reduced or completely curtailed interruptible water allocation under the WMP
- Instream flows = Subsistence; bay inflows = OP-2

Key Takeaway – the 2020 WMP is Protective and Responsive

- **To lake storage**
- **To inflows**
- **To actual operations**
- **To possible future conditions**
- **To firm demands**

