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# Appendix L

Upper Division States Depletion Schedules

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# Acronyms and Abbreviations

|             | Full Phrase                      |
|-------------|----------------------------------|
| CRSS        | Colorado River Simulation System |
| Reclamation | Bureau of Reclamation            |
| UCRC        | Upper Colorado River Commission  |
| Upper Basin | Upper Colorado River Basin       |

# Appendix L. Upper Division States Depletion Schedules

## L.1 Overview of Methodology for Developing the Baseline Upper Division States Depletion Demand Schedules

The Upper Basin Colorado River Simulation System (CRSS) baseline demand schedules were developed from the Upper Colorado River Commission's (UCRC) updated 2016 Depletion Demand Schedule<sup>1,2</sup>. Specifically, the UCRC—in coordination with the Upper Division States—developed decadal projections of water depletion demands by sector at the state level to support long-term planning efforts. These projections represent anticipated water demands under assumed economic and hydrologic conditions. The Arizona portion of the Upper Colorado River Basin (Upper Basin) demand schedule was developed by the Bureau of Reclamation (Reclamation) and is primarily comprised of Navajo Nation uses. The representation of the Upper Basin Tribes in the UCRC depletion demand schedule was presented in documentation dated July 13, 2022, that outlines the differences between the 2018 Tribal Water Study demand schedules and the updated 2016 Depletion Demand Schedule<sup>3,4</sup>.

To integrate the UCRC's decadal projections into CRSS, Reclamation worked with the Upper Division States to disaggregate the state-level demand estimates to CRSS' spatial resolution at an annual timestep. These annual depletion values were further disaggregated to a monthly timestep using sector and subbasin-specific monthly distribution coefficients, which were derived either from data provided by the Upper Division States or from average distributions based on Reclamation's Consumptive Use & Loss reports. Corresponding diversion values were subsequently calculated using the disaggregated depletion estimates and water-user-specific efficiency ratios. State level

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<sup>1</sup> Upper Colorado River Commission (UCRC) & Upper Division States. (2022, June 14). *Combined Resolution and Updated 2016 Depletion Demand Schedule*. Upper Colorado River Commission. Retrieved from <http://www.ucrccommission.com/wp-content/uploads/2022/06/UCRC-and-Upper-Division-States-Combined-Resolution-and-Updated-2016-Depletion-Demand-Schedule-June-14-2022-1.pdf>.

<sup>2</sup> Neither the CRSS baseline demands nor the UCRC 2016 Depletion Demand Schedule include reservoir evaporation undistributed by state from Lake Powell, Flaming Gorge, Blue Mesa, Morrow Point, which averages 520.0 kaf per year.

<sup>3</sup> The Post-2026 modeling is based on water rights of the Ute Indian Tribe of the Uintah & Ouray Reservation that have not been ratified by all parties. The Ute Indian Tribe of the Uintah & Ouray Reservation has federally reserved Indian water rights, a portion of which were federally decreed in 1923 and a portion of which have been separately recognized and put to use by the United States and the State of Utah, which are not fully resolved.

<sup>4</sup> The information reflected in the baseline depletion demands schedule relies on information about projected future Tribal water demands. The projections were based on information compiled in a Colorado River Basin Ten Tribes Partnership Tribal Water Study (December 2018). As discussed in Chapter 8 of that Study, the technical approach was based on the best science and information available at the time, given limitations related to timeframes and resource constraints, among other things. The Navajo Nation informed Reclamation that it was developing updated projections as part of its water development planning. Reclamation worked with the Navajo Nation as needed to update demand schedules prior to the publication of the Final EIS.

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Upper Division States Depletion Demand Schedules)

reservoir evaporation for reservoirs explicitly represented in CRSS<sup>5</sup>, which averages 56.0 thousand acre-feet per year, was removed from the UCRC's decadal projections before loading in CRSS but are included in the table below.

**Table L-1** shows the depletion demands for the Upper Basin by state.

**Table L-1**  
**Upper Division States Depletion Demand Schedule (thousand acre-feet)**

| Calendar Year | Arizona <sup>6</sup> | Colorado | New Mexico | Utah  | Wyoming | Total Upper Basin |
|---------------|----------------------|----------|------------|-------|---------|-------------------|
| 2027          | 40                   | 2,989    | 653        | 1,131 | 710     | 5,516             |
| 2028          | 40                   | 2,998    | 657        | 1,141 | 712     | 5,541             |
| 2029          | 41                   | 3,007    | 661        | 1,152 | 714     | 5,565             |
| 2030          | 41                   | 3,016    | 665        | 1,162 | 716     | 5,590             |
| 2031          | 42                   | 3,022    | 668        | 1,173 | 718     | 5,613             |
| 2032          | 42                   | 3,029    | 671        | 1,185 | 720     | 5,636             |
| 2033          | 43                   | 3,036    | 675        | 1,196 | 722     | 5,659             |
| 2034          | 43                   | 3,043    | 678        | 1,206 | 724     | 5,680             |
| 2035          | 44                   | 3,050    | 681        | 1,216 | 726     | 5,702             |
| 2036          | 44                   | 3,057    | 685        | 1,228 | 728     | 5,726             |
| 2037          | 45                   | 3,064    | 688        | 1,239 | 730     | 5,749             |
| 2038          | 45                   | 3,071    | 691        | 1,251 | 731     | 5,772             |
| 2039          | 46                   | 3,077    | 695        | 1,263 | 733     | 5,796             |
| 2040          | 46                   | 3,084    | 698        | 1,274 | 735     | 5,819             |
| 2041          | 47                   | 3,095    | 699        | 1,277 | 737     | 5,834             |
| 2042          | 47                   | 3,105    | 699        | 1,277 | 739     | 5,847             |
| 2043          | 47                   | 3,115    | 700        | 1,278 | 741     | 5,860             |
| 2044          | 47                   | 3,126    | 700        | 1,279 | 742     | 5,873             |
| 2045          | 47                   | 3,136    | 701        | 1,280 | 744     | 5,886             |
| 2046          | 47                   | 3,147    | 702        | 1,280 | 746     | 5,899             |
| 2047          | 47                   | 3,157    | 702        | 1,283 | 748     | 5,914             |
| 2048          | 47                   | 3,167    | 703        | 1,286 | 749     | 5,930             |
| 2049          | 47                   | 3,178    | 703        | 1,290 | 751     | 5,945             |
| 2050          | 47                   | 3,188    | 704        | 1,293 | 753     | 5,961             |
| 2051          | 47                   | 3,191    | 705        | 1,296 | 755     | 5,969             |
| 2052          | 47                   | 3,195    | 705        | 1,299 | 757     | 5,978             |
| 2053          | 47                   | 3,198    | 706        | 1,302 | 758     | 5,986             |
| 2054          | 47                   | 3,202    | 707        | 1,305 | 760     | 5,994             |

<sup>5</sup> Reservoir evaporation distributed by state explicitly represented in CRSS includes Navajo, McPhee, Dillon, Granby, Homestake and Willow Creek reservoirs.

<sup>6</sup> In response to comments received on the Navajo Nation's demands used in the Draft EIS, the values presented in this table reflect updated demands. To fully incorporate the updated demands into the Final EIS analyses, all alternatives and resource models would have had to be re-run, which was not feasible within the given timeline. As such, all modeling and analyses included in this Final EIS still use the demands from the Draft EIS. A sensitivity analysis found that, while the updated demands result in minor changes, they would not significantly affect the relative ranking of alternatives or the conclusions for any resource.

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| Calendar<br>Year | Arizona <sup>6</sup> | Colorado | New<br>Mexico | Utah  | Wyoming | Total Upper<br>Basin |
|------------------|----------------------|----------|---------------|-------|---------|----------------------|
| 2055             | 47                   | 3,205    | 707           | 1,308 | 762     | 6,003                |
| 2056             | 47                   | 3,209    | 708           | 1,311 | 764     | 6,011                |
| 2057             | 47                   | 3,212    | 709           | 1,314 | 765     | 6,020                |
| 2058             | 47                   | 3,215    | 710           | 1,317 | 767     | 6,028                |
| 2059             | 47                   | 3,219    | 710           | 1,320 | 769     | 6,036                |
| 2060             | 47                   | 3,222    | 711           | 1,323 | 771     | 6,045                |

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