

Yakima Basin Integrated Plan – Modeling Update for Lower River

December 14, 2016

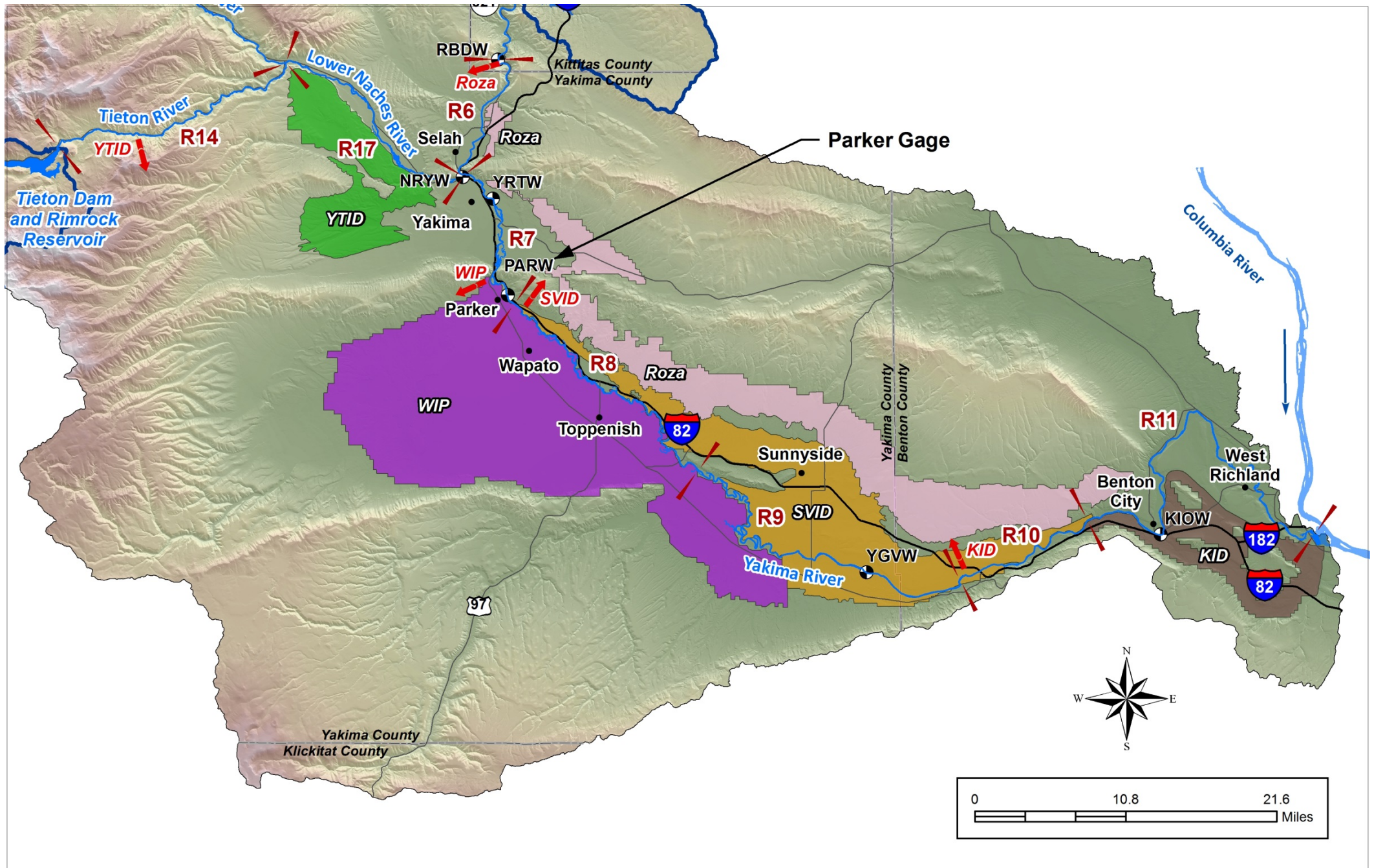


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Changes to Yakima Basin Hydrologic Model since Previous Round of Modeling (February 2016 Report)

1. Modified YakRW Model

- A. Incorporate Recent Operational Adjustments in Reach-by-reach Flow Objectives
- B. Apply Target Flow Requirements at Prosser
- C. Modified Simulation of Chandler Diversion to include Hydropumps
- D. Modified Lower River Return Flows based on USGS GW Model
- E. Modified Irrigation Efficiency Parameters for Lower River Irrigators

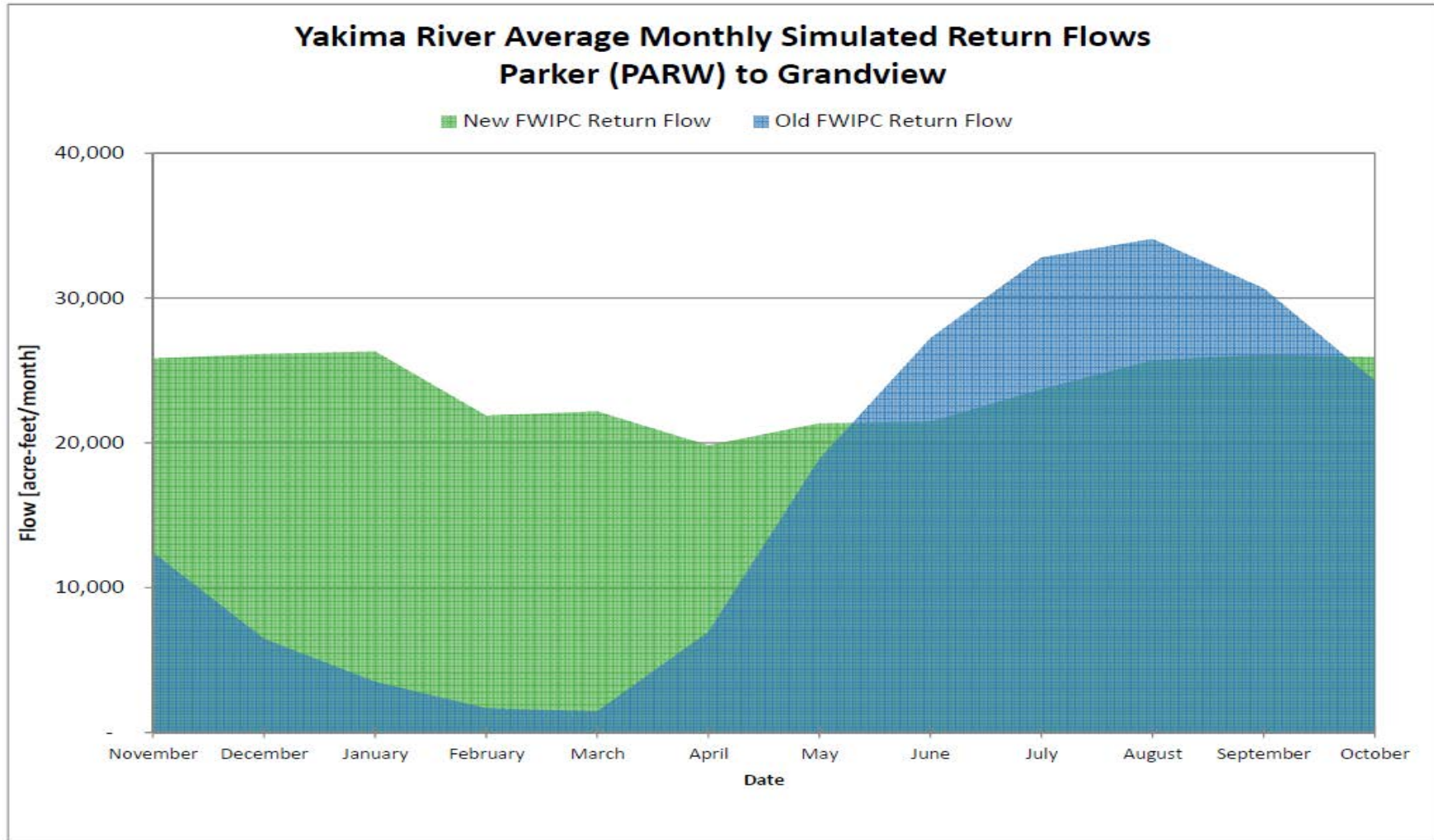
2. Extended Simulation Period through 2015

3. Recalibrated Lower River Portions of Model

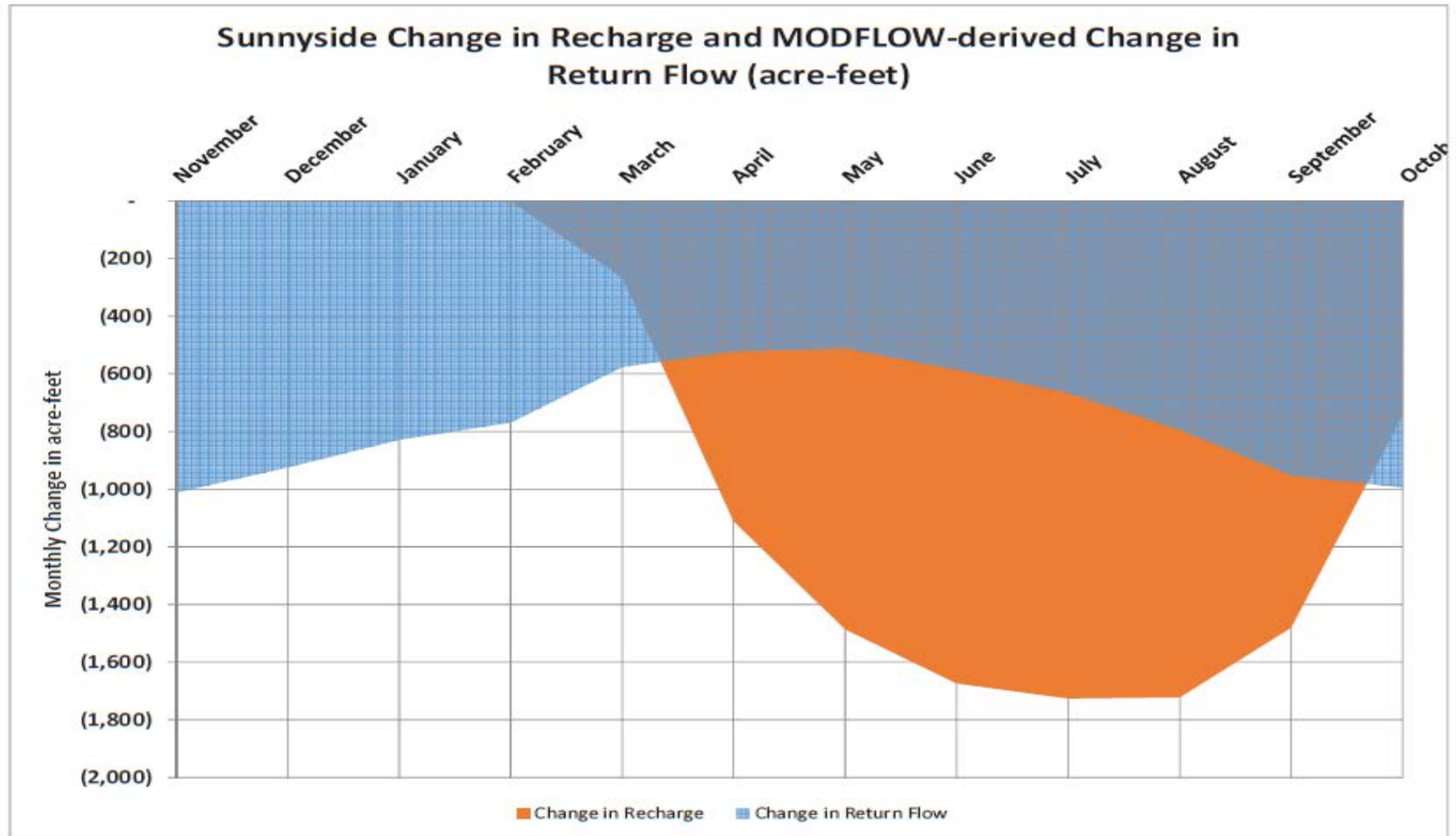
4. Modified Future Integrated Plan Water Conservation Project Assumptions



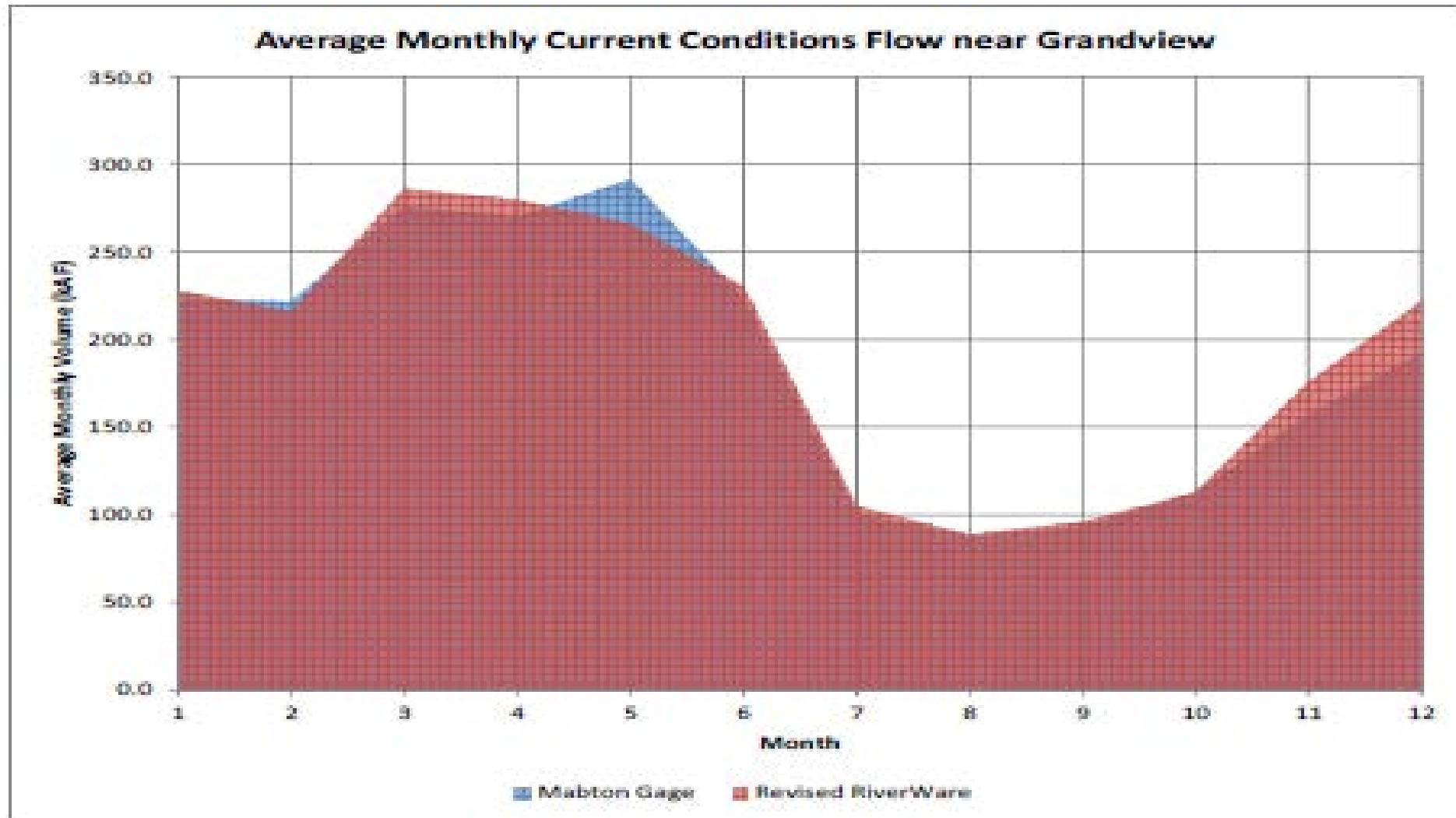
Modified YakRW Model – Lower River Return Flows



Modified YakRW Model – Change in Recharge and Effect on Return Flows above Prosser Dam

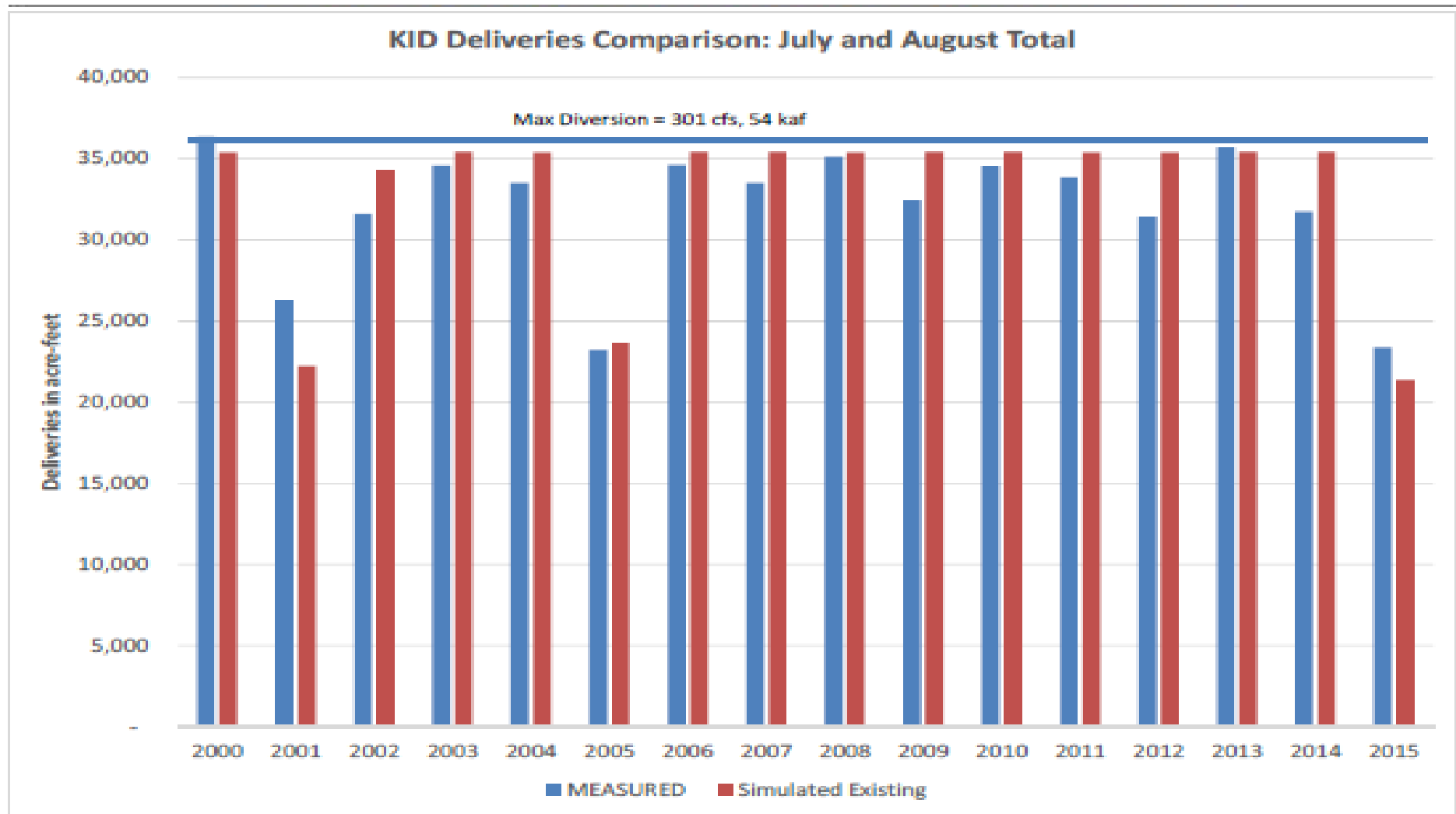


Recalibrated Lower River Portion of YakRW Model Simulated versus Measured Flow



Recalibrated Lower River Portion of YakRW Model

Simulated versus Measured KID Diversions



Conservation Assumptions Adjusted in Lower Basin

Seepage and spills reduced in three irrigation divisions

- Sunnyside (main canal)
- Roza (main canal)
- Wapato (laterals)



Results from New Conservation Assumptions in Model

Reduction of 46,000 AF in diversions by Sunnyside and Roza in non-drought years

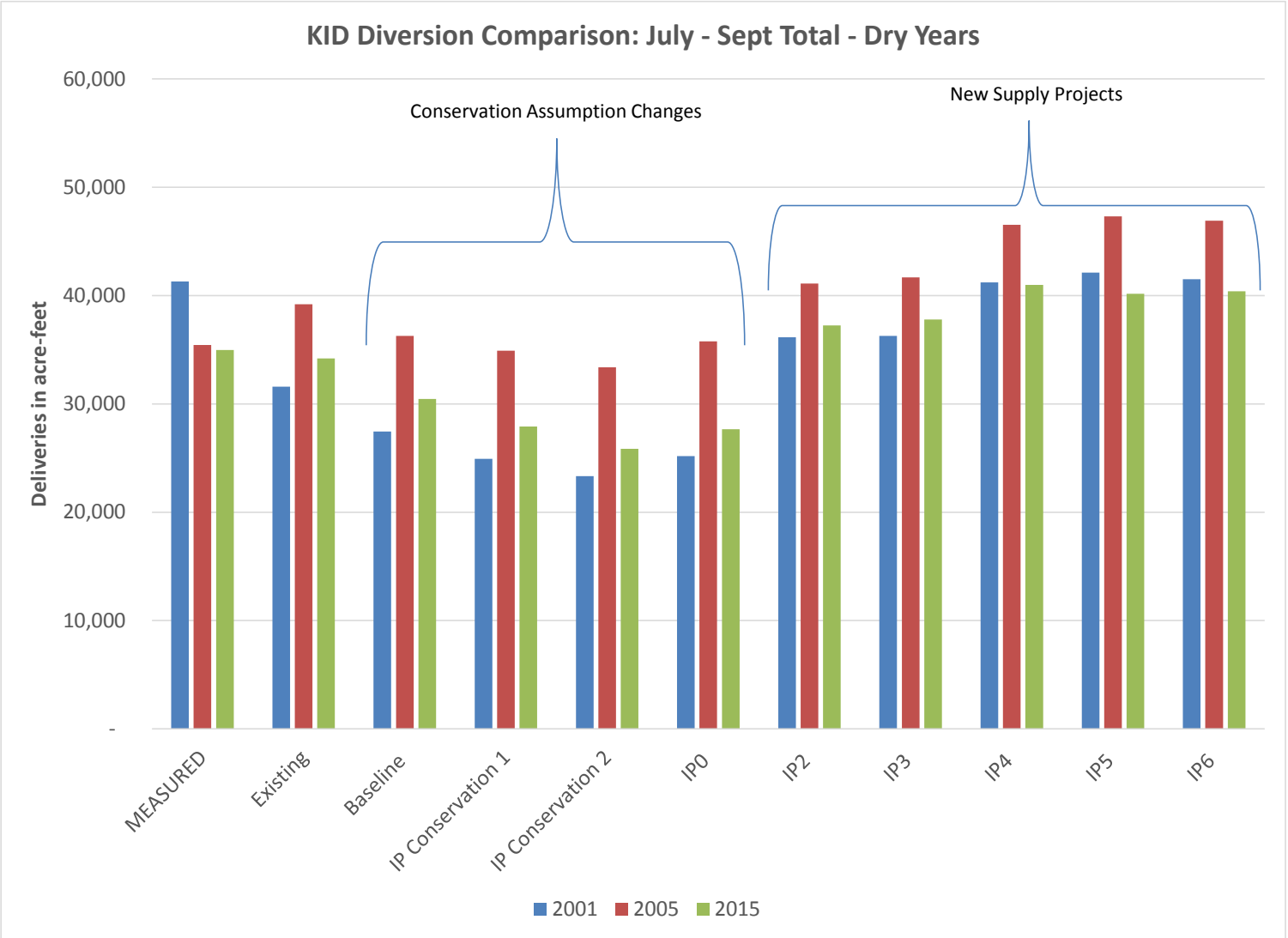
- Savings enable increase of 16,000 AF in irrigation deliveries within Roza
- Remaining conserved water goes to storage

WIP (Scenario 1)

- Increases WIP supply in normal years by 96,000 AF, through recapture and use within WIP



Simulated Effect on Water Available for KID Diversions



Next Steps Using Updated RiverWare Model

Run model using adverse climate scenario, for effects in Lower River

Prepare written report on recent simulations

Ongoing discussions with KID regarding simulations and results

Ongoing communications with Workgroup Subcommittees on use of updated model for Integrated Plan



Questions/Discussion

