Humboldt River Basin Water Authority Update to the Subcommittee on Public Lands May 23, 2022

Humboldt River at Palisade
Photo by USGS

Overview of Humboldt River Basin Water Authority

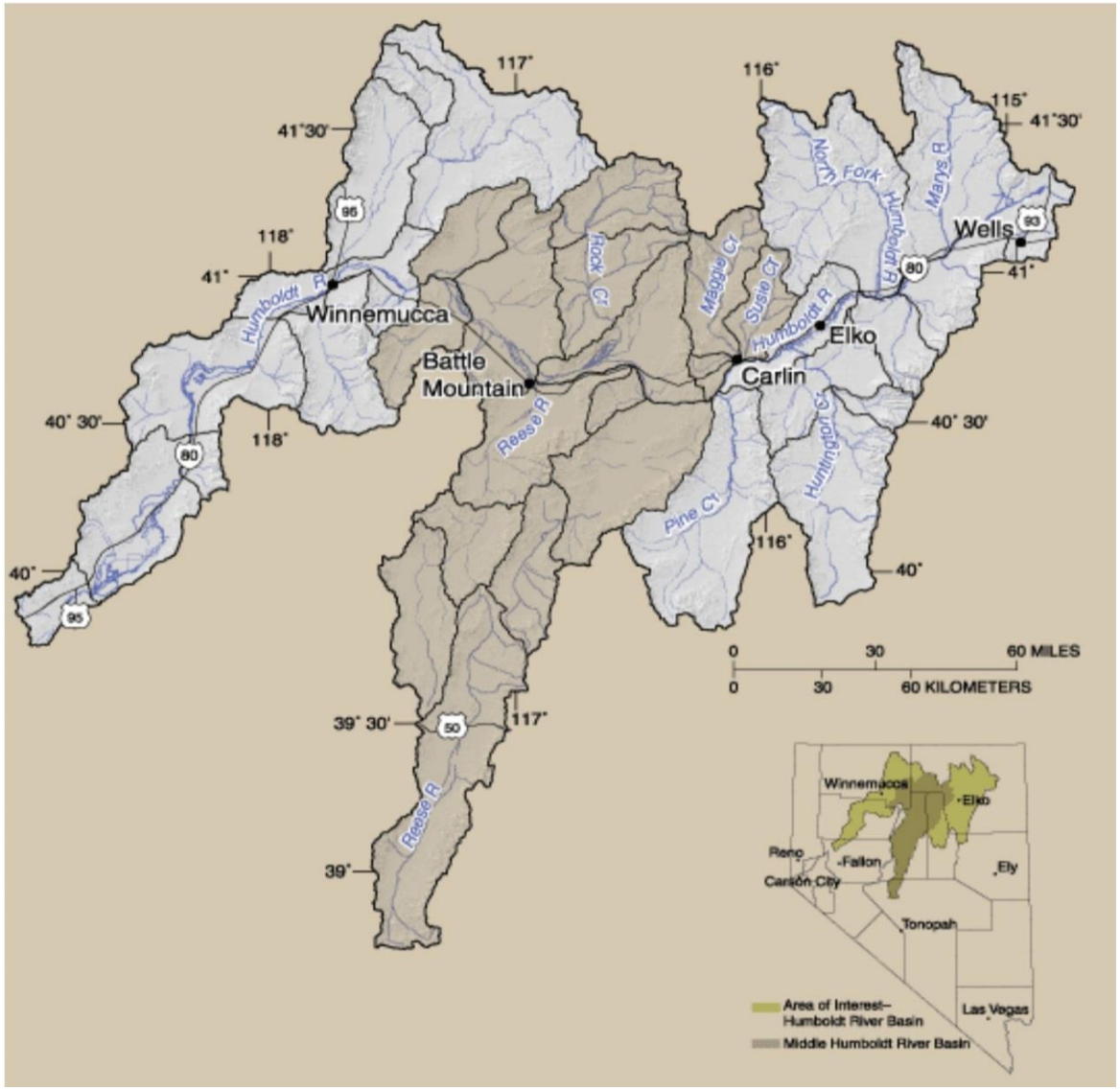
- Established in 1995 by Elko, Eureka, Lander, Humboldt and Pershing Counties Pursuant to NRS 277 Nevada's Interlocal Cooperation Act.
- Organized to Oppose Proposal to Export in Excess of 300,000 acre-feet of Groundwater from the Upper Humboldt River Basin to the Lower Carson River Basin (EcoVision Project)
- Fifteen-member Board of Directors; 3 Appointed by Each Member County Commission; Includes at Least One County Commissioner from Each Member County and Nevada Mining Association Representative Appointed as Non-Voting Member
- For Past 27 Years 15-Member HRBWA Board of Directors Have Continued to Meet Quarterly to Address Water Resource Issues of Concern

Humboldt River Basin Geography

Drainage Area of 7,410 Sq. miles (Larger than HI, CT, DE, RI)

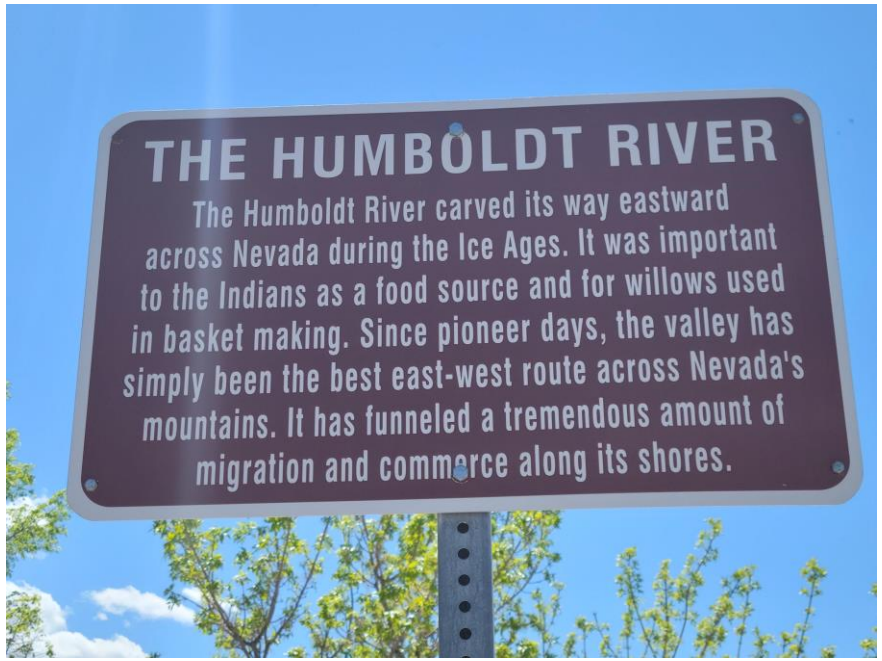
330 Miles in length with no outlet

Divided into an upper, middle and lower division



Humboldt River History

- Population growth spawns demand for agricultural products
- Historically high flows between 1905 and 1925 (300,000 plus AFY)
- Increasing agricultural production led to conflicts among users
- State Engineer filed final Order of Determination with Court in 1923
- Bartlett Decree entered 1931 & Edwards Decree entered 1935
- Decrees based on irrigated acreage during time of plenty of water
- Most senior Humboldt River system surface right – 1861



The Humboldt River Basin Economy

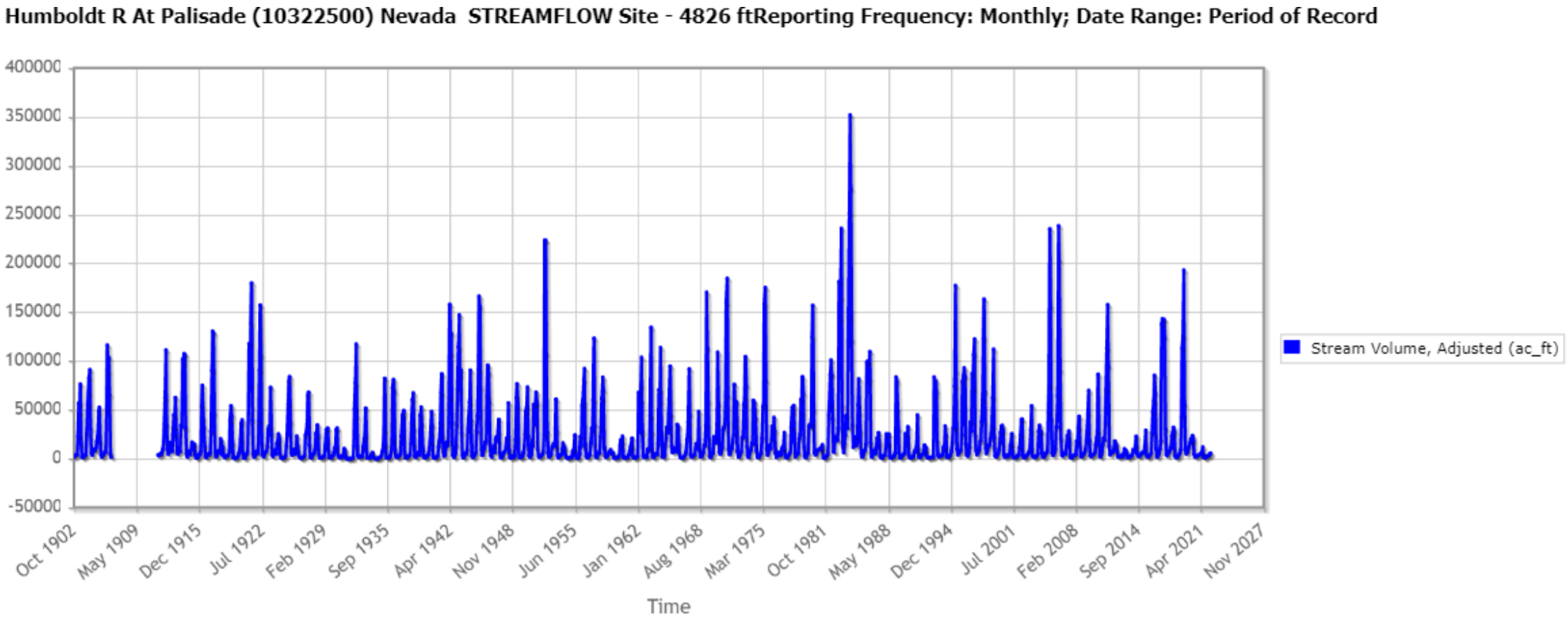
- Water is of primary importance to the economy of the Humboldt River Basin Counties
- The Humboldt River Basin has been one of the Nation's and the world's important sources of gold, silver, copper, mercury, and tungsten
- Diverse agricultural production (hay, grain, potatoes, livestock, garlic, onions)
- Key infrastructure in place • Interstate 80; U.S. 93; U.S. 95 • Mainline railroad serving Port of Oakland • Natural gas transmission • Electrical energy transmission

Humboldt River Basin Characteristics

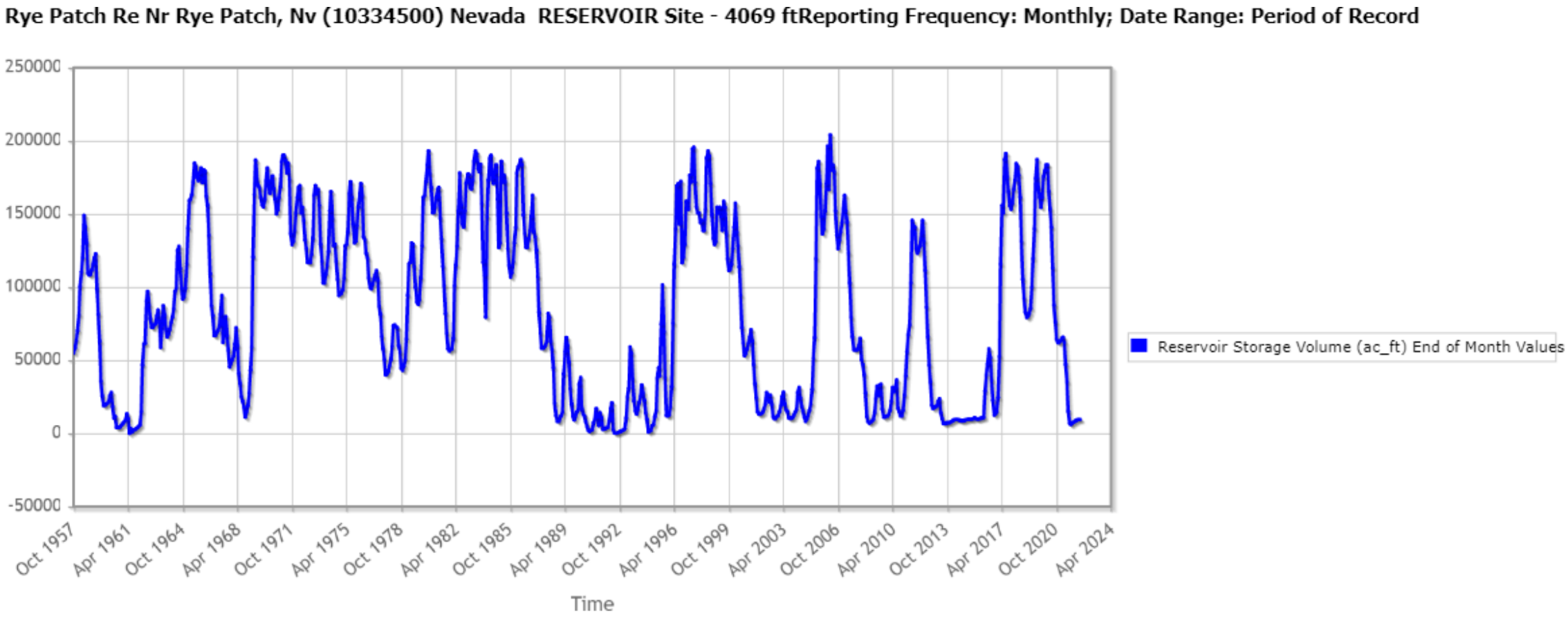
- Approximately 469,000 acre feet of perennial groundwater yield
- Approximately 757,758 acre feet of committed groundwater rights
- Very little unappropriated groundwater remains available, 23 of 34 groundwater basins are over-appropriated
- All groundwater basins within the Humboldt River Basin have been designated by the Nevada State Engineer as requiring special management
- Long term over-pumping of groundwater basins is impacting base flow of the Humboldt River

Factors Contributing To Diminished Base Flow of the Humboldt River

- Loss of Proper Functioning Riparian Areas
- Groundwater Pumping
  - Agriculture
  - Mining, Milling and Dewatering
  - Municipal and Industrial
- Warming Trends
  - Reduced Snowpack
  - Earlier Runoff
- Drought



Graph from NRCS
Data from USGS



Graph from NRCS
Data from USGS

Water Resource Issues Requiring Resolution within Humboldt River Basin – Lack of Storage

- Storage in upper Humboldt River Basin is not available for consumptive uses such as irrigation.
- Storage in lower Humboldt River Basin requires adequate upper and middle-Humboldt River flow to move water to Rye Patch Reservoir.
- During years of average and better flows, lack of upstream storage results in losses of water to evaporation in the Humboldt Sink.
- Little to no storage capacity results in little to no drought reserve within the Humboldt River Basin.

Conjunctive Management of the Humboldt River Basin

- NRS 533.024 declares that it is the policy of the State of Nevada to manage conjunctively the appropriation, use and administration of all waters of this State, regardless of the source of water

- USGS and DRI are completing a capture model of the entire Humboldt River drainage to better define surface water and groundwater connectivity

- State Engineer Order #1329 Establishes Interim Procedures for Managing Groundwater Appropriations to Prevent the Increase of Capture and Conflict with Rights Decreed Pursuant to the Humboldt River Adjudication

Recommendations

- Support Enhanced Funding to the Division of Water Resources to Restore Staffing, Digitize Data, Update Water Basin Budgets and Adjudicate Basins
- Restore Water Basin Account (NRS Chapters 533 and 534)
- Support Cloud Seeding Activities in Nevada
- Restore Base Flow/Balance Demand with Sustainable Supply
- Technological Fixes

Thank you!

Photo by USGS