

PAG

presentations and notes

Columbia River Basin Long-Term Water Supply & Demand Forecast

- Intro & Purpose for Forecast
- Summary of 2021 Forecast
- Options for Improving Future Forecasts
- Input needed from CRPAG

Jennifer Adam, Washington State University

NOTES

2021 report passed around to view

Intros – Jenni, Sonia, Sasha, Dan, (online: students and professors)

- Forecast background, 2021 team members (WSU, Aspect, UU, ECU)
- Spatial Layers map highlighting CRB, E. WA. watersheds, Columbia Mainstem, Aquifer subareas
- 2021 Trends Analysis (climate change, pop growth, and Ag trends) summary
- Forecast components table (complicated table showing demands and supplies vs methods and go scoping) – looking forward to 2070 (more than 20 years out)
- Eastern Washington vulnerable to - water up earlier in spring/winter; decreasing late in summer/fall; more extremes in water supply shifts year to year
- This combo of low supplies at critical times and local increase demands leads to increase frequency of ...
- List of 2021 products (reports, factsheet, website) wrs.wsu.edu
- Planning for 2026 – review of RCW 90.90.040 mandate
- What changes in 5 years? Climate changing (variability is too small to see significant change in 5 year), BIGGER CHANGES: tech improvements, info needs, pop change
- Slide – Possible change in forecast timeline – WSU proposing a full comprehensive forecast published every 10 years; other (update) years focus on tech and scenario development. Combo of existing and new data will be used.
 - This will improve effectiveness of future forecasts.
 - Target Modules propose
 - Water supply, demand, scarcity, and what if scenarios
 - This takes time to model and analyze
 - Public Q&A
 - streamflow restoration act help water supplies. No model exists at this time. This is something we can look into. Also, most waterways impacted by this act are tributaries
- Water Supply Module: Sasha – HUGE interest in improving GW modeling
 - GW modeling motivation – down GW levels across E WA
 - Past modeling assumed GW levels are NOT declining
 - Approach – Updated data from USGS GW study of the Columbia Plateau Regional Aquifer System (CPRAS)
 - Run historical (to 2020) and future scenarios (at an annual timestep)
 - Eval GW management implementation impact on GW levels

- Co-funding being sought at this time
 - GW Assess/impacts
 - Motivation (Moti)
 - Up GW use in “drought mitigation toolbox” BUT actual role potential buffer drought has been unexplored
 - Est. ASR props need to be improved for more accurately eval GW roles in drought
 - Approach (App)
 - Review and improve existing recharge
 - Create maps of vulnerable areas where GW use increases during drought
 - Potential ASR areas highlighted
 - Q&A
 - BOR USGS GW modeling data website – <https://tinyurl.com/2026Forecast>
- Water demand (Dan)
 - Temp farm working housing – emerging issue
 - Moti
 - Washington Tree Fruit Association anticipates 10-fold increase in coming years
 - Traditional water supplies for this comes from exempt wells- currently being scrutinized
 - App
 - Inventory of these facilities
 - Trend data analysis
 - Case studies
 - These facilities are 25 or more people qualifies as municipalities
- Muni (Julie)
 - Moti
 - Population increasing up
 - Water use up
 - WRIA specific leg water shed plans adopted
 - Not included in past forecasts
 - App
 - Improve methodology in current and future data analysis
 - Examine other sectors (industry, residential, irrigation districts, etc.) in more detail.
 - Q&A
- Crop H2O demand during extreme weather events
 - Moti
 - More extreme weather events will impact water supply and demand
 - App
 - Water for
 - frost mitigation
 - Heat stress
 - Cooling (enhances fruit color)
 - Q&A
 - CHAT
 - Wind/humidity testing addressed: yes, in terms of climate drivers in wind humidity, but testing has a lot of uncertainty.
 - In calculating water – will a factor be put into place on irrigation water - reduced water use due to irrigation efficiencies improvements
 - Hydropower demand assessment
 - Moti
 - Public interest in the subject

- Leg changes and Operational changes
 - App
 - Use 2021 forecast for data analysis (Columbia and snake hydro changes)
 - Update elec. Demands
 - Look into when dam operators spill vs general
 - If they have flexibility to spill less during peak flow as electricity demands grow?
 - Analyze climate variability affects due to climate change impacts on Grande Coulee's ops. Releases to river and downstream generation
 - Q&A
- Env. Flows (no proposals at this time. Need PAG input)
 - Moti
 - Importance to regional economy and culture
 - OCR directive 1/3 2/3 supplies
 - App
 - Need collaboration and coordination work to do this
 - Provide a synthesis on ongoing work address this issue
 - Thoughts/ Q&A
 - Tom – a lot of programs that put water instream
 - Where do we go next
 - Other comments
 - How to make this most affective/efficient
 - Need to understand what we really need to look at
 - Col. Instream river atlas
 - Mike Schow
 - Irrigation demand analysis question
 - When developing irrigation element, will county/global demand
 - Ag irrigated acres already impacted in Cal.
 - Change crops
 - Will public policy impact this module (irrigation demand)?
 - Mike (answer) – water shortages assessing OCR water supply and alt. supplies changes in cost and revenue, efficiencies.
- Water scarcity (Mike)
 - Moti
 - Interruptible Water supply shortages
 - 2015 drought regulated formerly senior water right holders for 1st time
 - New water banks starting to emerge
 - App
 - Quantify eco impacts of curtailment,
 - Overlay emerging water supply ops. that can reduce potential curtailment risks including OCR & other public private partnerships
 - Q&A
- What ifs
 - Back-to-back drought assessment (Mike)
 - Moti
 - Consecutive drought years impact (severe harm to water supplies)
 - E WA lacks experience in coping with consecutive drought years
 - App
 - Data analysis of possible impacts

- State agencies
 - Public
- Approach
 - St agencies will cohost caucus meets
 - Public review of draft products
 - Joint press release
- Targeted outreach (as requested by OCR) to PAG WRAC and other groups
- Q&A
- 2 possible combos (Jenni)
 - A – Full comp forecast
 - Op 2 products
 - B- targeted modules ONLY (Toms vote)
 - Op 1 products
 - Allow for back-to-back drought review
 - Water conservation
 - Temp farm worker impacts
 - GW modeling
 - NEW climate change data study
- General Discussion
 - How will we prioritize this?
 - Op to partners with others to accomplish more
 - Cost limited work and products
 - Need to start NOW for research efforts data to be ready for 2026 report
 - Points
 - On/off sch for forecast
 - Which mods to prioritize
- Q – (WDFW) - How is this currently used and by whom. Worry of regurgitated info.
 - A-(Melissa and Tom) watershed specific water managers, OCR use to understand water asks and compare with forecast results. Obvious we need to plan, but don't know where. Lots of potential impacts driving this question. We use report as touchstone in OCR customer asks.
 - (DAN) using forecast to analyze individual water right asks
 - John – also likes this and would like to add in instream and out of stream impacts in targeting future investments
 - Jo - How much as been looked into regarding GW modeling.
 - Julie answering – No one else is doing this analysis; goal is to monitor 50 wells over 7 Conservation Districts. Hard to find wells to monitor. We need a platform to data sharing. We have a study in EIM data base and were partnering with other county ID in gap analysis data collection. Ben answer help – 5 wells monitoring at this time. Will expand to 6+ wells depending on funding and available wells.
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- Question on outsourcing
 - Jenni answer – it makes sense to outsource forecasting but its fully integrated with demand. Vital for analysis of water resource changes. Cannot give this info up without hindering our understanding of everything regarding e WA water supply shifts
 - Daryl Olsen (col snake river irrigation association) – climate mod effectiveness (are our forecasts = what really happened)

- Jenni – calibration done constantly, yearlong modeling calibration process. Huge amount of work put into this. REMEMBER – this is difficult due to climate variability within a short period of time. Full 30-year window of potential impacts are averaged for use in report. Who knows what changes between now and then.
- Craig – vote scenario b. more useful.
- David Ortman – comment not happy with timeline of forecast publication. While does forecast fail to comment on water conservation?
- Jo – CRT updates? Nothing of yet. Basic climate scenarios discussed and might be a separate module. CRT updates are unknown at this time.
- Dress – would a joint meetings help determine best scenario option
- Public Comment
 - David Ortman (copy of written comments)
 - Dry farming in S. Dakota – PAG study 2015 drought comments – June 20, 2019, office of Chehalis basin on dam – ECY OCB and OCR meets at same time. Need to avoid overlapping meetings
 - Empty env. Seat in PAG (7 years of this) why? Rejections or just no one available? Feels like PAG kept in the dark when it comes to YBIP. 2015 climate change with snow melt – feels that this report should be presented to PAG. Work with Cal. On water supply fixes. YBIP report overdue.
 - Chris Voight
 - Climate modeling – what can we do regarding food loss. CRB better water mgmt. 10% drop in potatoes causing increase in prices. Cannot have produce loss!! Look at EPA regulations regarding pesticides. Litigation – require vegetative buffers.

Lake Roosevelt Incremental Storage Release Program/Sullivan Lake/Pt of WW

- current water banks
- Description of the program
- New water right issuance status
- Instream flow augmentation status

Scott Turner, Phil Lefler; OCR/Ecology

Notes

- FDR – no drought on Col R mainstem since 2001
 - M&I – 52 permits
 - updates – 22K of the 25K ac-ft permitted/
 - Costs – covered with water service contracts/each permit mitigated permit is based on the term of Eco and USBR contract (2011) every 40 years in 2051
 - FDR will be fully allocated very very soon
 - Actively processing Pending permits @37
 - 2011 quad cities app – will use up the rest of the FDR water
 - MD – annual releases break down in norm years and drought years (fish flows policy advis. Group works with OCR on determining water supply metrics to release water for instream flows) BOR runs grand coulee dam for these releases
- Sullivan
 - 2010 – OCR acquired WR 14,000 ac-ft from Pend Orielle PUD (MOA) retime released water

- MOA (memorandum of agreement)
 - 4,700 for M&I
 - 4,700 – other (irrigation)
 - 4,600 – instream
 - Stipulations – only 7 nearby and surrounding counties (Pend Orielle, Spokane, Ferry, Douglas, Okanogan, Stephens, Lincoln)
 - \$60 per ac-ft. / annual billing from ECY for 25years, after which water conveys to the permittee/cert. holder (can also do a lump sum payment for this)
 - Irr - 4 permits/all water permitted
 - M&I – 8 permits/ 3,378 ac-ft. remaining

- Q&A
 - Sullivan creek location - dumps in below the dam and flows north
 - Example of PAG shaping leg – Sr apps in tri cities. Keeping water in the area. (can't, move water upstream)
 - Is Eligibility for this water is based on place of use? Yes!

- Pt of WW
 - Background discussion – (Boise Cascades paper co. WR purchased by pt of ww) WR changed to Industry for a business park. WR placed into trust to protect them. OCR leased these rights (6 total = 4,170 ac-ft.)
 - Expired in 2020, renewed in 2021
 - \$120/ac-ft. (largely for irrigation)
 - Majority of this water is Jr to instream flows (3,103 ac-ft.)
 - 6 permits
 - 1% (~42 ac-ft.) of this water remaining (Black rock expiring this week)

- OCR can only charge Water users to recoup water development costs (not staff time)

- Q&A
 - Bruce – actual source of water
 - A- Boise Paper Co.
 - Kelsey – possible future water banks
 - A – yes, more are coming in the future; we're also working on streamlining water releases during a drought
 - Darrel – Have all apps been review?
 - A – no. Most have been contacted, but there are still some that need to be reviewed.
 - Darrel Q2 - Any apps under one mile not contacted?
 - A – not that we know of. No RCW or WAC covers this.

Housekeeping (Melissa)

- New PAG members came online late – Darrel Olsen.
- TPW streaming online

Water Use for Irrigation Analysis under Potential Scenario of Lower Snake River Dam Removal

Tom Tebb, OCR

- Gov ask for OCR to work on this info (impacts due to removal is snake river dams)
- Update – in op budget 23-25 item 21 on page 4091; OCR provided \$250K for one-year irrigation impact analysis of removal of snake river dams 2024 – ops on additional studies that can tap into an additional \$250K funds to conduct.
- Work scope handed out to PAG members for review
- Contracted with CSR for their study on this (work being done now) Contractor will be hired in 2024.

Columbia Basin Updates (Tom)

- Pasco Basin 508-14 Rule-Making –
 - OCR is working with interested parties and tribal governments, groundwater due to CRP irrigation. Public process to evaluate further MOA on water allocation (framework) based on BOR USGS GW report. Quincy basin is an example of fraction permitting (6% of GW permitted – reduces impacts on natural springs, etc..)
- Eightmile Lake Dam Rebuild and Restoration EIS Status (Melissa)
 - Draft EIS finished pub comment (7,000 comments only 400 were unique)
 - Currently work on comment responses
 - Anticipated Final EIS due by end of the year

PAG member round table – impacts due to 2023 drought

- Tom – YBIP
 - May snow melt all snow - 73% water supply
 - By OCT 36%
- Meghan (WDFW)
 - More white sturgeon mortality (elevated Temp)
 - Fish passage impacts due to low flows and river temp
 - Hatchery fish not doing well at entry hatchery points. Thermal barriers worse this year.
 - Pushed salmon season pushed back to allow salmon time to migrate up the yakima river
- John
 - Water supply availability committee – responding agencies drought response
 - Ag impacts – variable impacts; we’re seeing similar impacts in similar locations. How can we fix this? Drought resiliency – water resources dept (ECY) 1.8m funding for grants to look at drought resiliency actions that requires 50% non-state match
 - Continue push on resiliency vs response – issues couldn’t access drought ... requirement of ... on/by July 24? ECY doesn’t have an emergency routing for contacting during drought emergency, causing actions taking weeks to get in line. Impacts already happen by time help gets out.
 - Forecast could help – module of sensitive areas can help prioritize locations and actions for future drought related impacts
 - Lincoln Co (Jo) – many farmers will not be planting winter wheat. This has not happened in 50 years.

Jan 24 2024 next meeting