Commissioner Minutes
April 8, 10:31 a.m. – 11:15 a.m.
MEETING WITH CITY OF NAMPA ABOUT FLOODWATER STORAGE AND RECHARGE PROJECT
Commissioners Leslie Van Beek, Brad Holton, and Zach Brooks
City of Nampa Public Works Director Tom Points
City of Nampa Director of Water Resources John Spencer
Michael Schubert with HDR Inc.
Jason Mick with HDR Inc.

Deputy Clerk Diana Hoffman_____

MEETING WITH CITY OF NAMPA ABOUT FLOODWATER STORAGE AND RECHARGE PROJECT

The Board met today at 10:31 a.m. with the City of Nampa to discuss their Floodwater Storage and Recharge Project. Present were Commissioners Leslie Van Beek, Brad Holton, and Zach Brooks; City of Nampa Public Works Director Tom Points; City of Nampa Director of Water Resources John Spencer; City of Nampa Staff Engineer Garrett Potts; Water Resources Engineer with HDR Inc. Michael Schubert; Water Resource VIT with HDR Inc. Jason Mick; and Deputy Clerk Diana Hoffman.

Mr. Points explained that this Floodwater Storage and Recharge Project is not a Nampa-specific project. This is a regional project for the entire Treasure Valley. This project was the product of a brainstorming session. Floodwater refers to spring release runoff. There will not be as much this year because of snow conditions. Approximately 70% of the time, you can get water that flows right past us, equaling hundreds of thousands of acre-feet of water each year. There are about 1,000,000 acre-feet in the three reservoirs and the Boise River upstream from us. At times, there is about 500,000 acre-feet of spring runoff, flowing at 6,500 CFS. The purpose is to find ways to generate or use water most effectively by putting water in storage and groundwater recharge.

The Valley has a lot of growth. This can be realized in the declining drain flows, especially in the lower part of the Boise River. This affects irrigation districts downstream of Caldwell. There are groundwater declines being found in Southeast Boise area and Lake Lowell area. This is an attempt to work together to avoid conjunctive management while learning from Eastern Idaho.

Most of this study is funded by the Idaho Water Resource Board through the floodwater program. Approximately $200,000 was received to complete a planning study. An important aspect of the study is to have united goals with other municipalities. There have been other studies throughout the area regarding what to do with water supply in the valley, specifically surface water. Many solutions presented are extremely expensive and require redirecting water. The hope is to use existing infrastructure so that the canals, drains, and creeks we have can divert water into locations for surface water recharge. Previous studies have provided heat maps; these show good locations to do recharge. For example, it has been found that Kuna is a good location to divert recharge

water. This benefits everyone as it generally flows towards the Boise River to the Northwest. Mr. Points provided the following presentation.

CITY OF NAMPA GOALS

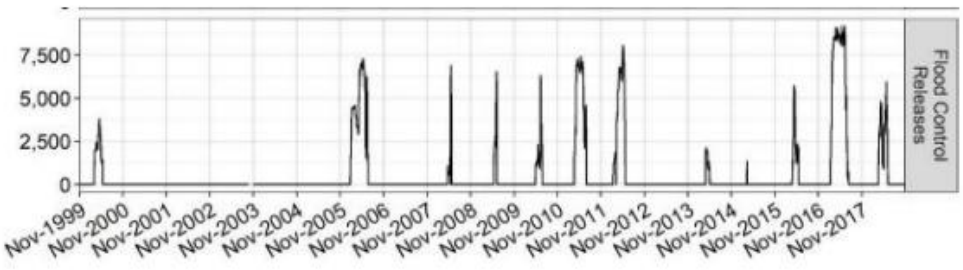
- Proactive Regional Water Management
    - Initiate collaboration among water users to address emerging water supply challenges before regulatory intervention becomes necessary.
- Evaluate Practical Water Supply Solutions
    - Identify opportunities to utilize available Boise River natural flow and floodwater.
    - Prioritize solutions that leverage existing infrastructure and publicly owned property.
- Regional Coordination and Partnerships
    - Engage irrigation districts, municipalities, water users, and agencies to:
        - Identify mutually beneficial opportunities.
        - Understand operational constraints.
        - Explore partnership and facility-sharing opportunities.

GOALS OF POTENTIAL PROJECTS

- Strengthen Aquifer Resilience
    - Enhance recharge to deep aquifer systems supporting municipal supply.
    - Improve shallow groundwater levels supporting domestic wells and irrigation.
- Protect Boise River and Drain System Flows
    - Sustain shallow groundwater contributions that support drain flows and natural flow.
    - Delay or reduce reliance on upstream surface storage releases.
- Regulate Canal and Drain Flows
    - Improve downstream water deliveries.
    - Reduce daily operational fluctuations.
    - Increase deliverable water within the existing system.

Mr. Schubert explained that the water supply source for this study is floodwater from the City of Boise. Data from the following image is from a 2018 Idaho Water Resource Board Study on Recharge Feasibility.

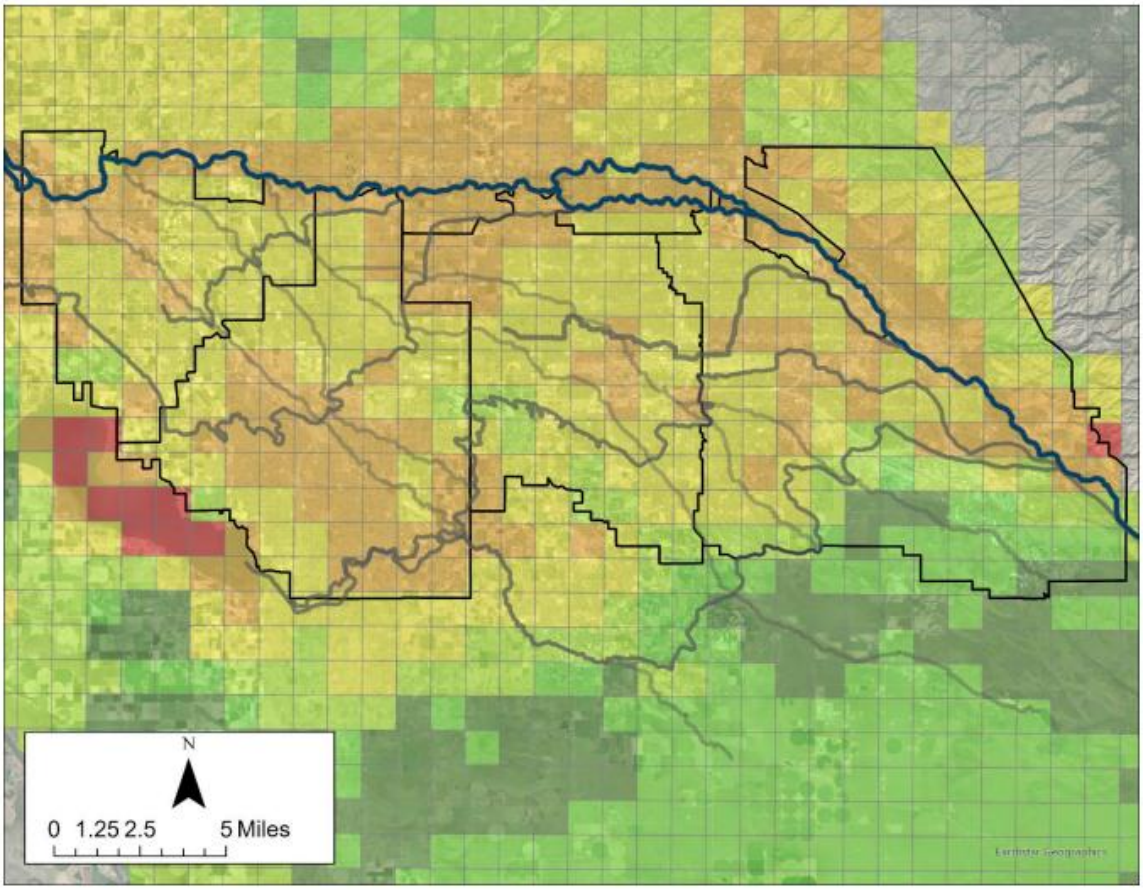
When reviewing the most recent period of record that these statistics cover, available natural flow on the Boise River is very limited upstream of Middleton and Caldwell. This has been the case for a long time, and when compounded with drain flow declines that Water District 63 has noted, this isn't a reliable source for a large volume of water. Flood flows are available on average 7 out of every 10 years as reflected in the following image.



The median is 160,000 acre-feet. For perspective, the Anderson Ranch Dam raise is going to increase storage by 30,000 acre-feet. This is a significant volume of water that is available as a median, but highly variable. There are proposed and ongoing projects that could impact this: the Anderson Ranch Dam raise, the Camp Creek energy project, and Elmore County work. Part of the City of Nampa's efforts include coordinating across municipalities and stakeholders, with the goals of identifying needs, constraints, and aligning common goals. One of the stipulations for this grant was that they are not to study facilities they haven't coordinated with. They do have authorization to evaluate the New York Canal, the Ridenbaugh Canal, the Phyllis Canal, and the Caldwell High Line Canal for these types of projects. These are the major canals that cut across the Treasure Valley and are intersected by the drain network. This provides a comprehensive network to divert

water from the Boise River and wheel it to locations throughout the Treasure Valley to evaluate these recharge and storage projects.

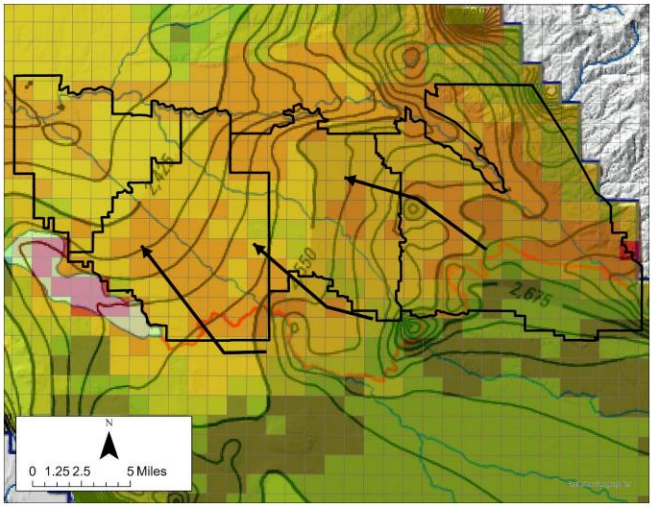
The Water Resource Board developed Recharge Suitability Mapping as part of their Feasibility Study in 2020. That map is available below:



These colors show the relative feasibility of that square mile area for ground water recharge based on the following colors:

- Green = High Potential
- Yellow = Moderate Potential
- Orange/Red = Low Potential

According to this map, the most suitable areas are in the southern end of the Treasure Valley along the New York Canal. See map below showing the direction of groundwater flow and potential outcomes as a recharge area:



Recharge near New York Canal has the potential to:

- Increase drain flows
- Increase natural flow in the lower Boise River
- Decrease Boise System storage use throughout the basin
- Increase the resiliency of groundwater supplies

This is beneficial to downstream water uses who have natural flow and storage rights, as well as increases the resiliency of groundwater supply for municipalities, irrigation districts, and domestic well users.

Clarification to "Decrease Boise System storage uses throughout the basin": by increasing the amount of natural-flow water available, there is the opportunity to pull less water from the reservoirs.

Discussion was held on the benefits of local irrigation districts related to increasing Anderson Ranch Reservoir. Per Mr. Points, there is not currently a plan for how local irrigation districts will access that water.

Discussion was held around the practice of spring flow runoff. Floodwater run off is free water, as it does not count against a water right allotment. Mr. Points noted that this is the concept phase.

Mr. Points explained they are reaching out to cities and counties to discuss identifying areas ideal for recharge. These could potentially be developed into comprehensive plans as part of a development or qualified open space. These are proactive options. Mr. Points discussed the changing landscape across the Treasure Valley and how there is an opportunity to create solutions before additional development occurs.

Commissioner Holton inquired if there would be a need for canal companies to run water in their systems during the winter. Mr. Points noted it would need to run during spring runoff. Eastern Idaho has addressed this issue by implementing a "Wheeling Fee," where Idaho Water Resource Board funds that fee to the canal companies. Irrigators have recognized the benefit to their patrons by recharging the groundwater and increasing drain flows. Conversations with local irrigation districts

have been beneficial and have provided insight to understand what it would take to accomplish this.

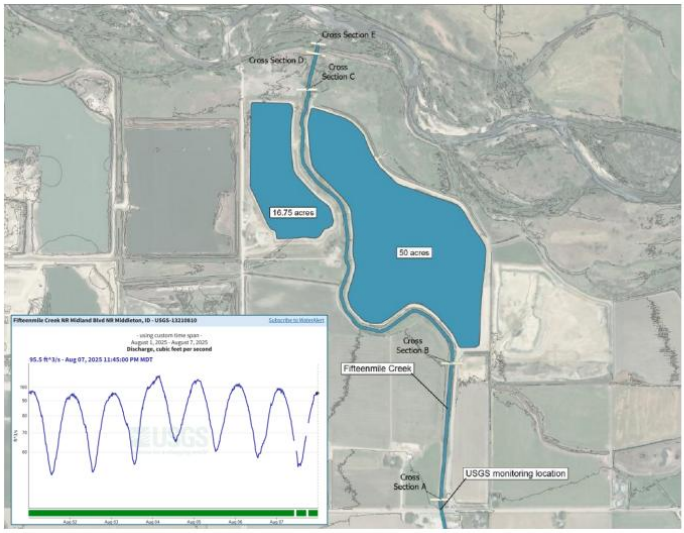
Effects of canal tiling were discussed. Currently, tiling of the New York Canal is focused on urbanized areas.

Mr. Mick noted that after a recent environmental assessment, it was discovered that lining the New York Canal showed that within a seven-mile range where concrete is currently being poured, water levels are anticipated to drop as much as forty-five feet immediately adjacent to the canal, tapering off in surrounding areas.

Mr. Points clarified that the Boise Project has not given permission to use their canal, but permission has been granted to study areas around the canal and return with findings at a later time. There was a water right application by the Boise Project to divert water to Hubbard Reservoir in Kuna for a similar project concept.

Mr. Mick continued the presentation by providing three possible concepts that could achieve the previously mentioned goals.

CONCEPT 1: DOWNSTREAM OF NAMPA



Fifteenmile Creek

Regulating fluctuations in drains flows:

- Increases deliverable water
- Improves consistency to downstream water users
- Provides temporary off-channel storage
- Could provide water quality benefit

As shown in the graph, during irrigation season, Fifteenmile Creek experiences daily fluctuations where the minimum flows can be 50-CFS and maximum up to 150-CFS. This is a large range for a 24-hour period. The idea is to stabilize the flow by creating retention basins to capture peak flows and offset low flows. Benefits include those listed in the slide above.

CONCEPT 2: IN NAMPA

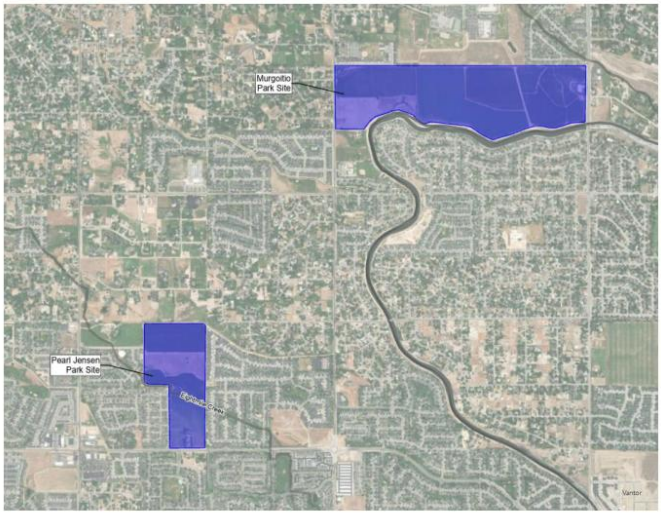
Lakeview Park

Re-establish Lake Ethel:

- Creates multi-benefit amenity for the City and residents
- Improves water quality
- Increases recapture potential in the Phyllis Canal
- Could provide improved spill capacity for NMID

Mr. Mick explained the possibilities with Concept Two in Lakeview Park of re-establishing Lake Ethel. Along with the benefits listed above, Mr. Mick noted that this location experiences similar oscillations but not as strong as Fifteenmile Creek. It was discovered that Lake Ethel was originally used as a regulation pond for the irrigation district's spillway. They are interested in seeing redevelopment of that to improve their spill capacity.

CONCEPT 3: UPSTREAM OF NAMPA



Groundwater Recharge

Recharge groundwater using surface water:

- Increases groundwater availability
- Offsets losses from local pumping
- Could be incorporated into parks or natural spaces

This concept would involve looking at open, undeveloped spaces of land along the New York Canal, which are becoming increasingly uncommon. The two sites highlighted in the above image are owned by the City of Boise, though they do not appear to be within the Boise City limits. These are only potential sites at this time. This would increase the groundwater availability in the green areas

shown on the previously referenced heat map. This image is from immediately downstream of the current lining project, where groundwater loss is anticipated.

Mr. Points said they are just providing concepts with locations. Another phase would entail determining how these projects would be funded and who would be responsible for maintaining them. Some initial ideas for funding include WaterSMART Grants, the Regional Sustainability Grant through the State, and grants from data centers or Fortune 500 companies in need of water credits. These entities often look for water quality projects and may buy in and help fund these kinds of projects. Maintenance is another discussion with additional options. The next step is to wrap up a report for the Water Resource Board and present findings and possible next steps.

Mr. Points asked that the Board keep this information in mind when doing land use planning. If locations are identified that may fit the criteria in this presentation, please share that information.

Commissioner Van Beek asked Mr. Points to share information about another project he is overseeing near the Karcher overpass. Mr. Points explained that project is called the Nampa Water Garden. This project is a constructed wetland where the intent is to remove contaminants such as PFAS, tire compounds, pesticides, and caffeine using an innovative media of biochar, eolidian, activated bentonite. There is a design in progress. Mr. Schubert noted that this project is close to construction.

Discussion was held about the need for this floodwater storage and recharge project and the history of Idaho irrigation and canal systems.

Upon a motion by Commissioner Holton and a second by Commissioner Van Beek, the Board voted unanimously to adjourn the meeting at 11:15 a.m. An audio recording is on file in the Commissioners' Office.