

# Meeting Summary

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| <b>Project:</b>   | Upper Platte Drought Contingency Plan                                     |                                      |
| <b>Subject:</b>   | Drought Task Force Meeting #1   |                                      |
| <b>Date:</b>      | Thursday, July 21, 2022   |                                      |
| <b>Location:</b>  | Lake McConaughy Visitors Center<br>1475 NE Hwy 61 N<br>Ogallala, NE 69153 |                                      |
| <b>Attendees:</b> | Larry Reynolds, Tri-Basin NRD   | Roric Paulman, Producer/Landowner    |
|                   | John Thorburn, Tri-Basin NRD  | Scott Dicke, CNPPID                  |
|                   | Brian Woldt, Dawson County EM   | Bob Dahlgren, Tri-Basin NRD          |
|                   | Mike Drain, CNPPID  | Joe Wahlgren, Twin Platte NRD        |
|                   | Joshua Neuffer, Bureau of Reclamation                                     | Melissa Mosier, Audubon Nebraska     |
|                   | Scott Schaneman, North Platte NRD   | Travis Preston, North Platte NRD     |
|                   | Ryan Reisdorff, South Platte NRD  | Kyle Ann Hopkins, North Platte NRD   |
|                   | Keith Koupal, NGPC  | Kevin Derry, South Platte NRD        |
|                   | Jared Derry, SPNRD Producer   | Kristin Dickinson, NRCS              |
|                   | Galen Wittrock, South Platte NRD  | Kent O. Miller, Twin Platte NRD      |
|                   | Jeff Shafer, NPPD   | Joe Talich, City of Sidney           |
|                   | Lyndon Vogt, Central Platte NRD   | Jess Mintken, Central Platte NRD     |
|                   | Bill Halligen, SPNRD Irrigator  | Heath Kuntz, Adaptive Resources Inc. |
|                   | Jay Richeson, Central Platte NRD  | Dean Edson, NARD                     |
|                   | Jennifer Schellpeper, NeDNR   | Madeline Johnson, NeDNR              |
|                   | Andy Pedley, NeDNR  | Caitlin Kingsley, NeDNR              |
|                   | Ryan Kelly, NeDNR   | John Engel, HDR                      |
|                   | Stephanie Rittershaus, HDR  | Joshua Jackson, HDR                  |
|                   | Julie Molacek, HDR  |                                      |

The Central Platte Natural Resources District, North Platte Natural Resources District, South Platte Natural Resources District, Tri-Basin Natural Resources District, Twin Platte Natural Resources District (collectively, the Upper Platte Basin NRDs), and the Nebraska Department of Natural Resources (Department) gathered on July 21, 2022, to hold a joint public meeting.

The first half of this meeting served as the annual meeting of the Basin-Wide Plan for Joint Integrated Water Resources Management of Overappropriated Portions of the Upper Platte River Basin. The group reviewed progress toward achieving the goals and objectives outlined in

the plan, as well as heard updates from the individual NRDs regarding the progress on the portions of their individual Integrated Management Plans (IMPs) that work toward Basin-Wide Plan goals. Each NRD reported ongoing monitoring actions, new data and information, disputes related to the implementation of the IMPs, and any proposed revisions to the Basin-Wide Plan or individual IMPs.

The second half of the meeting served as a kickoff meeting for the Drought Task Force, which was established for the development of a Drought Contingency Plan for the Upper Platte River Basin in Nebraska. This plan will serve to refine the collective understanding of drought vulnerabilities and guide development of more robust monitoring and forecasting tools that will be used to improve management to aid in meeting the critical water supply needs of the area through drought periods. The drought task force will meet approximately 3 times in 2022-2023. At the first meeting, attendees were presented with the background of the project, participated in a vulnerability assessment, and discussed mitigation actions.

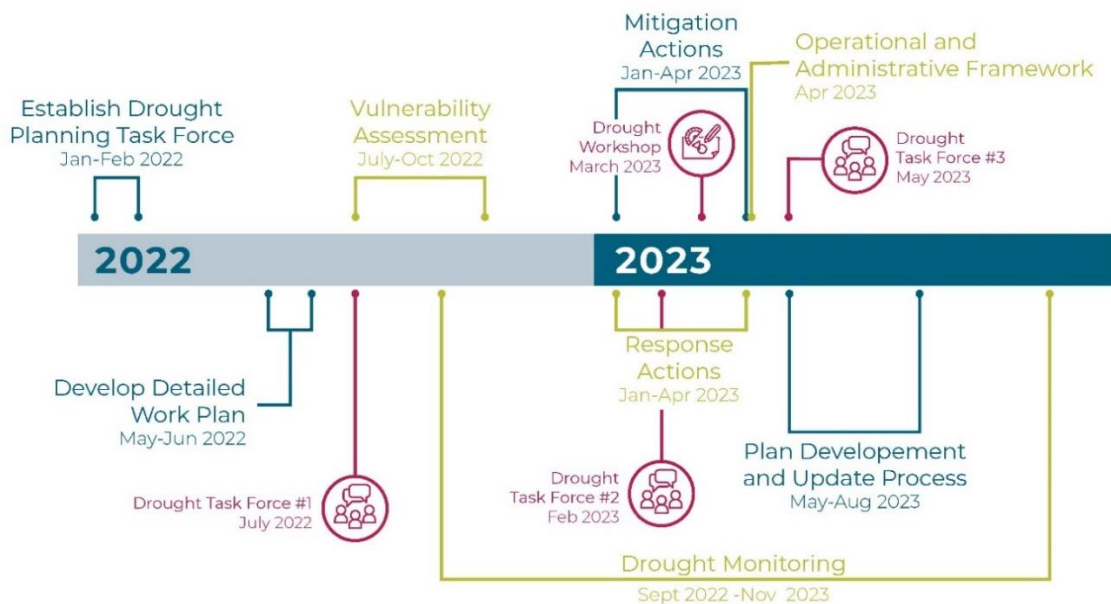
## Project Background

- In September 2004, the Upper Platte River Basin was declared overappropriated – the basin’s water demands were greater than its supplies. This designation required a basin-wide IMP be developed.
- The first basin-wide IMP was developed with a 10-year implementation period. This IMP was adopted in 2009.
- In 2018-2019, the NeDNR and the Upper Platte Basin NRDs underwent a planning effort for the 2<sup>nd</sup> 10-year implementation period (adopted in 2019).
- The planning effort for the second increment engaged a broad range of basin stakeholders and water users throughout the basin. This group assisted in the development of specific goals, objectives, and action items to achieve during the second increment. The development of a drought contingency plan was identified as a key element of the 2<sup>nd</sup> increment and was included in the plan document as Action Item 1.3.4.
  - Secured grant funding through the BOR’s WaterSMART program that will cover 50% of the drought plan development cost.
- There are 6 elements to the plan development process:
  - 1) Establishment of a diverse stakeholder group – this step is complete and is why the Drought Task Force was established.
  - 2) Develop monitoring plan – underway; evaluating sources of drought information currently being used. We anticipate using existing data sources and will evaluate and prioritize data to be used for developing the monitoring plan and protocols.
  - 3) Vulnerability assessment – today’s meeting (Drought Task Force Meeting #1) is a key part of this effort. How and what is impacted by drought or at risk during occurrence of drought?
  - 4) Identify mitigation and response actions – we will touch on current mitigation actions (actions taken prior to drought occurrence) being employed in the basin during today’s meeting. We will also discuss priorities and the focus of potential

mitigation measures. Response actions (actions taken during a drought) will be discussed in detail in Drought Task Force Meeting #2.

- 5) Develop administrative framework – specify roles and responsibilities during plan implementation and how actions will be decided and taken.
- 6) Establish process for updates and keeping the plan current and effective.
- As part of the “establishment of a diverse stakeholder group” step, 3 different stakeholder groups were developed:
  - **Primary Stakeholder Group:** Consists of Platte Basin Coalition members (the 5 Upper Platte Basin NRDs and the NeDNR). This group provides guidance and oversight on plan development, supports plan development, and are the ultimate decision-making authority for plan content and approval.
  - **Technical Work Group:** Consists of members representing entities with ground and surface water management responsibilities in the Upper Platte River basin (The 5 Upper Platte Basin NRDs, NeDNR, public power districts, and irrigation districts). This group brings extensive experience with ground and surface water management in the basin, manages infrastructure and the framework of resources within the basin, and provides technical guidance during plan development.
  - **Drought Task Force:** Consists of a diverse group of water-related interests, including agriculture, environmental/wildlife, financial, groundwater irrigators, groundwater/surface water users, irrigation districts, municipalities, public power districts, and recreation users. This group provides focused input to the plan development team based on their area of interest, assists in the understanding of vulnerabilities and impacts in the basin, and provides input on potential mitigation and response actions.

### Estimated Project Timeline:



## Vulnerability Assessment

Participants broke into 5 facilitated breakout groups. Each participant was asked to fill out a worksheet regarding drought vulnerabilities in the area they represented (i.e., their industry, municipality, agency jurisdiction, etc.). Then, breakout groups had in-depth discussions to identify general areas of vulnerability. Highlights of each group's discussions are below.

### Group 1:

- This group felt that the duration of the drought is a key component. For a 1-2-year drought, mitigation is already in place.
- Their answers regarding drought impacts and severity assume a longer-term drought (5-7 years).

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| <p><b>Vulnerable Sectors</b></p>                       | <ul style="list-style-type: none"> <li>• Agriculture is the #1 priority during drought – Nebraska needs this sector to make money and spend money.             <ul style="list-style-type: none"> <li>○ Dryland, range land, and irrigated land is extremely vulnerable.</li> <li>○ Irrigated land is moderately to extremely vulnerable depending on location.</li> </ul> </li> <li>• Energy is a key concern. Drought can cause similar issues as the polar vortex a few years ago (i.e., strain on the grid, rolling blackouts, etc.).</li> <li>• Socioeconomic concerns during a drought include public sentiment and mental health.</li> <li>• The Environmental sector would be least vulnerable/last priority as it is more recoverable following a drought.</li> </ul> |
| <p><b>Potential Impacts and Their Severity</b></p>     | <ul style="list-style-type: none"> <li>• Fire risk             <ul style="list-style-type: none"> <li>○ A drought following wet years is especially risky. Wet years lead to more vegetation growth – which then creates more fuel during droughts.</li> </ul> </li> <li>• Increased energy demand, more water pumping (wells, irrigation)</li> <li>• Water quality – drought can lead to increased water temps in reservoirs and rivers.</li> <li>• Reliance on wind energy in Nebraska</li> <li>• Infrastructure implications</li> <li>• People get mad, sand/dirt blowing causes human issues</li> </ul>  |
| <p><b>Important hydrologic measures to monitor</b></p> | <ul style="list-style-type: none"> <li>• Groundwater</li> </ul>  |

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|                            | <ul style="list-style-type: none"> <li>• Stream flows</li> <li>• Surface water</li> <li>• Snowpack</li> <li>• Surface water irrigators</li> <li>• Reservoir and river water quality</li> </ul>   |
| <b>Critical Thresholds</b> | <ul style="list-style-type: none"> <li>• Percentage of aquifer</li> <li>• Lake McConaughy storage – need water in the reservoirs</li> <li>• South Platte Flows – 3,500 CFS in winter is needed to save water in Lake McConaughy</li> </ul> |

### Group 2

- This group also felt that drought length and intensity is a key component in vulnerability.
- They also noted that junior surface water rights holders are more vulnerable in short-term drought than groundwater users.

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| <b>Vulnerable Sectors</b>                       | <ul style="list-style-type: none"> <li>• Agriculture, Energy, and Environment are all extremely vulnerable.</li> <li>• Energy is very vulnerable during drought – specifically the hydropower from Lake McConaughy. <ul style="list-style-type: none"> <li>○ Diversifying energy sources can reduce vulnerability.</li> </ul> </li> <li>• The Environmental sector is vulnerable because rehab comes with high cost.</li> <li>• Industrial vulnerabilities are case-specific.</li> <li>• Municipal, Recreation, and Socioeconomic are all seen as moderately vulnerable.</li> </ul> |
| <b>Important hydrologic measures to monitor</b> | <ul style="list-style-type: none"> <li>• Snowpack</li> <li>• Groundwater levels</li> <li>• Reservoir levels</li> <li>• Stream flows</li> <li>• Precipitation</li> <li>• Cropping intensity/evaporative loss</li> <li>• Soil moisture</li> <li>• Water quality (temperature, dissolved oxygen, algae blooms, etc.)</li> </ul>  |
| <b>Critical Thresholds</b>                      | <ul style="list-style-type: none"> <li>• Bureau of Reclamation Allocations</li> <li>• NRD groundwater baselines</li> <li>• PRRIP streamflow target</li> </ul>   |

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|  | <ul style="list-style-type: none"> <li>• NDMC model and predictions</li> <li>• Temperature – varies by species</li> </ul> |
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- Group 2 noted that areas can become more vulnerable to flooding following a drought.
  - An intense rain on dry ground leads to excessive run-off.
- The need to protect human life is paramount.
- We need to be adaptable and revisit the plan as conditions change.
- Age and condition of infrastructure should also be taken into consideration when discussing vulnerabilities.
  - Infrastructure may not be able to handle changing conditions.

### Group 3

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| <b>Vulnerable Sectors</b>                       | <ul style="list-style-type: none"> <li>• Felt Energy is extremely vulnerable           <ul style="list-style-type: none"> <li>○ Both Hydro and Coal</li> </ul> </li> <li>• Agriculture is moderately to extremely vulnerable, depending on duration of drought.</li> <li>• The Environmental sector is moderately to extremely vulnerable.</li> <li>• Recreation and Socioeconomic are moderately vulnerable.</li> <li>• Municipal and Industrial are only slightly vulnerable.</li> </ul>  |
| <b>Potential Impacts and Their Severity</b>     | <ul style="list-style-type: none"> <li>• Most Severe Impacts:           <ul style="list-style-type: none"> <li>○ Fires</li> <li>○ Crop loss and damage</li> <li>○ Soil erosion</li> <li>○ Reservoir/lake levels</li> <li>○ Increased conflicts</li> </ul> </li> <li>• Least Severe Impacts:           <ul style="list-style-type: none"> <li>○ Tourism/recreation</li> <li>○ Loss of biodiversity</li> <li>○ Water quality</li> <li>○ Inequity in distribution of drought relief</li> <li>○ Strain on financial institutions</li> </ul> </li> </ul> |
| <b>Important hydrologic measures to monitor</b> | <ul style="list-style-type: none"> <li>• Streamflow</li> <li>• Spatial distribution</li> </ul>  |
| <b>Critical Thresholds</b>                      | <ul style="list-style-type: none"> <li>• North Platte River levels</li> <li>• How often wetlands are inundated with water</li> <li>• Efficient temperature</li> </ul>   |

- Group 3 also noted that increased streamflow is a potential impact, but total streamflow is hard to calculate.

- Climactic changes make excess flow important.

#### Group 4

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| <p><b>Vulnerable Sectors</b></p>                       | <ul style="list-style-type: none"> <li>• Agriculture is extremely vulnerable.</li> <li>• Economic loss/over-pumping of water allocations is also extremely vulnerable.</li> <li>• Environment (fires, feed, endangered species, baseflows) and Socioeconomic are moderately vulnerable.</li> <li>• Industrial, Recreation, and Energy are slightly vulnerable.</li> </ul>  |
| <p><b>Potential Impacts and Their Severity</b></p>     | <ul style="list-style-type: none"> <li>• Most Severe Impacts <ul style="list-style-type: none"> <li>○ Crop loss/damage</li> <li>○ Unavailability of water/feed for livestock</li> <li>○ Fires</li> </ul> </li> <li>• Least Severe Impacts: <ul style="list-style-type: none"> <li>○ Reservoir/lake levels</li> <li>○ Loss of biodiversity</li> <li>○ Cost of water transport/transfer</li> <li>○ Erosion of soil</li> <li>○ Loss of life</li> <li>○ Increased conflicts</li> </ul> </li> </ul> |
| <p><b>Important hydrologic measures to monitor</b></p> | <ul style="list-style-type: none"> <li>• Groundwater levels <ul style="list-style-type: none"> <li>○ Especially compared against historical drought</li> </ul> </li> <li>• Stream flows</li> <li>• Snowpack</li> <li>• Reservoir levels</li> <li>• Rainfall</li> <li>• Commodity price</li> </ul>  |
| <p><b>Critical Thresholds</b></p>                      | <ul style="list-style-type: none"> <li>• NRD monitoring protocols</li> <li>• Multi-year drought/decline</li> <li>• Climatic change effects</li> </ul>  |

#### Group 5

- Group 5 has members from both CPNRD and SPNRD, and during discussions they identified multiple differences between the two regions when it comes to vulnerability.
- CPNRD is extremely vulnerable in terms of surface water, but not in terms of groundwater. SPNRD is extremely vulnerable in both surface water and groundwater.

- SPNRD views crop loss and damage, unavailability of water/feed for livestock, income loss for farmers/agricultural producers, increased groundwater depletion, and air quality as severe impacts.
  - CPNRD views these as less severe impacts.
- CPNRD is better prepared for short-term droughts, while SPNRD is better prepared for long-term droughts.

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| <p><b>Vulnerable Sectors</b></p>                   | <ul style="list-style-type: none"> <li>• Agriculture is viewed as moderately vulnerable, depending on the length of the drought. It moves to extremely vulnerable if the drought is longer than 5 years.</li> <li>• Energy/CNPPID are extremely vulnerable, based on the levels at Lake McConaughy.</li> <li>• Environmental vulnerability is variable by species.           <ul style="list-style-type: none"> <li>○ The piping plover benefits from drought.</li> <li>○ Some invasive plant species increase during drought, leading to overuse of chemicals to control them.</li> </ul> </li> <li>• The Socioeconomic sector is moderately to extremely vulnerable.           <ul style="list-style-type: none"> <li>○ Droughts are a high-stress event for people.</li> </ul> </li> <li>• The Municipal sector is least vulnerable.</li> </ul> |
| <p><b>Potential Impacts and Their Severity</b></p> | <ul style="list-style-type: none"> <li>• Most Severe Impacts:           <ul style="list-style-type: none"> <li>○ Fires</li> <li>○ Reservoir/lake levels (and power)</li> <li>○ Increased conflicts</li> <li>○ Inequity in the distribution of drought relief</li> <li>○ Increased energy demand</li> <li>○ Water Manager stress is also seen as a potential severe impact</li> </ul> </li> <li>• Least Severe Impacts:           <ul style="list-style-type: none"> <li>○ Strain on financial institutions</li> <li>○ Loss of life</li> <li>○ Loss of tourism/recreation</li> </ul> </li> </ul>  |

## Mitigation Actions

Participants remained in the same breakout groups and were presented with a similar worksheet to analyze possible mitigation actions. Highlights from each group's discussions are below.

### Group 1



- Group 1 felt that augmenting water supplies should be the top priority of any mitigation action, program, policy or operational criteria. They also felt that an increase/improvement to education around drought and conservation would be beneficial.

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| <p><b>Existing Mitigation Actions/Programs/Policies/Operational Criteria</b></p>  | <ul style="list-style-type: none"> <li>• Water allocations (used as a last resort)</li> <li>• Local drought plan (one is in place, haven't gotten into it)</li> <li>• Real time water use data</li> <li>• Mitigation measures from previous droughts</li> <li>• More diversion/additional source water</li> <li>• Variable rate irrigation</li> <li>• Education/information</li> <li>• Only use supplemental water when needed</li> </ul> |
| <p><b>Top Priorities of Mitigation Actions</b></p>  | <ul style="list-style-type: none"> <li>• #1: Augment supply</li> <li>• #1: Decrease water use/demand <ul style="list-style-type: none"> <li>○ These two should be equal priorities – they go hand in hand</li> </ul> </li> <li>• #2: NPDES permits/existing permit limits</li> <li>• #3: Prevent/mitigate loss</li> </ul>   |
| <p><b>Can Existing Mitigation Actions/Programs/Policies/Operational Criteria be modified or Enhanced to Address Priorities?</b></p> | <ul style="list-style-type: none"> <li>• More education is needed <ul style="list-style-type: none"> <li>○ Help people see a different perspective</li> <li>○ Promote a conservation mindset/wise water usage at all times</li> </ul> </li> </ul>   |
| <p><b>Potential New Mitigation Actions You'd Like to See Implemented</b></p>  | <ul style="list-style-type: none"> <li>• Information is key – want to get more information out there</li> <li>• When there are excess flows, put as much in the ground as possible</li> </ul>   |

## Group 2

- Group 2 also felt that increasing education about drought and conservation is extremely important in mitigation. They would also like to see a clear and resilient drought plan developed that addresses the behavioral aspects that would challenge this plan.

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| <p><b>Existing Mitigation<br/>Actions/Programs/Policies/Operational<br/>Criteria</b></p>  | <ul style="list-style-type: none"> <li>• Recharge from excess flows</li> <li>• NRD allocations</li> <li>• Municipal water use restrictions/drought plans</li> <li>• Fire bans</li> <li>• Education to public on water-saving measures</li> <li>• Increased irrigation efficiency, promoted by various organizations</li> <li>• Technological advances in drought monitoring awareness of problems in time to respond</li> <li>• Nebraska in a good place to act based on accurate info</li> <li>• Increased drought tolerance of crops</li> </ul> |
| <p><b>Can Existing Mitigation<br/>Actions/Programs/Policies/Operational<br/>Criteria be modified or Enhanced to<br/>Address Priorities?</b></p> | <ul style="list-style-type: none"> <li>• Increasing education and teaching people what they can do to help with drought is important.</li> </ul>  |
| <p><b>Potential New Mitigation Actions You'd<br/>Like to See Implemented</b></p>  | <ul style="list-style-type: none"> <li>• Clear and resilient drought plan that addresses behavioral challenges of adoption <ul style="list-style-type: none"> <li>○ Need to move the needle on adoption of new efficiency measures</li> <li>○ Plan needs to be clear and actionable</li> <li>○ Plan needs to be dynamic and regularly updated</li> <li>○ Riparian zones, periodic pulse flows to maintain streams/environmental conditions</li> </ul> </li> </ul>   |

**Group 3**

- Group 3 believes that conjunctive management and integrated management should be a top priority of any mitigation action, program, policy or operational criteria. They would like to see more focus on communication between upstream and downstream users.

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| <p><b>Existing Mitigation<br/>Actions/Programs/Policies/Operational<br/>Criteria</b></p> | <ul style="list-style-type: none"> <li>• CNPPID priority irrigation – power policy is scaled based on water supplies</li> <li>• Exchange program to contribute surface water to environmental account</li> <li>• Dual groundwater/surface water hookups to lessen burden on surface water</li> </ul> |
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| <b>Top Priorities of Mitigation Actions</b>  | <ul style="list-style-type: none"> <li>• Conjunctive/Integrated management should be a top priority</li> </ul>                |
| <b>Can Existing Mitigation Actions/Programs/Policies/Operational Criteria be modified or Enhanced to Address Priorities?</b> | <ul style="list-style-type: none"> <li>• More flexibility in how surface water/groundwater rights are administered</li> </ul> |
| <b>Potential New Mitigation Actions You'd Like to See Implemented</b>  | <ul style="list-style-type: none"> <li>• Increase communication between downstream and upstream users.</li> </ul>             |

#### Group 4

- Group 4 felt that augmenting water supplies should be the top priority of any mitigation action, program, policy or operational criteria. Their discussions centered around Perkins County Canal, but they would also like to see farmers be incentivized to use crops that consume less water.

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| <b>Existing Mitigation Actions/Programs/Policies/Operational Criteria</b> | <ul style="list-style-type: none"> <li>• Western canal</li> <li>• Allocations</li> <li>• Municipal conservation plans</li> <li>• Incentivize efficiency</li> <li>• N-CORPE</li> <li>• Instream flows</li> <li>• Purchasing water</li> </ul> |
| <b>Top Priorities of Mitigation Actions</b>                               | <ul style="list-style-type: none"> <li>• #1 Augment water supplies (Perkins County Canal)</li> <li>• #2 Prevent/mitigate economic loss</li> <li>• #3 Decrease water use/demand</li> </ul>   |
| <b>Potential New Mitigation Actions You'd Like to See Implemented</b>     | <ul style="list-style-type: none"> <li>• Perkins County Canal</li> <li>• Enhancing groundwater as a shock absorber</li> <li>• Conjunctive use</li> <li>• Incentivize farmers to use crops that consume less water</li> </ul>                |

#### Group 5

- Group 5 also felt that augmenting water supplies should be the top priority of any mitigation action, program, policy or operational criteria. They felt that improving/modifying existing mitigation actions and programs would be beneficial. Discussion about potential new mitigation actions focused on relying more heavily on processes and collaboration.

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| <b>Existing Mitigation Actions/Programs/Policies/Operational Criteria</b> | <ul style="list-style-type: none"> <li>• CRP availability to ranchers <ul style="list-style-type: none"> <li>○ Triggered at D2 drought</li> </ul> </li> </ul> |
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|  | <ul style="list-style-type: none"> <li>• NRD Groundwater monitoring and allocations</li> <li>• SPNRD 3-year allocation scheduled</li> <li>• Recharge projects</li> <li>• Conservation versus mitigation</li> <li>• Infrastructure maintenance <ul style="list-style-type: none"> <li>○ Canals</li> <li>○ Reservoirs</li> </ul> </li> </ul> |
| <b>Top Priorities of Mitigation Actions</b>  | <ul style="list-style-type: none"> <li>• #1: Augment water supplies</li> <li>• #2: Decrease water use/demand</li> <li>• #3: Prevent/mitigate economic loss</li> </ul>  |
| <b>Can Existing Mitigation Actions/Programs/Policies/Operational Criteria be modified or Enhanced to Address Priorities?</b> | <ul style="list-style-type: none"> <li>• There is always room for improvement to existing mitigation measures/programs</li> </ul>  |
| <b>Potential New Mitigation Actions You'd Like to See Implemented</b>  | <ul style="list-style-type: none"> <li>• More collaboration</li> <li>• Prepare for drought reaction with conjunctive management</li> <li>• More reliance on IMP Processes</li> <li>• Crop Rotation</li> <li>• Subsidize low water-use crops at the federal level</li> </ul>  |

**Next Steps**

- Will be developing the vulnerability assessment through the fall, utilizing the feedback gathered at the first Task Force meeting.
- The next Task Force meeting is planned for February 2023. The group will work more in-depth on mitigation and response actions at this meeting.