

## **NPNRD Stakeholder Meeting #4 Minutes**

**Project:** 2<sup>nd</sup> Increment Stakeholder Process for North Platte NRD Integrated Management Plan (IMP)

**Subject:** Stakeholder Meeting #4

**Date:** Thursday, February 28, 2019, from 2:00 p.m. – 5:00 p.m. MT

**Location:** North Platte Natural Resources District Office  
100547 Airport Road, Scottsbluff, NE

---

### **I. Welcome**

- a. John Berge, Manager, NPNRD opened the meeting at 2:00 p.m. MT. He noted the documents provided for the stakeholders today include the agenda (Attachment A), a copy of the PowerPoint slides (Attachment B), and a copy of the draft IMP (Attachment C). He thanked the stakeholders for their participation and noted this is the final stakeholder meeting in this process.
- b. Stephanie White, HDR, noted that the purpose of today's meeting includes discussing the draft plan of the IMP.

### **II. Administration**

- a. Stephanie noted that the open meetings act is present and there will be time for public comment at the end of the meeting. She stated that the meeting was noticed in the newspaper (Attachment D) and previous meeting minutes are on the NeDNR website.
- b. **November meeting recap**

Stephanie discussed the timeline of the IMP planning process and the Basin-Wide Plan planning process. She discussed the previous conversations of drought planning, total depletions, surface water law, conjunctive management and that feedback is reflected in this draft document.

Stephanie noted Dave's (stakeholder) submission into the record (the petition to designate the NPNRD as fully appropriated). She noted there is no one in this room that can accomplish this, we will submit it into the record and move through our business as a stakeholder group.

- c. Jennifer Schellpeper, NeDNR, introduced Jessie Strom, NeDNR, who has been working on this IMP and others in the Upper Platte River Basin.

### III. Review of Draft Integrated Management Plan (IMP)

- a. **Jessie:** The IMP's table of contents includes ten chapters. It starts with background information and administrative items, a chapter about science and methods, first increment accomplishments (new material), goals and objectives, and action items (non-regulatory and regulatory actions) triggers, monitoring, studies, and updating and keeping the IMP up to date.

Chapters 1-3 include the effective date, which will be filled in once the IMP has been approved and adopted. There is a section on authority which outlines the statute that gives the DNR and NPNRD the authority to implement the IMP. Next is background information and this current process with the stakeholders.

Jessie noted that questions and comments are welcome throughout this meeting. She stated there are many sections that are the same as the first increment and will point out the new sections.

Chapter 4 is the map of management areas and boundaries of the IMP – the fully appropriated area of the district, the overappropriated area of the district, and the groundwater management sub-area. The goals and objectives and controls apply to the entire district as a whole.

**Stakeholder:** Question about if there are rules that apply differently between the fully appropriated and overappropriated areas. Noted the boundary was drawn with the old COHYST model and hasn't been updated. Asked if a new boundary should be drawn.

**Jennifer:** Statute doesn't allow for the boundary to be redrawn (the overappropriated boundary), so it would be a legal issue.

- b. **Jessie:** Chapter 5 is the vision statement – the intent of this document.

**Stakeholder:** Noted items 1 and 3 mention 'in the NRD' and item 2 does not.

- c. **Jessie:** Chapter 6 discusses funding – that the NeDNR and the NRD will use available funding and actively pursue new funding opportunities.

Chapter 7 is about the science and methods. There is information on the COHYST model and the split into the two model areas – the WWUM and COHYST 2010.

**Stakeholder:** Stated the plan should acknowledge up front that water is reusable.

**Stephanie:** I will note there has been a call to include, in section 4, your request regarding that water is reusable. In June, your board will vote on moving this IMP and the BWP forward into the public hearing process which is in mid-July. In August, your board will vote for final approval and adoption for both documents. She noted this is a draft, there may be some typos or grammatical errors which will be corrected, and at the end of today, you, the stakeholders will take a vote. I am taking notes of topics we will discuss again later in this meeting. We will vote using the thumbs up, thumbs down and thumbs sideways: which means you're somewhat comfortable with the concepts in this document, but not wanting to stop this process.

- d. **Jessie:** Section 7.2 outlines basin-wide tenants in terms of science, methods, and data available – what we have to stick to basin-wide as we evaluate and go forward.

Section 7.3 is our section on information considered in the development of the IMP.

**Stakeholder:** Voiced concern with not having all reports available at this point – second increment BWP, Robust Review, INSIGHT analysis, Total Depletions, etc.

**Stephanie:** All of those documents will be made public no less than thirty days before that July 16<sup>th</sup> public hearing date. We will note your concern.

**Jessie:** Even though we don't have those documents out, you have seen the majority of the content – the data and results have been presented to this group.

- e. **Jessie:** Chapter 8 includes our first increment accomplishments. Assessment of available water, conservation measure studies, conjunctive management study, and an inventory of sandpits and small reservoirs. Section 8.2 discusses the management actions taken in the first increment.

**John:** This lists what we said we would do, and in some cases we did not do that. Under 8.2 – metering – about tracking water uses under allocation, part of what we did in the first increment, was adding a meter to every well in the district. I don't know if that needs

to be listed here because it was something we did. Where it says “management actions taken.” Jessie, I can send you a list.

**Stephanie:** Noted appropriate reflection of actions during the first increment.

**Jessie:** Yes, this list should include everything you did, not just things we said we would do.

- f. **Jessie:** Section 8.3 is about our assessment of the first increment including the Robust Review analysis. In the Robust Review analysis, we’re looking at changes in groundwater-only irrigated acres since 1997 management actions, and, municipal and industrial water use changes. Those were only analyzed up through 2013, as the first increment stipulated. The chart is confusing the way it is right now – there is a big chart with a lot of white area with a smaller chart inside of it. They show the same data – the small chart shows it at a more zoomed in scale to see the variability through time. The blue dots are the model data that came out of the Robust Review and we’ve added a small dotted blue line (the trend), and a gray area showing the potential variability in the modeled results (due to climate, etc.).

**Stakeholder:** Suggested timing and location should be emphasized with seasonal data (irrigation season vs. non-irrigation) to know when those impacts are occurring, so the offsets truly offset the impacts.

**Stakeholder:** It is important to look at the seasonality and the geographic location.

**Stakeholder:** At some point we should recognize that water is reusable, and we lost something when we send it straight down the river.

- g. **Jessie:** Section 8.4 is about the assessment of a fully appropriated condition. The results of our Total Depletions analysis are shown and a chart for each of the basins. These results were presented earlier to the group and here we have a brief write up in the plan that describes the analysis that was done. 8.4.2 describes the INSIGHT analysis, which is an analysis of basin water supplies and demands.

**Stakeholder:** Questioned the definition of fully appropriated.

**Jessie:** We are working on defining what it is – it is not a straightforward concept. That is why we’ve done some of these analyses – to determine what that condition is.

**Stakeholder:** Does the BWP include discussion about the NRDs and NeDNR working on this question of what is fully appropriated?

**Jessie:** Yes.

**Jessie:** The main focus of this increment is to maintain what we've done in the previous increment. We're not asking for additional offsets, but we need to maintain until we determine what fully appropriated is.

**Jennifer:** The basin-wide group does have representatives from this NRD on it. The way the law is designed, is for this to be an incremental progress – we don't have to get to fully appropriated by this increment because it takes time to change a system that has been doing what it has been doing for such a long time.

**Stakeholder:** Questioned why there is very little emphasis on how we can use water better.

**Jessie:** We are using excess flows to recharge aquifers, to recharge groundwater, and to store in existing reservoirs.

**Stephanie:** In this IMP, it calls for more attention to those topics. Reminded of the presentation on conjunctive management in a previous meeting.

- h. Jessie:** Section 8.5 is about administrative items, basin-wide coordination in the first increment – the five Upper Platte River NRDs and our interlocal cooperative agreement called Platte Basin Coalition (PBC). The PBC group agrees upon protocols to assess potential management projects, funding for those projects, and has a technical working group.

**Question:** We've noted in previous discussions that color-coded by source, we really don't know how big this red side of the graph is.

**Jessie:** Explained the chart is not specific to the NPNRD, but the big picture for the basin. The red part comes from all demands.

**Stakeholder:** I do think this graphic is confusing because a lot of people look at it and think it implies that we need to come up with a million af of water. It is an accurate statement, if you ask what are all the unmet demands in the basin, then you would end up with, yes we would need another million af for nobody to have a shortage.

- i. Jessie:** Chapter 9 contains goals and objectives.

**Goal 1** is to reach and maintain a fully appropriated condition.

Objective 1.1: to offset post-97 depletions. NPNRD has already achieved that objective.

**Stakeholder:** I would like to see this broken down seasonally as well.

Objective 1.2: to maintain the previous increment progress. We've noted would be good to see seasonally. The accretions to the North Platte River resulting from the management actions we've taken, are shown. This level is what we want to be maintaining as we go forward the next ten years.

**Stakeholder:** What have other NRDs done? Where are they at?

**Jessie:** Short discussion on other NRD's progress and noted there are slides in the binders from a previous presentation on this information.

**Stakeholder:** It seems like they're not doing very much to get back to their 97 levels compared to what we're doing out here.

**Jessie:** They have not offset their post-97 depletions yet, so in the next increment they do need to take more actions.

**Stakeholder:** What is the penalty if they don't?

**Jessie:** If they don't, there is a section on triggers, which is where we're assessing the plan as we go along. IF they're not meeting those triggers or making progress, they will be forced to implement regulations.

**Jennifer:** Recognize that, yes they haven't met the newly defined post-97 depletions, because we did a new Robust Review, but when you look at the targets they had in their first increment IMP, they did meet those targets, but when we did a new analysis it showed that those numbers were different than what we had in the first increment, so it's those new numbers they aren't meeting. Now it has changed because of new model results.

**Stakeholder:** Voiced concern about population growth, overachieving goals now, and having to maintain these same goals forever.

**Stephanie:** No, for ten years.

**Stakeholder:** Stated that we haven't overachieved, but achieved first increment goals. We don't know what fully appropriated is and there has been absolutely no negative impact on the economy based on our water management in the first increment.

**Stephanie:** Asked stakeholders if this debate is about maintaining previous increment progress (inside of Goal 1) and whether or not we want to adhere to that. Asked what this group is saying in regard to this objective.

**Stakeholder:** Stated opinion that NPNRD has done more than other districts and needs to back off.

- j. Stephanie called for a vote from Stakeholders to support Objective 1.2 as it is written now:
- Yes: 14
  - No: 1
  - Noted that it is not possible for this IMP to be at odds with the BWP and that the majority of the group supports.

k. **Jessie: Goal 1:**

Objective 1.3 is to make progress toward a fully appropriated condition. We're working on defining that. The focus of this increment is maintaining what we've done.

Objective 1.4 is to review the implementation of the IMP to make sure it's adequate to sustaining progress or maintaining the fully appropriated condition.

Objective 1.5 is if we achieve a fully appropriated condition, to maintain that.

**Goal 2** is about interstate compliance. This is where we discuss making sure we're in compliance with PRRIP and the NNDP.

**Stakeholder:** Add 'and NeDNR' here.

**Goal 3** is about consistency and updates. Keeping the IMP current, maintaining consistency with the BWP, keeping water users informed. Amending the IMP as necessary if the BWP changes, participating in the BWP activities, providing information about the plan to stakeholders, conducting planning for subsequent increment if necessary. If needed, follow the dispute resolution process the BWP outlines.

Chapter 10 includes action items (p. 27). The first set of action items outlines different information and education programs. There is a section about incentive programs. 10.3 is about water banking. 10.4 is about conjunctive management, where it is defined and described.

**Stakeholder:** Discussion about need to consider the environment in this section.

**Stephanie:** I have written down, to add language regarding environmental benefits and needs to 10.4.

**Stakeholder:** On 10.2.3, we have a change to submit. Add to letter E: Permit applications "if required by statute."

- i. **Jessie:** Section 10.5 is about the drought plan required by the BWP. Your district already has a drought plan, so there is information on that here.

**Stakeholder:** Noted the importance of a drought plan because there is no other additional progress toward the fully appropriated condition required in the next ten-year increment.

**John:** The NPNRD's drought plan is online. You'll see more on the website of things coming up.

Stephanie called for a five minute break.

Stephanie called the group back to order.

**Stakeholder:** On page 32, 10.4, on the last paragraph – we would like to insert, “in the Platte River Basin” at the end of that sentence.

**Stakeholder:** Asked to clarify information on page 30, where it talks about the transfer of surface water appropriation for recharge, and at the end it talks about temporary permits.

**Jessie:** Do we need to change the wording, “outside of irrigation season?”

**Stakeholder:** We actually may do it during the irrigation season, if the opportunity occurs. I think you need to define it better than just the irrigation season.

**Stakeholder:** It needs to be a diversion outside what you would normally do for irrigation.

**Stephanie:** I will note that the language inside 10.4, we need to better define irrigation to meet the things you're talking about. I noted a concern for the clarity on that.

**Stakeholder:** Voiced concern about treating water as reusable and use the ground as storage when we have those excess flows. I would like it to say, “Use the ground as storage and treat water as reusable.”

- m. **Jessie:** Section 10.6 includes the controls and regulatory action items. First, is about groundwater regulatory actions – the same as the first increment plan.

**Stakeholder:** Voiced concern about the wording in 10.6 regarding controls being removed and added unless the NeDNR and the NPNRD come to an agreement and formally amend this IMP.

- n. **Jessie:** 10.6.2 is about triggers and how we will be checking our progress with maintaining where we're at. There is a flowchart figure that outlines this process, including our next Robust Reviews.



**Stakeholder:** Noted suggestion to track seasonally or by location in the future.

- o. Jessie:** For Indicator 1, if the results from the 2023 Robust Review show that we're not maintaining that 23,000 number or if we're not above that, we need to take further action and implement more controls by 2025. Trigger 1 and Trigger 2 are that we're going to do another Robust Review in 2027 and look at the results and what we need to be maintaining. We will also look at the 50-year long-term number then. If those triggers aren't met, there will be additional regulatory actions. Those actions are outlined in 10.6.2.2 and 10.6.2.3.

**Stakeholder:** For those who are not meeting their IMP, are they in that process? Or is this just part of the second increment?

**Jessie:** This is going into the second increment.

**Stakeholder:** So where we've hit ours, then they've redefined it, and now we're not hitting it, will our triggers come that much quicker?

**Stephanie:** Remember that Platte did meet its first increment obligations. When we did an updated Robust Review, the need was much greater than what we knew it to be in the first increment plan. So they actually did meet their initial obligation. They have a new set for the second increment plan.

**Stakeholder:** So a second increment Robust Review could put us into a new set of trigger? Concerns about when fully appropriated is defined.

**Stakeholder:** That won't change this increment's requirements. Even not having seen the Robust Review, I think that that is very unlikely. It has less to do with the models, but the management actions this district took. Even before this NRD was required by LB 962, this NRD was doing a moratorium earlier than other NRDs started putting on allocations. That's where a lot of the other NRDs went caught.

**Stakeholder:** So we're supposed to maintain 23,600 by 2026, but the chart shows the variability in the model. Do we have to meet that exactly or within that gray bar area?

**Jessie:** We used the numbers for that trendline – so the average – not trying to predict or estimate if we will be dry or wet when we look at that trigger. We will be doing the same thing in the next Robust Review to be able to compare. I think we were talking about wording that more clearly as well.

**Stakeholder:** Where it says, “The public interest will best be served when the most effective projects are selected for diversion during excess flow periods.” We would like to insert, “in the Platte River Basin.” The reason we’re trying to add that is to make it clear that the Department can’t make a determination that these flows are needed somewhere else. And to add, “in the Platte River Basin” at the end of that paragraph also.

**Stephanie:** Requested the stakeholder to sit down with NeDNR at the end of the meeting and make sure all changes are noted correctly.

- p. **Jessie:** 10.6.3 is the surface water controls – the same as the first increment.

**Stakeholder:** The ranking criteria needs to be specified as soon as possible so we know how to develop projects that ranks well.

- q. **Jessie:** 10.7.1 describes the data and information the NRD and Department will be tracking annually.

**Stakeholder:** I would like to add a section that tracks the time that water is shut off for each irrigation district, and see trends by looking at the history from 97, going forward start monitoring – so that there is a record on how those times (under a water administration closing order) are changing. Historically, this district has had water shut off because of a call for water during a certain length of time. If that time is shown to be expanding, then we’re not really economically sustainable.

**Jennifer:** Maybe add to section 10.8 as a study?

**Stakeholder:** Supported the suggestion to include when and where the call times are.

- r. **Jessie:** A number of things will be compiled annually and exchanged as part of annual reporting and Basin-Wide Annual Meeting. 10.7.3. is about evaluation of the plan and measuring success for completing goals and objectives. There will be an annual review process and the Robust Review outlined here. 10.7.4 is about evaluation of measuring the success of reaching a fully appropriated condition. 10.7.5 is about measuring the success of maintaining a fully appropriated condition. 10.7.6 is about evaluating the need for a subsequent increment – here we will evaluate all the data we’ve collected and determine if we need to start planning for another increment. 10.8 is about studies – priority studies and potential studies. 10.9 is about review and modifications to the IMP. This discusses the process we would go through in response to changes to the BWP or things that we’ve identified to change.

**Stakeholder:** Suggested the language allows for the possibility to form a stakeholder group for the potential modification of this IMP.

**Jennifer:** I think the language says we will determine if it warrants it.

**Stakeholder:** Are you saying the stakeholders would have to reconvene to amend the IMP?

**Stakeholder:** Clarified suggestion for the option to form a stakeholder group.

**Jennifer:** The original intent was to apply to both. I think it is a 'may' situation, if we decide. I think when we reformatted things we got it wrong.

- s. **Jessie:** 10.9 is about planning for an additional increment and outlines the process we would go through.

**Stakeholder:** The vision statement, number 1 & 3, have "within the NRD" – what did you do with the other NRD IMP. Is it limited or broad?

**Jessie:** The other NRDs have different vision statements.

**Stephanie:** Discussed the other NRD's vision statements. Noted the question.

t. **Stephanie's list of questions noted:**

- **Redrawing boundary with WWUM model data**
  - Crossed off list as *not* something that needs to be changed in this plan
- **Request to see final reports as soon as possible**
  - Legally required to publish all 30 days before hearing
- **Change and add language in the beginning to reflect what happened in the first increment**
- **Timing and location**
  - Moving forward, but not in this plan
- **Need for an FA/OA definition**
  - Not in this IMP, but continually worked on
- **Is there enough language on how we can use water better?**
  - The statements on excess flows covers that – don't know what else we could add
  - Enough language for the NRD board to make decisions so we don't want to make it too specific
- **Figure 7 improvements**
  - Currently working on and will be implemented in this IMP

- **Objective 1.2 issue by one stakeholder**
  - **Typos, formatting, grammar issues**
    - Will be worked on and fixed
  - **Request to add “or DNR” on goal 2**
    - No objections, will be added
  - **Request to add language regarding environmental benefits and needs to 10.4 (conjunctive management discussion)**
    - Stakeholders decided it is not applicable in this section
  - **10.2.3.B, sit down with legal staff and make sure wording is correct**
  - **10.4 – the greater definition of season**
    - Will be expanded upon
  - **10.8.2 suggestion to include study that looks at water as reusable resource**
    - Supported by stakeholders to add as potential study
  - **10.6.1 concern regarding language about annual reviews and making changes**
    - add based on annual reviews (add ‘s’)
  - **Request to add “in the Platte River Basin”**
    - can’t make that change
  - **Ranking criteria needs to be determined as soon as possible**
    - Will be addressed
  - **Add Historical analysis and ongoing records of calls and their times affecting irrigation districts to 10.7.1 but also a potential study in 10.8**
    - No opposition, will be added
  - **Request about 10.9.6 reformat, reorganize – content stays the same**
  - **Review the vision statement**
- u. **Stephanie called for a stakeholder vote on concepts of the IMP, and to advance the document with the agreed upon modifications:**
- i. Thumbs up (yes): 10
  - ii. Thumbs sideways (yes, but some concerns): 4
  - iii. Thumbs down (do not agree to the concepts in this IMP): 1
    - 1. Explanation for no: I disagree with increasing sending water down the river
- v. **Stephanie:** Noted that consensus was not reached. NPNRD and NeDNR thanked stakeholders for participation in this process. Encouraged stakeholders to inform the public about the IMP.

IV. **Public Comment:** None.

V. **Meeting adjourned:** 4:53 pm

**VI. Attachments:**

- **Attachment A – Agenda**
- **Attachment B – Copies of all presentations**
- **Attachment C – Draft IMP**
- **Attachment D – Affidavit of Publication of Notice of Meeting**
- **Attachment E – Copy of attendance sheet**

## Agenda

Project: 2<sup>nd</sup> Increment Stakeholder Process for North Platte NRD Integrated Management Plan (IMP)

Subject: Stakeholder Meeting #4

Date: Thursday, February 28, 2019 from 2:00 p.m. – 4:00 p.m.

Location: North Platte Natural Resources District Office  
100547 Airport Road, Scottsbluff, NE

---

### Agenda:

- I. Welcome
- II. Administration
  - a. November meeting recap
- III. Review of Draft Integrated Management Plan (IMP)
- IV. Public Comment



# NPNRD IMP

## Meeting 4

February 28, 2019

# TODAY'S AGENDA

- Welcome
- Administration
  - November meeting recap
- Draft Integrated Management Plan (IMP)
- Next Steps
- Public Comment



# WELCOME

- Open meeting notice
- Safety & logistics
- Introductions



# ADMINISTRATION

## November meeting recap

# November Meeting Recap

- Welcome
- Administration
  - August meeting recap
- Draft Basin-Wide Plan
  - Goals and Objectives
  - Drought Planning
- Total Depletions
- Surface Water Law (Provisions for Upstream Use)
- Conjunctive Management
  - Pivot Conversion on Surface-Water Acres



# REVIEW OF DRAFT IMP

# Integrated Management Plan (Draft)

1. EFFECTIVE DATE
2. AUTHORITY
3. BACKGROUND
4. MAPS AND MANAGEMENT AREA BOUNDARIES

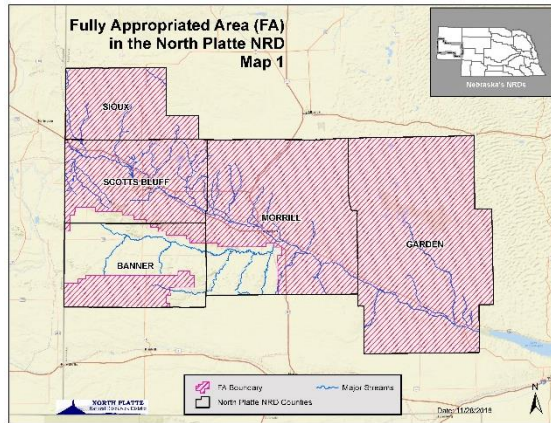


Figure 1: FA

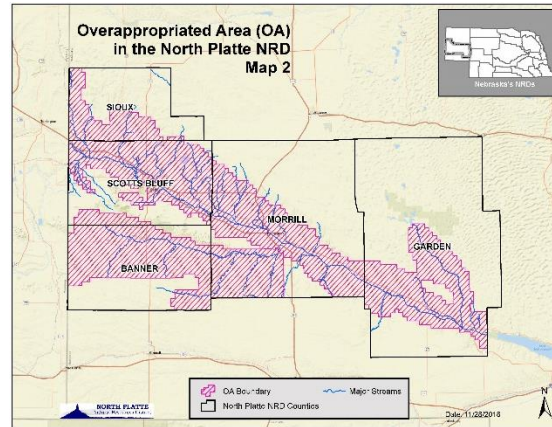


Figure 1: OA

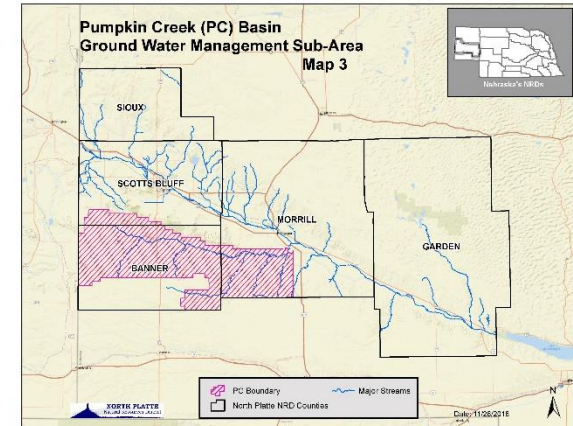


Figure 1:  
Pumpkin Creek Ground Water Management

# Integrated Management Plan (Draft)

## 5. VISION STATEMENT

The joint goals of NPNRD and NeDNR are to (1) manage water resources in the NPNRD in a manner to balance water use and water supply while optimizing economic, social, and environmental benefits for the near and long term; (2) protect to the extent possible existing users, local economy, environmental health, and recreational uses; (3) manage total water supply in the NPNRD to achieve sustainability of supply and use while allowing for growth and changes in use, and (4) recognize there are multiple causes of streamflow depletion and to the extent possible distribute mitigation responsibilities appropriately.

To do this, NPNRD and NeDNR will provide educational programs related to integrated water management for the NPNRD, provide opportunities for water banking and transfers, and explore new sources of water and currently used water for offsets, such as unappropriated river flows and transfers of existing water appropriations or certified ground water uses.

# Integrated Management Plan (Draft)

## 6. FUNDING

## 7. SCIENCE AND METHODS

7.1 Best Available Science, Methods, Data, and Tools Used in the First Increment

7.2 Best Available Science, Methods, Data, and Tools to be Used in the Ongoing Increments

7.3 Information Considered in Developing this IMP

# Integrated Management Plan (Draft)

## 8. FIRST INCREMENT ACCOMPLISHMENTS

- 8.1 Studies Conducted and Information Obtained in First Increment
- 8.2 Summary of Management Actions Taken in the First Increment
- 8.3 Assessment of First Increment (Robust Review)

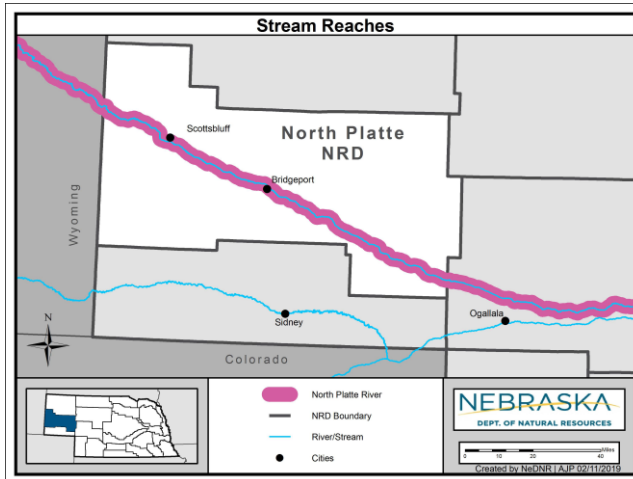


Figure 4

Linear Trend and Interannual Variability of Modeled Impacts  
NPNRD to North Platte River



—●— Modeled NPNRD Impacts to North Platte River    — Interannual Variability Range  
- - - - - Linear Trend of Modeled Impacts

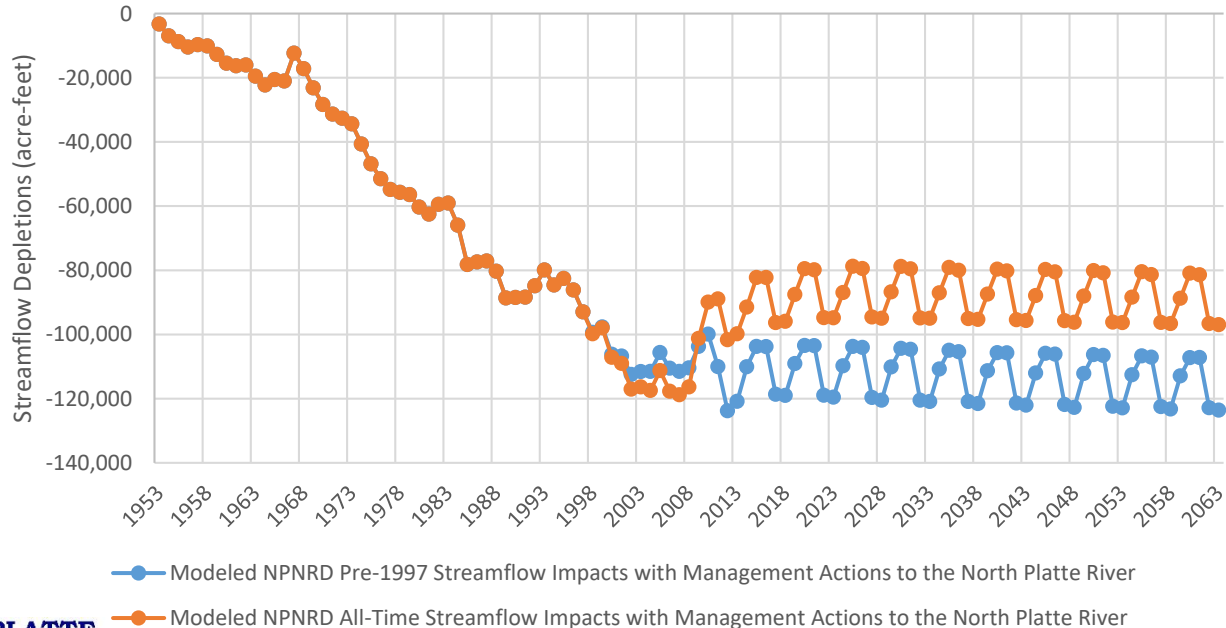
Figure 5



# Integrated Management Plan (Draft)

## 8. FIRST INCREMENT ACCOMPLISHMENTS

### 8.4 Assessment of Fully Appropriated Condition



**Modeled NPNRD post-1997 impacts to the North Platte River.**

# Integrated Management Plan (Draft)

## 8. FIRST INCREMENT ACCOMPLISHMENTS

### 8.4 Assessment of Fully Appropriated Condition

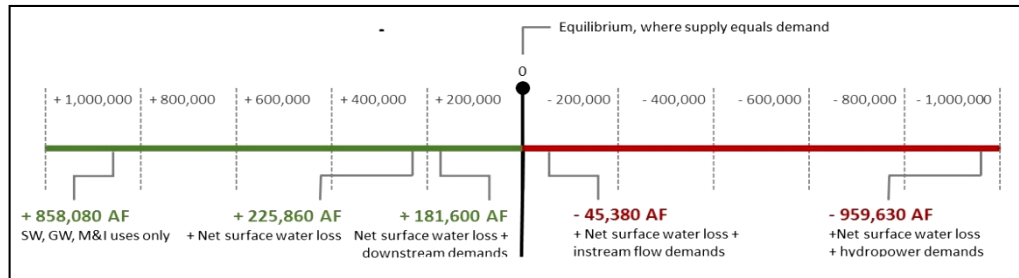


Figure 6

# Integrated Management Plan (Draft)

8. FIRST INCREMENT ACCOMPLISHMENTS
  - 8.5 Basin-wide Coordination in the First Increment

# Integrated Management Plan (Draft)

## 9. Goal 1: Reach and Maintain a Fully Appropriated Condition

**Objective 1.1** Within the current increment of this IMP, implement measures to address impacts of streamflow depletions to surface water appropriations and water wells constructed in aquifers dependent upon recharge from streamflow to the extent those depletions are due to water use initiated after July 1, 1997.

**Objective 1.2** Maintain previous increment mitigation progress.

NPNRD Short Term Trend Line Accretion in Acre-Feet Target to Maintain	
Year	North Platte River
2019	23,300
2020	23,400
2021	23,500
2022	23,500
2023	23,600
2024	23,700
2025	23,800
2026	23,900
2027	23,900
2028	24,000
2029	24,100

NPNRD Long Term Trend Accretions in Acre-Feet	
Year	North Platte River
2059-2063 average	26,700

# Integrated Management Plan (Draft)

## 9. Goal 1: Reach and Maintain a Fully Appropriated Condition

Objective 1.3 Make progress toward a fully appropriated condition.

Objective 1.4 Review the implementation of this IMP to ensure that the IMP provisions are adequate to sustain progress toward and/or maintain a fully appropriated condition.

Objective 1.5 Once a fully appropriated condition is achieved, maintain such condition through the implementation of the IMP.

# Integrated Management Plan (Draft)

## 9. Goal 2: Interstate Compliance

- Objective 2.1** Prevent human-induced streamflow depletions and ensure that no act or omission of the NPNRD would cause noncompliance by Nebraska with the NNDP included within PRRIP, for as long as PRRIP exists.
- Objective 2.2** Ensure that the groundwater and surface water controls adopted in the individual NRD IMPs are sufficient to ensure that the state will remain in compliance with the NNDP.
- Objective 2.3** Collectively, as defined in the NNDP, offset the new depletions caused by new uses within the Platte River Basin NRDs.
- Objective 2.4** Ensure that for post-1997 new or expanded uses, including irrigation, municipal, industrial, rural domestic and other new water related activities are assessed and offset for compliance with the NNDP. This assessment will be part of the Robust Review, explained in Section 10.7.3 of this IMP.

# Integrated Management Plan (Draft)

## 9. Goal 3: Consistency and Updates

Objective 3.1 Amend this IMP as needed to remain consistent with the Basin-Wide Plan.

Objective 3.2 Participate in basin-wide planning activities.

Objective 3.3 Improve information sharing with interested parties.

Objective 3.4 Conduct planning for subsequent increments of the plan, as necessary.

Objective 3.5 If appropriate and necessary, follow the dispute resolution process in the Basin-Wide Plan.

# Integrated Management Plan (Draft)

## 10. ACTION ITEMS

10.1 Information and Education Programs

10.2 Incentive Programs

10.3 Water Banking

10.4 Conjunctive Management

10.5 Drought Plan



# Integrated Management Plan (Draft)

## 10. ACTION ITEMS (continued)

### 10.6 Regulatory Action Items (Controls)

#### 10.6.1 Ground Water Regulatory Action Items (Controls)

#### 10.6.2 Triggers

#### 10.6.3 Surface Water Regulatory Actions

### 10.7 Monitoring

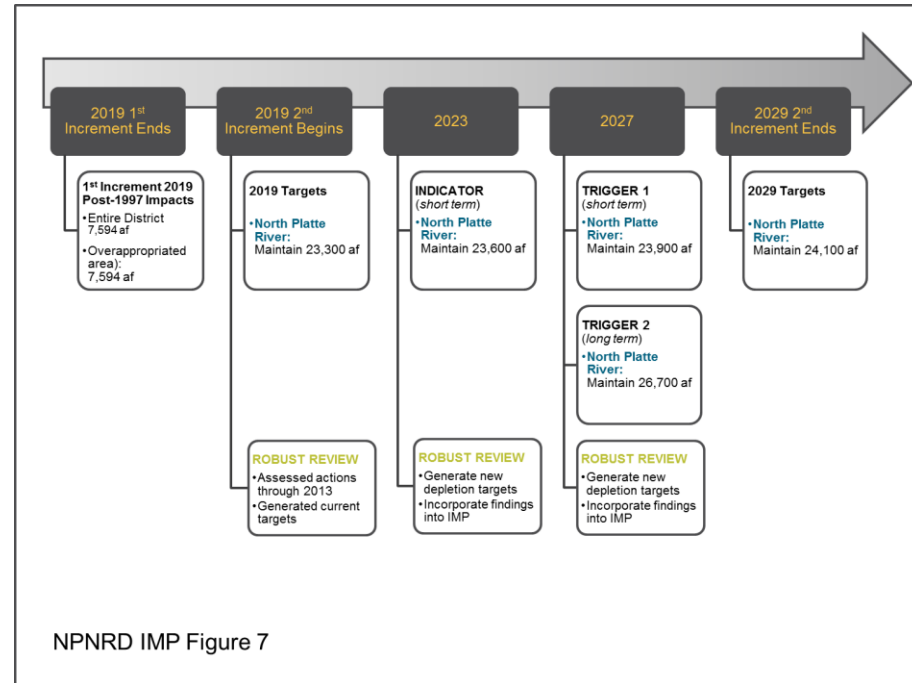
#### 10.7.1 Data and Tracking of Water Use Activities

#### 10.7.2 Reporting

#### 10.7.3 Evaluation: Measuring the Success of Meeting the Goals and Objectives of this IMP

### 10.8 Studies

### 10.9 Review of and Modifications to the IMP





# NEXT STEPS

# Draft Timeline

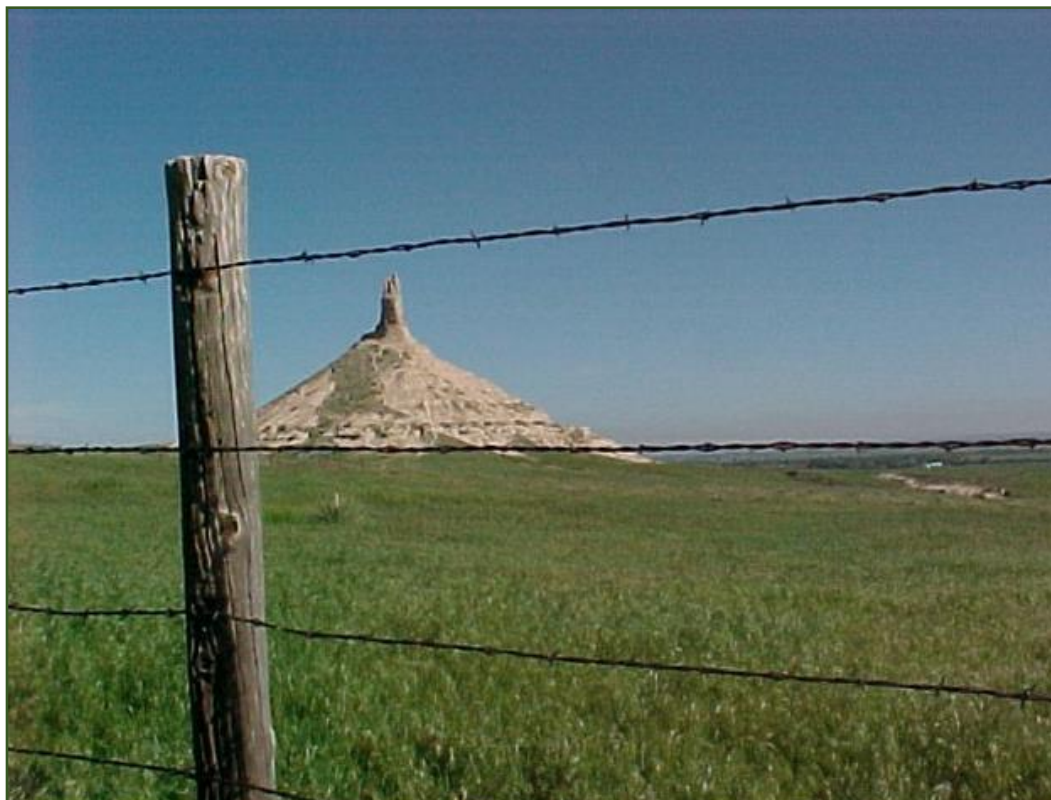
- **June 13, 2019** - NPNRD board vote on taking IMP to public hearing
- **July 18, 2019** - Public hearing for Basin-Wide Plan and NPNRD IMP
- **August 8, 2019** - NPNRD board vote on final approval of Basin-Wide Plan and IMP



# PUBLIC COMMENT

Thank You

# **DRAFT** INTEGRATED MANAGEMENT PLAN



Cooperatively Developed by the North Platte Natural Resources District and the Nebraska Department of Natural Resources



**NORTH PLATTE**  
Natural Resources District

P.O. Box 280, 100547 Airport Road  
Scottsbluff, Nebraska 69363-0280  
Telephone: 308-632-2749  
[npnrd.org](http://npnrd.org)

**NEBRASKA**

Good Life. Great Water.

DEPT. OF NATURAL RESOURCES

P.O. Box 94676, 301 Centennial Mall South  
Lincoln, Nebraska 68509-4676  
Telephone: 402-471-2363  
[dnr.nebraska.gov](http://dnr.nebraska.gov)

**Table of Contents**

1.0 EFFECTIVE DATE ..... 1

2.0 AUTHORITY ..... 1

3.0 BACKGROUND ..... 1

4.0 MAPS AND MANAGEMENT AREA BOUNDARIES ..... 2

5.0 VISION STATEMENT ..... 3

6.0 FUNDING ..... 4

7.0 SCIENCE AND METHODS ..... 5

    7.1 Best Available Science, Methods, Data, and Tools Used in the  
    First Increment ..... 5

    7.2 Best Available Science, Methods, Data, and Tools, to Be Used  
    in Ongoing Increments ..... 7

    7.3 Information Considered in Developing this IMP ..... 8

8.0 FIRST INCREMENT ACCOMPLISHMENTS ..... 9

    8.1 Studies Conducted and Information Obtained in First Increment  
    ..... 9

    8.2 Summary of Management Actions Taken During First Increment  
    ..... 12

    8.3 Assessment of First Increment (Robust Review) ..... 14

    8.4 Assessment of Fully Appropriated..... 17

    8.5 Basin-Wide Cooperation in First Increment..... 20

9.0 GOALS AND OBJECTIVES..... 21

    Goal 1: Reach and Maintain Fully Appropriated Condition..... 21

    Goal 2: Interstate Compliance..... 24

    Goal 3: Consistency and Updates..... 24

10.0 Action Items..... 25

    10.1 Information and Education Programs ..... 25

    10.2 Incentive Programs ..... 26

    10.3 Water Banking..... 27

    10.4 Conjunctive Management..... 28

    10.5 Drought Plan ..... 30

    10.6 Regulatory Actions (Controls) ..... 32

        10.6.1 Groundwater Regulatory Actions (Controls)..... 32

        10.6.2 Triggers ..... 37

        10.6.3 Surface Water Regulatory Actions ..... 41

    10.7 MONITORING ..... 46

    10.8 STUDIES..... 56

    10.9: REVIEW OF AND MODIFICATIONS TO THE IMP ..... 58

## List of Appendices

- APPENDIX A – Glossary of Terms
- APPENDIX B – Letters exchanged between NPNRD and NeDNR agreeing to develop the second increment IMP
- APPENDIX C – Stakeholder Advisory Committee Process, Members, and Meeting Dates
- APPENDIX D – Order Declaring Formal Moratoriums (7/14/2004)
- APPENDIX E – Order Designating Overappropriated River Basins, Subbasins, or Reaches, and Describing Hydrologically Connected Geographic Area (9/15/2004)
- APPENDIX F - Order of Final Determination of River Basins, Subbasins, or Reaches as Fully Appropriated and Describing Hydrologically Connected Geographic Area (9/30/2004)

## List of Figures

- Figure 1 – Map of Fully Appropriated Area
- Figure 2 – Map of Overappropriated Area
- Figure 3 – Map of Pumpkin Creek Basin Groundwater Management Sub-Area
- Figure 4 – Stream Reach Map
- Figure 5 – Graph: Modeled Impacts to the North Platte River
- Figure 6 – Diagram: Basin-Wide Supply and Demand Balance
- Figure 7 – Diagram: Mitigation Measures and Robust Review Timeline

## List of Tables

- Table 1 – Modeled accretions to the North Platte River for short term target
- Table 2 – Modeled accretions to the North Platte River for long term target

## 1.0 EFFECTIVE DATE

This Integrated Management Plan (IMP) was adopted by the North Platte Natural Resources District (NPNRD) on \_\_\_\_\_, 2019 and by the Nebraska Department of Natural Resources (NeDNR) on \_\_\_\_\_, 2019.

**This IMP became effective on September \_\_\_\_, 2019.**

## 2.0 AUTHORITY

This IMP was prepared by the Board of Directors of the NPNRD and the NeDNR in consultation and collaboration with the NPNRD Stakeholders Group in accordance with *Neb. Rev. Stat.* §§ 46-715 through 46-720.

## 3.0 BACKGROUND

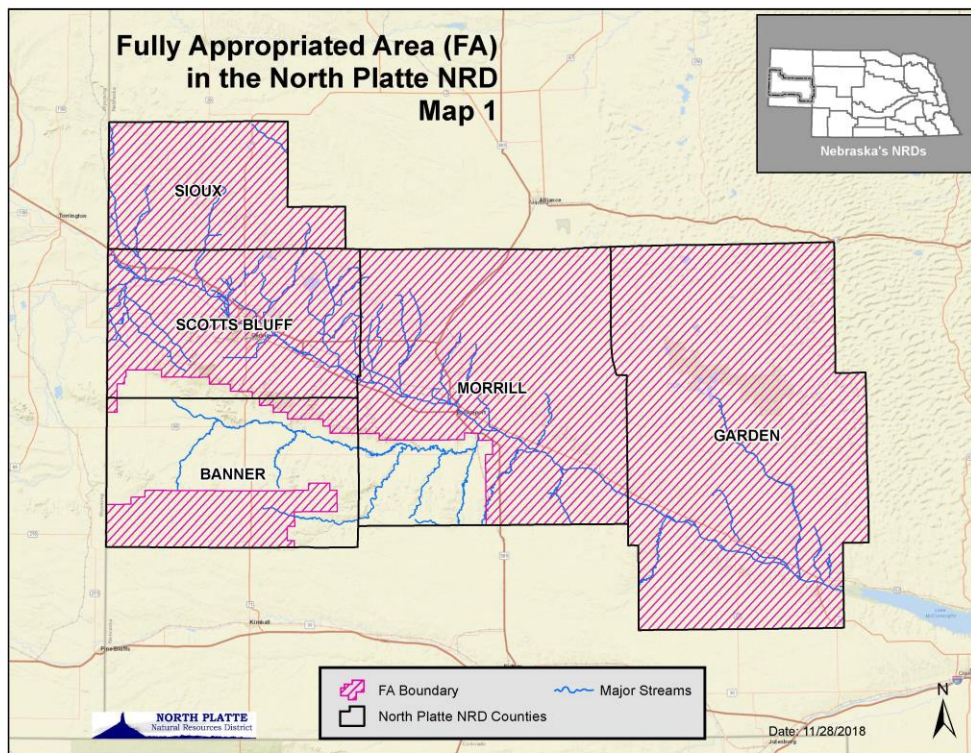
On August 13, 2009, the NPNRD and NeDNR adopted the first increment Integrated Management Plan, which became effective September 14, 2009. In accordance with Chapter 8, Section II. B. of the first increment IMP, the NeDNR initiated a technical analysis to determine whether the measures adopted in the first increment IMP were sufficient to offset depletions due to post-July 1, 1997 water uses, and whether the measures adopted in the first increment IMP have returned the NPNRD to a fully appropriated condition.

Based on the results of this technical analysis, a subsequent ten (10) year increment is required in accordance with *Neb. Rev. Stat.* §46-715(5)(d)(iv) to achieve the goals and objectives of the first increment IMP. As such, the NPNRD and NeDNR arranged and held multiple stakeholder meetings with representatives from irrigation district, reclamation districts, public power and irrigation district, mutual irrigation companies, canal companies, municipalities and landowners to consult and collaborate with these entities and individuals on the development of a second increment IMP. This stakeholder group met periodically between July 2018 and January 2019, and ultimately came to a consensus on the language of the draft second increment IMP, at which time a public hearing was scheduled for the approval of this second increment IMP OR but was unable to reach a consensus on the language of the draft second increment IMP; therefore, the NPNRD and NeDNR continued to work on the draft second increment IMP until \_\_\_\_\_, 2019, when agreement was reached between the NPNRD and NeDNR. A hearing was subsequently scheduled for the approval of this second increment IMP.



## 4.0 MAPS AND MANAGEMENT AREA BOUNDARIES

- 4.1 The area subject to this IMP is the entire geographic area of the NPNRD.
- 4.2 The area designated as fully appropriated is the entire geographic area of the NPNRD with the exception of the Pumpkin Creek Basin Ground Water Management Sub-Area as depicted on Figure 1.
- 4.3 The area designated as overappropriated by the NeDNR on September 15, 2004, is depicted on Figure 2, which includes the Pumpkin Creek Basin Ground Water Management Sub-Area and is depicted on Figure 3.
- 4.4 The stratigraphic boundaries subject to this IMP include all sediments from ground level downward through all aquifer units.



**Figure 1.** Map 1 of Fully Appropriated Area of NPNRD

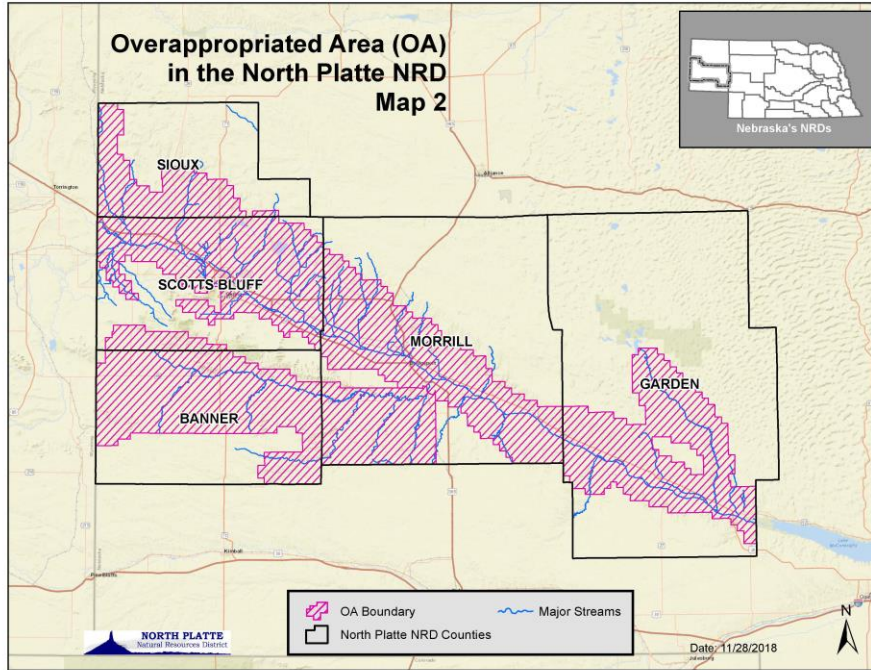


Figure 2. Map 2 of the Overappropriated Area of NPNRD

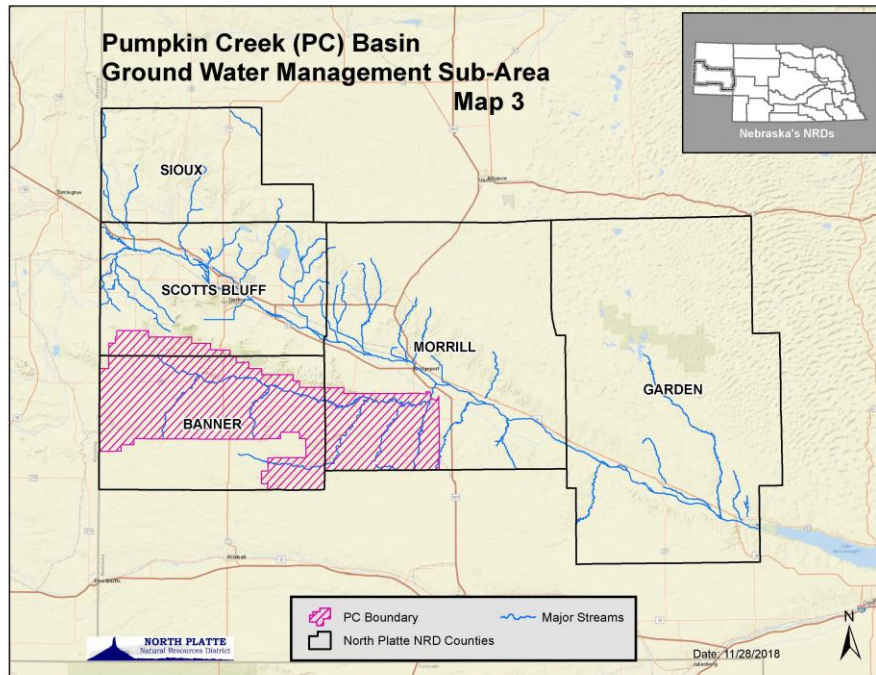


Figure 3. Map 3 of Pumpkin Creek Ground Water Management Sub-Area of the NPNRD

## 5.0 VISION STATEMENT

The joint goals of NPNRD and NeDNR are to (1) manage water resources in the NPNRD in a manner to balance water use and water supply while optimizing economic, social, and environmental benefits for the near and long term; (2) protect to the extent possible existing users, local economy, environmental health, and recreational uses; (3) manage total water supply in the NPNRD to achieve sustainability of supply and use while allowing for growth and changes in use, and (4) recognize there are multiple causes of streamflow depletion and to the extent possible distribute mitigation responsibilities appropriately.

To do this, NPNRD and NeDNR will provide educational programs related to integrated water management for the NPNRD, provide opportunities for water banking and transfers, and explore new sources of water and currently used water for offsets, such as unappropriated river flows and transfers of existing water appropriations or certified ground water uses.

## 6.0 FUNDING

NeDNR and NPNRD will use available funds and actively pursue new funding opportunities to cost effectively offset depletions as well as to develop, maintain, and update data and analytical tools needed to implement this IMP. Funding for regulatory and non-regulatory activities described in this IMP will derive from several sources. The NeDNR receives funds appropriated by the Nebraska Unicameral for water resources management and administration. The primary funding source for natural resources districts is property taxes. Both entities also seek out and utilize grants from various federal, state, local and private entities. The Nebraska Environmental Trust has been a generous supporter of water management activities in the Upper Platte River Basin. The Platte Basin Coalition, described in more detail below, is another mechanism for funding projects and studies in the basin.

Additionally, NRDs have various taxing authorities they may use to fund projects and studies, including the occupation tax provided in *Neb. Rev. Stat. §2-3226.05*, funds granted to the NPNRD by the State or Federal government, or the levy authority authorized by *Neb. Rev. Stat. §2-3225*.

Funding priorities identified in this IMP include:

- Reductions in consumptive use
- Enhancement of water supplies
- Maintenance of existing projects and implementation of proposed projects to meet goals of this IMP
- Data acquisition and maintenance, and model improvements for IMP implementation

The ability of NeDNR and NPNRD to implement the goals, objectives, and action items for this IMP, including their ability to meet the implementation timeline and

intermediate deadlines set forth herein, may be limited by the availability of resources, including (but not limited to) funding or staff resources.

If limited resources prohibit completion or initiation of a specific management action, or if they delay the ability of NeDNR or NPNRD to complete a task by an established deadline, such limitations and delays will be discussed by NeDNR and the NRDs. If such a delay results in the need for revisions to this IMP, the necessary revisions will be made following the procedures set forth in Chapter 10.9.

## 7.0 SCIENCE AND METHODS

NeDNR and the Central Platte NRD, North Platte NRD, South Platte NRD, Tri-Basin NRD and Twin Platte NRD (Upper Platte Basin NRDs) will utilize the best readily available science, data, and methods when implementing and reviewing the Upper Platte Basin second increment IMPs. This maintains consistency with state statute and the first increment processes and methodologies. Consistency in the science, data, and methods used to evaluate water management actions across the basin is paramount to provide a consistent basis for comparison of the effectiveness of various water management actions, regardless of location. Statutes and prudent scientific practices call for clear and transparent procedures to track depletions and accretions. The NeDNR and Upper Platte Basin NRDs will jointly develop and agree to all of the data, science, and methods utilized for the implementation, review, and evaluation of this IMP. The methodologies may be revised upon review of any new information, data, and science by the NeDNR and NRDs. The action items in Chapter 10 reference actions outlined within this Chapter that are instrumental to the implementation and review of the IMP. This Chapter briefly overviews the first increment data, science, and methods with a comparison of how these aspects pertain to the current increment of the Nebraska New Depletion Plan (NNDP)<sup>1</sup>.

### 7.1 Best Available Science, Methods, Data, and Tools Used in the First Increment

The first increment and associated implementation of the NNDP utilized the Cooperative Hydrology Study (COHYST)<sup>2</sup> model as the best available tool to determine both groundwater depletions and set mitigation targets for each NRD. The analysis used to determine the targets for the first increment is described in the 2008 COHYST report<sup>3</sup>. This analysis set the basis for the procedures for the Upper Platte NRDs and NeDNR to perform consistent, ongoing analysis throughout the first increment. Consistency in evaluation is crucial in order to

---

<sup>1</sup> The Nebraska New Depletion Plan can be accessed here: <https://dnr.nebraska.gov/water-planning/platte-river-recovery-implementation-program>

<sup>2</sup> More information on the COHYST 2010 model is available at <https://cohyst.nebraska.gov/>

<sup>3</sup> Luckey, R.R. (2008). *Estimated Stream Baseflow Depletion by Natural Resources District in the Nebraska Platte Basin due to Gained and Lost Groundwater Irrigated Land after July 1, 1997*. [referred to in this IMP as the 2008 COHYST report] Aurora, CO: High Plains Hydrology, LLC. Retrieved from <https://dnr.nebraska.gov/water-planning/upper-platte-river-publications>. [In this IMP, this report is referred to as the "2008 COHYST report"]COHYST Report (2008).

compare the results from the analysis used to determine targets with the results of the analysis to determine how particular management actions meet those targets.

The NRDs and the NeDNR developed an annual protocol to evaluate IMP progress<sup>4</sup> toward the targets using analytical methods coupled with COHYST 2010 model data to assess annual changes in permit activity regarding changes in consumptive use and streamflow depletions. The annual protocol methods are consistent with the 2008 IMP targets to provide a valid comparison. The annual process was utilized each year and results of those analyses can be found on the NeDNR website.

Evaluation of the initial COHYST model led to two major areas of scientific understanding. First, the massive expanse of the COHYST model area would be best modelled as two separate areas, the Western Water Use Management Modeling (WWUMM) area and the COHYST 2010 area, due to distinct and significant differences in geology, climate, land use, and water management that require a difference in the approach to modelling in the two areas. Second, splitting the COHYST model area required a reconstruction and recalibration of the groundwater models. This fundamental reorganization and rebuilding of the models means that neither model is currently consistent with the original 2008 COHYST report modeling analysis and results. Therefore, these models are not an appropriate tool to use as a direct comparison with the targets as described within the first increment IMP. Modifications to the original 2008 COHYST report analysis are necessary to redefine the targets for a true comparison.

### **WWUM Model**

The WWUM Model covers the Upper Platte Basin from upstream of Lake McConaughy to the Wyoming and Colorado state lines. This model is used for the NPNRD and South Platte NRD (SPNRD). It provides a detailed and holistic view of water resources in the region. The purpose of the effort is to provide a set of crop consumptive use, ground water, and surface water modeling tools to aid in management of river, stream, and aquifer systems within the modeling area. The goal of WWUM Model is to create data centered decision support information to assist the NPNRD, SPNRD, and the NeDNR

The revised models improve the overall understanding of basin hydrology during implementation of the first increment IMP. The first increment robust review utilized this updated understanding and science for all aspects of the analysis. Application of these tools and understanding resulted in refined estimates of post-1997 depletions that are typically greater than the original estimates included in the first increment IMP. The robust review also provided estimates of the first increment offsets achieved by each of the NRDs. A description of the Robust Review can be found in Chapter 10 of this IMP.

---

<sup>4</sup> The protocol document, *Basin-wide Technical Committee Guidance Document – Procedures for Annual Accounting Review and Robust Review to Assist Integrated Management Planning and Facilitate Reporting to the Platte River Recovery Implementation Program*, can be found at <https://dnr.nebraska.gov/water-planning/other-upper-platte-river-documents>

## 7.2 Best Available Science, Methods, Data, and Tools, to Be Used in Ongoing Increments

There are several basin wide tenets regarding best available science, data, and methods that the NRD and the NeDNR will follow while implementing this IMP:

1. Maintain, improve, or acquire data and modeling tools, such as the COHYST 2010 and WWUM models, land-use, climate data, and other programs and projects needed to implement and assess the progress of this IMP.
2. Use the models or data and tools derived from the COHYST 2010 and WWUM models to analyze potential management actions, conduct an annual review of progress of the IMP, perform the next robust review, and carry out any relevant studies identified in this IMP or the BWP uniformly across the basin.
3. Maintain and expand model applications through collaboration of model user groups.
4. Substantial changes to the model, for example changes to the hydrologic properties or refinements of model grids, will be agreed to by the NeDNR and NRDs before using those changes to evaluate the IMP and management actions.
5. All Basin-Wide Plan or IMP compliance-based analysis must utilize conceptually consistent methods such that stream depletion estimates or calculations performed in one area of the basin are comparable to stream depletion estimates or calculations in another area of the basin.
6. Any analysis that evaluates progress towards achieving IMP targets will be consistent with the original analysis or tools used to develop the targets. If necessary, new tools will be used to re-evaluate targets as well as progress toward those targets; in either case both the targets and the values estimating progress will be developed in a conceptually consistent manner so that they can be compared.
7. Continue to evaluate and refine stream depletion and accretion analysis methods by gathering and evaluating data for potential incorporation into these analyses upon agreement by NeDNR and NRDs. As new tools, information, and understanding is applied, it is anticipated that the values for depletions or accretions from the Robust Review (shown in Goal 1 in Chapter 9) may change.
8. As updates to data, models, analysis tools, or hydrologic understanding occur, NeDNR, and the NRDs will share these advances with the public. Methods, tools, and data used will be made available to the stakeholders and the public, as described in the Upper Platte River Basin-Wide Plan<sup>5</sup>. The process for incorporating new

---

<sup>5</sup> The Upper Platte River Basin-Wide Plan (for both first and second increments) is available on NeDNR's website: [dnr.nebraska.gov](http://dnr.nebraska.gov)

information and results into this IMP document and/or supporting appendices will include a public hearing at the annual meeting.

9. The depletions estimates will be reviewed periodically using agreed upon modeling tools as the models, supporting data, information, and the understanding of the Basin's hydrology continue to evolve.

The term 'uniform' in this IMP when referring to consistency in analysis is not intended to dictate that same methods be used throughout the basin, as differences in available data, water supply and uses, climate, etc. across the basin will require differences in the methodologies employed. Rather the term 'uniform' is intended to indicate that the methodologies must be scientifically based and proven as conceptually consistent equivalents through either the scientific literature or independent evaluation of NeDNR and the Upper Platte NRDs.

### **7.3 Information Considered in Developing this IMP**

Information used in the preparation of this IMP and to be used in the subsequent implementation of this IMP can be found in the list below. These materials can be obtained by contacting the NPNRD or the NeDNR.

- The NeDNR's Order Declaring Formal Moratoriums on all new surface water appropriations in the Platte River Basin above the Mouth of the Loup River, the North Platte River Basin, and the South Platte River Basin, et. al.(Appendix D)
- The NeDNR's Order of Final Determination of River Basins, Subbasins, or Reaches as Fully Appropriated, and Describing Hydrologically Connected Geographic Area in the Matter of the Portion of the Platte River Basin Upstream of the Loup River Confluence, the North Platte River Basin, and the South Platte River Basin within the South Platte Natural Resources District, the Twin Platte Natural Resources District, and the Central Platte Natural Resources District (Appendix F)
- The NeDNR's Order Designating Overappropriated River Basins, Subbasins, or Reaches, and Describing Hydrologically Connected Geographic Area in the Matter of the Platte River Basin upstream of the Kearney Canal Diversion, the North Platte River Basin, and the South Platte River Basin (Appendix E)
- Applicable Nebraska Revised Statutes
- The items listed in *Department of Natural Resources Rules for Process and Procedures, Title 454, Neb. Admin. Code*
- *Department of Natural Resources Rules for Groundwater, Title 456, Neb. Admin. Code*

- *Department of Natural Resources Rules for Surface Water, Title 457, Neb. Admin. Code*
- The NPNRD Ground Water Management Plan
- The NPNRD *Rules and Regulations for the Enforcement of the Nebraska Ground Water Management and Protection Act*
- The NPNRD first increment IMP
- First Increment, Upper Platte River Basin-Wide Plan
- Second Increment, Upper Platte River Basin-Wide Plan
- COHYST, COHYST 2010, and WWUM Models
- The Nebraska New Depletion Plan
- The Upper Platte River Basin Robust Review analysis
- The Upper Platte River INSIGHT analysis
- Additional data on file with the NPNRD and the NeDNR.

## 8.0 FIRST INCREMENT ACCOMPLISHMENTS

### 8.1 Studies Conducted and Information Obtained in First Increment

The Upper Platte Basin NRDs and NeDNR conducted several studies in the first increment, which were specifically identified by the IMPs. Large amounts of information and data were collected and used in these studies and other analyses. The purpose was to help evaluate the potential effectiveness of various strategies in achieving the goals and objectives of that IMP and to help gage progress during the first increment.

#### 8.1.1 Assessing Available Water

##### 8.1.1.1 Surface Water

A study of unappropriated surface water, its availability in time and location, was conducted during the first increment; see reports by HDR and The Flatwater Group, Inc. (2010<sup>6</sup>, 2013<sup>7</sup>). A list of existing surface water appropriations within the basin was compiled as part of the study of unappropriated surface water (HDR and The Flatwater Group, Inc. 2010). It was determined that there are times when unappropriated surface water is available in the basin for relocation or retiming projects. Specifically, the NeDNR determined

---

<sup>6</sup> HDR and The Flatwater Group, Inc. (2010). *Evaluation of Historic Platte River Streamflow in Excess of State Protected Flows and Target Flows*. Retrieved from <https://dnr.nebraska.gov/water-planning/upper-platte-river-publications>

<sup>7</sup> HDR and The Flatwater Group, Inc. (2013). *Evaluation of Historic Platte River Streamflow in Excess of State Protected Flows and Target Flows, Technical Memorandum*. Retrieved from <https://dnr.nebraska.gov/water-planning/upper-platte-river-publications>



that between 1954 and 2008 there were excess flows available in some years. Most excess flow events occurred in May and June, and some events were in excess of 30,000 AF. A planning tool was developed to estimate amount, duration, and frequency of excess flow by reach.

#### 8.1.1.2 Groundwater

To assist in assessing available groundwater, all groundwater uses in the NRD are certified. The NPNRD has compiled a list of certified ground water uses within the NPNRD:

- Aquaculture Certification Commercial Certification
- Feedlot Certification
- Irrigation Certification
- Municipal Certification
- Non-Municipal Certification (Public Water Supplier)
- Wildlife Certification

To assist in assessing changes in available groundwater, NPNRD tracked all consumptive use changes due to transfers, variances, offsets, and expanded municipal and industrial uses.

To also aid in the assessment of available groundwater, meters were used to measure the amount of ground water being withdrawn to track water usage under allocations. NPNRD staff collected data and it was then incorporated into the WWUM model.

#### 8.1.2 Conservation Study Phases I and II

The Flatwater Group, Inc. completed Phase I of a conservation study in 2013 and provided the results in a Final Technical Memorandum<sup>8</sup>. The purpose of the Phase I study was to assess which conservation measures<sup>9</sup> the Platte Basin Coalition should consider implementing and also to assess potential methods for developing basin-wide estimates of impacts to streamflow of the conservation measures in the fully and overappropriated areas of the basin.

Phase I provided a Matrix which assessed the assumed magnitude of impact to streamflow of varying intensity for each conservation measure, as well as the required resources and cost of each method. The Matrix also provided information on the effect to

---

<sup>8</sup> The Flatwater Group, Inc. (2013). *Final Technical Memorandum of Conservation Study*. Retrieved from <https://dnr.nebraska.gov/water-planning/upper-platte-river-publications>

<sup>9</sup> The Final Technical Memorandum defines conservation measures as “practices designed to control or prevent soil erosion, enhance the beneficial use of precipitation and irrigation water, or reduce non-beneficial water consumption.”

overland runoff, recharge, and net effect on evapotranspiration (ET) of each conservation measure of varying intensity. Conservation measures assessed included structural (e.g., terraces, dams, canals, etc.) and non-structural (e.g., tillage, irrigation management and efficiency, crop rotation, soil monitoring, buffers, etc.) measures.

Phase II, which is a technical assessment of impacts from changes in tillage practices and irrigation efficiencies, is in progress (waiting on write-up).

### 8.1.3 Conjunctive Management Study

In 2011, HDR and The Flatwater Group, Inc. published the Conjunctive Management Study<sup>10</sup>. The objectives of this study were to identify general elements, potential approaches, and constraints necessary in the planning and evaluation of conjunctive management projects, and to evaluate several hypothetical conjunctive management strategies involving the Western Canal to illustrate the application of these concepts.

Briefly, conjunctive management<sup>11</sup> involves managing surface and groundwater together to maximize storage, timing, and use of the resource. For successful conjunctive management projects, surface water and groundwater supplies and uses need to be identified. Projects generally include three components, 1) diversion of surface water, 2) recharge facilities, and 3) use of the water. Project impacts (e.g., water yield, water quality, economics, the environment, etc.) and alternatives must be considered, as well as legal constraints. A monitoring plan should also be developed to assess project performance. All of these components were then used in a case study to evaluate several hypothetical projects on the Western Canal, a 20-mile canal, which diverts South Platte River flows downstream of the Julesburg gage through farmland toward Ogallala, NE.

### 8.1.4 Inventory of Sandpits and Small Reservoirs

As part of Nebraska's commitment to PRRIP, the NeDNR has been charged with estimating the cumulative impacts of new or expanded, unregulated surface water activities. Therefore, in 2013, the NeDNR conducted an inventory and analysis of sandpits and reservoirs with capacity below 15 acre-feet throughout Upper Platte River Basin<sup>12</sup>.

---

<sup>10</sup> HDR and The Flatwater Group, Inc. (2011). *Conceptual Design of a Conjunctive Management Project*. Retrieved from <https://dnr.nebraska.gov/water-planning/upper-platte-river-publications>

<sup>11</sup> The Conjunctive Management Study defines conjunctive management as "the coordinated and planned use and management of both surface water and groundwater resources to maximize the availability and reliability of water supplies in a region to meet various water needs."

<sup>12</sup>Zoller, A. (2014). *2005 – 2010 Consumptive Use of Small Man-made Water Bodies in the Platte Surface Water Basin Above Columbus* [PowerPoint Presentation]. Retrieved from

This analysis used multi-temporal aerial imagery from 2005 and 2010, and implemented remote sensing techniques to delineate and compare the number, size, and distribution of these water bodies. Baseline data generated from 2005 imagery were compared to 2010 imagery in order to identify changes in the overall surface areas of these unregulated water bodies within the basin. Once these new or expanded water bodies were identified, the Natural Resources Conservation Service (NRCS) Evapo-Transpiration (ET) calculator was used to estimate the resulting change in consumptive use due to ET.

The inventory component of the study was extremely labor intensive and required approximately 2,500 labor hours to identify, measure, and categorize over 13,000 remotely sensed features. After comparing data from both years, the study found 94 new or expanded sandpits and 9 new reservoirs. New and expanded sandpits represented a cumulative increase in open water surface area of 728 acres and new reservoirs were responsible for a cumulative increase of 19 acres for a total of 747 new acres of unregulated surface water throughout the basin from 2005 to 2010.

Once the change in open water acreage attributed to unregulated surface water was determined, the NRCS calculator was used to estimate the resulting change in consumptive use due to ET. The results of the NRCS analysis found a pronounced decrease in consumptive use due to ET during the growing season with a modest increase in consumptive use during the non-growing season. Additionally, the NRCS analysis identified a very slight increase in consumptive use due to new reservoirs, which was consistently distributed across all months. Ultimately, the NRCS analysis estimated that the increase in unregulated surface water acreage from 2005 to 2010 resulted in a net decrease in consumptive use of 678 acre-feet per year throughout the basin. The results of this study were presented to the PRRIP Water Advisory Committee on May 6, 2014.

## **8.2 Summary of Management Actions Taken During First Increment**

- 8.2.1 The NeDNR continued the formal moratorium on all new surface water appropriations for the North Platte River Basin including the North Platte NRD.
- 8.2.2 The NPNRD and NeDNR conducted several conjunctive management projects in cooperation with irrigation districts. Excess streamflows were diverted into irrigation canals, pits, and reservoirs for intentional recharge to retime and augment

---

<https://dnr.nebraska.gov/water-planning/upper-platte-river-publications>

baseflows.

8.2.3 The NPNRD entered into voluntary agreements with surface water appropriators to lease consumptive use from affiliated lands.

8.2.4 Additionally, the first increment IMP called for several administrative actions regarding groundwater, which were carried out by the NPNRD.

8.2.5 The NPNRD assisted groundwater users in signing up for incentive programs.

8.2.6 The NPNRD entered into short-term and permanent leases and retirements of ground water.

8.2.7 The NPNRD entered into agreements with ground water irrigators to “buy down” allocations to ensure deficit irrigation and provide for a set-aside program for idling marginal farm lands in geographically advantageous areas.

#### 8.2.8 Allocations

Allotments of a specified quantity of groundwater were granted for a specific use and are measured and monitored with permanently installed flow meters. This was done for groundwater irrigation, municipal groundwater use, and industrial groundwater use.

8.2.9 In the Overappropriated Area (OA), the allocation for irrigation was originally set at 56 acre-inches over four years, which is an average of 14 acre-inches per year. In 2013, the NPNRD added 1 water year and an additional 14 acre-inches to the original allocation. In the Pumpkin Creek Basin, the allocation for irrigation was initially set at 36 acre-inches over three years, for an average of 12 acre-inches per year, but in 2013, the NPNRD modified that allocation to its current 60 acre-inches over 5 years or 12 acre-inches per year. These levels were determined to be a deficit level of irrigation for the crop mix in the NPNRD, and were thereby instituted to ensure a reduction in consumptive use. An analysis, described in Section 10.7.3, was conducted to assess the effectiveness of the control and possible need to modify the allocation.

#### 8.2.10 Metering

Meters were used to measure the amount of ground water being withdrawn from certain regulated wells in order to track water usage under allocations.

#### 8.2.11 Moratorium

The NPNRD implemented a moratorium on the issuance of water well construction permits and on new or expanded ground water uses. The NPNRD granted a variance from the moratorium if there

was an offset for any new or expanded use, or if there was no increase in consumptive use due to the new or expanded use.

#### 8.2.12 Certification of Irrigation Uses

All ground water irrigation uses were certified by the NPNRD. The NPNRD has a process in which modifications to certified acres may be sought.

#### 8.2.13 Large User Permits

A Large User Permit were required for a public water supplier, with the exception of municipalities, who desires to modify or expand their consumptive use of water.

#### 8.2.14 Variances

The NPNRD granted variances for good cause shown for any of the controls in this IMP or within the NRDs rules and regulation.

#### 8.2.14 Transfers

Transfers permits within the NPNRD were required to transfer the location of a certified ground water use, the point of ground water withdrawal from a regulated well, the purpose of a certified ground water use, to add a new use to an existing certified ground water use, or any combination thereof.

### 8.3 Assessment of First Increment (Robust Review)

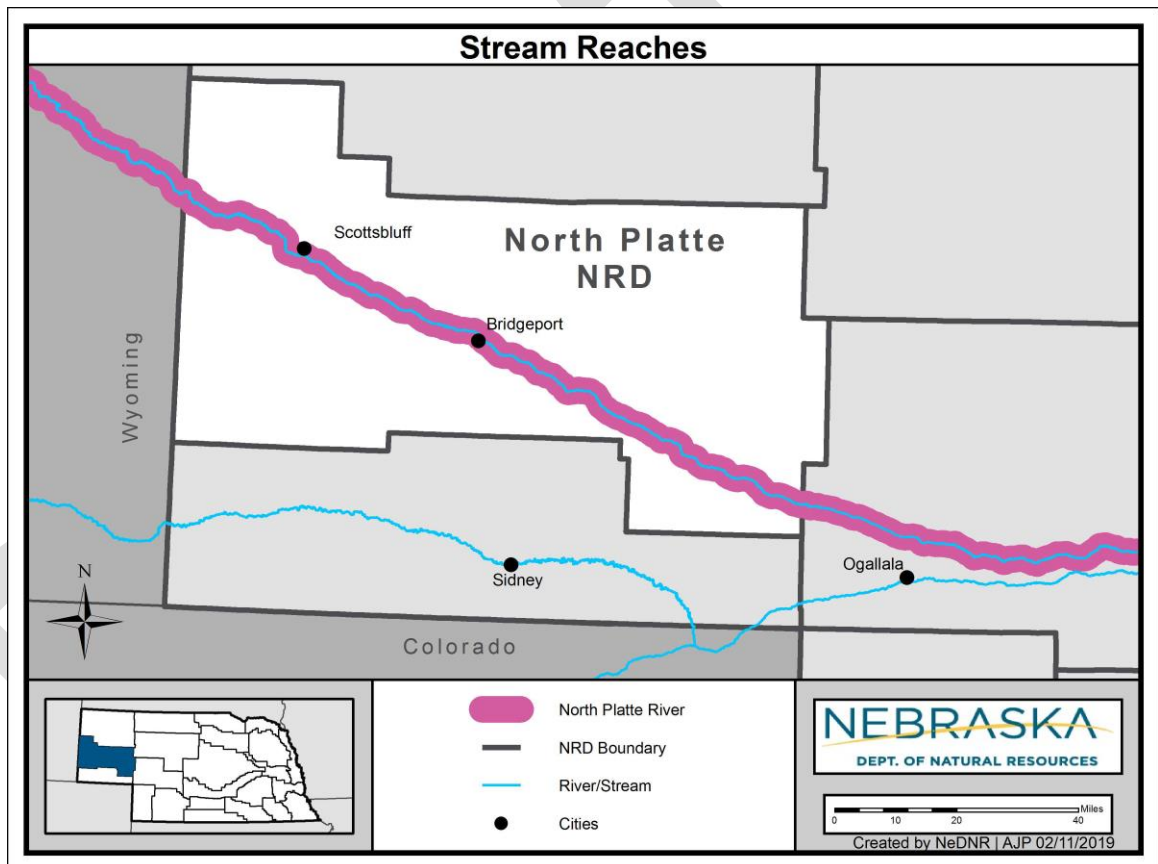
#### 8.3.1 Robust Review

As required by statute, NeDNR and the Upper Platte Basin NRDs conducted a Robust Review of the progress being made toward achieving the goals and objectives following the process outlined in the first increment IMP. This study was an update of the assessment described in the 2008 COHYST report, which established the first increment targets. The evaluation used data and information from the annual reports and updates developed in support of the Upper Platte River Basin Wide Plan and NNDP implementation.

This evaluation provides summarized estimates of the streamflow impacts resulting from gained and lost irrigated land, controls (allocations and transfers), expansion and contraction of municipal and industrial uses, managed recharge, stream augmentation, and permitted uses. The report is a synthesis of all of these efforts and provides summarized updates of new targets that will be used to guide second increment planning goals and objectives.

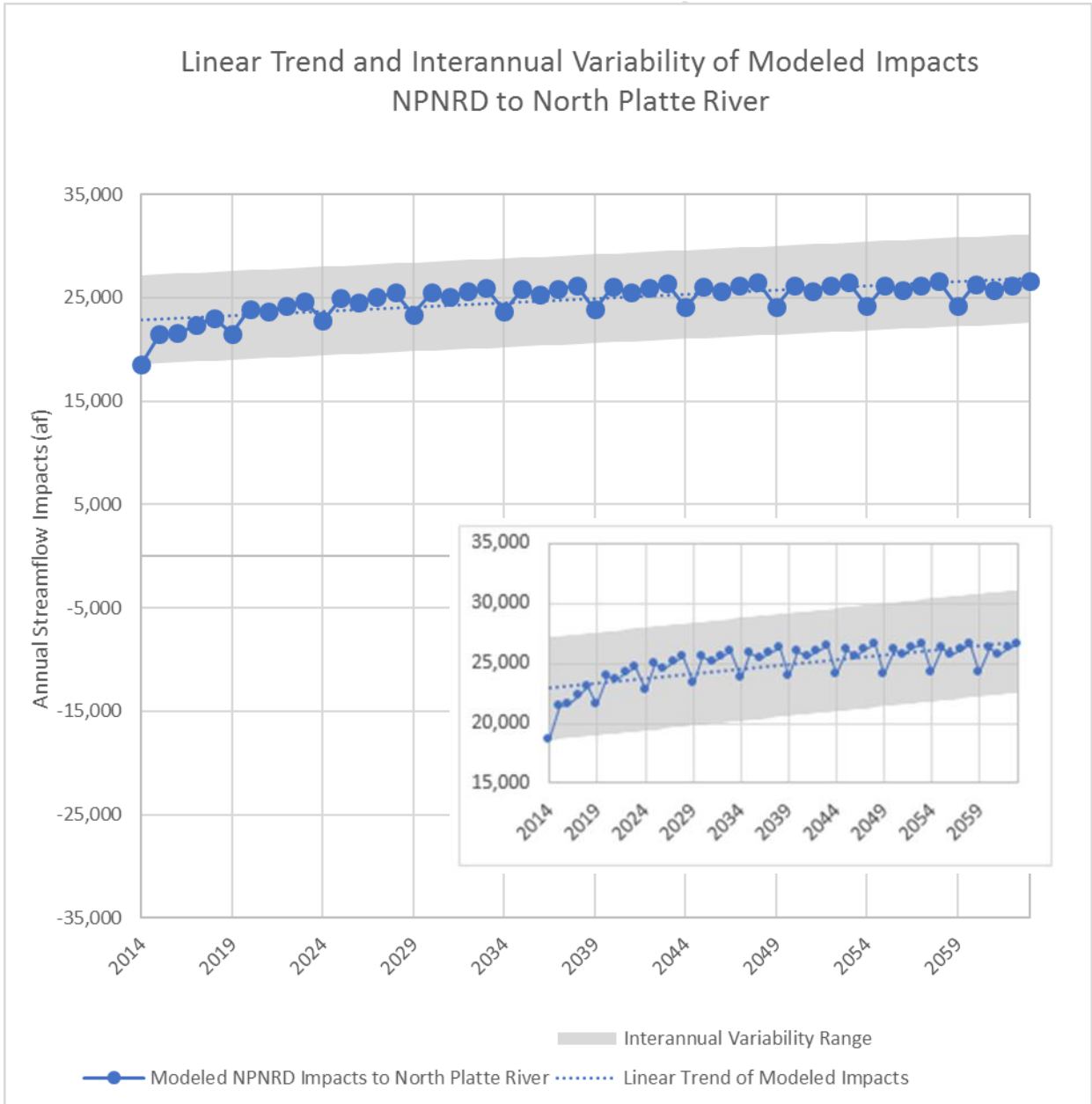
The *Robust Review Report* outlines the methods, limitations, and results of the most recent robust review and represents the best available science to support second increment planning. Figure 5 below illustrates the results for the NPNRD for the period of 2019-2029 (second increment). Positive values for stream flow impacts indicate accretions and negative

values indicate depletions. More detailed information on the general method of conducting the Robust Review during the 1<sup>st</sup> increment of the IMP can be found in the NPNRD IMP made effective September 14, 2009. Figure 4 illustrates the geographic extent of the stream reach that is impacted by actions within the NRD. The data in the Figure 5 correspond to this reach.



**Figure 4.** Stream Reach for Robust Review analysis.

Figure 5 displays the modeled post-1997 impacts of NPNRD to the North Platte River (including groundwater-only irrigation, municipal and industrial development, allocations, and groundwater irrigated acres retirements). The impacts of changes, activities, and actions take through 2013 are reflected in the data. A linear trend line has been added to the modeled impacts from 2014 – 2063, and the inter-annual variability range of modeled impacts across the trend shown by the grey band. The inset in Figure 4 shows the same data at a smaller scale. Positive values for streamflow impacts indicate accretions and negative values depletions.



**Figure 5.** Robust Review of post-1997 impacts to the North Platte River from ground water, municipal, and industrial uses, with implemented management actions. Numerical values can be found on Table 1, Goal 1, Objective 1.2, in Chapter 9 of this IMP.

The charts show the range of uncertainty around the trend line of the modeled data. Potential future offsets are impacted by the variability in climate, therefore a trend line is shown to smooth out the potential future effects of climate variability. Values are the result of the most recent robust review conducted by NeDNR. Details on the analysis are (in the Robust Review report).

It is recognized that while they were not analyzed during this robust review, several canal diversions for recharge occurred after 2013 during the first increment, which would also provide accretions to the stream. Other projects, such as the EPIC allocation buy down program started in 2017 and surface water leases, provided additional accretions but were not part of this Robust Review analysis.

#### 8.3.2 Allocation analyses for the Robust Review

To determine the effectiveness of the allocations in the NPNRD, an annual modeling analysis using the WWUM Model was conducted. Meter data collected from groundwater-only irrigation wells was used to update the historic model. A modified version of the model was created in which the metered pumping records were replaced with estimated pumping simulating full irrigation crop consumptive use of the crops. The stream baseflow of the two model runs were then compared to assess the amount of additional flow in the streams that resulted from the allocations and the subsequent reduction in consumptive use. This additional flow is an offset to depletions caused by post-1997 uses and has helped provide further offsets beyond that level. This analysis is described in more detail in section 10.7.3, which outlines the robust review process. This analysis continues to be conducted at regular intervals by the NPNRD to assist in evaluating the effectiveness of the set allocations.

### 8.4 Assessment of Fully Appropriated

There are several potential approaches to assessing the difference between the current level of development in the Upper Platte Basin and a fully appropriated condition. Identifying this difference is critical in making progress toward a fully appropriated condition in the basin.

#### 8.4.1 Total Depletions

Waiting on write-up

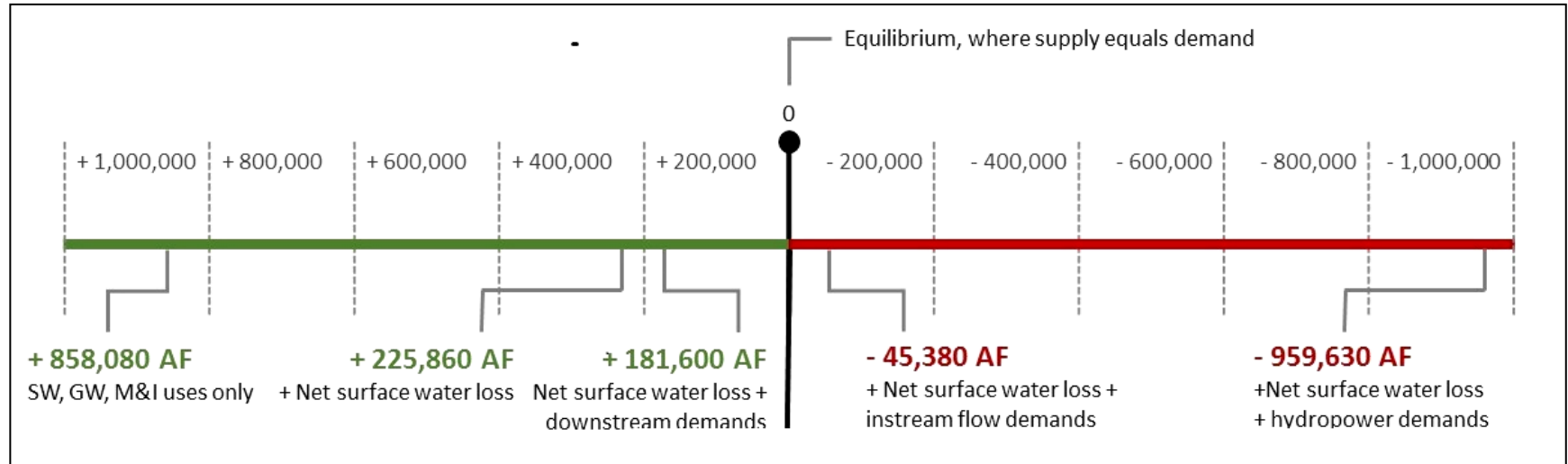
#### 8.4.2 INSIGHT

The INSIGHT methodology is an approach to assessing the balance between water supplies and water demands within a basin. INSIGHT consolidates data from several sources, including NeDNR, the United States Geological Survey (USGS), the United States Bureau of Reclamation (USBR), and local NRDs. That hydrologic data is used to conduct an analysis of the following items at the basin- and subbasin-level: 1) streamflow water supplies available for use, 2) the current amount



of demand on these supplies, 3) the long-term demand on these water supplies due to current uses, 4) the projected long-term demand on these water supplies due to five percent growth in total use, and 5) the balance between these water supplies and demands.

If a basin's near-term demand and/or the long-term demand of hydrologically connected groundwater and surface water exceeds the basin water supplies, then supplies may not be sufficient to sustain the demands over the long term.



**Figure 6.** Average Supply and Demands in the Upper Platte River Basin

Figure 6 above shows the average balance of water supplies in the basin compared to the various levels of demands. When all demands in the basin are considered, the demands outweigh the supplies by approximately 960,000 acre-feet. This means that there may be years when the supplies are not adequate to meet all the demands.

## **8.5 Basin-Wide Cooperation in First Increment**

The first increment IMP called for the development of a list of criteria to evaluate the potential to use available surface water and groundwater supplies as management projects to meet the goals and objectives of the IMP. In order to create a unified approach across the basin the NeDNR and the NRDs established an interlocal cooperative agreement (ILCA).

### **8.5.1 Interlocal Cooperative Agreement (Platte Basin Coalition)**

The Upper Platte Basin NRDs and the NeDNR have established an interlocal cooperative agreement (ILCA), the Platte Basin Coalition (PBC or Coalition), which can provide a venue for obtaining funding for incentive programs aimed at reducing consumptive use within the overappropriated portion of the Platte River Basin.

#### **8.5.1.1 Protocols**

The NRDs and NeDNR have developed, through the Coalition, a protocol that will be followed to evaluate potential projects including the retirement of water uses and the implementation of other offset projects. This protocol will be used to evaluate potential projects to assess the appropriate amount of funding that will be allocated toward that project from the Coalition. The evaluation incorporates data from the COHYST 2010 and WWUM models and tools, which include consideration of cyclical water supplies, to evaluate the potential impact of the project on streamflows. Projects with a greater or quicker impact on the stream are given preference over those, which do not have as much an impact. Project costs, benefits, permitting and regulatory constraints are also considered.

#### **8.5.1.2 Funding**

The ILCA is partially financed by the Water Resources Cash Fund (WRCF). This fund receives monies from both the general fund and the Nebraska Environmental Trust (NET). Under statute, the WRCF may be used for the reduction of consumptive uses or the enhancement of streamflows or groundwater recharge. These funds may be used in overappropriated or fully appropriated areas for projects to study, develop, and implement management actions taken to reduce consumptive uses or water or to enhance streamflows or groundwater recharge. Funding of projects through the PBC is shared between the NRDs and the NeDNR. Expenditures are approved by all members of the Coalition.

Additional sources of funding are sought by the NeDNR and the NRDs, through federal program such as CREP, EQIP, etc. Other outside sources of funding will continue to be sought to increase the leveraging ability of the local dollars spent on projects.

### 8.5.1.3 Technical Work

The Five Upper Platte NRDs and NeDNR have a technical working group to address technical issues and statutory aspects of the BWP and IMPs. NRD managers and NeDNR will agree to technical analyses prior to beginning any work, and the PBC will approve any reimbursed expenditures for technical work.

The technical working group evaluates all aspects of analysis, including the conceptual design, data evaluation, analysis, and evaluation of the results. It is then the responsibility of the technical group to translate the results of any analyses to the administrators for either incorporation into this IMP or evaluation towards meeting plan goals.

During the next increment, the technical group will evaluate various aspects of data and models that may include the effects of conservation measures on depletion results, more efficient methods to track changes regarding irrigated lands, or areas where analyses may be simplified. The technical group will follow the basic tenets outlined in Section 7.2 while carrying out any work necessary for the implementation of this IMP.

## 9.0 GOALS AND OBJECTIVES

The NeDNR and the five Upper Platte Basin NRDs conducted a Robust Review as part of the actions required in the first increment. This Analysis provided each NRD with the information necessary to assess their progress in meeting the goals and objectives of their individual IMPs as well as the progress for the Upper Platte Basin. The outcome of the Robust Review showed that the NPNRD met their IMP targets as defined in the first increment. The Robust Review also indicated that a second increment would be necessary to continue to meet the goals and objectives. The Robust Review results have provided IMP targets for this second increment.

Actions to support the successful implementation of the Goals and Objectives in this Chapter can be found in Chapter 10.0, Actions.

### **Goal 1: Reach and Maintain Fully Appropriated Condition**

To incrementally achieve and sustain a fully appropriated condition while maintaining economic viability, social and environmental health, safety, and welfare of the basin.

**Objective 1.1:** Within the current increment of this IMP, implement measures to address impacts of streamflow depletions to surface water appropriations and water wells constructed in aquifers dependent upon recharge from streamflow to the extent those depletions are due to water use initiated after July 1, 1997.

Since this objective was part of the previous Platte IMP, NPNRD has already taken several actions to achieve it. A summary of these actions can be found in section 8.2 of this IMP. The results of the Robust Review indicate that NPNRD has achieved offsetting Post-1997 depletions. Therefore, the NRD will need to maintain the progress they have made in the first increment. This is covered in Objective 1.2.

**Objective 1.2:** Maintain previous increment mitigation progress.

It is recognized that some actions undertaken in the first increment are temporary projects, which may end during the current increment.

- A. NeDNR and the NRD will keep policies, projects, and practices in place, as appropriate that provide offsets or supply equivalent offsets so that the current level of accretions is maintained.
- B. Targets
  - 1. Short term planning target

**Table 1.** NPNRD Short Term Target

NPNRD Short Term Trend Line Accretion in Acre-Feet Target to Maintain	
Year	North Platte River
2019	23,300
2020	23,400
2021	23,500
2022	23,500
2023	23,600
2024	23,700
2025	23,800
2026	23,900
2027	23,900
2028	24,000
2029	24,100

Table 1. The Table above shows the best estimate of accretions to the Platte during for the next increment of the IMP. A graph of the complete Robust Review

Results may be found in section 8.3.1. Within Chapter 10 of this IMP may be found the following:

- A summary of the methods used, taken from the *Robust Review Document*, to develop the post-1997 targets for the NPNRD (10.7.3)
- Triggers for the implementation of (additional) regulatory controls (10.6.2)

2. Long-term planning target

- i. Within the current ten (10) year increment, maintain current levels of accretions to the Platte, and seek opportunities to further reduce impacts to Platte streamflows for the period 2058-2063. The average accretions for that time-period are 26,700 acre-feet for the North Platte River. This rate is the current best estimate and is subject to change based upon new data and information.

**Table 2.** NPNRD Long Term Target

NPNRD Long Term Trend Accretions in Acre-Feet	
Year	North Platte River
2059-2063 average	26,700

**Objective 1.3:** Make progress toward a fully appropriated condition. Impacts of streamflow depletions to surface water appropriations and water wells constructed in aquifers dependent upon recharge from streamflow to the extent those depletions are due to water use initiated prior to July 1, 1997, may be addressed prior to a subsequent increment with the intent of achieving a fully appropriated condition.

During the first increment, two analyses were performed to estimate the balance of water supplies and demands within the Upper Platte Basin. This included an estimate of all groundwater depletions to streamflow (Total Depletions) and the INSIGHT analysis. Both are described in Chapter 7.

Continue to evaluate:

1. Total depletions
2. Water supply and demands
3. Develop an estimate for a fully appropriated condition

**Objective 1.4:** Review the implementation of this IMP to ensure that the IMP provisions are adequate to sustain progress toward and/or maintain a fully appropriated condition.

**Objective 1.5:** Once a fully appropriated condition is achieved, maintain such condition through the implementation of the IMP.

## **Goal 2: Interstate Compliance**

Prevent or mitigate human-induced reductions in the flow of a river or stream and ensure that no act or omission of the NPNRD would cause noncompliance by Nebraska with any interstate decree, compact, or other formal state contract or agreement pertaining to any ground water or surface water use or supplies.

**Objective 2.1:** Prevent human-induced streamflow depletions and ensure that no act or omission of the NPNRD would cause noncompliance by Nebraska with the NNDP included within PRRIP, for as long as PRRIP exists.

**Objective 2.2:** Ensure that the groundwater and surface water controls adopted in the individual NRD IMPs are sufficient to ensure that the state will remain in compliance with the Nebraska New Depletion Plan.

**Objective 2.3:** Collectively, as defined in the Nebraska New Depletion Plan, offset the new depletions caused by new uses within the Platte River Basin NRDs.

**Objective 2.4:** Ensure that for post-1997 new or expanded uses, including irrigation, municipal, industrial, rural domestic and other new water related activities are assessed and offset for compliance with the NNDP. This assessment will be part of the robust review, explained in chapter 10.10 of this IMP.

## **Goal 3: Consistency and Updates**

Keep the IMP current, maintain consistency with the Basin-Wide Plan, and keep water users informed.

**Objective 3.1:** Amend this IMP as needed to remain consistent with the Basin-Wide Plan.

**Objective 3.2:** Participate in basin-wide planning activities

**Objective 3.3:** Improve information sharing with interested parties.

**Objective 3.4:** Conduct planning for subsequent increments of the IMP, as necessary.

**Objective 3.5:** If appropriate and necessary, follow the dispute resolution process in the Basin-Wide Plan.

## 10.0 Action Items

Chapter 10 contains the action items that will be carried out to accomplish the goals and objectives of the IMP. The action items described in this section are intended to be consistent with the requirements of Neb. Rev. Stat. §46-715(3).

These actions range from ongoing non-regulatory actions such as information and education efforts, to maintenance of current regulatory actions, and the potential for future increased controls if certain triggers cannot be achieved through the other actions taken by the NPNRD or NeDNR. As described within this Chapter, more details on the statutes or rules followed by the NPNRD or NeDNR can be found at the offices of each respective agency. For purposes of transparency/simplicity, the full length of those documents are not repeated herein, so the reader is directed to each agency to read the full details on how any particular action item may be carried out.

### 10.1 Information and Education Programs

The NPNRD and the NeDNR will provide educational materials to the public and/or carry out educational activities that may include, but not be limited to, the following:

- The fully appropriated determination
- The overappropriated designation
- The IMP
- The Nebraska New Depletion Plan (NNDP)
- The Platte River Recovery and Implementation Program (PRRIP)
- Hydrologically connected ground water and surface water
- Invasive species management
- Conversion of irrigated acres to dryland agriculture or wildlife habitat
- Limited irrigation cropping systems
- Soil residue and tillage management
- Alternative crops
- Allocations
- Water use measurement techniques;
- Eco-tourism, crop diversification, changes in land use, to support diversity in revenue streams of water users within the basin, as a means of maintaining economic viability;
- Incentive programs and funding sources for programs that enhance water supply.



- Educational programs to support the implementation of Incentive Programs;

These educational materials and/or activities may include, but not be limited to, joint public meetings, pamphlets, and website information.

## **10.2 Incentive Programs**

The NeDNR and/or the NPNRD intend to establish, implement, and/or continue financial or other incentive programs to reduce consumptive use of water within the NPNRD to meet the goals and objectives of this IMP.

10.2.1 Incentive programs include any program authorized by state law and/or federal programs such as the EPIC program, 10/30 program, alternative cropping, cost share, surface water leasing, ground water retirements, the Conservation Reserve Enhancement Program (CREP), the Environmental Quality Incentive Program (EQIP)

### **10.2.2 Other State or NRD Programs**

The NPNRD and the NeDNR may investigate opportunities to reduce the consumptive use of water in order to enhance water supply as well as other water supply improvement projects. The NPNRD and the NeDNR may develop an incentive-based program if such an opportunity exists. All projects and programs will:

- Use the best science readily available. This will follow the basin-wide tenets outlined in section 7.2. These will be consistently evaluated according to the protocol developed by the PBC. Benefits will be assessed using the agreed upon methods and tools.
- Enhance ground water quantity, ground water quality, and recognition of the value of return flows.
- Remain in compliance with any state or federal laws, contracts, interstate compacts, or decrees that govern the water use of the irrigation districts

### **10.2.3 The general process will be:**

- A. For existing surface water appropriations, contact the appropriators to determine willingness to cooperate, lease and/or sell those appropriations. If willing, develop and execute contract(s) with appropriator(s).
- B. Working with irrigation districts, not just individual landowners served by the irrigation district, when potential projects affect the operation of the irrigation district.

- C. Retirement of surface water rights (either a permanent or a temporary restriction of use). An active surface water right that is under a state or federal program that does not allow use, qualifies under statute for extended non-use periods. While typically a surface water right which has not been used for more than five years may be cancelled due to nonuse, under Neb. Rev. Stat. § 46-229.04, if the appropriation is not being used because it is part of an acreage reserve program, or other state or federal program, there is sufficient cause for nonuse and the right is still valid. If the land is no longer under a program, this applies for up to 15 years as long as there are not more than five consecutive years of nonuse while the land is not under a program.
- D. For existing ground water uses, contact the landowner(s) to determine willingness to cooperate with the proposed project(s). If willing, develop and execute contract(s) with such landowner(s).
- E. Submit the required permit application(s).
- F. Implement the approved projects.

#### 10.2.4 Other identified potential programs

At this time, the specific other programs that have been identified are:

- A. Potential purchase or lease of surface water irrigation district appropriations in order to transfer those appropriations to intentional recharge appropriations;
- B. Surface water leases;
- C. Ground water retirements; and
- D. EPIC contracts for allocation buy downs
- E. Cost Share programs to enhance irrigation efficiency on ground water only acres

### 10.3 Water Banking

10.3.1.1 NPNRD will establish a water bank. The NPNRD will purchase or otherwise acquire certified ground water irrigated acres or other ground water uses or surface water use appropriations. The NPNRD will hold the water in its water bank for the purposes of:

- A. Offsetting new or expanded consumptive uses
- B. Saving water to meet statutory requirements or interstate agreement obligations
- C. Saving water to meet future incremental targets toward achieving a fully appropriated condition
- D. Future sales to individuals as offsets for development of new consumptive uses of ground water within the NPNRD

- 10.3.2.1 The NPNRD and the NeDNR will follow the basin wide tenets from Section 7.2 while implementing the water bank.
- A. The NPNRD will contact the NeDNR prior to purchasing or acquiring surface water appropriations for deposit in the water bank. The NeDNR will conduct a field investigation of the surface water appropriation and notify the NPNRD of the results of that investigation within 90 days. The NPNRD will work collaboratively with the NeDNR in performing the analysis to evaluate the bankable volume of water resulting from the retirement of the surface water appropriation. The NPNRD will follow the appropriate statutes, and rules and regulations of the NeDNR for approval if the surface water appropriation is to be transferred to another use.
  - B. The NPNRD will obtain and maintain permanent easements, lease agreements or other agreements on all property from which surface water or ground water uses have been retired for purposes of the water bank.
  - C. The NPNRD shall annually report all water-banking deposits, withdrawals, and other activities according to the specifications described in Section 10.7 of this IMP.
  - D. When carrying out any water banking activity, the NPNRD shall follow the procedures for any ground water regulatory action (e.g. transfers, certification, or municipal and non-municipal industrial accounting) applicable to such activity. When carrying out any surface water related water banking activity, the NPNRD shall follow the appropriate state statute and NeDNR rules and regulations.

#### **10.4 Conjunctive Management**

Conjunctive management generally means to manage surface water and groundwater as one to make the most of the supply. Conjunctive management projects<sup>13</sup> allow for the optimum use of hydrologically connected surface water and ground water supplies, so that the variability seen in surface water supplies can be smoothed out over time, allowing water users to wisely store water during periods of surplus and, in a managed fashion, withdraw that stored water in times of shortage, overall increasing the available supply through time. Conjunctive management projects can also create benefits such as, mitigating groundwater level declines and offsetting depletions. The NeDNR and the NPNRD will identify conjunctive management opportunities and implement such projects with the purpose of meeting the goals and objectives of this IMP.

Conjunctive Management may include, but is not limited to, the following:

---

<sup>13</sup> See Chapter 8.1.3 Conjunctive Management Study for more information and a definition of “conjunctive management.”

- Transfer existing surface water appropriations or apply for new appropriations for groundwater recharge or intentional recharge, and recovery when appropriate, in existing canals during the irrigation or non-irrigation season; temporary permits can be issued for the diversion of flows in excess of existing appropriations, which would occur outside of the irrigation season;
- Develop new infrastructure (e.g. dams or canals) that may include groundwater recharge or intentional recharge projects, and recovery when appropriate;
- Temporarily transfer existing surface water appropriations within the NRD to streamflow augmentation, instream flow appropriations, or an instream use<sup>14</sup>;
- Develop other ground water projects for the purpose of providing net accretions to the river;
- Facilitate contractual agreements between water users and (6) reduce consumptive use by permanently or temporarily retiring irrigated land. Explore other options.

The NRDs and NeDNR will mutually develop procedures for conducting conjunctive management projects. These procedures may include details on communicating when and where excess flows are available; permitting, contracting, and payment processes; tracking projects and maintaining data records; sharing data; cooperating with other entities wishing to utilize excess flows; and methods for determining benefits from projects (annually for IMP/BWP/PRRIP reporting and for Robust Review purposes). Techniques which can be actively managed and returned to the stream do have benefits that are different from those that are passive (timing and volume of return is uncontrolled, unmanaged, unknown). Conjunctive management projects can be passively managed or actively managed. Actively managed projects, such as storage of excess water, can be returned to the stream at a specific time in controlled volumes, Passively managed, such as recharge of groundwater through excess flow diversions, return to the stream gradually over time and the rate and volume depends on the underlying aquifer material and proximity to the stream.

The ability to capture and use excess flows is dependent on advanced notice of the availability of excess flows. NeDNR will develop a protocol for assessing, predicting, and communicating 1) the potential of excess flows to basin water

---

<sup>14</sup> Nebraska Revised Statute § 46-290(5) states that “For any transfer or change approved [to augment flow in a specific stream reach for any instream use,] the Department shall be provided with a report at least every five years [...] to indicate whether the beneficial instream use for which the flow is maintained or augmented continues to exist”. Title 457 of the Department Rules for Surface Water Chapter 9 Section 002.01 states “For purposes of 46-290(5) R.R.S. 1943, as amended, beneficial use for instream uses shall include a. Water Quality Maintenance b. Water necessary for compliance with compacts, decrees or other state contracts.”

users, and 2) notice of actual availability of excess flows. The NPNRD and NeDNR will work collaboratively to record the excess flows diverted, the excess flows diverted into recharge sites, and the amount of water returning to the river at canal return flow structures. Additionally, NPNRD and NeDNR will collaboratively review and analyze the data from the excess flow diversions to determine the amount of recharge that occurred during the event within the canal and recharge pits. Data on canal recharge and conjunctive management projects will be shared as part of the annual reporting process, described in Section 10.7.1. The recharge will be analyzed in future Robust Review or other analyses.

In order to optimize the implementation of various conjunctive management projects where diversions of excess streamflow will occur, operational plans for each project should be developed. These operational plans should include enhanced monitoring and flow of information and data to effectively manage and utilize any available water. These operational plans will provide the NeDNR with objective criteria by which various projects may be prioritized in order to most effectively utilize available excess flows. The public interest will be best served when the most effective projects are selected for diversion during excess flow periods. In addition, such plans and operational attributes will be useful in establishing good cause and passing public interest tests when petitions and applications are filed with the NeDNR.

## **10.5 Drought Plan**

The basin drought contingency plan will serve as a guide for plans developed by each individual NRD. District-level mitigation measures and response actions corresponding to the drought conditions will be identified and implemented at the individual NRD level. The basin-wide drought plan is to be completed within the first three to five years of the increment. The NPNRD will continue the implementation of its drought plan and update as necessary for consistency with the basin-wide drought plan.

The North Platte NRD will focus on the following key areas in implementing drought-mitigation and drought-response strategies:

### **10.5.1 Education**

- A. Educate the entire community on droughts and its effects, emergency management, and sustainable conservation practices.
  - Include youth and adult audiences.
  - Leverage existing partnerships and resources to communicate drought information.
  - Provide information on NPNRD website.

### **10.5.2 Drought Monitoring**

- A. Monitor meteorological, hydrologic, and other tools to assess current and projected conditions for the region

- B. Develop informational materials and recommendations to public and decision-makers based on information assessed.

#### 10.5.3 Impacts and Vulnerabilities

- A. Municipal water use
- B. Encourage municipalities within the NPNRD to restructure water rates to incentivize conservation and to implement water use restrictions, with enforcement provisions, in times of drought.
- C. Preparedness
- D. Engage in community emergency-preparedness activities to determine strengths and weaknesses of existing emergency-response plans.
- E. Water quality
- F. Maintain or improve surface water and groundwater quality during drought.
- G. Water quantity
- H. Identify strategies to address streamflow variability.
- I. Consider further temporary reductions in water use during severe, multi-year droughts, keyed to the geography, magnitude, and timing of shortages in the local and regional hydrologic system (e.g., reduced groundwater levels).
- J. Vulnerability: Soil health and land cover
  - Educate NPNRD communities on maintaining and improving soil health during drought.
  - Implement and promote cost-share programs targeting soil-health measures that increase drought resilience.

#### 10.5.4 Drought Strategy Implementation

- A. Establish and foster the local and regional partnerships needed to implement drought-management strategies.
- B. Seek out potential funding opportunities for drought-strategy implementation.
- C. Adapt management strategies to reflect lessons learned from drought situations as they occur.

## 10.6 Regulatory Actions (Controls)

### 10.6.1 Groundwater Regulatory Actions (Controls)

The NPNRD will periodically review the controls being implemented to carry out the goals and objectives of this IMP. The NPNRD may adjust, modify, expand, or add controls, based on the annual review of the progress being made toward achieving the goals of this IMP, and pursuant to 46-715(5)(d)(ii). No controls may be removed, however, unless and until the NPNRD and the NeDNR amend this IMP. The controls may not be modified in such a manner as to conflict with the goals and objectives of this IMP.

The action items described in this section are intended to be consistent with the requirements of *Neb. Rev. Stat. §46-715(3)*.

All actions permitted or otherwise carried out by the NPNRD will prevent adverse impacts on existing ground water or surface water users as well as use the methodology for calculating depletions and accretions consistent with the other Upper Platte Basin NRDs to ensure that the criteria for compliance with PRRIP, including the timing, location and amount of the depletion and corresponding offset, are met.

The NPNRD will consider the timing, location and amount of the depletion for all actions in order to prevent adverse impacts on existing ground water and surface water users. Actions include, but are not limited to, these controls: moratorium variances, certified acre modifications, transfers, large user permits, municipal and industrial permits, variances, or modifications, and other variances. The evaluation criteria for a control or other action include, but are not limited to, the following: (1) whether the action will cause an impact to existing ground water or surface water users; (2) whether the action will cause an increase in depletions to the river; (3) whether the action will cause an increase in consumptive use; (4) the amount, location and timing of any changes in depletions or accretions to the river due to the action; (5) whether the action will cause any adverse effects on the state's ability to comply with PRRIP; (6) whether the action is consistent with the purpose of the IMP; and (7) whether the action will protect the public interest and public welfare.

The NeDNR and the NPNRD will coordinate with the Central Platte NRD, Tri-Basin NRD, South Platte NRD and Twin Platte NRD to continue applying a consistent method of calculating depletions or accretions to the stream, following the basin wide tenets outlined in Chapter 7 Section 2, when such calculations are necessary to implement ground water regulatory actions. Any actions taken by the NPNRD will be documented and shared with the NeDNR pursuant to Chapter 10. The NPNRD will work with the well owner to update the water well registration to reflect the permitted actions to reflect the new or additional use. The NPNRD will update a water well registration to reflect actions taken by the NRD

through a permitting action and must be changed to reflect the new or additional use.

The NPNRD is currently implementing the following controls throughout their District, as authorized by *Neb. Rev. Stat. § 46-739*, and will continue to do so in the future. The specifics of the all of the processes for all of these controls, including the evaluation criteria, can be found in the NPNRD's Ground Water Management Area Rules and Regulations.

#### 10.6.1.1 Metering

Meters are used to measure the amount of ground water being withdrawn from regulated wells receiving an allocation in order to track water usage. At the completion of the water year, NPNRD Staff collect data on ground water certified acres, by physical inspection or inspection using telemetry equipment. Water used on those acres is then calculated and reported back to the landowner to ensure compliance with the allocation.

#### 10.6.1.2 Allocations

Allotments of a specified quantity of groundwater are granted for a specific use and are measured and monitored with permanently installed flow meters. Starting in water year 2020, the NPNRD will implement a 14 acre-inch allocation per year on the overappropriated area (OA) of the NPNRD. This will be a 5-year allocation with a total availability of 70 acre-inches over 5 years. A yearly allocation of 12 acre-inches will implemented on acres within the boundaries of the Pumpkin Creek Basin. This will also be a 5-year allocation with a total availability of 60 acre-inches over 5 years. These levels were determined to be a deficit level of irrigation for the crop mix in the NPNRD and will be instituted to ensure a reduction in consumptive use. An annual analysis, described in Section 10.7.3, will be conducted annually to assess the effectiveness of the control and the need to modify the allocation.

#### 10.6.1.3 Moratorium

The NPNRD has implemented a moratorium on the issuance of water well construction permits and on new or expanded ground water uses. The NPNRD may grant a variance from the moratorium if there is an offset for any new or expanded use, or if there will be no increase in consumptive use due to the new or expanded use.

#### 10.6.1.4 Certification of Irrigation Use

All ground water irrigation uses have been certified by the NPNRD. The NPNRD may grant modifications to certified



acres. The NPNRD has compiled a list and definitions of the certified ground water uses within the NPNRD, which can be found in the NPNRD Rules and Regulations.

#### 10.6.1.5 Large User Permits

A Large User Permit will be required for a public water supplier, with the exception of municipalities, who desires to modify or expand their consumptive use of water.

#### 10.6.1.6 Variances

The NPNRD may grant a variance for good cause shown for any of the controls in this IMP or within the NRD's rules and regulations.

#### 10.6.1.7 Transfers

Transfers within the NPNRD are required to transfer the location of a certified ground water use, the point of ground water withdrawal from a regulated well, the purpose of a certified ground water use, to add a new use to an existing certified ground water use, or any combination thereof.

General Guidelines for Ground Water Transfers:

- A. The purpose of a ground water transfer is to allow for the consumptive use of ground water to be changed either in location or purpose
- B. The NPNRD may permit, regulate, or take action on the following types of ground water transfers: (1) physical transfer of ground water off of the overlying land; (2) transfer of the type of use or addition of use; (3) transfer of certified irrigated acres; (4) physical transfer of ground water and transfer of certified irrigated acres between the NPNRD and an adjoining NRD; (5) municipal transfer permit (if the applicant does not have a municipal transfer permit from the NeDNR); (6) industrial transfer permit (if the applicant does not have an industrial municipal transfer permit from the NeDNR); and (7) transfers out of state.
- C. A transfer permit from the NPNRD shall be required before any transfer as identified above may be allowed.

10.6.1.7 Guidelines for Types of Ground Water Transfers. The following types of ground water transfers involve coordination communication between the NeDNR and the NPNRD when issuing a permit.

- A. Municipal Transfer Permits – transfers without a municipal and rural domestic transfer permit from the NeDNR will require a transfer permit from the NPNRD;
  - B. Industrial Transfer Permits – transfers without an industrial transfer permit from the NeDNR will require a transfer permit from the NPNRD;
  - C. Transfer Out of State – (1) The NeDNR will consult with the NPNRD when considering applications filed to transfer ground water out of state, pursuant to *Neb. Rev. Stat. §46-613.01*. The NPNRD will take action to approve or deny the transfer request based on the same criteria that the NeDNR uses prior to issuing a transfer permit; and (2) a water well construction permit shall not be issued unless and until the board of the NPNRD has granted a variance to the moratorium on the issuance of water well construction permits and has approved the transfer permit.
- 10.6.1.8 Municipal and Industrial Accounting required for the calculations of baselines and the determination of allocations
- A. As described within Goal 2, objective 2.3 of this IMP, for purposes of compliance with the NNDP, the NPNRD will calculate a baseline consumptive use for each municipality in the NPNRD based on historic consumptive use data for the interval August 1, 2001, through July 31, 2006. Consumptive use will be determined from ground water pumping volumes and, where applicable, wastewater discharge volumes, and converted to a per capita volume. The baseline per capita volume, plus the annual population growth estimated by the Nebraska NeDNR of Economic Development and/or U.S. Census Bureau will be used to determine annual increases and decreases in consumptive uses. These annual changes in consumptive use will be tracked annually for each municipality through a reporting and database system administered by the NPNRD.
  - B. Once each five (5) years, and more often if requested by the NeDNR or as determined by the NPNRD, the NPNRD will re-calculate the per capita consumptive use based upon similar, but updated, data described in NPNRD's Rules, and make any necessary adjustments to their per capita offset requirements.

- C. Each year until January 1, 2026, the NPNRD will be responsible for offsetting all increases from the baseline consumptive use as estimated by population growth except under either of the following events: (1) a municipality's water use exceeds the amount of ground water authorized by a permit that was issued pursuant to the Municipal and Rural Domestic Ground Water Transfers Permit Act; or (2) the increase is related to any new or expanded single commercial/industrial consumptive uses of more than twenty-five (25) million gallons per year. After January 1, 2026, the NPNRD will opt out of this requirement and will no longer be responsible for offsetting this amount.
- D. Each year until January 1, 2026, the municipality shall be responsible for reporting to the NPNRD and offsetting to the river, any ground water use that exceeds the amount authorized by a permit that was issued pursuant to the Municipal and Rural Domestic Ground Water Transfers Permit act, and any new or expanded single commercial/industrial consumptive use if that new or expanded consumptive use is greater than twenty five (25) million gallons per year.
- E. Any permanent reduction in consumptive use of water associated with municipal growth including governmental, industrial, and commercial growth (e.g., by taking irrigated acres out of production), between July 14, 2006, and January 1, 2026, shall accrue to the NPNRD's water bank to be used in whole or in part to offset increased consumptive use within the NPNRD. Acres taken out of production must be decertified and transferred to the NPNRD's water bank.

#### 10.6.1.9 Non-Municipal Industrial Use and Accounting

- A. The NPNRD will calculate baseline consumptive use for each non-municipal commercial/ industrial user in the NPNRD based on historic consumptive use data for the interval of August 1, 2001, through July 31, 2006. Consumptive use will be determined from ground water pumping volumes and, where applicable, wastewater discharge volumes. The baseline will be used to determine changes in consumptive use annually.

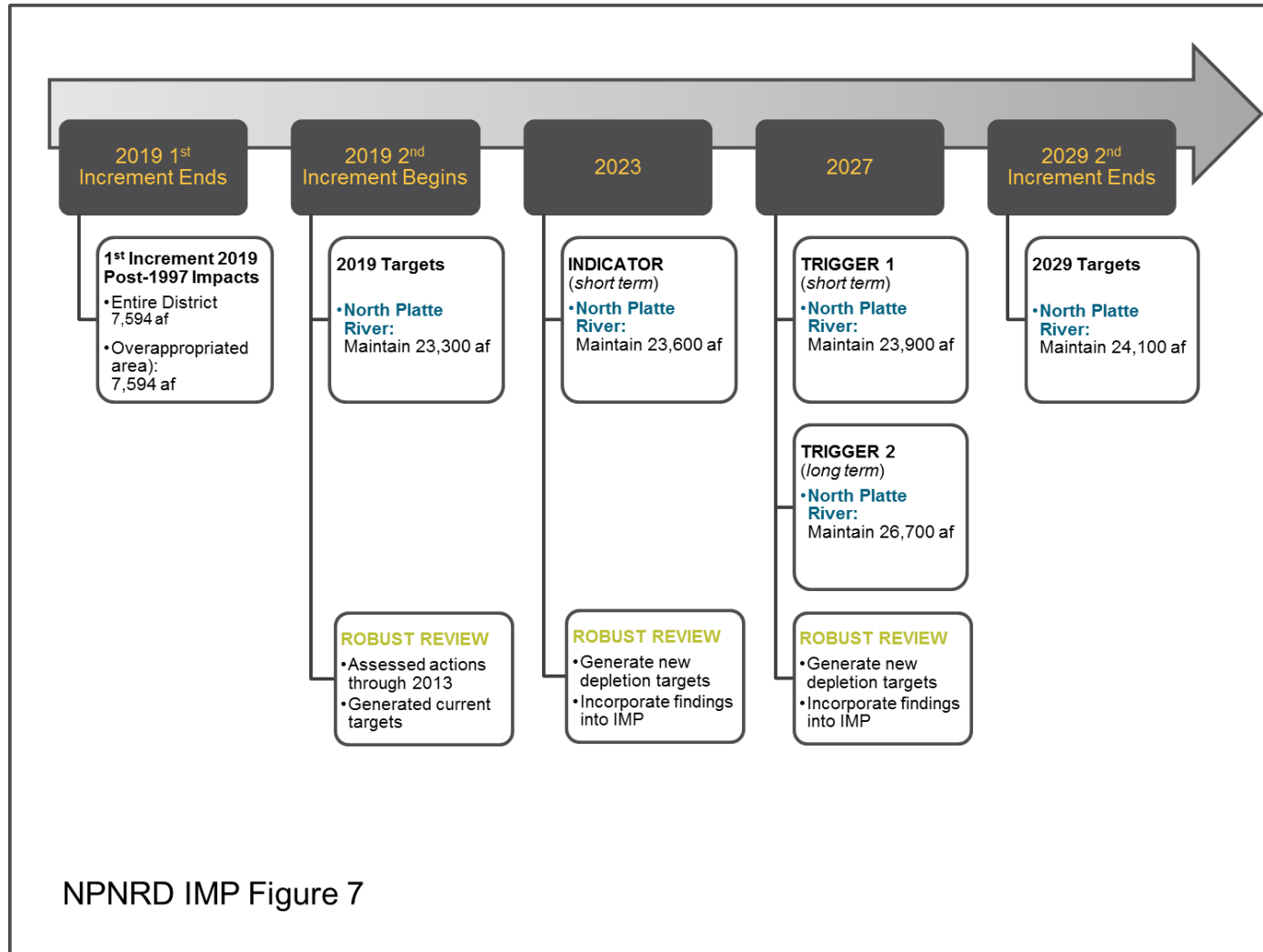
- B. These changes in consumptive use will be tracked for each non-municipal commercial/ industrial user annually through a reporting and database system administered by the NPNRD.
- C. If the new or expanded single commercial/industrial use is less than or equal to twenty-five (25) million gallons per year, the NPNRD will be responsible for offsetting the entire new or expanded use below the amount granted in the industrial transfer permit, if applicable. After January 1, 2026, the NPNRD will opt out of this requirement and will no longer be responsible for offsetting this amount.
- D. If the new or expanded non-municipal commercial/industrial use exceeds twenty-five (25) million gallons per year and they do not have a transfer permit, the user will be responsible for offsetting all new or expanded consumptive uses. If the new or expanded non-municipal commercial/industrial use has a transfer permit, the user is responsible for offsetting all new or expanded uses above the amount granted in the industrial transfer permit up until January 1, 2026.
- E. Any permanent reduction in consumptive use of water associated with a new non-municipal commercial or industrial use of less than twenty-five million gallons (e.g., by taking irrigated acres out of production), between July 14, 2006, and January 1, 2026, shall accrue to the NPNRD's water bank to be used in whole or in part to offset increased consumptive use within the NPNRD. Acres taken out of production must be decertified and transferred to the NPNRD's water bank.

### **10.6.2 Triggers**

In order to determine whether additional groundwater regulatory actions are needed, the annual stream accretion amounts shown in Table 1 under Goal 1 Objective 1.2. will be compared to the stream accretions resulting from the ongoing and future actions taken by NPNRD and any new depletions resulting from new uses and increased depletions resulting from existing uses. Based on the information shown in Table 1, the stream accretions from existing management actions, projects, or programs have been provided in amounts necessary to obtain a net sum of accretions of greater than or equal to zero in the next increment. As long as the annual net sum of the accretions resulting from the actions taken by NPNRD are greater than or equal to the values show in Table 1, additional regulatory actions will not be required. At this time, it is anticipated that annual

progress and maintenance will be measured using a checkbook accounting of new accretions and depletions as compared to the values in the Table 1.

The NeDNR and NPNRD recognize the potential for implementation of voluntary programs, incentive measures, or other projects to provide stream accretions that will help maintain post-1997 depletions and accretions to a net sum of greater than or equal the values shown in Table 1 in the next increment, and will work diligently to implement measures to provide additional stream accretions in a timely manner. The NeDNR and NPNRD also recognize that the current Robust Review results have limitations which will be addressed throughout the IMP increment and that as Robust Review results are updated to address those limitations that the target values described within the IMP section 10.7 below may need to be updated. A net sum of accretions and depletions of greater than or equal to the Robust Review results must be maintained. The following indicator and triggers will determine regular progress.



NPNRD IMP Figure 7

Figure 7. Timeline of Robust Review Analysis during the Current Increment

10.6.2.1 To determine if an accretion to the river equal to or exceeding the values in Table 1 has been sustained and to determine progress toward meeting the goals and objectives of this IMP, the NeDNR and the NPNRD will jointly perform a new Robust Review analysis in 2023 and 2027 to evaluate the overall affects to streamflow. The New Robust Review analyses may change the values found in Table 1 under Goal 1 Objective 1.2 and therefore may change the target values the indicator and triggers.

1. Indicator: If, by the end of 2023, an accretion to the river equal to or exceeding the values in Table 1 throughout the first ten (10) year increment has not been sustained, the NeDNR and NPNRD will jointly determine whether any additional regulatory actions will need to be put in place by the beginning of the 2025 irrigation season.
2. Trigger 1: If, by the end of 2027, an accretion to the river equal to or exceeding the annual values resulting from the most recent robust review that year and every year thereafter throughout the ten (10) year increment has not been met, the NeDNR and NPNRD will jointly determine what steps need to be taken to ensure that the agreed upon regulatory actions will be in place by the beginning of the 2028 irrigation season.
3. Trigger 2: By the end of 2027, measures will be in place to achieve an accretion to the river equal to or exceeding an annual rate of the 50-year long-term planning target. If this trigger has not been met, the NeDNR and NPNRD will jointly determine what steps need to be taken to ensure that the agreed upon regulatory actions will be in place by the beginning of the 2028 irrigation season.

Chapter 10.7 describes how progress toward achieving the indicator and triggers will be measured. At this time, the NeDNR and the NPNRD have identified the following ground water controls as potential regulatory actions that may be implemented in response to triggers.

10.6.2.2 Prior to implementation of any of the ground water controls listed below, the NPNRD and the NeDNR will agree to the method of implementation and the methods used to measure the success of the control(s) in reaching the goals and objectives of Chapter 9 of this IMP.

10.6.2.3 In order to reach these goals and objectives, a limit on the amount of consumptive use on certified irrigated acres within the boundaries of the NRD have been implemented. The methods by which a further limit on the amount of

consumptive use would be implemented include, but are not limited to, the following:

A. Alternative Crop Mixes (*Neb. Rev. Stat. § 46-739(b)*)

Alternative crop mix would mean planting a mix of crops over a specified period of years for the certified irrigated acres within the overappropriated area for which there would be an upper limit on the consumptive use allowed. The amount of consumptive use allowed would be determined by the NPNRD after consultation with the NeDNR

B. Reduction of Certified Irrigated Acres

A reduction of certified irrigated acres would mean a set percentage reduction in certified irrigated acres within the overappropriated area. The amount of the reduction would be determined by the NPNRD after consultation with the NeDNR.

### 10.6.3 Surface Water Regulatory Actions

10.6.3.1 The following surface water controls as authorized by *Neb. Rev.Stat. § 46-716* will be implemented and/or continued by the NeDNR:

- A. The NeDNR will continue the moratorium on new surface water appropriations in the portion of the Platte River Basin within the boundaries of the NPNRD, unless a variance is granted by the NeDNR according to its rules.
- B. Transfers of surface water appropriations will be in accordance with statutes and NeDNR rules.
- C. The NeDNR shall continue to administer surface water appropriations according to the provisions of the permit, statute, NeDNR rules and regulations, and any applicable interstate compact decree or agreement.
- D. The NeDNR shall continue to monitor the use of surface water to prevent unauthorized uses.
- E. For conjunctive management projects as described in Chapter 10 Section 4, the NeDNR may, via the permit approval process, require additional monitoring, measurements, and reporting of diversions, returns, seepage, and/or evaporation.
- F. Except as provided in (a) below, the NeDNR will not require surface water appropriators to apply or use conservation measures.





when the application was filed. Ranking projects according to performance and benefits will be required.

I. Variance Process for new surface water appropriations

- i. *Department Rules for Surface Water, Title 457*, provides a process in which a person may request permission to file an application for a new surface water right in a moratorium area.
- ii. Prior to filing an application in a moratorium area, a person must first petition the NeDNR for leave (request permission) to file an application in a moratorium area. These petitions are called a “variance,” or a “variance petition.”
- iii. Because the Platte River Basin is currently undergoing integrated management for the purposes of reducing depletions to streamflow, any new consumptive use or retiming of stream base flow must be examined for its potential effects on extant surface and groundwater users and upon all matters of significant public interest and concern. This includes assessing both positive and negative impacts on the State’s ability to comply with interstate agreements, programs, decrees and compacts, including PRRIP. Thus, any proposed project must be scrutinized to prevent conflict with (a) the goals and actions necessary to implement the IMPs adopted by the Platte River Basin NRDs and the NeDNR and (b) the water needs of projects that will be implemented under PRRIP. Applications for potential beneficial uses that are not clearly non-consumptive will be presumed to be at least partially consumptive.
- iv. Therefore, an analysis of the effects of a proposed new diversion on existing uses and responsibilities is required in order to determine whether sufficient good cause exists to grant a variance to apply for a new use.
- v. Within the process for granting a variance the NeDNR shall review the information provided with the petition and shall make a determination as to whether it is sufficient to indicate good cause for allowing further consideration of the application.
- vi. Nebraska Revised Statute § 46-706 defines “good cause shown” as, “a reasonable justification for granting a variance for a consumptive use of water

that would otherwise be prohibited by rule or regulation and which the granting agency, district, or organization reasonably and in good faith believes will provide an economic, environmental, social, or public health and safety benefit that is equal to or greater than the benefit resulting from the rule or regulation from which a variance is sought;”

- vii. If the NeDNR grants the variance petition, the petitioner may then file the application for the project. The decision to grant the petition shall not bind the Director to approve any application to which it relates, or in any way be used as evidence of prejudice for the Director’s future decisions concerning the specific approval requirements of such an application. The NeDNR will specify the conditions under which an application may be filed in order to protect the public interest.

#### J. Application Review Process

- i. The NeDNR’s application review process is driven by Nebraska statutes, including but not limited to *Neb. Rev. Stat. § 46-233 to 46-235*. The following is not an exhaustive list of all factors used to reach a decision on approval or denial of an application.
- ii. There must be unappropriated water available in the source of supply and requirements of a variance petition approval must be met.
- iii. The proposed use must be determined to be beneficial.
- iv. An appropriation must not be detrimental to the public welfare.
- v. Denial of the application is not demanded by the public interest.
- vi. If the application will be approved, the NeDNR will impose conditions to protect other appropriators and the public interest.

#### K. Transfer Review Process

- i. Pursuant to Chapter 46 transfer statutes, the Director shall review an application for a transfer proposing a change in the location of use; type of appropriation; and or purpose of use, including but not limited to the following:

- ii. The proposed use of water after the transfer or change will be a beneficial use of water;
- iii. A request to transfer the location of use is within the same river basin;
- iv. The change will not diminish the supply of water available or otherwise adversely affect any other water appropriator;
- v. The quantity of water that is transferred for diversion or other use at the new location may be the historic consumptive use;
- vi. The appropriation is not subject to termination or cancellation;
- vii. If the transfer is to be permanent the preference category may not change;
- viii. If the transfer is to be temporary, it will be for no less than one year;
- ix. The transfer or change will not be inconsistent with any applicable state or federal law and will not jeopardize the state's compliance with any applicable interstate water compact or decree or cause difficulty in fulfilling the provisions of any other formal state contract or agreement;
- x. The transfer will be in the public interest.
- xi. Consistent with *Neb. Rev. Stat. § 46-294*, the director's considerations relative to the public interest shall include, but not be limited to, (1) the economic, social, and environmental impacts of the proposed transfer or change and (2) whether and under what conditions other sources of water are available for the uses to be made of the appropriation after the proposed transfer or change.
- xii. Transfers subject to *Department Rules for Surface Water, Title 457, Neb. Admin. Code, Chapter 9, § 002*, are required to be determined to be in the public interest, "... the Director shall determine whether the benefits of the proposed transfer outweigh any adverse impacts that might occur giving consideration to the economic, social and environmental impacts and whether and under what conditions other sources of water are available for the uses to be made of the appropriation after the proposed transfer or change."

- xiii. The director may impose any reasonable conditions deemed necessary to protect the public interest.

## 10.7 MONITORING

The overarching purpose of the monitoring and studies section is to ensure that the NPNRD reach and/or maintain a fully appropriated condition. The objective of the monitoring and studies section of this IMP is to gather and evaluate data, information, and methodologies that could be used to increase understanding of the surface water and hydrologically connected ground water system; to test the validity of the conclusions and information upon which this IMP is based; and to assist decision makers in properly managing the water resources within the NPNRD. The described monitoring and studies actions are also important in ensuring the state remains in compliance with the NNDP and in keeping the IMP current.

Various methods will be employed to monitor the implementation and progress of this IMP. Sections 10.7.1 and 10.7.2 describe the tracking and reporting of water use activities within the District by NPNRD and the NeDNR. Section 10.7.3 describes the analyses that will evaluate the progress that has been made toward: addressing streamflow depletions due to new uses begun subsequent to July 1, 1997 (Section 10.7.3.1); reaching a fully appropriated condition (Section 10.7.3.2); maintaining a fully appropriated condition (Section 10.7.3.3); and evaluating whether a subsequent increment is necessary to meet the goals and objectives of this IMP (Section 10.7.3.4). Statute describes both an annual review (*Neb. Rev. Stat. § 46-715(5)(d)(ii)*) and a second more robust review of new and expanded uses and associated mitigation actions (*Neb. Rev. Stat. § 46-715(5)(d)(iii)*), covered in Section 10.7.3.2. The monitoring section describes the analyses that will evaluate the progress that has been made toward: (1) addressing streamflow depletions due to new uses begun subsequent to July 1, 1997; (2) reaching a fully appropriated condition; (3) sustaining a fully appropriated condition; and (4) evaluating whether a subsequent increment is necessary to meet the goals and objectives of this IMP.

### 10.7.1 Data and Tracking of Water Use Activities

Data from the five NRDs will be reported in a consistent format across the basin and from year to year to simplify the process of compiling data for the annual review and the robust review. A database will be developed to house this data. This database will facilitate the updating of model datasets.

Occasionally, actions for which permits are issued may not actually be implemented. For example, a well permit may be issued but the well not actually drilled. Because of this, in order to maintain accurate records of actual land use, annual permit and land use data should be updated within the database at the end of the next calendar year to reflect which actions

did and did not take place. This includes NeDNR sharing information on any surface water permits cancelled in the calendar year (including temporary permits that expired one year after they are issued). This will help in creating yearly land use datasets when it is time to conduct the robust review. Ideally, the permit data should reflect an annual snapshot of changes in land use for that year. This will help update annual land use datasets for the models, which will be used for the robust review.

#### 10.7.1.1 NRD Tracking

The NPNRD will be responsible for annually tracking the following activities within the District:

- A. Certification of ground water uses and any changes to these certifications;
- B. Approved transfers, including all of the information provided with the application and used in the approval of the transfer, the location of the land area or well that is being transferred, and the location of the land area or well that will replace the original;
- C. Relevant flow meter data collected by NPNRD staff on ground water certified acres, by physical inspection or inspection using telemetry equipment and calculated water used on those acres; data is collected at the end of the water year so reporting may not align with other annual tracking;
- D. Any water well construction permits issued;
- E. Any other permits issued by the NPNRD;
- F. Any conditions associated with any permits issued;
- G. Information gathered through the municipal and non-municipal industrial accounting process;
- H. Any variances issued, including the purpose, the location, any required offset, the length of time for which the variance is applicable, and the reasoning behind approval of the variance;
- I. Any retirements of irrigated acres or other activities by the NPNRD for the purpose of returning to a fully appropriated condition;
- J. Information related to any water banking transactions;
- K. Offsets provided for depletions resulting from increased consumptive use related to the above listed items;

- a. This includes reporting on offsets and mitigation activities for addressing post-1997 depletions and for the purpose of sustaining previous increment progress and reaching a fully appropriated condition. Such activities to be reported include canal diversions for the purpose of groundwater recharge, operation of stream augmentation projects, and irrigated acre retirements.
- L. Summary of available conservation plans of municipalities and industries within the basin including strategies that could be applied to other municipalities in the basin (at annual meeting).
- M. Annual allocation analysis for monitoring the effectiveness of the allocations implemented.
- N. Data collected on commingled acres to identify, quantify, and proportion the source and quantity of water used on acres irrigated with both surface water and groundwater.

#### 10.7.1.2 NeDNR Tracking

The NeDNR will be responsible for annually tracking the following activities within the NPNRD:

- A. Any surface water permits issued;
- B. Any dam safety permits issued;
- C. Any ground water permits issued; and
- D. The associated offsets for any new permits issued.
- E. Any retirements of irrigated acres or other activities by the NeDNR for returning to a fully appropriated condition.

As new data would show a need for further analysis and to the extent that NPNRD meter data or other methods of estimation are not available to determine the consumptive use of water due to livestock, human water use, sandpits and reservoirs less than fifteen (15) acre-feet, the NeDNR will be responsible for tracking and reporting on the following activities within the NPNRD in the current increment:

- National Agricultural Statistics Service livestock data;
- US Census Bureau population data;
- Inventory of sandpits;

- Inventory of reservoirs of less than fifteen (15) acre-feet;
- Offsets provided for depletions resulting from increased consumptive use related to the above listed items.

## 10.7.2 Reporting

- 10.7.2.1 An annual review of the progress being made toward achieving the goals and objectives of the ten (10) year increment will include annual reporting by the NeDNR and the NPNRD of the information being shared as described above. The reports from the NPNRD and the NeDNR should include information on the location, amount and timing of the depletions caused by each permitted new or expanded water use, as well as the associated offset and the location, amount and timing of the offset's accretions to the river. The depletions and/or the accretions should be reported for each year throughout the ten (10) year increment.
- 10.7.2.2 These reports should be made available at least four (4) weeks prior to each basin-wide annual meeting. The format of the reports will be standardized as agreed to by the NeDNR and the Upper Platte Basin NRDs.
- 10.7.2.3 Data from all NRDs and the NeDNR will be analyzed by the NeDNR to assess the collective amount, timing, and locations of the depletions to streamflows resulting from new or expanded uses and the collective amount, timing, and locations of all mitigations put in place. This will involve a simple analysis of impacts to streamflows resulting from permitted changes, which will not require model runs. These analyses will be done using the agreed upon methods and tools. Methods and tools used will be available to the stakeholders and the public the data collected will then be trimmed to the relevant Platte River Recovery Implementation Program area, analyzed, and used for required annual and periodic reporting for the Nebraska New Depletion Plan, helping facilitate Nebraska's compliance with the Nebraska New Depletion Plan. The NeDNR will generate these reports and will coordinate with the NPNRD to ensure the accuracy of data within any final report.
- 10.7.2.4 The data and the analysis will be presented at the basin-wide annual meeting. The reported information will be



used as appropriate in the evaluation process as described below.

### **10.7.3 Evaluation: Measuring the Success of Meeting the Goals and Objectives of this IMP.**

Measuring the success of this IMP in addressing streamflow depletions due to new uses begun subsequent to July 1, 1997, and maintaining current progress (Goal 1 from Chapter 9).

#### 10.7.3.1 Annual Review.

In order to meet the requirements of *Neb. Rev. Stat.* § 46-715(5)(d)(ii), the data contained in the annual reports submitted by the NPNRD and the NeDNR will be reviewed and analyzed annually to assess the progress being made toward achieving the goals and objectives of Chapter 6 of this IMP for the first ten (10) year increment. The annual review will consider both the near-term and long-term effects of any permitted new consumptive uses. A 50-year stream depletion curve may be used to assess the impacts of any new uses contained within the annual reports to show the long-term potential impacts of annual changes.

#### 10.7.3.2 Robust Review.

In addition to the annual review, a more robust review of the progress being made toward achieving the goals and objectives of Chapter 6 of this IMP for the first ten (10) year increment will be carried out periodically. This study will be developed to meet the requirements of reporting for the NNDP as well as *Neb. Rev. Stat.* § 46-715(5)(d)(iii) to determine whether the measures adopted in this IMP are sufficient to offset depletions due to post-July 1, 1997, water uses and sustain progress toward a fully appropriated level of water use (Robust Review). The process for this review is described below. The previous robust review will also serve as guidance for conducting the next one.

The general method for conducting the robust review will be as follows:

- A. The groundwater models used for this process will be calibrated to streamflows/baseflows and groundwater levels in the area with the ability to assess the impacts on a monthly basis. The groundwater models will be updated periodically to simulate the management practices that have been implemented to date. The evaluation period of these models will be 50 years into

the future.

B. The following groundwater model runs will be conducted to measure the success toward reaching Goal 1, Objective 1.2:

i. The 1997 Development Level Run. A model run that simulates holding the number of irrigated acres and crop types or mix in 1997 constant through the current date and the fifty-year projection period. Unless more accurate data is available, to estimate 1997 levels of consumptive use, it will assume the full crop irrigation requirement for the crop types or mix. The run will be conducted using climate data through the current date and will include a fifty-year projection using an agreed to climate pattern.

ii. The Historical Run. A model run that simulates the actual annual changes of the irrigated acres, excess flow recharge events, retirements, allocation effects, augmentation projects, and other water management regulations or projects throughout the evaluation period starting in 1997 through the current date and the fifty-year projection period. The fifty-year projection period will repeat an agreed to land use, regulation, or project dataset. The model will use available flow meter data or, in the absence of flow meter data, assume the full crop irrigation requirement was met at all times. The run will be conducted using data through the current date and will include a fifty-year projection using an agreed to climate pattern.

iii. Difference between the 1997 Development Level Run and the Historical Run. The simulated output from each model run will be compared to determine the difference in the streamflow/baseflow that has resulted from post-1997 development. Effects on streamflows/baseflows from allocations and land use changes are reflected in this comparison as both the meter data and land use changes are incorporated to determine groundwater pumping for the two Runs

iv. Other Management Actions Analyses not covered by the previous model runs or captured with in the Models. If other management actions are taken to offset streamflow depletions due to new uses begun subsequent to July 1, 1997, accretions resulting from those actions will be determined using agreed

upon methodologies. This would include conjunctive management activities that are not otherwise captured in the models.

- v. Evaluation Results. For Objective 1.2 to be considered achieved, the results of combining the difference between the 1997 Development Level Run and the Historical Run with the addition of other management action accretions not covered by the models must be greater than or equal to zero.

$$(F_h - F_d) + (S_a) = D_{net}$$

Where:

$F_h$  = Simulated streamflow/baseflow from the Historical Run

$F_d$  = Simulated streamflow/baseflow from the 1997 Development Level Run

$S_a$  = Management Action Accretions

$D_{net}$  = Net Depletions

\*Note: In equation above, streamflow/baseflow is a positive

10.7.3.3 An additional groundwater model run will be conducted to measure total depletions. This will be the Pre-Development Run. The Pre-Development Run will compare the Historical Model Run with a simulation of no groundwater development to determine the total depletions associated with all ground water only land use development. The run will be conducted using climate data through the current date and will include a fifty-year projection using the historical Run's agreed to climate pattern.

- A. Total Depletions Evaluation.

$$(F_h - F_p) = D_t$$

Where:

$F_h$  = Simulated streamflow/baseflow from the Historical Run

$F_p$  = Simulated streamflow/baseflow from the 1997 Development Level Run

$D_t$  = Total Depletions

\*Note: In equation above, streamflow/baseflow is a positive

- B. If integrated models are used to assess impacts to the total streamflow, the methods to be used will be developed jointly between NeDNR and the NRDs to

properly design and constrain those analyses so that the results can be used to assess progress toward the goals and objectives of the IMP.

- C. Municipal, Industrial, Domestic and Livestock use will be evaluated as part of the Robust Review
  - a. Data will continue to be collected on the water use of municipalities and industries within the basin.
    - i. Gather information on total pumping, consumptive use, and timing of any return flows and collect data on water use efficiency and conservation methods being employed.

#### 10.7.3.4 Allocations analysis

- A. While the effects of the allocations at offsetting post-97 depletions and providing additional accretions is are captured in the Robust Review modeling described above, the NPNRD conducts an allocations analysis annually for the purpose of assessing the effectiveness of the allocations This will allow the NPNRD to closely monitor whether their allocation continues to be effective. The general outline for the analysis is:
  - 1. Incorporate Meter data
  - 2. Conduct historical model run, which includes the groundwater only metered pumping records,
  - 3. Conduct modified run, which replaces the groundwater only metered pumping records with estimated pumping simulating full irrigation crop consumptive use of the crops grown on each parcel or certification.
  - 4. Compare the stream baseflow of the historical model to the stream baseflow of a modified version. The comparison in stream baseflow between the two model runs determined the additional flow that is present in the North Platte River and tributaries because of the allocations and the subsequent reduction in consumptive use.
    - i. For planning purposes, the model is run for 50 years into the future by repeating an average or another representative climate pattern.

- ii. In the current increment variations of this analysis may also be completed to determine if there are any benefits from the allocations on commingled lands or other appropriate model runs.

#### **10.7.4 Evaluation: Measuring the Success of Reaching a Fully Appropriated Condition**

A technical analysis to support and evaluate effectiveness of IMP and adequacy in sustaining progress toward a fully appropriated level of water use must be conducted.

10.7.4.1 Because a fully appropriated condition is not currently determined, the NeDNR and the NPNRD will work on outlining the appropriated condition once that condition has been determined. The NeDNR and NPNRD will continue to refine the methodology used to determine the difference between the current and fully appropriated levels of development in each NRD.

10.7.4.2 The evaluation of the difference between current and fully appropriated levels of development is tied to Statute and the current rules of the NeDNR for declaring a basin fully appropriated. Statute requires that this evaluation will:

- Take into account cyclical supply, including drought
- Identify the portion of the overall difference that is due to conservation measures
- Identify the portion of the overall difference that is due to water use initiated prior to July 1, 1997
- Identify the portion of the overall difference that is due to water use initiated or expanded on or after July 1, 1997.

The current NeDNR rules for determining fully appropriated status includes evaluation of the most junior appropriator's access to water, adjustments for lag effect of groundwater depletions and accretions on water supplies, and consideration of instream flows, among other guidance for conducting the analysis. The rules also provide flexibility for NeDNR to "...utilize a standard of interference appropriate for the use, taking into account the purpose for which the appropriation was granted..."<sup>15</sup> for uses which are not

---

<sup>15</sup> Title 457, Chapter 24, Section 001.01B of the Nebraska Administrative Code, dated June 27, 2008.

defined in the rule. These include storage and hydropower appropriations, which are significant appropriators in the Upper Platte River Basin. NeDNR and the NRDs have and will continue to work with impacted water users on the process for determining the difference between the current and fully appropriated condition of the basin.

The assessment of total depletions is one approach to assist in identifying what a fully appropriated condition may be. The INSIGHT analysis of supplies and demands is another possible approach to help identify this.

#### **10.7.5 Evaluation: Measure the Success of Maintaining a Fully Appropriated Condition.**

- 10.7.5.1 Current Fully Appropriated Area: Monitor and analyze uses in the fully appropriated area to determine the change in stream depletions due to such uses.
- 10.7.5.2 Current Overappropriated Area: Because a fully appropriated condition is not currently determined, the NeDNR and the NPNRD will work on outlining the process that will measure the success of maintaining a fully appropriated condition once that condition has been determined.

#### **10.7.6 Evaluating the Need for a Subsequent Increment**

- 10.7.6.1 The NeDNR and the NPNRD will carry out the studies and the technical analysis as specified in *Neb. Rev. Stat. § 46-715(5)(d)(iii)* to determine whether or not a subsequent ten (10) year increment is necessary. This will include a process to test the validity of the conclusions and information upon which this IMP is based, as required by *Neb. Rev. Stat. § 46-715(2)(e)*.
- 10.7.6.2 Within the ten (10) year increment, the NeDNR and the NPNRD will continue to refine the estimation methodology used to calculate the difference between the current and fully appropriated levels of development in accordance with *Neb. Rev. Stat. §46-715(5)(c)*. Fully appropriated levels of development will be determined through the following process:
  - A. Determine the changes in recharge from surface water diversions and the impacts of those changes on streamflow using readily available data.
  - B. Determine the changes in ground water irrigation, municipal, industrial, domestic, livestock and other

uses and the streamflow depletions caused by those changes using readily available data.

- i. Determine the effects of conservation measures on streamflows.
  - ii. Determine the timing and location of the net changes in streamflow.
  - iii. Determine when streamflow changes impact existing users, taking into account the effects of cyclical supply (e.g. drought).
1. If significant changes in either the timing or location of streamflow have impacted existing users, the NPNRD and the NeDNR will work collaboratively with affected parties to determine subsequent ten (10) year increment goals. These goals will include consideration of the socioeconomic benefits derived from the various uses impacted by such changes in streamflow.
  2. The NeDNR and the NPNRD will review other data and/or methodologies relevant or significant to the process.
- C. The process described above in subsection 10.7 of Chapter 10 will focus on uses initiated prior to July 1, 1997, and their impacts on hydrologically connected streamflows. All uses initiated subsequent to July 1, 1997, will be evaluated using the process described in Section 10.7.3. of Chapter 10.

## 10.8 STUDIES

### 10.8.1 Second Increment Priority studies

The Basin-Wide Plan calls for several studies and collection of information within the basin. Those studies and information are also critical to the successful implementation of this IMP. The studies include:

1. Collect data on commingled acres to identify, quantify, and proportion the source and quantity of water used on acres irrigated with both surface water and groundwater. Gather data on water use on such lands (both why and when irrigators use surface water or groundwater).

2. Conduct a study that identifies water users that are affected during cyclical variations in water supply. This hydrologic element analysis will be conducted by NeDNR and the NRDs by evaluating data such as stream gage and diversion records, and well hydrograph data. Focused surveys of, as well as meetings with basin water users can be used to build on stakeholder input gathered throughout the planning process. Once impacted water users who are hydrologically affected by water supply variability are identified, economic impacts can be estimated.
3. NeDNR and the NRDs will collaborate with impacted water users and other entities to gather relevant economic data. Potential partners include economists and other subject matter experts familiar with the economic drivers of the basin who can help identify data needs and formulate the tools and methodologies for assessing economic impacts. The tools and methodologies will be used to not only evaluate impacts of supply variability, but also evaluate human-made depletion impacts, management actions, regulatory actions, and potential projects or other activities considered during implementation that may affect water availability.
4. Study economic impacts of drought, which will be a component of the drought plan.
5. Study potential for developing markets and transfer protocols for annual surface water and groundwater supplies.
6. Study management options of storage water (both surface water reservoirs and aquifer storage; and existing and potential new storage) to provide flexibility and increase resiliency of water supplies.
7. Continue to refine the estimation methodology used to calculate the difference between the current and fully appropriated levels of development using an allocation analysis.

#### **10.8.2 Second Increment Potential Studies**

There are many other factors that have the ability to impact streamflows. It is important to investigate these things to assess their potential effectiveness in achieving the goals and objectives of this IMP and identify new potential management actions. Pursuit of these studies will be contingent upon budget and staff resources.

The NeDNR and the NPNRD will jointly pursue and/or evaluate studies, contingent upon budget and staff resources, to evaluate their potential effectiveness in achieving the goals and objectives of this IMP. The following studies have been identified, initiated or completed by the NeDNR and the NPNRD:



1. Stream depletions due to the use of ground water wells that are commingled with surface water and commingled pumping impacts;
2. Irrigation scheduling;
3. Robust Review;
4. Post-1997 depletion increases 3-fold;
5. Conservation practices study;
6. Run-off impacts from land use changes;
7. Model co-efficient zones;
8. Land use updates (acre and crop updates)
9. Crop rotation;
10. Vegetation management;
11. A survey of the type and location of irrigation systems throughout the NPNRD;
12. Tillage practices;
13. Other best management practices;
14. Conjunctive management;
15. Water budget analysis;
16. Invasive species; and
17. Conservation measures.

## **10.9 REVIEW OF AND MODIFICATIONS TO THE IMP**

10.9.1 During implementation of the IMPs, NeDNR and the NRDs will monitor IMP actions consistent with the analyses and methods contained in the basin-wide plan and amend the IMP if activities are determined by the parties to not be capable of meeting goals. If NeDNR and NPNRD determine that management actions have not provided the offsets required to meet the goals of the Upper Platte River Basin-Wide Plan, they will agree to increase offset activities to the extent possible and revise the individual NPNRD IMP if necessary. These revisions may include additional controls, if needed, to meet goals of the IMP.

10.9.2 The NPNRD and the NeDNR will jointly determine whether amendments need to be made to this IMP as necessary. Any proposed modifications will be discussed at the annual basin-wide meeting.

- a. Situations that may prompt revision or modification of this IMP are described below.
  - b. The NPNRD and the NeDNR may amend this IMP after the annual review of progress being made toward achieving the goals and objectives of Chapter 9 of this IMP
  - c. If published results of WWUMM or other model or tool developed as part of the monitoring effort, indicate annual depletion values different from those in table 1, the NeDNR and the NPNRD how this IMP may need to be revised.
  - d. DNR and NPNRD may amend this IMP as more data and information become available, as provided in *Neb. Rev. Stat. § 46-715(5)(d)(ii)*.
- 10.9.4 As new depletion information is developed and considered, the values presented in section 9 of this IMP may be updated and the IMP revised via a public hearing at the annual basin meeting.
- 10.9.5 If the Basin-Wide Plan is revised and results in the need for this IMP to be revised to be consistent with the Basin-Wide Plan, this IMP will be revised accordingly, in accordance with *Neb. Rev. Stat. § 46-715(5)*.
- 10.9.6 The above items will be discussed at the annual basin-wide meeting and it will be decided if modification is needed. An advisory or stakeholder group may be convened, if the affected NRD(s) and NeDNR determine that the proposed changes warrant the formation of such a group. If the Upper Platte River Basin NRD(s) and NeDNR agree on revisions to an IMP after the annual meeting, then a hearing will be held to solicit formal comment. The IMPs for each of the five Upper Platte Basin NRDs shall be provided to all other NRDs in the overappropriated basin for comment before revisions are approved.
- A. Basin-Wide Plan Disputes
1. If a dispute is presented at the annual meeting as described in the Basin Wide Plan, the Upper Platte Basin NRDs and the NeDNR will make a determination of whether or not the dispute has hydrologic impact. If it is determined that the dispute does have hydrologic impact, then the Upper Platte Basin NRDs and the NeDNR will determine whether the dispute pertains to all of the Upper Platte Basin NRDs or just to an individual NRD.
  2. If the dispute pertains to all of the Upper Platte Basin NRDs, an investigation will be conducted by the Upper Platte Basin NRDs and the NeDNR to determine what management actions will address the dispute(s) in the Basin-Wide Plan and/or the IMPs.

If the management action pertains to this IMP, it will be revised accordingly.

3. If the dispute is not a basin-wide issue, but pertains to the NPNRD, the NeDNR, the NPNRD and any other affected Platte River Basin NRD(s), working with the affected water user(s), shall develop management solutions as appropriate to address the issue(s).
4. Disputes related to the implementation of the IMP will also be discussed

#### B. Additional Ten (10) Year Increment

1. Based on the results of the technical analyses described in section 10.7.3, the NPNRD and the NeDNR will evaluate the need for a subsequent increment. This includes determining whether post-July 1, 1997 depletions have been offset and the progress made toward achieving a fully appropriated condition or maintaining such a condition.
2. If it is determined from this technical analysis that a subsequent ten (10) year increment is needed to meet the goals and objectives of this IMP, then pursuant to *Neb. Rev. Stat. § 46-715(5)(d)(iv)*, the goals and objectives for the subsequent ten (10) year increment will be developed using the consultative and collaborative process described in *Neb. Rev. Stat. § 46-715(5)(b)*. The subsequent ten (10) year increment shall be completed, adopted and take effect not more than ten (10) years after adoption of this IMP.
3. NeDNR and the individual NRDs will engage stakeholders in a collaborative process in the development of goals and objectives for subsequent increments (beyond the second increment) of the individual IMPs if necessary. The need for subsequent increments will be determined through the robust review process completed at the end of the second increment and described in section 10.7 of this IMP. Should a subsequent increment be necessary, the planning process will be initiated by NeDNR and each NRD developing a public participation plan that outlines the stakeholder engagement process for the NRD's IMP, including identification of participants/parties, definition of roles, decision making protocols, planning processes, and timelines. This public participation plan serves as a reference guide for participants as well as the public throughout the planning process. This effort is analogous to the basin-wide collaborative process described in the basin-wide plan, but focused on the individual NRD stakeholder collaboration. The *Public Participation Plan Developed for the*

*Second Increment Basin-Wide Plan Development* is included in the Basin-Wide plan's Appendices for reference.

DRAFT

Handwritten initials: *DE* and *RC*

**AFFIDAVIT OF PUBLICATION**

Star Herald  
PO Box 1709  
Scottsbluff, NE 69363

State of Nebraska  
County of Scotts Bluff } ss.

I, Cheryl Helser-Garcia do solemnly swear that I am the Accounts Receivable Bookkeeper of the Star-Herald, a legal newspaper of general circulation, published daily except Mondays, at Scottsbluff, Scotts Bluff County, Nebraska; that the notice hereto attached and which forms a part of this affidavit was Published in said paper 1 (one)

consecutive week (s) in the issues published, respectively February 22, 2019

that said notice was published in the regular and entire issues and every number of the paper on the days mentioned, the same being the corresponding day of each week during the period of time of publication and that said notice was published in the newspaper proper and not in the supplement.

Cheryl Helser-Garcia

SUBSCRIBED in my presence and sworn to before me on Feb 26, 2019

Consuello T. Ernest

Notary Public

The publication fees amount to \$ 37.41

**NOR PNT - 54029926**

GENERAL NOTARY - State of Nebraska  
CONSUELLO T. ERNEST  
My Comm. Exp. June 26, 2022

**CORRECTION  
NOTICE OF STAKEHOLDER MEETING  
MEETING RELATED TO THE NORTH PLATTE  
NATURAL RESOURCES DISTRICT AND THE  
NEBRASKA DEPARTMENT OF NATURAL  
RESOURCES' INTEGRATED MANAGEMENT PLAN**

The Department of Natural Resources (Department) and North Platte Natural Resources District (NPNRD), are preparing an update to the integrated management plan (IMP) for NPNRD. Notice is hereby provided that a public meeting of the IMP's Stakeholder Advisory Committee will be held on Thursday, February 28, 2019, at the North Platte NRD office, 100547 Airport Rd, Scottsbluff NE 69363. An agenda for the meeting will be available for public inspection during normal business hours at the offices of NPNRD and the Department, and at the following website: [www.dnr.nebraska.gov](http://www.dnr.nebraska.gov). Please refer to the websites and phone numbers listed below for further information.

This stakeholder meeting will begin at 2:00 p.m. and end at approximately 5:00 p.m., Mountain Time, on Thursday, February 28, 2019. A public comment period will be provided.

The current IMP for NPNRD was developed following the determination in 2004 by the Department that the entire District was fully appropriated and a portion of the District was overappropriated. NPNRD's current IMP was adopted in 2009 and is effective through fall of 2019, at which time a second increment IMP must be drafted and ready for adoption. According to Nebraska Revised Statute §48-715, the IMP will be developed in consultation and collaboration with District stakeholders and include: clear goals and objectives with a purpose of sustaining a balance between water uses and supplies; a map of the area subject to the IMP; at least one groundwater control and one surface water control; and a monitoring plan.

Individuals with disabilities may request auxiliary aids and services necessary for participation by contacting PLANNER at the Nebraska Department of Natural Resources by 5 p.m. Central Time, Friday, February 22, 2019 at 402-471-0661 or by email at [beth.eckles@nebraska.gov](mailto:beth.eckles@nebraska.gov).

NPNRD: <http://www.npnrd.org> or phone (308) 632-2749  
100547 Airport Road, Scottsbluff, NE 69363  
Department: <http://www.dnr.nebraska.gov> or phone  
(402) 471-2363  
301 Centennial Mall South, 4th Floor, Lincoln, NE 68508

Published in the Star-Herald, Scottsbluff, NE  
1t. February 22, 2019

**AFFIDAVIT OF PUBLICATION**

Star Herald  
PO Box 1709  
Scottsbluff, NE 69363

State of Nebraska  
County of Scotts Bluff } ss.

I, Cheryl Helser-Garcia do solemnly swear that I am the Accounts Receivable Bookkeeper of the Star-Herald, a legal newspaper of general circulation, published daily except Mondays, at Scottsbluff, Scotts Bluff County, Nebraska; that the notice hereto attached and which forms a part of this affidavit was Published in said paper (none)

consecutive week (s) in the issues published, respectively February 21, 2019

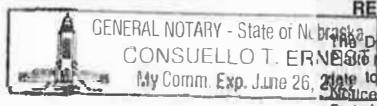
that said notice was published in the regular and entire issues and every number of the paper on the days mentioned, the same being the corresponding day of each week during the period of time of publication and that said notice was published in the newspaper proper and not in the supplement.

Cheryl Helser-Garcia

SUBSCRIBED in my presence and sworn to before me on Feb 26, 2019

Consuello T. Ernest

Notary Public



The publication fees amount to \$ 36.65

NORPNT - 54029883

**NOTICE OF STAKEHOLDER MEETING  
MEETING RELATED TO THE NORTH PLATTE  
NATURAL RESOURCES DISTRICT AND THE  
NEBRASKA DEPARTMENT OF NATURAL  
RESOURCES' INTEGRATED MANAGEMENT PLAN**

The Nebraska Department of Natural Resources (Department) and North Platte Natural Resources District (NPNRD), are preparing an update to the integrated management plan (IMP) for NPNRD. It is hereby provided that a public meeting of the IMP's Stakeholder Advisory Committee will be held on Thursday, June 21, 2018, at the North Platte NRD office, 100547 Airport Rd, Scottsbluff NE 69363. An agenda for the meeting will be available for public inspection during normal business hours at the offices of NPNRD and the Department, and at the following website: [www.dnr.nebraska.gov](http://www.dnr.nebraska.gov). Please refer to the websites and phone numbers listed below for further information. This stakeholder meeting will begin at 2:00 p.m. and end at approximately 5:00 p.m., Mountain Time, on Thursday, June 21, 2018. A public comment period will be provided. The current IMP for NPNRD was developed following the determination in 2004 by the Department that the entire District was fully appropriated and a portion of the District was overappropriated. NPNRD's current IMP was adopted in 2009 and is effective through fall of 2019, at which time a second increment IMP must be drafted and ready for adoption. According to Nebraska Revised Statute §46-715, the IMP will be developed in consultation and collaboration with District stakeholders and include: clear goals and objectives with a purpose of sustaining a balance between water uses and supplies; a map of the area subject to the IMP; at least one groundwater control and one surface water control; and a monitoring plan. Individuals with disabilities may request auxiliary aids and services necessary for participation by contacting PLANNER at the Nebraska Department of Natural Resources by 5 p.m. Central Time, Thursday, June 14, 2018 at 402-471-0661 or by email at [beth.eckles@nebraska.gov](mailto:beth.eckles@nebraska.gov).

NPNRD: <http://www.npnrd.org> or phone (308) 632-2749  
100547 Airport Road, Scottsbluff, NE 69363  
Department: <https://www.dnr.nebraska.gov> or phone (402) 471-2363  
301 Centennial Mall South, 4th Floor, Lincoln, NE 68508

Published in the Star-Herald, Scottsbluff, NE  
11. February 21, 2019

## Sign in Sheet

4rd Meeting – NPNRD IMP 2<sup>nd</sup> Increment Planning Process – February 28, 2019

NAME	ORGANIZATION REPRESENTED
Will Cottle	Ground Water Producer
MELISSA MOSIER	NEDNR
Mike Drain	CNPAID
David Fisher	Future Generations + TP
Beth Eckles	NEDNR
Chuck Hawk	NPNRD
Jack Benally	groundwater
Ryan East	NPNRD
Karin Johnson	NPNRD
John Burg	UPNRD
David Wolf	NPARD
Danielle Schnafer	NPNRD
Megan Deakery	Summers Oser
Steve Smith	NPNRD / NPVIA
Jon Schellperer	No DNR
Dennis Strawn	Pathfinder
David Howell	Comingled Grower
John Maser	" "
Robert Busch	Bill irrigation Surface water
Trad Kuntz	NPNRD

### Sign in Sheet

4rd Meeting – NPNRD IMP 2<sup>nd</sup> Increment Planning Process – February 28, 2019

**NAME**

**ORGANIZATION REPRESENTED**

Sarah Nevison

NeDNR

Shen Winkler

NeDNR

Audy Pedley

NeDNR

Jeff Shafer

NPAD

Scott Scheneman

NRNRD

Aelan Hueser

Simmons Olson

Michael Ann Reika

Western Sugar Cooperative

Bruce Rolls

PRSE

Anton Lerwig

Blue Creek ID

Dennis Miller

Jessie Strawn

NeDNR