

SPNRD Overappropriated IMP

9. OVERAPPROPRIATED AREA AND NEBRASKA NEW DEPLETION PLAN

9.1. GOALS AND OBJECTIVES

9.1.1. Goals

9.1.1.1. Incrementally achieve and sustain a fully appropriated condition.

9.1.1.1.1. Within the first ten (10) year increment, 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.

9.1.1.1.2. 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.

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

9.1.1.2. Ensure that no act or omission of the SPNRD would cause noncompliance by Nebraska with any interstate compact or decree or other formal state contract or agreement.

9.1.1.2.1. Ensure that no act or omission of the SPNRD would cause noncompliance by Nebraska with the Nebraska New Depletion Plan (NDP) included within the Platte River Recovery Implementation Program (Program), for as long as a Program exists.

9.1.1.3. Maintain consistency with the Basin-Wide Plan.

9.1.2. Objectives

9.1.2.1. Goal 9.1.1.1.1. Objectives

9.1.2.1.1. Implement measures within the first ten (10) year increment to offset an average annual depletion rate of one hundred fifty (150) acre-feet to the North Platte River, four hundred (400) acre-feet to the South Platte River, and one hundred fifty (150) acre-feet to Lodgepole Creek for the period 2043-2048. These rates are the current best estimates and are subject to change based upon new data and information.

9.1.2.1.2. Conduct a technical analysis as described in Neb. Rev. Stat. § 46-715(4)(d)(iii) for this IMP after it has been in effect for six (6) years, to determine whether the measures adopted in this IMP are sufficient to offset depletions due to post-July 1, 1997, water uses.

9.1.2.2. Goals 9.1.1.1.1. and 9.1.1.1.2. Objectives

9.1.2.2.1. Continue to refine the estimation methodology used to calculate the difference between the current and fully appropriated levels of development.

9.1.2.2.2. Use available funds to offset depletions that are identified as part of the overall difference between current and fully appropriated levels of development.

9.1.2.3. Goals 9.1.1.1.1., 9.1.1.1.2. and 9.1.1.1.3. Objectives

9.1.2.3.1. Develop and maintain data and analytical tools, such as the Cooperative Hydrology Study (COHYST) and other programs and projects needed to implement this IMP.

9.1.2.3.2. Review the provisions of this IMP to ensure that they are adequate to sustain progress toward a fully appropriated condition.

9.1.2.3.3. Review the provisions of this IMP to ensure that they are adequate to maintain a fully appropriated condition.

9.1.2.4. Goal 9.1.1.2.1. Objectives

9.1.2.4.1. To the extent required in order to maintain compliance with the NDP, provide accretions to the North Platte River and the South Platte River-Lodgepole Creek equal to or exceeding the annual depletion amount, taking into account appropriate timing and location, for the first ten (10) year increment, as shown in Tables 1 and 2, respectively. The data shown in the tables below represent the current best estimate of stream depletions due to changes in ground water irrigated acres between 1997 and 2005 to the North Platte River and the South Platte River-Lodgepole Creek and are subject to change based upon new data and information. The analysis used to determine the figures in Table 2 includes all of the area encompassed by Lodgepole Creek and the South Platte River. Preliminary basin-specific analysis indicates that approximately seventy percent (70%) of the depletion amount in Table 2 can be assigned to the South Platte River and the remaining thirty percent (30%) to Lodgepole Creek. With respect to Objective 9.1.2.1.1., this IMP will assume the spatial distribution of the depletion by basin and subbasin is constant. This spatial distribution is the current best estimate and is subject to change based upon new data and information.

Table 1 - Current Best Estimate of Depletions to the North Platte River due to Changes in Ground Water Irrigated Acres within the SPNRD between 1997 and 2005 based upon the June 10, 2008 COHYST report on stream depletions.

Year	2009	2010	2011	2012	2013	2014
Annual Stream Depletion (AF)	1	1	2	3	4	5

Year	2015	2016	2017	2018	2019
Annual Stream Depletion (AF)	7	8	10	12	13

Table 2 - Current Best Estimate of Depletions to the South Platte River-Lodgepole Creek due to Changes in Ground Water Irrigated Acres within the SPNRD between 1997 and 2005 based upon the June 10, 2008 COHYST report on stream depletions.

Year	2009	2010	2011	2012	2013	2014
Annual Stream Depletion (AF)	103	112	122	132	144	156

Year	2015	2016	2017	2018	2019
Annual Stream Depletion (AF)	168	179	190	201	213

9.1.2.4.2. As required by the NDP, submit reports to the Department as necessary to assist Nebraska in maintaining compliance with the Program.

9.1.2.5. Goal 9.1.1.3. Objectives

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

9.1.2.5.2. Participate in basin-wide planning activities.

9.1.2.5.3. If appropriate, follow the dispute resolution process in the Basin-Wide Plan.

9.2. PLAN COMPONENTS

9.2.1. Action Items to Achieve Goals and Objectives

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

9.2.2. Non-Regulatory Action Items

9.2.2.1. Information and Education Programs

These programs are discussed in the fully appropriated portion of this IMP.

9.2.2.2. Incentive Programs

9.2.2.2.1 The Department and/or the SPNRD intend to establish, implement, and/or continue financial or other incentive programs to reduce consumptive use of water within the SPNRD to meet the goals and objectives of this IMP. Incentive programs include any program authorized by state law and/or federal programs such as EQIP (Environmental Quality Incentive Program) or AWEP (Agricultural Water Resources Enhancement Program).

9.2.2.2.2 At this time, the Platte Basin NRDs (Central Platte NRD, Tri-Basin NRD, Twin Platte NRD, North Platte NRD and South Platte NRD) and the Department have identified PBHEP (Platte Basin Habitat Enhancement Program) as an incentive program that they intend to pursue to reduce consumptive use within the overappropriated portion of the Platte River Basin.

9.2.2.3. Other Programs

9.2.2.3.1. The SPNRD and the Department 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 SPNRD and the Department may develop an incentive-based program if such an opportunity exists. When developing any water-based programs, the Department and the SPNRD intend to follow these principles:

9.2.2.3.1.1. Using the best science readily available.

9.2.2.3.1.2. Enhancing ground water quantity, ground water quality and recognition of the value of return flows.

9.2.2.3.1.3. Working with irrigation districts, not just individual appropriators, when potential projects affect the irrigation district's operation.

9.2.2.3.1.4. Remaining in compliance with any state or federal laws, contracts, interstate compacts, or decrees that govern the water use of the irrigation districts.

9.2.2.3.2 These other programs may include, but are not limited to the following: (1) transfer existing surface water appropriations within the District to instream flow appropriations; (2) transfer existing surface water appropriations or apply for new appropriations for intentional recharge, and recovery when appropriate, in existing canals during the irrigation or non-irrigation season; (3) develop new infrastructure (e.g. dams or canals) that may include intentional recharge projects, and recovery when appropriate; (4) ground water projects for the purpose of providing net accretions to the river; and (5) contractual agreements between water users.

9.2.2.3.3. If any of these programs were to be pursued, the Department and the SPNRD would develop a schedule to complete the project(s) within the first ten (10) year increment.

9.2.2.3.4. Process for Implementing Other Programs

9.2.2.3.4.1. Determine the available ground water and surface water supplies.

9.2.2.3.4.1.1. Unappropriated Surface Water

9.2.2.3.4.1.1.1. Perform an analysis to determine if there is unappropriated surface water within the first year of the first ten (10) year increment.

9.2.2.3.4.1.1.2. Determine if unappropriated surface water is available at the necessary time, in the right location and in the correct amount, or determine if it can be appropriately relocated or retimed.

9.2.2.3.4.1.2. Appropriated Surface Water

9.2.2.3.4.1.2.1. Compile a list of existing surface water appropriations within the SPNRD within the first year of the first ten (10) year increment.

9.2.2.3.4.1.2.2. Determine if the appropriated surface water is available at the necessary time, in the right location and in the correct amount, or determine if it can be appropriately relocated or retimed.

9.2.2.3.4.1.3. Ground Water

9.2.2.3.4.1.3.1. Compile a list of certified ground water uses within the SPNRD within the first year of the first ten (10) year increment.

9.2.2.3.4.1.3.2. Determine if the certified ground water uses can be converted to another use or otherwise retimed or relocated to provide net accretions to the river at the necessary time and in the right location.

9.2.2.3.4.2. Develop a list of criteria to evaluate the potential to utilize available surface water and/or ground water supplies. The criteria may take into consideration the following:

9.2.2.3.4.2.1. Any permitting requirements or regulatory constraints related to the utilization of the available water supplies.

9.2.2.3.4.2.2. The potential benefits and the estimated cost of operation.

9.2.2.3.4.2.3. The cyclical water supply conditions.

9.2.2.3.4.3. Evaluate available surface water and/or ground water supplies based on the criteria developed in subsection 9.2.2.3.4.2.

9.2.2.3.4.4. Subsections 9.2.2.3.4.2. and 9.2.2.3.4.3. would be an iterative process until the preferred projects are identified.

9.2.2.3.4.5. 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).

9.2.2.3.4.6. Submit the required permit application(s).

9.2.2.3.4.7. Implement the approved projects.

9.2.2.3.5. Identification of Specific Other Programs

9.2.2.3.5.1. At this time, the specific other programs that have been identified consist of the following: (1) management of Oliver Reservoir; (2) management of SPNRD reservoirs for retiming and augmentation of flow; and (3) exploration of water supply opportunities on the South Platte River.

9.2.3. Ground Water Regulatory Actions (Controls)

9.2.3.1. In order to determine whether ground water regulatory actions are needed in the overappropriated area, the annual stream depletion amounts shown in Tables 3 and 4 will be compared to the stream accretions resulting from the actions taken by the SPNRD. As long as the annual net sum of the accretions resulting from the actions taken by the SPNRD and the annual depletions are less than or equal to zero, regulatory actions will not be required. The depletion amounts shown in Tables 3 and 4 are subject to change based upon the best scientific data and information available.

Table 3 - Current Best Estimate of Depletions to the North Platte River due to Changes in Ground Water Irrigated Acres within the Overappropriated Area of the SPNRD between 1997 and 2005 based upon the June 10, 2008 COHYST report on stream depletions.

Year	2009	2010	2011	2012	2013	2014
Annual Stream Depletion (AF)	0	0	0	0	0	0

Year	2015	2016	2017	2018	2019
Annual Stream Depletion (AF)	0	0	0	0	0

Table 4 - Current Best Estimate of Depletions to the South Platte River-Lodgepole Creek due to Changes in Ground Water Irrigated Acres within the Overappropriated Area of the SPNRD between 1997 and 2005 based upon the June 10, 2008 COHYST report on stream depletions.

Year	2009	2010	2011	2012	2013	2014
Annual Stream Depletion (AF)	81	86	89	93	97	101

Year	2015	2016	2017	2018	2019
Annual Stream Depletion (AF)	104	109	113	118	122

9.2.3.2. The best scientific methods and data currently available indicate that the existing permanent EQIP retirements would provide the necessary accretions to balance the stream depletions shown in Table 4. Table 5 and Graph 1 summarize the current best estimate of the net balance of stream accretions and depletions to the South Platte River-Lodgepole Creek based upon the best scientific data and information available. Since the stream depletions to the North Platte River (as shown in Table 3) are zero for the first ten (10) year increment, an analysis was not completed to show the net balance of stream accretions and depletions.

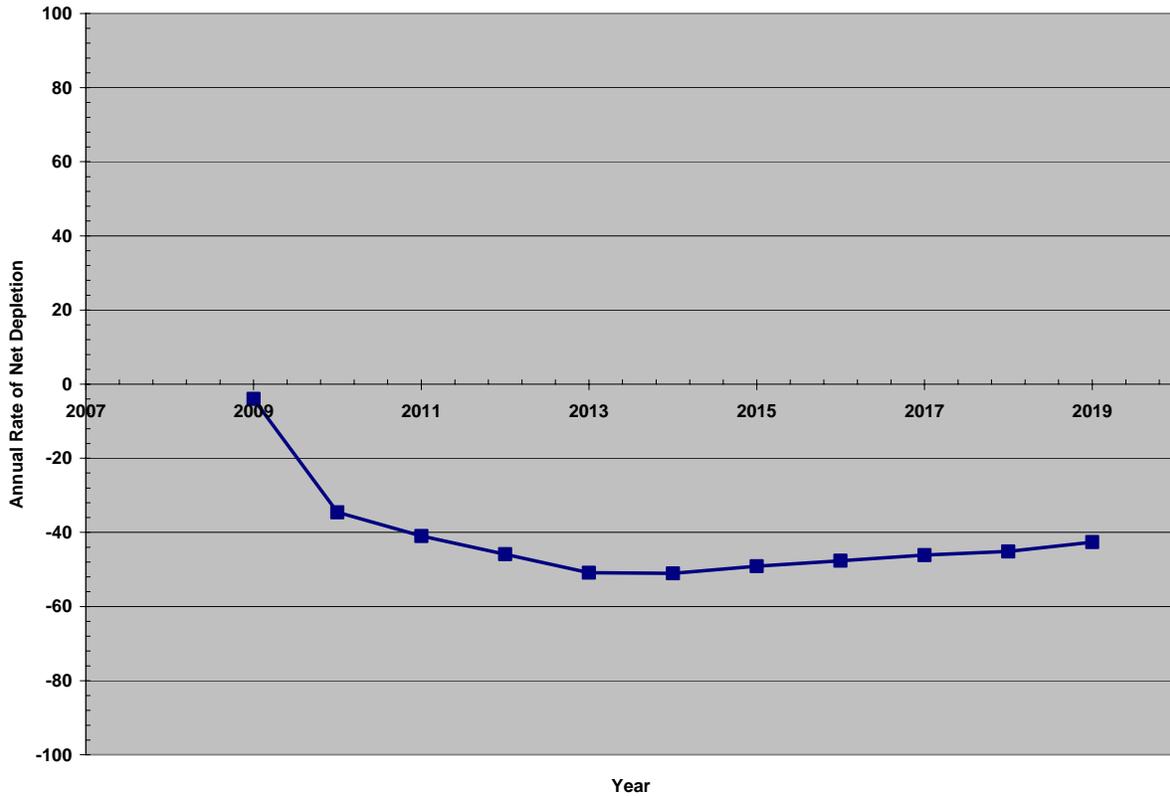
Table 5 - Current Best Estimate of Annual Net Depletions¹ to the South Platte River-Lodgepole Creek Assuming Existing EQIP Retirements (Estimates of accretions developed by the Department based upon type curves derived from the June 10, 2008 COHYST stream depletions report assuming the distribution of existing retired acres; surface water retirements assume 100% accretion to stream flow instantaneously)

Year	2009	2010	2011	2012	2013	2014
Annual Net Stream Depletion (AF)	-4	-35	-41	-46	-51	-51

Year	2015	2016	2017	2018	2019
Annual Net Stream Depletion (AF)	-49	-48	-46	-45	-43

¹ Negative numbers indicate an accretion to the stream

Graph 1 - Current Best Estimate of Annual Net Depletions¹ to the South Platte River-Lodgepole Creek Assuming Existing EQIP Retirements



9.2.3.3. If new data and information show that the existing permanent EQIP retirements or other measures taken by the SPNRD will not be sufficient to meet the necessary accretions shown in Table 4, regulatory actions will be implemented to achieve Objective 9.1.2.4.1.

9.2.3.4. In order to achieve the objective of having measures in place within the first ten (10) year increment to offset the average annual depletion rate of one hundred fifty (150) acre-feet to the North Platte River, four hundred (400) acre-feet to the South Platte River, and one hundred fifty (150) acre-feet to Lodgepole Creek for the period 2043-2048 (Objective 9.1.2.1.1.), regulatory actions will be implemented if the following triggers are not met:

9.2.3.4.1. Within the first six (6) year period, measures will be in place to achieve an annual accretion to the North Platte River equal to or exceeding a rate of one hundred five (105) acre-feet for the period 2043-2048 [seventy percent (70%) of the one hundred fifty (150) acre-feet per year required for the period 2043-2048].

- 9.2.3.4.2. Within the first six (6) year period, measures will be in place to achieve an annual accretion to the South Platte River equal to or exceeding a rate of two hundred eighty (280) acre-feet for the period 2043-2048 [seventy percent (70%) of the four hundred (400) acre-feet per year required for the period 2043-2048].
- 9.2.3.4.3. Within the first six (6) year period, measures will be in place to achieve an annual accretion to Lodgepole Creek equal to or exceeding a rate of one hundred five (105) acre-feet for the period 2043-2048 [70% of the one hundred fifty (150) acre-feet per year required for the period 2043-2048].
- 9.2.3.5. Section 9.3.1.1.1.2. of the monitoring plan describes how progress toward achieving these triggers will be measured.
- 9.2.3.6. If regulatory actions are required to be implemented to meet objectives 9.1.2.1.1. and 9.1.2.4.1., the following ground water controls will be considered by the Department and the SPNRD for implementation:
- 9.2.3.6.1. Prior to implementation of any of the ground water controls listed below, the SPNRD and the Department 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 the Overappropriated Area and Nebraska New Depletion Plan section of this IMP.
- 9.2.3.6.2. The SPNRD has already installed flow meters and implemented allocations within the entire District. If further regulatory actions are necessary, the Department and the SPNRD will reassess the allocation in place at the time to determine whether further reductions of the allocation amounts for the District are necessary to meet the goals and objectives of the IMP.
- 9.2.3.6.3. Since all of the acres within the SPNRD have been certified, another regulatory option would be the reduction of a certain percentage of irrigated acres within the SPNRD. Prior to implementation of this option, the SPNRD and the DNR will determine the percentage reduction necessary to meet the goals and objectives of this IMP.

9.2.4. Surface Water Regulatory Actions

- 9.2.4.1. The surface water regulatory actions that will be used in the overappropriated area are the same as those described in Rule Eight of this IMP.

9.3. MONITORING AND STUDIES

- 9.3.1. The overarching purpose of the monitoring and studies section is to ensure that the overappropriated and fully appropriated areas within the SPNRD 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 SPNRD.

9.3.1.1. Monitoring

9.3.1.1.1. Various methods will be employed to monitor the progress of the implementation of this IMP. Part One of the monitoring section describes the tracking and reporting of water use activities within fully appropriated and overappropriated areas of the District by the SPNRD and the Department. Part Two of 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; and (3) sustaining a fully appropriated condition. Part Three of the monitoring section describes the procedure for evaluating whether a subsequent increment is necessary to meet the goals and objectives of this IMP.

9.3.1.1.1.1. Part One: Tracking and Reporting of Water Use Activities

9.3.1.1.1.1.1. Tracking

9.3.1.1.1.1.1.1. The SPNRD will be responsible for tracking the following activities within the District on an annual basis: (1) certification of ground water uses and any changes to these certifications; (2) approved transfers, including all of the information provided with the application and used in the approval of the transfer; (3) any flow meter data collected; (4) any water well construction permits issued; (5) any other permits issued by the SPNRD; (6) any conditions associated with any permits issued; (7) information gathered through the municipal and non-municipal industrial accounting process; (8) 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; (9) any retirements of irrigated acres or other activities by the SPNRD for the purpose of returning to a fully appropriated condition; (10) information related to any water banking transactions; and (11) offsets provided for depletions resulting from increased consumptive use related to the above listed items.

9.3.1.1.1.1.1.2. The Department will be responsible for tracking the following activities within the District on an annual basis: (1) any surface water permits issued; (2) any dam safety permits issued; (3) any ground water permits issued; and (4) the associated offsets for any new permits issued. The Department will be responsible for tracking the following activities within the District on a five (5) year basis: (1) National Agricultural Statistics Service livestock data; (2) US Census Bureau population data; (3) inventory of sandpits; (4) inventory of reservoirs of

less than fifteen (15) acre-feet; (5) any retirements of irrigated acres or other activities by the Department for the purpose of returning to a fully appropriated condition; and (6) offsets provided for depletions resulting from increased consumptive use related to the above listed items.

9.3.1.1.1.2. Reporting

9.3.1.1.1.2.1. An annual review of the progress being made toward achieving the goals and objectives of the first ten (10) year increment will include annual reporting by the Department and the SPNRD of the information being tracked as described above. This information will be shared between the SPNRD and the Department, presented at the basin-wide annual meeting, and used for Program compliance.

9.3.1.1.1.2.2. The reports from the SPNRD and the Department 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 first ten (10) year increment.

9.3.1.1.1.2.3. 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 Department and the Platte Basin NRDs.

9.3.1.1.1.2.4. The reported information will be utilized as appropriate in the evaluation process described below.

9.3.1.1.1.2. Part Two: Measuring the Success in Meeting the Goals and Objectives of this IMP

9.3.1.1.1.2.1. Measuring the success of this IMP in addressing streamflow depletions due to new uses begun subsequent to July 1, 1997 (Goals 9.1.1.1.1. and 9.1.1.2.1. of the Overappropriated Area and Nebraska New Depletion Plan portion of this IMP)

9.3.1.1.1.2.1.1. In order to meet the requirements of Neb. Rev. Stat. § 46-715(4)(d)(ii), the data contained in the annual reports submitted by the SPNRD and the Department will be reviewed and analyzed annually to assess the progress being made toward achieving the goals and objectives of the Overappropriated Area and Nebraska New Depletion Plan portion of this IMP for the first ten (10) year increment. The analysis will include a forecasting of the balance of the depletions and offsets from the current year through the year 2048.

9.3.1.1.1.2.1.2. In addition to the annual review, a more robust review of the progress being made toward achieving the goals and objectives of the Overappropriated Area and Nebraska New Depletion Plan portion of this IMP for the first ten (10) year increment will be carried out periodically. The process for this review is described in Section 9.3.1.1.1.2.1.4.

9.3.1.1.1.2.1.3. The ground water models utilized for this process will be calibrated to baseflows and ground water levels in the area with sufficient temporal variability to assess the impacts on a monthly basis. The ground water models will be updated periodically to simulate the management practices that have been implemented to date. The evaluation period of the models will be 1998 through 2048.

9.3.1.1.1.2.1.4. The following two ground water model runs will be conducted to measure the success toward reaching the objectives of Goal 9.1.1.1.1. and Goal 9.1.1.2.1.:

9.3.1.1.1.2.1.4.1. The 1997 Development Level Run - A model run which simulates the number of irrigated acres in 1997 and the associated crop mix. It will incorporate the full crop irrigation requirement for the 1997 crop mix. This model run will serve as the baseline to which the evaluation run will be compared. The run will be conducted using data through the current date and will include an update from the current date through the year 2048.

9.3.1.1.1.2.1.4.2. The Evaluation Run - A model run which simulates the annual changes between the irrigated acres throughout the evaluation period and the irrigated acres in 1997. The model will, when appropriate, utilize the flow meter data that the SPNRD collects to determine the crop consumptive use. The run will be conducted using data through the current date and will include an update from the current date through the year 2048.

9.3.1.1.1.2.1.4.3. Difference between the Evaluation Run and the 1997 Run - The simulated baseflow output from each model run will be compared to determine the difference.

9.3.1.1.1.2.1.4.4. Surface Water Accretions and Other Uses not Covered by the Model - If surface water acres are retired to offset streamflow depletions due to new uses begun subsequent to July 1, 1997, accretions resulting from those retirements will be determined using agreed upon methodologies.

9.3.1.1.1.2.1.4.5. Evaluation Results – In order for the first ten (10) year increment to be considered achieved, the results of combining the

difference between the evaluation run and the 1997 development level run with the addition of surface water accretions and other uses not covered by the model will be less than or equal zero. See the following equation:

$$\begin{aligned} & (\text{depletions from the Evaluation Run}) - (\text{depletions from the 1997} \\ & \text{Development Level Run}) + (\text{Surface Water Accretions}) = \\ & \text{Net Depletions} \end{aligned}$$

9.3.1.1.2.2. Measure the success of reaching a fully appropriated condition

9.3.1.1.2.2.1. Because a fully appropriated condition is not currently determined, the Department and the SPNRD will work on outlining the process that will measure the success of reaching the fully appropriated condition once that condition has been determined.

9.3.1.1.2.3. Measure the success of maintaining a fully appropriated condition

9.3.1.1.2.3.1. Current Fully Appropriated Area - Monitor and analyze uses in the fully appropriated area to determine the change in stream depletions due to such uses.

9.3.1.1.2.3.2. Current Overappropriated Area - Because a fully appropriated condition is not currently determined, the Department and the SPNRD will work on outlining the process that will measure the success of maintaining a fully appropriated condition once that condition has been determined.

9.3.1.1.2.3.3. In performing these analyses, the Department and the SPNRD will use the best data and science that is readily available. The Department and the SPNRD will work with other agencies and/or interested parties, if necessary, to identify data gaps in their analyses and determine whether studies should be undertaken to address these gaps.

9.3.1.1.3. Part 3: Evaluating the Need for a Subsequent Increment

9.3.1.1.3.1. The Department and the SPNRD will carry out the studies and the technical analysis as specified in Neb. Rev. Stat. § 46-715(4)(d)(iii) to determine whether or not a subsequent ten (10) year increment is necessary.

9.3.1.1.3.2. Within the first ten (10) year increment, the Department and the SPNRD will continue to refine the estimation methodology used to calculate the difference between the current and fully appropriated levels of

development. Fully appropriated levels of development will be determined through the following process:

9.3.1.1.1.3.2.1. Determine the changes in recharge from surface water diversions and the impacts of those changes on streamflow using readily available data.

9.3.1.1.1.3.2.2. Determine the changes in ground water irrigation and the streamflow depletions caused by those changes using readily available data.

9.3.1.1.1.3.2.3. Determine the effects of conservation measures on streamflows.

9.3.1.1.1.3.2.4. Determine the timing and location of the net changes in streamflow.

9.3.1.1.1.3.2.5. Determine when streamflow changes impact existing users, taking into account the effects of cyclical supply (e.g. drought).

9.3.1.1.1.3.2.6. If significant changes in either the timing or location of streamflow have impacted existing users, the SPNRD and the Department 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.

9.3.1.1.1.3.2.7. The Department and the SPNRD will review other data and/or methodologies relevant or significant to the process.

9.3.1.1.1.3.3. The process described above in 9.3.1.1.1.3.2. 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 utilizing the process described in Section 9.3.1.1.1.2.

9.3.1.1.1.3.4. In performing these analyses, the Department and the SPNRD will use the best data and science that is readily available. The Department and the SPNRD will work with other agencies and/or interested parties, if necessary, to identify data gaps in their analyses and determine whether studies should be undertaken to address these gaps.

9.3.1.2. Studies

9.3.1.2.1. The Department and the SPNRD 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.

9.3.1.2.2. The following potential studies have been identified by the Department and the SPNRD: (1) crop rotation; (2) vegetation management; (3) irrigation scheduling; (4) a survey of the type and location of irrigation systems throughout the SPNRD; (5) tillage practices; (6) other best management practices; and (7) conjunctive management.

9.4 REVIEW OF AND MODIFICATIONS TO THE OVERAPPROPRIATED AND NEBRASKA NEW DEPLETION PLAN PORTION OF THE IMP

9.4.1. First Ten (10) Year Increment

9.4.1.1. The SPNRD and the Department may amend the Overappropriated Area and Nebraska New Depletion Plan portion of this IMP after an annual review of progress made towards achieving the goals and objectives of the Overappropriated Area and Nebraska New Depletion Plan portion of this IMP, or at more frequent intervals as more data and information become available.

9.4.1.1.1. If the published results of COHYST or other model(s) or tool(s) that are developed as part of the monitoring effort show annual depletion values different from those in Table 2, then the Department and the SPNRD shall meet and discuss how this IMP may need to be revised.

9.4.1.2. 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.

9.4.1.3. Basin-Wide Plan Disputes

9.4.1.3.1. If a dispute is presented at the annual meeting as described in the Basin-Wide Plan, the Platte Basin NRDs and the Department 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 Platte Basin NRDs and the Department will determine whether the dispute pertains to all of the Platte Basin NRDs or just individual NRD(s).

9.4.1.3.2. If the dispute pertains to all of the Platte Basin NRDs, an investigation will be conducted by the Platte Basin NRDs and the Department 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, then this IMP will be revised accordingly.

9.4.1.3.3. If the dispute is not a basin-wide issue, but pertains to the SPNRD; the Department, the SPNRD 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).

9.4.1.4. Modifications to the Overappropriated Area and Nebraska New Depletion Plan portion of this IMP will require an agreement by both the SPNRD and the Department as to the proposed changes. After the proposed changes have been agreed to, a joint hearing on those changes will be required. This IMP will be provided to all of the other Platte Basin NRDs for comment before the revisions are approved by the SPNRD and the Department.

9.4.2. Second Ten (10) Year Increment

9.4.2.1. A technical analysis as described in Neb. Rev. Stat. § 46-715(4)(d)(iii) will be completed after this IMP has been in effect for six (6) years. This technical analysis will determine whether the measures adopted in this IMP are sufficient to offset depletions due to post-July 1, 1997, water uses.

9.4.2.2. 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(4)(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(4)(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.