

Memorandum

To: Papio-Missouri River Natural Resources District Programs Projects and Operations Subcommittee
From: Paul W. Woodward, PE, Groundwater Management Engineer
Date: May 2, 2022
Re: Review and Recommendation of Lower Platte River Basin Coalition Interlocal Agreement #3

The Lower Platte River Basin Water Management Plan Coalition (Coalition) was formulated in 2013 and is comprised of seven NRDs along with NDNR. Following completion and adoption of the Basin Water Management Plan in 2017, the Coalition entered into Interlocal Agreement #2 in order to cooperatively implement the plan over its first 5-year increment from 2017 thru 2021.

During this first 5-year increment, each District and NDNR was responsible for tracking any new groundwater or surface water development within the Basin and annually reporting the peak season stream depletion in an overall accounting system. Following technical peer review of each annual reporting period, the Coalition used approximately 29% of the total allowable, leaving 13,425 ac-ft of allowable peak season depletion from the first increment. See attached summary table for the 5th reporting period.

Approving Interlocal Agreement #3, as enclosed, carries over the unused peak-season depletions within each NRD and adds them to a new set of allowable peak-season depletions for a 2nd increment spanning from 2022 thru 2026. New allowable depletions were calculated using the same methodology as the 1st increment but included a longer period of record and any new land or water use data. The table below reflects the new allowable peak-season depletions by NRD:

NRD	Allowable Depletions by NRD		
	New 2 nd Increment	Carryover from 1 st Increment	Total
Upper Loup NRD	3,369	2,065	5,435
Lower Loup NRD	7,160	4,749	11,908
Upper Elkhorn NRD	1,831	1,134	2,965
Lower Elkhorn NRD	5,493	2,853	8,347
Papio-Missouri River NRD	1,057	768	1,825
Lower Platte South NRD	1,209	890	2,098
Lower Platte North NRD	2,770	966	3,736
TOTAL	22,889	13,425	36,315

The new Agreement #3 incorporates and adopts an addendum to the Basin Water Management Plan including a new Objective 4 under Goal 2 to further evaluate the impacts of new development during drought conditions. The proposed addendum is also attached.

The proposed Interlocal Agreement #3 amongst all seven NRDs and NDNR continues the effort of the Coalition for 5-years by keeping the Lower Loup NRD as the administrator and maintains the annual budgeting process. It is not anticipated that the District's assessment will ever exceed the previous amount of \$30,000 annually.

Staff recommends that the subcommittee recommend to the Board of Directors that the that the General Manager be authorized to execute the Lower Platte River Basin Water Management Plan Coalition Interlocal Agreement #3, subject to changes deemed necessary by the General Manager and approval as to form by District Legal Counsel.

LOWER PLATTE BASIN WATER MANAGEMENT COALITION
FIFTH REPORTING PERIOD: JAN 1, 2021 TO DECEMBER 31, 2021

TABLE 1 - PEAK SEASON DEPLETIONS

NRD	PEAK SEASON 5-YR ALLOWABLE DEPLETION (AF)	Peak Season								
		NRD Prior Years Reported Depletion (AF)	2021 NRD Reported NET Depletion (AF)	NRD Total Reported Depletion (AF)	NRD - Percent of Allowable	Prior Years NeDNR Reported Depletion (AF)	2021 NeDNR Reported Depletion (AF)	Total NeDNR Reported Depletion (AF)	NeDNR - Percent of Allowable	Combined Percent of Allowable
Upper Loup NRD	2768	417.9	-84.9	333.0	12.0%	369.6	0.0	369.6	13.4%	25.4%
Lower Loup NRD	5883	360.1	255.7	615.8	10.5%	481.0	35.9	516.9	8.8%	19.3%
Upper Elkhorn NRD	1504	220.0	64.4	284.4	18.9%	85.0	0.4	85.4	5.7%	24.6%
Lower Elkhorn NRD	4514	1093.7	292.0	1385.7	30.7%	180.4	94.7	275.1	6.1%	36.8%
Papio-Missouri River NRD	869	30.0	4.0	34.0	3.9%	67.0	0.0	67.0	7.7%	11.6%
Lower Platte South NRD	993	23.6	0.0	23.6	2.4%	67.0	12.9	79.9	8.0%	10.4%
Lower Platte North NRD	2276	1093.8	208.5	1302.2	57.2%	0.0	7.5	7.5	0.3%	57.5%
TOTALS	18,807	3,239	740	3,979	21.2%	1250	151.33	1,401	7.5%	28.6%

TABLE 2 - PEAK SEASON DEPLETIONS AND CONSUMPTIVE USE

NRD	PEAK SEASON 5-YR ALLOWABLE DEPLETION (AF)	NRD - Peak Season Depletion (AF)	NeDNR Reported Depletion (AF)	NRD Prior Years Peak Season Consumptive Use (AF)	2021 NRD Peak Season Consumptive Use (AF)	NRD Total Peak Season Consumptive Use (AF)	NeDNR Total Peak Season Consumptive Use (AF)	Total New Peak Season Depletions	Total New Peak Season Consumptive Use	Remaining 5- YR Allowable Depletion (AF)	Percent of Remaining 5- YR Allowable Depletion
Upper Loup NRD	2768	333.0	369.6	1069.5	Pending	Pending	369.6	702.6	Pending	2065.4	74.6%
Lower Loup NRD	5883	615.8	516.9	1550.5	Pending	Pending	516.9	1132.7	Pending	4750.3	80.7%
Upper Elkhorn NRD	1504	284.4	85.4	509.8	Pending	Pending	85.4	369.8	Pending	1134.2	75.4%
Lower Elkhorn NRD	4514	1385.7	275.1	2216.2	Pending	Pending	275.1	1660.7	Pending	2853.3	63.2%
Papio-Missouri River NRD	869	34.0	67.0	53.6	Pending	Pending	67.0	101.0	Pending	768.0	88.4%
Lower Platte South NRD	993	23.6	79.9	30.2	Pending	Pending	79.9	103.5	Pending	889.5	89.6%
Lower Platte North NRD	2276	1302.2	7.5	1620.2	Pending	Pending	7.5	1309.7	Pending	966.3	42.5%
TOTALS	18,807	3,979	1,401	7,050	-	-	1,401	5,380	-	13,427	71%

LOWER PLATTE RIVER COALITION INTERLOCAL COOPERATION AGREEMENT #3

This Lower Platte River Coalition Interlocal Cooperation Agreement #3 (“Agreement”) is entered into by and between the Nebraska Department of Natural Resources (“Department”); Lower Platte South Natural Resources District (“LPSNRD”); Lower Platte North Natural Resources District (“LPNNRD”); Papio-Missouri River Natural Resources District (“PMRNRD”); Lower Loup Natural Resources District (“LLNRD”); Lower Elkhorn Natural Resources District (“LENRD”); Upper Elkhorn Natural Resources District (“UENRD”); and Upper Loup Natural Resources District (“ULNRD”) all of which are an agency or political subdivisions of the State of Nebraska, each sometimes hereinafter individually referred to as “Party” or collectively referred to as “Parties.” The natural resources districts are sometimes collectively referred to as “NRDs.”

WHEREAS, the Parties desire to work together, under the Interlocal Cooperation Act (“Act”), Neb. Rev. Stat. §§ 13-801 to 13-827, to make the most efficient use of their respective authorities and other powers by enabling them to cooperate with one another on a basis of mutual advantage and thereby to provide services and facilities in a manner and pursuant to forms of governmental organization that will accord best with geographic, economic, population, and other factors influencing the needs and development of each Party; and

WHEREAS, the Parties desire to form a joint agreement under Neb. Rev. Stat. § 13-807 authorized by the governing body of each Party to the agreement, and which shall set forth fully as provided in the Act the purposes, powers, rights, objectives, and responsibilities of the contracting parties; and

WHEREAS, the Department has certain statutory authorities and responsibilities pertaining to the surface water of the State, and also authorities and responsibilities granted under the Nebraska Ground Water Management and Protection Act (“GWMPA”), Neb. Rev. Stat. §§ 46-701 to 46-754 for integrated management of hydrologically connected ground water and surface water. In addition, the Department has authority to expend funds from the Water Resources Cash Fund to aid management actions taken to reduce consumptive uses of water or to enhance streamflows or ground water recharge in river basins, subbasins, or reaches which are deemed by the Department overappropriated or fully appropriated pursuant to the GWMPA or are the subject of an interstate compact or decree or a formal state contract or agreement; and

WHEREAS, the NRDs are organized pursuant to Neb. Rev. Stat. §§ 2- 201 et seq. and have certain statutory authorities and responsibilities, particularly pertaining to the ground water in their respective areas of the State, and also authorities and responsibilities granted by the GWMPA for integrated management of hydrologically connected ground water and surface water; and

WHEREAS, the Lower Platte River Basin (“Basin”) is geographically large and diverse in its geology, land use, ground and surface water supplies, and water uses. Each of the Parties are charged with responsibilities for planning and managing water resources within their respective boundaries, but much of the water and uses are interrelated throughout the entire Basin. The Parties desire to work together towards furthering the purposes of the Agreement.

WHEREAS, the Parties entered into the Lower Platte River Basin Coalition Interlocal Cooperative Agreement #1 on April 12, 2013 for the development of the Lower Platte River Basin Water Management Plan (“Plan”), and the Parties entered into the Lower Platte River Basin Coalition Interlocal Cooperative Agreement #2 on January 10, 2018 for adopting and implementing the first increment of the Plan; and

WHEREAS, the Parties have determined that the previous Interlocal Cooperative Agreement’s purposes and objectives have been completed and the previous Interlocal Agreement has terminated pursuant to its Partial or Complete Termination Provision; and

WHEREAS, the Parties desire to enter this Lower Platte River Basin Coalition Interlocal Cooperative Agreement #3 to administer, maintain, and implement the Plan and its Addendums, which are incorporated into this Agreement by this reference.

NOW, THEREFORE, in consideration of the mutual covenants and promises of the Parties, it is agreed by and among the Parties hereto as follows:

1. PARTIES:

1.01 All Parties to this Agreement are public agencies within the meaning of Neb. Rev. Stat. §13-803(2).

2. AUTHORITY:

2.01 Neb. Rev. Stat. § 13-807 authorizes any two (2) or more public entities to enter into agreements with one another to perform any governmental service, activity, or undertaking, which at least one (1) of the public agencies entering into the agreement is authorized by law to perform.

2.02 The Parties enter into this Agreement pursuant to the authority conferred on each of them under the Act.

2.03 No part of this Agreement shall be interpreted as relieving the Department of any obligation or responsibility it may have to regulate water use or to compel compliance with any laws, regulations, interstate compacts or interstate agreements or as a delegation of its responsibilities and obligations to the Parties of this Agreement. No part of this Agreement shall be interpreted as relieving the NRDs of any obligation or responsibility it may have to regulate water use or to compel compliance with any laws, regulations, interstate compacts or interstate agreements or as a delegation of its responsibilities and obligations to the Parties of this Agreement.

3. COALITION

3.01 The Parties hereby retain the Lower Platte River Basin Water Management Plan

Coalition (“Coalition”). The Coalition shall be governed by the terms of this Agreement and the Plan and its Addendums. The Coalition shall carry out the purposes as set forth in Section 4 of this Agreement. The Coalition shall be responsible for the administrative, technical, and financial affairs of the Coalition. The Coalition shall not be considered a joint entity separate and distinct from the respective Parties to this Agreement, but rather a collaborative working arrangement of the Parties.

3.02 The Coalition shall have such powers, privileges, and authority as authorized by the Parties, and as necessary to achieve the purposes of the Coalition as set forth in this Agreement and the Plan and its Addendums. Such powers, privileges, and authority shall include but not be limited to the following:

3.02.1 Schedule and conduct meetings to transact business.

3.02.2 Hold public meetings and public hearings.

3.02.3 Enter into contracts and agreements with other public agencies and private sector vendors.

3.02.4 Assess, collect, and expend funds from Coalition members, grants, or other financial sources.

3.02.5 Undertake studies, investigations, or surveys and do research as may be necessary to carry out the Agreement’s purposes.

3.02.6 Take actions as set forth in the Plan and its Addendums.

3.02.7 Retain legal and other professional services.

4. PURPOSES

4.01 The purposes of this Agreement pursuant to Neb. Rev. Stat. § 13-804 (3)(c) are to form a Coalition to implement and maintain the Plan and its Addendums. The Plan and its Addendums implements water use policies and practices that contribute to the protection of existing surface water and groundwater uses, while allowing for future water development, as well as provides the flexibility for Parties to work cooperatively. These water use policies and practices will be incorporated into the individual NRDs Integrated Management Plans.

4.02 This Agreement shall provide the organizational and administrative structure and

enumeration of the powers, privileges, and authority of the Coalition and the financial cooperative effort necessary to carry out the purposes in Subsection 4.01 of this Agreement. The powers, privileges, and authorities of the Coalition shall not be used in a manner that is in violation of any of the Parties' public purposes.

5. MANNER OF FINANCING AND OF ESTABLISHING AND MAINTAINING A BUDGET

5.01 The manner of financing and expenditure accounting of the Coalition pursuant Neb. Rev. Stat. §13-804(3)(d) shall be as follows:

5.01.1 The Coalition shall have the authority to authorize applications for financial grants, to include use of Coalition funds and in-kind services for match. Such applications shall be made by the Lead Party on behalf of the Coalition.

5.01.2 No bonds will be issued and no taxes will be levied or collected jointly by the Parties. Individual Parties may contribute funds derived from tax levies or bonds, but these shall not be considered a tax levy or bond issuance by the Coalition.

5.02 The manner of establishing and maintaining a budget pursuant to Neb. Rev. Stat. §13-804(3)(d) shall be as follows:

5.02.1 Annually the Board shall establish and adopt a budget for the preparation and completion of the work undertaken by the Coalition. Following consultation with each Party regarding its ability to contribute toward such necessary funds, the Board shall determine the assessment.

6. ADMINISTRATION

6.01 Board

6.01.1 The Board shall be responsible for determining the overall direction of the efforts of the Coalition and shall set policies.

6.01.2 The Board shall be composed of the following: two (2) representatives from the Department, two (2) representatives from the LPSNRD, two (2) representatives from the LPNNRD, two (2) representatives from the PMRNRD, two (2) representatives from the LLNRD, two (2) representatives from the LENRD, two (2) representatives from the UENRD, and two (2) representatives from the ULNRD, for a total of sixteen (16) representatives on the Board. The NRD representatives may be members of their respective NRD Boards of Directors or staff appointed by the NRD Boards of Directors.

6.01.3 Each representative on the Board shall be entitled to one (1) vote.

6.01.4 Each representative shall be appointed to the Board by written designation, including any alternate and such designation shall be provided to the Board Chair and the Coordinator prior to or at the specific Board meeting.

6.01.5 All decisions shall be made by consensus, unless otherwise specifically provided for in this Agreement.

6.01.6 A quorum, which shall be one Board representative from each Party, shall be required to transact any official discussions or business.

6.01.7 Meetings shall follow the requirements of the Open Meetings Act.

6.01.8 Meetings of the Board shall be held annually, or at the call of the Board Chair.

6.01.9 The representatives of the Board shall select from among the members a “Board Chair” and “Board Vice-Chair.” The Board Chair and Board Vice-Chair will hold office for a term of up to five (5) years. Upon the occurrence of a vacancy in either office, it shall be filled at the next regularly scheduled meeting. The Board Chair shall preside at all Board meetings and shall develop agendas for each meeting. The Board Vice-Chair shall, in the absence of the Board Chair, perform the duties of the Board Chair.

6.01.10 The Coordinator shall be responsible for preparing and maintaining Board meeting minutes and other records.

6.02 Management Committee

6.02.1 The Management Committee shall be responsible for the administrative, technical, and financial affairs of the Coalition, and other powers, duties, and authorities as delegated to it by the Board. The Management Committee shall be composed of the General Manager or his/her designee from each of the NRDs and one (1) member from the Department. Nothing shall preclude a representative on the Management Committee from also serving as a designated-staff representative on the Board.

6.02.2 Each representative on the Management Committee shall be entitled to one (1) vote.

6.02.3 All decisions shall be made by consensus.

- 6.02.4 A quorum, which shall be one-half the total of Management Committee members plus one, shall be required to transact any official discussions or business.
- 6.02.5 Meetings shall follow the requirements of the Open Meetings Act.
- 6.02.6 Meetings of the Management Committee shall be held at least annually, or at the call of the Management Committee Chair.
- 6.02.7 The representatives of the Management Committee shall select from among the Committee a "Management Committee Chair" and "Management Committee Vice-Chair." Upon the occurrence of a vacancy in either office, it shall be filled at the next regularly scheduled meeting. The Management Committee Chair shall preside at all Management Committee meetings and shall develop agendas for each meeting. The Management Committee Vice-Chair shall, in the absence of the Management Committee Chair, perform the duties of the Management Committee Chair.
- 6.02.8 The Coordinator shall be responsible for preparing and maintaining minutes and other records.
- 6.02.9 The Management Committee shall offer input on the selection of a candidate for the Coordinator position and shall provide the general direction for the Coordinator.
- 6.02.10 The Management Committee shall also retain professional and legal services, if needed, and shall provide coordination with counsel.

6.03 Technical Committee

- 6.03.1 The Technical Committee shall be responsible for review and consideration of technical and/or scientific matters pertinent to the Coalition and shall provide information and recommendations regarding such matters to the Management Committee. The Technical Committee shall be composed of representatives from the NRDs and the Department as appointed by the Management Committee and may include representatives from other local, state, and federal agencies as members or advisors, as determined appropriate.
- 6.03.2 The Technical Committee shall develop recommendations to the Management Committee.
- 6.03.3 The Technical Committee shall meet as needed.

6.03.4 Meetings of the Technical Committee may be chaired by the Coordinator; or a chairperson may be designated by the Technical Committee

6.04 Coordinator

6.04.1 Under a separate agreement, an NRD/Department liaison located in the office of the Nebraska Association of Resources Districts will assist in providing coordination services to the Coalition (“Coordinator”).

6.04.2 The Coordinator shall work under the general guidance from the Management Committee and the direct supervision of the Nebraska Association of Resources Districts and the Department.

6.04.3 As a portion of their duties, the Coordinator will provide the day-to-day administration for the Coalition, including information dissemination to members and the public, scheduling and organization of meetings, record-keeping, coordination of study participants including consultants and legal counsel, and financial accounting.

6.05 Lead Party

6.05.1 The LLNRD shall serve as a Lead Party for the Coalition as required under Neb. Rev. Stat. § 13-804(4)(a).

6.05.2 As Lead Party, its responsibilities include serving as the financial administrator. The duties of financial administrator for the Coalition include:

6.05.2.1 Collecting and holding the contributions from Parties and other revenues, and making disbursements for expenses related to Coalition activities.

6.05.2.2 Grant applicant and administrator.

6.05.2.3 Contracting Party on behalf of the Coalition.

6.06 Any Party may withdraw from this Agreement and from representation on the Coalition upon written notification to the Chair of the Coalition Board. Such withdrawal shall be effective upon receipt of the written notification. There will be no financial reimbursement of remitted funds unless specifically authorized by the Board.

6.07 New members can be added to the Coalition with a vote of the Board. Eligible entities shall be limited to political subdivisions charged with responsibilities for planning, managing, and/or supplying water resources for public water systems in the Basin.

7. PROPERTY

7.01 The manner of acquiring, holding, and disposing of real and personal property pursuant to Neb. Rev. Stat. § 13-804 (4)(b) is as follows.

7.01.1 In the event it becomes necessary for the Coalition to purchase any property, either real or personal, the Board will vote to determine how the property will be acquired, held, and disposed of.

8. DURATION

8.01 The duration of this Agreement shall be for a period starting from the execution date of this Agreement by the last Party, and ending upon completion of this Agreement's purposes and objectives, unless terminated in accordance with Paragraph 10 of this Agreement.

9. PREVIOUS INTERLOCAL AGREEMENT

9.01 The Parties previously entered into the Interlocal Cooperation Agreement #2 for the Lower Platte River Basin Water Management Plan on January 10, 2018. Through execution and acceptance of this Agreement, the Parties acknowledge that the previous Interlocal Cooperation Agreement has terminated as a result of the completion of its purposes and objectives and this Agreement is a new and separate agreement among the Parties.

10. TERMINATION

10.01 The permissible method or methods to be employed in accomplishing the complete or partial termination of this Agreement under Neb. Rev. Stat. §13-804(3)(e) shall be as follows.

10.01.1 This Agreement and the Coalition created hereby shall be terminated upon the earlier of the completion of its purposes and objectives described herein or upon the vote of two-thirds of the then constituted Board for the complete or partial termination of the Coalition and this Agreement. Upon action to terminate the Coalition, all outstanding debts and obligations of the Coalition shall be paid and all unused funds and appropriations shall be returned to the remaining Parties in such proportions as represented by the pro rata share paid by each Party.

11. MISCELLANEOUS PROVISIONS

11.01 All of the Parties' books, records, and documents relating to work performed or monies received or spent under this Agreement shall be subject to audit at any reasonable time after reasonable notice by the NRDs, Department, and the State

Auditor or as required by any grant agreements, donations, or other source of funds. The Coordinator shall maintain all of such records throughout the existence of this Agreement and for a period of ten (10) full years from the date of termination of the Agreement, or until all issues related to an audit, litigation, or other action are resolved, whichever is longer. All records shall be maintained in accordance with generally accepted accounting principles and record retention as required by the Secretary of State, Records Management Division.

- 11.02 Any governing body as defined in Neb. Rev. Stat. § 13-503 which is a Party to this Agreement shall provide information to the Auditor of Public Accounts regarding this Agreement as required in Neb. Rev. Stat. § 13-513.
- 11.03 No Party may assign its contractual rights or obligations under this Agreement without the prior written consent of the Board.
- 11.04 Each Party shall have taken, prior to the execution of this Agreement by such Party, appropriate action by ordinance, resolution, or otherwise pursuant to the law of the governing body of such Party so that this Agreement may enter into force consistent with the provisions of Neb. Rev. Stat. § 13-804(2).
- 11.05 For all matters other than membership, this Agreement may be amended or modified upon the approval of written modifications by all current Parties hereto in writing, signed by and duly adopted and approved by each of the current Parties hereto.
- 11.06 This Agreement contains the entire agreement of the Parties. All prior and contemporaneous negotiations, discussions, memorandums of understanding and other writings are merged and incorporated herein, it being the intention of the Parties that this Agreement is a final and full expression of their agreement. No representations were made or relied upon by any Party other than those expressly set forth herein.
- 11.07 This Agreement is governed by the laws of the State of Nebraska.
- 11.08 This Agreement becomes effective upon execution by all Parties.

IN WITNESS WHEREOF, the Parties have signed and executed this Agreement on the dates shown below their respective signatures:

NEBRASKA DEPARTMENT OF NATURAL RESOURCES

BY: _____

DATE: _____

LOWER PLATTE SOUTH NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

LOWER PLATTE NORTH NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

PAPIO-MISSOURI RIVER NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

LOWER LOUP NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

LOWER ELKHORN NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

UPPER ELKHORN NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____

UPPER LOUP NATURAL RESOURCES DISTRICT

BY: _____

DATE: _____



2.0 Goals and Objectives

The Coalition Board initially developed draft Goals and Objectives for the Plan in April, 2013. These goals and objectives were refined and finalized through the collaborative planning process. The three final goals that were developed include:

1. Develop and maintain a water supply and use inventory based on the best available data and analysis.
2. Implement a water management plan for the Basin that maintains a balance between current and future water supplies and demands.
3. Develop and implement water use policies and practices that contribute to the protection of existing surface and groundwater uses while allowing for future water development.

These goals, as well as objectives for each, are presented in detail in Table 2.1. Specific action items to support these goals and objectives are presented in Section 3.0.

TABLE 2.1. GOALS AND OBJECTIVES

Goal 1. Develop and maintain a water supply and use inventory based on the best available data and analysis.

OBJECTIVES OF GOAL 1	1. Develop a comprehensive inventory of the location and source of the Basin’s current and future water supplies, water uses and outflows. Maintain and update on a schedule that is coincident with the 5-year update of the INSIGHT database.
	1.1 Develop a better understanding of basinwide inflows/outflows to enable development of a more comprehensive water inventory.
	1.2 Project changes to water inventory due to changes in urban and rural population and land use.
	1.3 Evaluate potential effects on water inventory of coordination, innovation and technology.
	1.4 Refine the extent of hydrologically connected ground and surface waters in the Lower Platte River Basin.
	1.5 Evaluate variations in water inventory due to climate cycles.
	2. Monitor current and future water demands in the Basin. Provide report at the annual Basin meeting that will be used for NeDNR’s FAB analysis.

Goal 2. Implement a water management plan for the Lower Platte River Basin that maintains a balance between current and future water supplies and demands.

OBJECTIVES OF GOAL 2	1. Collaborate with state and local governments to identify a minimum of three (3) opportunities to augment water supplies within the Lower Platte River Basin and, if necessary, identify opportunities to supplement with imported water from outside the Lower Platte River Basin.
	2. Monitor the instream flow needs in the Lower Platte River Basin to foster an understanding of the existing appropriation priorities and locations, and provide a basis for evaluating impacts of existing and future uses. Provide report at the annual Basin meeting that will be used for NeDNR’s FAB analysis.
	3. Evaluate options for Basin water banking methodologies.
	4. Evaluate impacts of new development during drought conditions.

Goal 3. Develop and implement water use policies and practices that contribute to the protection of existing surface and groundwater uses while allowing for future water development.

OBJECTIVES OF GOAL 3	1. Identify available water storage opportunities throughout the Lower Platte River Basin.
	2. Evaluate, understand, and develop policies to address impacts on stream flows of uses outside of management control.
	3. Expand public education programs on general awareness of water supplies and to encourage water conservation measures. Provide annual reporting and press release that includes, at a minimum, activities from previous year, supporting data, education statements and on-going work.



3.0 Action Items

Action items to support implementation of the plan were developed through collaboration with Coalition members. The action items are tasks directly linked to the specific objectives, and ultimately the overarching goals they help to accomplish.

GOAL 1: Develop and maintain a water supply and use inventory based on the best available data and analysis.

OBJECTIVES

1. Develop and maintain a comprehensive inventory of the location and source of the Basin’s current and future water supplies, water uses and outflows.

- 1.1** Develop a better understanding of basinwide inflows/outflows to enable development of a more comprehensive water inventory.
- 1.2** Project changes to water inventory due to changes in urban and rural population and land use.
- 1.3** Evaluate potential effects on water inventory of coordination, innovation and technology.
- 1.4** Refine the extent of hydrologically connected ground and surface waters in the Lower Platte River Basin.
- 1.5** Evaluate variations in water inventory due to climate cycles.

ACTION
ITEMS

- A. Compile a tabular summary of basinwide inflows and outflows using existing gage measurements where available, and estimates or calculated components where unavailable.
- B. Evaluate and prioritize estimated components based on uncertainty and relative impact of water inventory.
- C. Identify locations where additional gaging data or further study/modeling would reduce uncertainty in the basinwide water inventory.

- A. Develop projected municipal and industrial growth estimates, incorporating current city growth plans if available.
- B. Develop projected agricultural land use trends to estimate future change in inventory.
- C. Utilize existing tools to evaluate the impacts on water inventory due to changes in both urban and rural land use scenarios.

- A. Evaluate impacts of soil and water conservation practices on the water inventory.
- B. Review scientific studies that quantify consumptive water use reductions that result from applying water saving conservation practices.
- C. Evaluate potential new supply due to new or improved technology (deep aquifer recover, horizontal wells, etc.).

- A. Utilize best available data and tools to develop refined extents of the hydrologically connected ground and surface waters in the Lower Platte River Basin.

- A. Work with other state and federal agencies to develop a baseline climate scenario as well as a set of projected climate scenarios.
- B. Utilize available tools to test and evaluate resiliency of water inventory under baseline and projected climate scenarios. Evaluation to consider delta between baseline and projected climate scenarios and consider both elements of use and supply.

2. Monitor current and future water demands in the Basin.

ACTION
ITEMS

- A. Develop a standard data collection and reporting system for all NRDs in Lower Platte River Basin for documenting water uses in Basin.

- B. Identify significant unmeasured demands and develop and maintain a standard methodology for estimating. Unmeasured demands may include unmetered groundwater irrigation pumping, livestock use, riparian ET, unmeasured municipal and industrial use, environmental remediation.

GOAL 2: Implement a water management plan for the Lower Platte River Basin that maintains a balance between current and future water supplies and demands.

OBJECTIVES

1. Collaborate with state and local governments to identify opportunities to augment water supplies within the Lower Platte River Basin and, if necessary, identify opportunities to supplement with imported water from outside the Lower Platte River Basin.

ACTION
ITEMS

- A. Utilize information from the water inventory to determine need, quantities, and locations of water shortages to define water augmentation needs and goals of augmentation projects.
- B. Identify potential excess surface water sources within the basin and determine locations, timing, quantities, and reliability of excess surface water sources.
- C. Identify potential groundwater sources within the basin and determine locations, timing, quantities, and reliability of groundwater sources.
- D. Based on potential supplies and goals, identify potential partners, develop and prioritize augmentation plans.
- E. Identify potential partners and collaborate to develop opportunities for imported water supplies, as necessary.

2. Monitor the instream flow needs in the Lower Platte River Basin to foster an understanding of the existing appropriation priorities and locations, and provide a basis for evaluating impacts of existing and future uses.

ACTION
ITEMS

- A. Assess USGS and NeDNR gage flows as well as NeDNR administrative records and actions to identify change of use or location of existing appropriations, new appropriation applications, and priority calls within the basin.

3. Evaluate options for Basin water banking methodologies.

ACTION
ITEMS

- A. Identify potential water banking methods that have applicability in the Lower Platte River Basin relative to current physical, administrative, legal and legislative framework.
- B. Establish uniform and consistent accounting methodology (depletions, offsets, etc.) for use in developing and maintaining a water bank.
- C. Develop an administrative framework (agreements, rules, etc.) for establishing a water bank in the Lower Platte River Basin.

4. Evaluate impacts of new development during drought condition.

ACTION
ITEMS

- A. Evaluate the balance of water supplies and uses during droughts and the potential impacts of new uses on this balance.
- B. Evaluate the hydrologic impacts of drought planning activities in the basin (NRD drought plans and mitigation strategies and other plans).
- C. Evaluate the hydrologic impacts of surface water administration activities through examination of closing notices issued by NeDNR.
- D. Evaluate other management tools that may be available to mitigate impacts from new water uses during droughts.

GOAL 3: Develop and implement water use policies and practices that contribute to the protection of existing surface and groundwater uses while allowing for future water development.

OBJECTIVES

1. Identify available water storage opportunities throughout the Lower Platte River Basin.

ACTION
ITEMS

- A. Inventory past project studies (US Bureau of Reclamation, US Army Corps of Engineers, Natural Resource Conservation Service, individual NRDs) to assess if any opportunities exist to utilize those analyses, whole or in part, as potential projects for purposes of this Plan.
- B. Inventory existing infrastructure to assess potential for rehabilitation/expanding/modifying physical or operational components for purposes identified in this Plan.
- C. Identify potential new opportunities for water storage in consideration of proximity to available water, return flow options, physical site characteristics, etc.

2. Evaluate, understand, and develop policies to address impacts on stream flows of uses outside of management control.

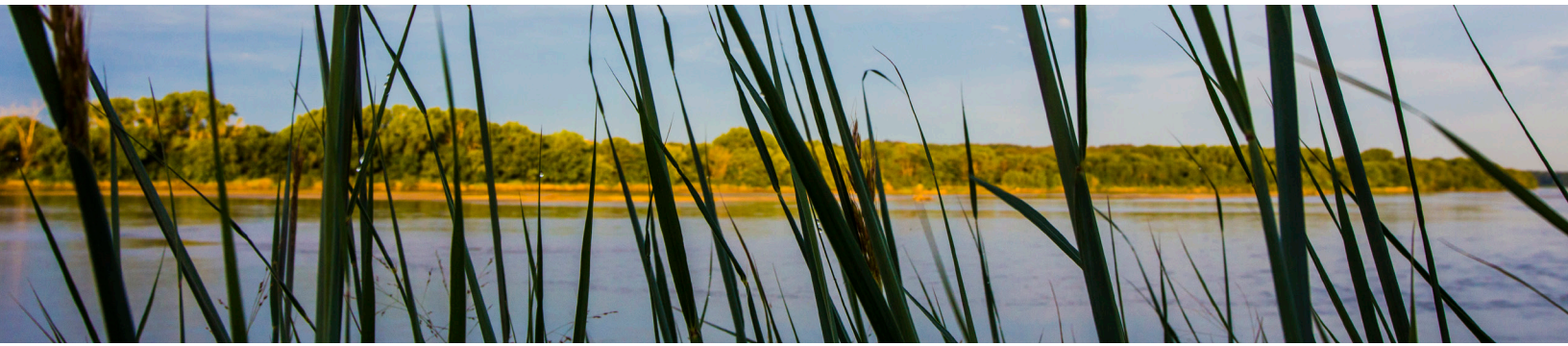
ACTION
ITEMS

- A. Inventory and review existing studies/reports on uses outside management control (conservation measures , riparian uses, etc.) and determine impacts on water inventory.

3. Expand public education programs on general awareness of water supplies and to encourage water conservation measures .

ACTION
ITEMS

- A. Support and coordinate research, training, and incentive programs concerning invasive plant species in the Platte River system, and assist with information and education efforts to distribute research results.
- B. Coordinate with public water systems to develop or expand educational materials and programs on water supplies, water quality, and best conservation practices.
- C. Coordinate with cities, counties, and others to encourage water education and conservation.
- D. Promote water use education that addresses both rural and urban water conservation efforts.
- E. Support school environmental education programs focused on water.
- F. Impose mandatory educational requirements designed to stabilize or reduce the incidence of groundwater depletion, or conflict between users and appropriators.



3.1 Action Items Completed During Plan Development

Several action items in support of objectives have been completed, wholly or in part, as part of the Plan development and are summarized below. Supporting documentation of these efforts can be found in the Plan appendices, as noted.

Evaluation and Application of NeDNR INSIGHT Methodology (Appendix C). Data and methodology used in the NeDNR's INSIGHT database was evaluated, modified as noted in Section 1.2, and applied to the Lower Platte River Basin as a whole, and to sub-basins where applicable. The sensitivity of water supply and use terms on the overall balance was evaluated. – Action items 1.1.11 (A) & 2.3 (B)

Development of a Basinwide Accounting Methodology (Appendix C). The NeDNR INSIGHT databases and methodology were also evaluated for appropriateness as a basin-wide accounting tool.

During the course of the project, the technical committee requested that alternative demand scenarios be investigated that are more conservative than the demands considered by the draft NeDNR methodology.¹ After considering the various demand scenarios and assessing the benefits and constraints on the individual subbasins, the management committee agreed to utilize the demand scenario that would maintain 40% of the 25-year average streamflow at Louisville (without hydropower considered) to calculate the volume of water within the Lower Platte River Basin that exceeds the long term demand.²

An additional variance between the INSIGHT methodology and the basin-wide accounting methodology, is the Above North Bend sub-basin was divided above and below Columbus to break out the Beaver Creek basin for inclusion in the Loup River Basin, consistent with basin topography.– Action items 1.1.1 (A) & 2.3 (B)

Summary of Existing Surface and Groundwater Controls (Appendix D). Existing ground and surface water control measures currently employed by each Coalition member, as well as control measures used in other portions of Nebraska and other states were summarized. – Supports Action Item 2.3 (C).

Data Collection Efforts (Appendix E). Existing available datasets for relevant water budget terms and on-going data collection efforts were summarized. On-going and completed study efforts within the basin were also compiled. Recommendations for additional data collection efforts were included. – Supports Action Item 1.1.1 (C).

¹ Section 2.4.5 and 3.0 of Appendix C describe these alternative demand scenarios in more detail.

² For reference, the draft NeDNR INSIGHT methodology considers the maximum of either the induced groundwater recharge demand or the adjusted instream flow demand in the North Bend to Louisville sub-basin. This adjusted instream flow demand corresponds to maintaining approximately 20% of the 25-year average streamflow in the Platte River at Louisville.

Evaluation of Potential Conjunctive Management and Water Banking Opportunities (Appendix F). A

sampling of potential conjunctive management and water banking opportunities in the Basin were evaluated. Fundamental to this effort was development of a consistent water accounting methodology (Appendix C) for assessment, tracking, and accounting of accretions and depletions to the hydrologically connected streams and rivers within the Basin. – Supports Action Items 2.3 (A) and 3.1 (B) and 3.1 (C)

- **Conjunctive Management Opportunities.** Conceptual examples of several types of conjunctive management projects within the Basin were developed. These examples identified water sources, necessary infrastructure, functional operations and potential benefits of each conceptual example.
- **Water Banking.** Existing water banking systems and pertinent statutory and regulatory authorities available to establish a water banking system were summarized. Example water banking instruments from Nebraska and other states were identified and administrative and operational function summarized.

3.2 Plan Implementation Activities

The first increment implementation of the Plan will occur over a 5-year period. The Plan activities consist of identifying goals and objectives for implementation over the first 5-yr planning increment and include the following:

GOAL 1: DEVELOP AND MAINTAIN A WATER SUPPLY AND USE INVENTORY BASED ON THE BEST AVAILABLE DATA AND ANALYSIS.

OBJECTIVE 1: DEVELOP AND MAINTAIN A COMPREHENSIVE INVENTORY OF THE LOCATION AND SOURCE OF THE BASIN'S CURRENT AND FUTURE WATER SUPPLIES, WATER USES, AND OUTFLOWS.

During the planning effort, the NeDNR INSIGHT database was evaluated and verified at the basin and sub-basin level as an appropriate tool to quantify basin water supplies and uses. The Coalition has approved the use of the INSIGHT database and methodologies, as modified for development of this Plan, for inventorying of water supplies and uses in the basin and for basin- wide tracking and accounting of supplies and uses.

During the first planning increment, Coalition members will update the uses within the Basin as part of their annual reporting. Basinwide supplies will be updated approximately every 5 years, with the first update coincident with the end of the first planning increment.

Action items to enhance or supplement the basin-wide inventory of supplies and uses are planned during the first increment. These action items can loosely be grouped into three categories: 1) Supplemental information or refinements; 2) Forecasts and projections; and 3) Data collection efforts to fill data gaps. The individual Coalition members will implement action items.

1. Supplemental information and refinements

- a. Update basin-wide accounting with updated numerical modeling tools (ELM Phase III, CENEB, and Lower Platte and Missouri River Tributaries groundwater models) as they become available to refine the extent of the hydrologically connected ground and surface water in the Basin.

- b. Develop and incorporate supplemental information to INSIGHT database as they become available. These include unmeasured uses such as riparian ET, unmetered M&I use, livestock use, and environmental remediation.
- c. Refine the spatial extent of supplies and uses to better correspond to NRD boundaries.

2. Forecasts and projections

- a. Project future municipal and industrial demands.
- b. Project future land use and irrigation requirements, including innovations in technology.
- c. Project variations in water supply and demand due to climate variability.
- d. Project uses using both current depletive levels and the ultimate full consumptive use of current uses.

3. Data collection

To better align with NRD boundaries (and thus refine the estimate of demands and supplies within each NRD), it may be beneficial to include additional stream gage locations in the basin accounting to break the current INSIGHT sub-basins along NRD boundaries. Currently, approximations have been utilized to assign supplies and demands between multiple NRDs within a single sub-basin.

Suggestions for utilizing additional stream gage locations in the inventory and analyses or potential new stream gage locations include:

- a. Existing USGS Station 0677500: Middle Loup River at Dunning, Nebraska or an additional gage on the mainstem Middle Loup above the Sargent

Canal diversion to divide the Middle Loup sub-basin between the Upper Loup NRD and the Lower Loup NRD.

- b. Existing USGS Station 06781600: South Loup River at Arnold, Nebraska to divide the South Loup sub-basin between the Upper Loup NRD and the Lower Loup NRD.
- c. Existing USGS Station 06785500: North Loup River at Brewster, Nebraska or an additional gage on the mainstem North Loup River below this gage on the NRD boundary to divide the North Loup sub-basin between the Upper Loup NRD and the Lower Loup NRD.
- d. A new gage on the Calamus River at the Upper Loup NRD/Lower Loup NRD boundary.
- e. NeDNR gage Elkhorn River near Tilden better aligns with Upper Elkhorn NRD/Lower Elkhorn NRD boundary.
- f. New gage at the confluence of the Platte River and Clear Creek to better match the divide between the Lower Loup NRD and the Lower Platte North NRD.
- g. A new gage at the confluence of Wahoo Creek and the Platte River to better match the boundary between the Lower Platte South NRD and the Lower Platte North NRD.
- h. A new gage at the confluence of the Elkhorn River and Maple Creek to better match the boundary of the Lower Elkhorn NRD and the Papio-Missouri River NRD.
- i. A new gage at the confluence of the Elkhorn River and the Platte River to better isolate the reach of Elkhorn River in the Papio-Missouri River NRD.

OBJECTIVE 2: MONITOR CURRENT AND FUTURE WATER DEMANDS IN THE BASIN.

Coalition members will collaborate on consistent methods to be used in reporting annual uses. Estimates of uses will utilize the best available information and tools. Standard methodologies for estimating unmeasured uses of significance (unmetered pumping, riparian ET, livestock use, etc.) will be developed by the Coalition. This coordination of collecting and reporting uses will provide consistency within the basin as well as with INSIGHT database.

GOAL 2: IMPLEMENT A WATER MANAGEMENT PLAN FOR THE LOWER PLATTE RIVER BASIN THAT MAINTAINS A BALANCE BETWEEN CURRENT AND FUTURE WATER SUPPLIES AND DEMANDS.

OBJECTIVE 1: COLLABORATE WITH STATE AND LOCAL GOVERNMENTS TO IDENTIFY OPPORTUNITIES TO AUGMENT WATER SUPPLIES WITHIN THE LOWER PLATTE RIVER BASIN AND, IF NECESSARY, IDENTIFY OPPORTUNITIES TO SUPPLEMENT WITH IMPORTED WATER FROM OUTSIDE THE LOWER PLATTE RIVER BASIN.

During the planning effort, extensive evaluation of the balance of supplies and uses at the basin and sub-basin level were completed, primarily focused on surface water supplies. These evaluations identified timing, location, and relative frequency of surpluses and deficits in streamflow. The results generally indicate that shortages are likely to occur during the peak season (June, July, and August) and are amplified during drought conditions within the basin. Surpluses are likely to occur during the non-peak season and occasionally during the peak season during normal or wetter than normal conditions. Several types of conjunctive management projects aimed at retiming flows (from times of surplus to times of deficit) were identified throughout the basin and potential water supply benefits of each identified.

During the first increment, Coalition members will continue to investigate and pursue conjunctive management opportunities and potential partners to augment streamflows during times of shortage, with the intent of implementing at least one conjunctive management project in each of the three primary river basins.



OBJECTIVE 2: MONITOR THE INSTREAM FLOW NEEDS IN THE LOWER PLATTE RIVER BASIN TO FOSTER AN UNDERSTANDING OF THE EXISTING APPROPRIATION PRIORITIES AND LOCATIONS, AND PROVIDE A BASIS FOR EVALUATING IMPACTS OF EXISTING AND FUTURE USES.

As part of the annual meeting reporting, NeDNR will report changes to existing surface water appropriations or new appropriation applications. In addition, NeDNR will summarize a report on the streamflow conditions throughout the basin, shortages, and administrative calls during the previous year.

OBJECTIVE 3: EVALUATE OPTIONS FOR BASINWIDE WATER BANKING METHODOLOGIES.

During the planning effort, several examples of water banking instruments currently in operation in Nebraska and throughout the western United States were summarized with respect to administration, operation, and function. In addition, pertinent legislation and authorities from State statutes related to the formation of water banks in Nebraska were summarized. Finally, a basinwide accounting tool based on the NeDNR INSIGHT database was developed. This accounting system is needed to be able to fairly and consistently track water supplies and uses within the Coalition area, and to allow for water banking or transfer actions between different NRDs. The basinwide accounting system is designed to serve as the administrative backbone for future water management actions by the Coalition, and can be adapted to account for any form of water banking and conjunctive management projects that may be chosen by individual NRDs, or groups of NRDs.

As work on the water banking efforts commenced, it quickly became apparent that Coalition managers, and other stakeholders in the basin, were strongly against a “one-size-fits-all” approach, and that the goals and priorities of individual NRDs should be respected, and emphasized, as part of the water banking efforts. The geography, hydrology, and infrastructure within each NRD are clearly different, and suggest that multiple types of water banking projects would be more effective than attempting to force a single implementation strategy on all Coalition members. In addition, areas such as the Lower Loup NRD already have water-banking operations in place, and the need in that area appears to be not for a new implementation strategy, but instead for a way to ensure that banking operations conducted by the NRD are acknowledged, and protected, into the future.

As the Coalition moves forward and begins to consider setting up a collaborative or individual water bank, two useful sources should be consulted: a water banking “guidebook”¹ developed by Dr. Bonnie Colby at the University of Arizona in 2010, and an “Analysis of Water Banks in the Western States”² prepared by the Washington Department of Ecology and WestWater Research in 2004. In addition, Appendix F provides “checklist” summaries of several existing water banks and the administrative, operational, and financial characteristics of each.

¹ <http://ag.arizona.edu/arec/sites/cals.arizona.edu/arec/files/publications/ewsr-Banks-final-5-12-10.pdf>

² <https://fortress.wa.gov/ecy/publications/publications/0411011.pdf>

OBJECTIVE 4: EVALUATE IMPACTS OF NEW DEVELOPMENT DURING DROUGHT CONDITIONS

During the planning effort, evaluations of the balance of supplies and uses have been used to establish allowable levels of development. This allowable level of development has been based on limiting the total depletive effect of new surface water and groundwater uses to 10% of the average annual basinwide excess during the peak season (June, July, August). While this approach places limits on new depletions it also allows the Coalition to manage the growth of new uses while still providing a level of protection to current uses.

The Coalition also recognizes that these protections may become limited in times of drought when water supplies may not be in balance. Therefore, the Coalition members will continue to investigate the impacts of drought and use this information to inform future planning increments. The activities that will be evaluated during the second increment include:

- The balance of water supplies and uses during droughts and the potential impacts of new uses on this balance
- The hydrologic impacts of NRD drought plans and mitigation strategies
- The hydrologic impacts of surface water administration activities through examination of closing notices issued by NeDNR
- The hydrologic impacts of other drought planning activities in the basin
- Other management tools that may be available to mitigate impacts from new water uses during droughts

Evaluation of these activities will be used to inform subsequent increments of the plan and establish allowable depletion limits that work in conjunction with other mitigation strategies to protect existing users and mitigate the effects of drought.

GOAL 3: DEVELOP AND IMPLEMENT WATER USE POLICIES AND PRACTICES THAT CONTRIBUTE TO THE PROTECTION OF EXISTING SURFACE AND GROUNDWATER USES WHILE ALLOWING FOR FUTURE WATER DEVELOPMENT.

OBJECTIVE 1: IDENTIFY AVAILABLE WATER STORAGE OPPORTUNITIES THROUGHOUT THE LOWER PLATTE RIVER BASIN.

Previous planning efforts undertaken by the member NRDs, USACE, USBR, and NRCS had identified sites throughout the basin including Sherman Reservoir in the Loup Basin, Battle Creek in the Elkhorn Basin, and Skull Creek Reservoir in the Lower Platte Sub-basin. During the planning effort, water storage opportunities in each of the three primary basins were investigated and the most feasible opportunities identified. These opportunities include new structures as well as the re-purposing of storage within existing structures. Available water for storage and operational characteristics were identified, and ultimately the impacts on streamflows were estimated. During the first increment, Coalition members will continue to investigate and pursue new storage as a conjunctive management opportunity to augment (both active and passive management) water supplies during times of shortage.

OBJECTIVE 2: EVALUATE, UNDERSTAND, AND DEVELOP POLICIES TO ADDRESS IMPACTS ON STREAM FLOW OUTSIDE OF MANAGEMENT CONTROL.

During the first increment, Coalition members will conduct a literature review of previous studies that estimate or quantify the impacts of significant uses outside of Coalition member jurisdictional control, including riparian uses and the effects of conservation measures. Using the findings of this literature review, Coalition members will apply the results in a consistent manner across the Basin to estimate impacts on the basin water inventory.

OBJECTIVE 3: EXPAND PUBLIC EDUCATION PROGRAMS ON GENERAL AWARENESS OF WATER SUPPLIES AND TO ENCOURAGE WATER CONSERVATION MEASURES.

During the first increment, the individual Coalition members will coordinate with public water systems, cities, counties, and others as appropriate to develop outreach and education materials that focus on water supply, water quality, and water conservation practices. The Coalition members will also coordinate with others, such as the Invasive Species Task Force, to support and coordinate research and incorporate results of the research into the outreach and education materials.

Second 5-year Increment Allowable New Development (Depletions)

Table 4.1 - Second 5-Year Increment Allowable New Development (Depletions) by Basin

Basin	Average Peak Season Excess Supply (acre-feet)	Second 5-year Increment Allowable Development (acre-feet)
Full Lower Platte Basin	228,894	22,889
Loup Basin (46% BWS)	105,291	10,529
Elkhorn Basin (32% BWS)	73,246	7,325
Lower Platte Subbasins (22% BWS)	50,357	5,036

Table 4.2 - Second 5-Year Increment Allowable New Development (Depletions) by NRD

NRD	Allowable Depletions by NRD		
	New 2 nd Increment	Carryover from 1 st Increment	Total
Upper Loup NRD	3,369	2,065	5,435
Lower Loup NRD	7,160	4,749	11,908
Upper Elkhorn NRD	1,831	1,134	2,965
Lower Elkhorn NRD	5,493	2,853	8,347
Papio-Missouri River NRD	1,057	768	1,825
Lower Platte South NRD	1,209	890	2,098
Lower Platte North NRD	2,770	966	3,736
TOTAL	22,889	13,425	36,315



Appendices



Lower Platte North
Natural Resources District

Lower Platte South
Natural Resources District



Upper Loup
Natural Resources District



Appendix A - Second 5-Year Increment Allowable Development Analysis