



TO: PRRIP GOVERNANCE COMMITTEE
FROM: PRRIP EXECUTIVE DIRECTOR'S OFFICE
SUBJECT: SCORE RECOMMENDATION – CNPPID IRRIGATOR LEASE
DATE: MAY 29, 2019 (REVISED JUNE 12, 2019)

The Program's EDO completed analysis and documentation for the scoring of the CNPPID irrigator lease Water Action Plan project. The Scoring Subcommittee was provided with materials to review and convened for a conference call to discuss and provide feedback to the EDO on May 15, 2019. A revised score memo and draft meeting minutes were provided to the Scoring Subcommittee, and an online poll was conducted to confirm the Scoring Subcommittee's agreement with the recommended score. There were 9 votes in favor of the recommended score and none opposed.

Final documentation of the score analysis reflecting revisions suggested by the Scoring Subcommittee members is attached. Note that the annual project documents in Appendices A-D of the score memo are not included here but are available to the GC upon request. Meeting minutes from the scoring subcommittee conference call are included in Appendix H.

The CNPPID irrigator lease was operated as an annual pilot project during the 2016-2018 irrigation seasons, after which the GC approved a new lease agreement extending the project for 5 years through the 2023 irrigation season. The project can only operate during years in which CNPPID declares a full allocation for the irrigation season. Parcels enrolled in the project are typically odd-shaped (e.g., pivot corners), and irrigators must commit to dryland farm or fallow these lands. For each acre enrolled, 9 inches/acre (0.75 AF/ac) is credited to the Lake McConaughy EA following the end of the irrigation season. Enrollment has increased during each year of the project, ranging from 1,037 acres in 2016 to 2,948 acres in 2019; the current 5-year lease agreement caps enrollment at a maximum of 3,000 acres. The Program pays \$220 per enrolled acre (\$293.33/AF) plus an administrative fee.

The Scoring Subcommittee recommended a score of 1,900 AFY for the CNPPID irrigator lease project. This is based on the 2019 enrolled acreage (2,948 acres, slightly less than the maximum of 3,000 acres) with downward rounding to account for uncertainties related to potential changes in return flows, year-to-year enrollment variability, and the possibility of reduced-allocation years in which the lease project cannot operate.

This recommended score is subject to review and modification at the end of the current 5-year lease agreement, or sooner if there is a substantial change (increase or decrease) in project enrollment. The Scoring Subcommittee also recommends that the GC use the Scenario 1 results presented in Table 7 and Figure 1 in the CNPPID irrigator lease score memo as the basis for any future adjustments to the project score.



TO: PRRIP SCORING SUBCOMMITTEE
FROM: PRRIP EXECUTIVE DIRECTOR'S OFFICE
SUBJECT: CNPPID IRRIGATOR LEASE SCORE ANALYSIS
DATE: MAY 29, 2019 (REVISED JUNE 12, 2019)

I. EXECUTIVE SUMMARY

This memo documents the score analysis for the Central Nebraska Public Power and Irrigation District (CNPPID) irrigator lease project implemented by the Platte River Recovery Implementation Program (PRRIP or Program) under the Water Action Plan (WAP). Initiated with a Water Leasing Agreement in September 2015, the CNPPID irrigator lease operated as a pilot project during the 2016-2018 irrigation seasons, renewed annually. In September 2018, the Program's Governance Committee (GC) approved a new CNPPID irrigator lease agreement, extending the project for 5 years through the 2023 irrigation season.

The irrigator lease project can only operate during years in which CNPPID declares a full allocation for the irrigation season. When there is a reduced allocation, individual irrigators are allowed to transfer water amongst themselves; however, under full allocation, such transfers are not needed, and the Program is able to step in as a customer in the water leasing market. The project is based on a number of enrolled acres, with each acre yielding 9 inches or 0.75 acre-feet (AF) of water that is credited to the Lake McConaughy Environmental Account (EA) in October following the irrigation season. Acres enrolled in the lease program must be fallowed or dryland farmed. The Program pays irrigators \$220 per enrolled acre (equivalent to \$293.33/AF) and a \$10,000 annual administration fee is paid to CNPPID.

Terms of the CNPPID irrigator lease agreement presently cap the enrollment at 3,000 acres, which is increased from 2,000 acres in the original 2015 lease agreement. Actual enrollment has increased in each successive year of project operation, from 1,037 acres during the 2016 irrigation season to 2,948 acres during the 2019 irrigation season, a nearly three-fold increase over the course of just four years.

The Program's Executive Director's Office (EDO) performed the score analysis for the CNPPID irrigator lease using methods approved by the GC in 2010 and consistent with other WAP projects with approved scores that contribute to the Lake McConaughy EA. These include the No-Cost Net Controllable Conserved Water (NCCW) and the Pathfinder Municipal Account Lease. Operational assumptions evaluated in the score analysis included a range of seven acreage enrollment values and three scenarios with varying levels of reduced-allocation years in which the irrigator lease cannot occur.

Potential project scores resulting from the evaluated scenarios range from 504 AF to 1,983 AF. The analysis methods, assumptions, scenarios, and results were reviewed and discussed by the Scoring Subcommittee by conference call on May 15, 2019. **The Scoring Subcommittee recommended a score of 1,900 AF for the project.** This is based on the present (2019)



enrollment of 2,948 acres, with minor adjustment to account for uncertainties associated with the following:

- Small, but unquantified changes to return flows resulting from the slightly reduced surface water irrigation deliveries within the CNPPID system;
- Potential year-to-year enrollment variability; and
- The possibility of reduced-allocation years in which the irrigator lease cannot occur.

The recommended score is subject to review and modification at the end of the current 5-year lease agreement, or sooner if there is a substantial change (increase or decrease) in project enrollment. The Scoring Subcommittee also recommended that any future revision to the score should be based on the Scenario 1 results in Table 7 and Figure 1 in this memo, with minor adjustments based on the factors identified above.

II. INTRODUCTION

The First Increment Water Objective for the Platte River Recovery Implementation Program (PRRIP or Program) is to reduce deficits to U.S. Fish and Wildlife Service (USFWS) target flows by 130,000 acre-feet per year (AFY) to 150,000 AFY, as measured at Grand Island, Nebraska. Program Milestone No. 4¹ dictates that at least 50,000 AFY of that total must be developed through implementation of the Water Action Plan (WAP). Project scoring² is an analytical process used to assess the capacity of a water project to contribute towards fulfilling the Program's water goals. **Table 1** shows Program water project scores approved to date.

Table 1. Program Water Project Scores as of May 2019

Project	Score [AF]
State Water Projects	
Tamarack I	80,000
Lake McConaughy EA	
Pathfinder EA	
Water Action Plan Projects	
Phelps County Canal Groundwater Recharge Project	2,700
Pathfinder Municipal Account Lease	6,350
No-Cost NCCW	260
Cook Recapture Well	160
Elwood Reservoir Recharge*	2,800
Sub-total =	12,270
Total =	92,270

* Score analysis for Elwood Reservoir Recharge was reviewed by the Scoring Subcommittee in August 2018, but the recommended score of 2,800 AF has not yet been approved by the GC.

¹ Program Document, Attachment 2

² As defined in the Water Plan Reference Materials (Program Document, Attachment 5, Section 11), "scoring" refers to quantifying...the extent to which a water project results (or is anticipated to result) in reductions in stream flow shortages to target flows, as compared to the present condition.



The purpose of this memo is to document the score analysis for the Central Nebraska Public Power and Irrigation District (CNPPID) irrigator lease WAP project, the description and evaluation of which are provided in the following sections. Previously operated on a year-to-year pilot project basis, a new 5-year lease agreement that starts with the 2019 irrigation season gives the EDO adequate confidence in the longevity of the project to proceed with this assessment.

III. CNPPID IRRIGATOR LEASE PROJECT

Beginning with the 2016 irrigation season, the Program and CNPPID entered into a series of temporary agreements to lease water directly from irrigators within the CNPPID systems. Irrigators agree to fallow or dryland farm designated parcels, which are typically odd-shaped (e.g., pivot corners) or otherwise difficult to irrigate. The project operated as a pilot project from 2016 to 2018, after which the Program's Governance Committee (GC) approved a continuation of the project for 5 years, through the 2023 irrigation season. In order to carry out the project, the CNPPID must declare a full allocation³, in which case water transfers between individual irrigators are not needed, and the Program can step in as a customer for water leasing. The Program pays a fee of \$10,000 to the CNPPID to administer the irrigator leasing program each year.

For each acre enrolled in the irrigator lease program, the Program is credited with 9 inches⁴ (0.75 AF) of water in the Lake McConaughy Environmental Account (EA), on or around October 1 following the end of the irrigation season. Enrollment was originally capped at 2,000 acres, but participation has grown each year of project operation, and the new 5-year lease agreement set a cap of 3,000 acres beginning with the 2019 irrigation season. The cost to the Program is set at \$220 per acre enrolled in the lease, which translates to \$293.33 per AF when considering the 0.75 AF/acre yield.

Table 2 shows the acres enrolled and volume credited to the Lake McConaughy EA during each year of the CNPPID irrigator lease. Supporting documents included in **Appendices A-D** include the annual leasing agreements, amendments to those lease agreements, invoices paid by the Program to CNPPID for irrigator lease water, and letters from Nebraska Department Natural Resources (NDNR) to CNPPID confirming that irrigator lease water was credited to the Lake McConaughy EA under appropriation A-17695 in October of the year. Appendix D also includes maps of the 2019 enrolled acres, confirming that parcels are (a) mostly pivot corners and (b) widely distributed across CNPPID's irrigation delivery areas.

³ CNPPID's full irrigation allocation is 18 inches per acre. Irrigation contracts are for 18 inches of total water use; irrigators pay a base contract rate for the first 9 inches and escalating costs for each additional inch over 9 inches and up to the full 18 inches (Cory Steinke, CNPPID Civil Engineer, personal email communication, March 26, 2018).

⁴ The average Net Corn Crop Irrigation Requirement in the project area is generally higher than the negotiated credit of 9 inches, ranging from about 10-12 inches in the areas of Gosper, Phelps, and Kearney counties to which CNPPID provides irrigation deliveries. See maps: <https://water.unl.edu/article/agricultural-irrigation/precipitation-patterns> and <https://dnr.nebraska.gov/surface-water/net-irrigation-requirement-map>.

**Table 2. Annual Enrollment in CNPPID Irrigator Lease Program**

Irrigation Season	Acres Enrolled	Volume Credited to Lake McConaughy EA [AF]
2016	1,037	778
2017	1,275	956
2018	2,055	1,541
2019	2,948	2,211*

* Volume anticipated to be credited in October 2019, based on acres enrolled.

IV. METHODS

The Program's ad-hoc Scoring Subcommittee was originally formed in 2010 to advance discussions regarding scoring analyses for proposed WAP projects, at that time specifically for the J-2 Regulating Reservoirs project. The Program's EDO worked with the Scoring Subcommittee to develop a J-2 Regulating Reservoir Scoring Case Study⁵. Based on the findings of the Case Study, the Scoring Subcommittee proposed WAP project scoring methods to the GC⁶, and the GC approved the recommended methodology in June 2010⁷. The methods approved by the GC were intended for use in future scoring of WAP projects to maintain consistency in project scoring. However, the Subcommittee and GC also recognized that additional assumptions and variations in the scoring methodology may need to be addressed on a case-by-case basis for other WAP projects.

In order to align with the Scoring Subcommittee's past recommendations, the methods used for the CNPPID irrigator lease score analysis followed the same approach and held to the same general assumptions and project-specific assumptions similar to score analyses previously approved for the No-Cost NCCW⁸ and Pathfinder Municipal Account Lease^{9,10} projects, both of which also contribute to the Lake McConaughy EA.

A. Independent Evaluation of WAP Projects

Although water originating from individual WAP projects loses its unique identity once it is credited to the Lake McConaughy EA, the WAP projects are still treated as if operated independently for the purpose of evaluating score. This approach is justified for a number of reasons:

⁵ Water Action Plan Project Scoring Case Study: CNPPID Reregulating Reservoir. PRRIP – ED Office Final. April 22, 2010.

⁶ CNPPID Reregulating Reservoir Scoring Recommendation. PRRIP – ED Office Final. May 12, 2010.

⁷ PRRIP Governance Committee Meeting Minutes. June 8-9, 2010.

⁸ No-Cost Net Controllable Conserved Water Recommended Score and Scoring Analysis. PRRIP – ED Office Final. February 23, 2016.

⁹ Pathfinder Municipal Account Recommended Score and Scoring Analysis. PRRIP – ED Office Final. March 17, 2014.

¹⁰ Update to the Pathfinder Municipal Account Lease Scoring Analysis. PRRIP – ED Office Final. October 5, 2018.



- The EDO does not have the means to reproduce the score analysis for the Program’s three initial state water projects either individually or collectively¹¹, and thus cannot simply add new contributions to the Lake McConaughy EA score analysis in a manner consistent with the score analysis of the Cook Recapture Well when it was added to the Phelps County Canal Groundwater Recharge Project.
- All of the individual WAP projects contributing to the Lake McConaughy EA do so only once per year, in late-September or October, after the end of the irrigation season.
- The magnitudes of the individual WAP projects that contribute to the Lake McConaughy EA are much smaller than the state water projects’ contributions to the account and therefore do not individually have significant effects on Lake McConaughy EA operations.
- The magnitudes of the individual WAP projects are generally much smaller than the target flow shortages at Grand Island, as calculated based on OPSTUDY hydrology. Monthly shortage volumes at Grand Island over the period 1947-1994 range from 0 AF to 131,300 AF, with a median of 10,200 AF. Thus, the annual contributions to the Lake McConaughy EA from individual WAP projects are generally inadequate to fully eliminate the shortage for a month, let alone an entire year. Monthly shortages are tabulated in **Appendix E**.
- Contributions from a relatively small-scale individual WAP project are unlikely to significantly change overall operations of the Lake McConaughy EA, and the individual project scores can still be summed to get an approximate cumulative score attributable to all sources added to the Lake McConaughy EA.

B. General Assumptions and Analysis Methods

The general assumptions used for scoring of the CNPPID irrigator lease project are listed in **Table 3**. These general assumptions are consistent with previous score analyses for all WAP projects listed in Table 1.

¹¹ In the 2005 Water Plan Reference Materials (Program Document, Attachment 5, Section 11, Appendix B), it states that “...the initial Program projects...were evaluated and determined using the [Central Plate River OPSTUDY] Model during NEPA review to provide an average reduction in shortage of 80,000 acre-feet per year. The shortage reduction assigned to each project individually has not been determined (at this time)...” The analyses to estimate project-related shortage reductions were performed using the Fortran77-based Central Platte River Model (OPSTUDY8) in the late 1990s to early 2000s, and the resulting project scores were a product of both modeling and negotiations. Fifteen or more years later, these model runs cannot be readily reproduced or modified to accommodate the added contributions of individual WAP projects.

**Table 3. Key Scoring Assumptions**

Component	Data
Hydrology	OPSTUDY Adjusted Present Condition with Three State Projects (without pulse flows).
Hydrologic Condition ¹²	Annual
Analysis Period	1947-1994
Analysis Time Step	Monthly
Excesses/Shortages Calculation	@ Grand Island
Target Flows	Program Document, Attachment 5, Appendix A-5, Column 8 ¹³
Routing (River Transit Losses)	WMC Loss Model ¹⁴

In the spreadsheet score model, releases are made from the Lake McConaughy EA during months with target flow shortages at Grand Island, subject to timing constraints described in the next section. Corresponding to the assumptions outlined in Table 3, the shortages were calculated based on OPSTUDY modeled Grand Island flows over the analysis period 1947-1994 and USFWS target flows as dictated by the annual hydrologic condition, all on a monthly time step. Evaporation rates derived from OPSTUDY data that are applied to water in storage in the Lake McConaughy EA are shown in **Table 4**. Modeled releases from the Lake McConaughy EA are routed to Grand Island using transit loss factors derived from the WMC Loss Model, which are variable by month and hydrologic condition, as shown in **Table 5**. The volume of released water reaching Grand Island after the application of transit losses is the score credit for that month. The monthly score credits are summed annually and then averaged over the 48-year analysis period to get an estimated score for a particular project operations scenario.

¹² The annual hydrologic condition is based on a ranking of annual flow volumes at the Grand Island gage for the period 1947-1994. Using methods developed by USFWS, years with annual flow volumes in the bottom 25 percent (12 of 48 years) are designated as “dry” years, the top 33 percent (16 of 48 years) are designated as “wet” years, and the middle 42 percent (20 of 48 years) are “normal” years.

¹³ Target flows in “average cfs” were summed on a monthly basis and converted to acre-feet as a monthly target flow volume in the scoring model.

¹⁴ The WMC Loss Model was first developed by the Water Management Committee as part of the Water Conservation/Supply Reconnaissance Study (Boyle et al. 1999, Chapter 7 and Appendix E), covering the period 1975-1994. The model period was updated to include 1995-2006 as part of the Water Management Study, Phase I (Boyle 2009). Use of the WMC Loss Model for routing in WAP project score analyses was approved by the GC in 2010 (GC Meeting Minutes, June 2010).



Table 4. Average monthly evaporation from the Lake McConaughy EA.

Month	Average percent of evaporation
Jan	0.06%
Feb	0.21%
Mar	0.23%
Apr	0.36%
May	0.40%
Jun	0.44%
Jul	0.78%
Aug	0.72%
Sep	0.38%
Oct	0.22%
Nov	0.10%
Dec	0.03%

Table 5. Average transit losses from Lake McConaughy to Grand Island.

Month	Normal	Wet	Dry
Jan	14%	13%	16%
Feb	9%	10%	11%
Mar	5%	5%	7%
Apr	7%	9%	10%
May	10%	9%	11%
Jun	14%	13%	37%
Jul	26%	11%	62%
Aug	28%	16%	74%
Sep	30%	21%	66%
Oct	19%	12%	48%
Nov	14%	10%	27%
Dec	14%	11%	16%

C. Project-Specific Assumptions

The score analysis for the CNPPID irrigator lease project included several specific operational assumptions as well as consideration of year-to-year variability in enrolled acres, the possible frequency of reduced-allocation years in which the lease cannot occur, and changes in return flows resulting from reduced irrigation deliveries. These topics are addressed in the following sections.

a. Operational Assumptions

Other assumptions made in the score analysis that are specific to the operations of the CNPPID irrigator lease project include the following:

- CNPPID irrigator lease water is credited to the Lake McConaughy EA in October.
- Evaporation losses are assessed while the leased water is stored in the Lake McConaughy EA until it is released to reduce shortages to USFWS target flows.



- A spring release pattern¹⁵ is assumed, with releases to reduce target flow deficits starting in March of most years, consistent with typical releases during the spring whooping crane migration.
- If there are no shortages at Grand Island in March of a given year, releases from the Lake McConaughy EA are delayed until the first month with shortages (as late as August of some years)¹⁶.

b. Acreage Enrollment

The EDO tested seven acreage-enrollment options. For modeling purposes, enrolled acres were assumed to remain at a constant level across the 1947-1994 period, i.e., not variable from one year to the next except as dictated by the reduced-allocation scenarios discussed below.

- The three past and present enrollment cap levels (2,000 acres; 2,100 acres; and 3,000 acres)
- The four actual enrollment levels from 2016-2019 (1,037 acres; 1,275 acres; 2,055 acres; and 2,948 acres).

It is anticipated that under present conditions, year-to-year enrollment will likely remain similar¹⁷. However, there are two potential conditions that could impact future enrollment:

- (1) During the first three years of the CNPPID irrigator lease, there was adequate precipitation to grow a good dryland crop, but a dry growing season and poor dryland yields may cause growers to re-evaluate participation.
- (2) Improvement in commodity prices may also influence participation if growers are unwilling to risk a potential dry growing season and low yields compared to expected yields (and income) under irrigation.

While the EDO has not done specific model runs to reflect potential variability in these circumstances, Scoring Subcommittee discussion of whether to make score adjustments to reflect this uncertainty is warranted.

In addition, while it is certainly possible that the enrollment cap could increase above 3,000 acres, that is the limit defined in the current 5-year water leasing agreement for the 2019-2023 irrigation seasons. At this time, with a fairly wide range of acreage enrollments through the first four years of project operations, the EDO found it unnecessary to speculate on potential future

¹⁵ Previous score analyses also considered a “shortage distribution” release pattern, in which proportional EA releases are made in all months of the year having shortages at Grand Island, as calculated from OPSTUDY hydrology. For the 2018 update to the Pathfinder Municipal Account Lease score analysis, the “spring release” pattern was deemed the most realistic, and the assumption is carried forward here.

¹⁶ In the original 2014 Pathfinder Municipal Account Lease score analysis, this was identified as the “annual pattern” scenario. Two other scenarios were evaluated in that analysis but found to “...not produce significantly different results.” In subsequent score analyses for the No-Cost NCCW in 2016 and an update for the Pathfinder Municipal Account Lease in 2018, only the “annual pattern” was carried forward in conjunction with the “spring release” scenario.

¹⁷ Dave Ford, CNPPID Irrigation Manager, personal email communication, April 8, 2019.



increases to the enrollment cap. If and when such a scenario arises, the EDO can work with the Scoring Subcommittee to update this analysis and modify the results to determine if changes to the score are warranted.

c. Irrigation Allocation Scenarios

In order to provide a range of potential scores for the Scoring Subcommittee to consider, the EDO evaluated three irrigation allocation scenarios:

- Scenario 1: Full allocation in all years, 1947-1994 (0 percent reduced allocation). This scenario was directly simulated using the score model.
- Scenario 2: Full allocation in all wet and normal years, reduced allocation in all dry years. Dry years represent 25 percent of the study period, or 12 out of 48 years. In those years, enrolled acreage was assumed to be zero. While 25 percent of years having a reduced allocation far exceeds the historical occurrence of such year, this scenario provided a contrast to Scenario 1 that could be directly simulated using the score model.
- Scenario 3: Allocation corresponding to CNPPID's overall long-term historical operations. While CNPPID had full allocations for all years 1947-1994, there have been subsequent years with reduced allocation¹⁸, 2005-2009 and 2013-2015, which is 8 years out of 78 total years of irrigation operations (10.26 percent of the time) from 1942 to the present. Since all of the reduced-allocation years were within or immediately preceding the First Increment, the EDO determined that a scenario corresponding to this frequency of reduced allocation should be represented in the score analysis to spur discussion by the Scoring Subcommittee as to whether this occurrence represents a new operational paradigm for CNPPID or whether it was an anomalous condition not likely to recur during the anticipated operational period for the CNPPID irrigator lease..

As indicated in Table 3, score analyses utilize the annual hydrologic condition, applied to each monthly time step. **Table 6** shows the annual hydrologic condition for the years following the end of the 1947-1994 model study period; years with reduced allocation are highlighted.

¹⁸ Dave Ford, CNPPID Irrigation Operations Manager, personal email communications, April 8, 2019.



Table 6. Annual Hydrologic Condition, 1995-2018

Year	Annual Hydrologic Condition	Year	Annual Hydrologic Condition
1995	WET	2007	NORMAL
1996	WET	2008	NORMAL
1997	WET	2009	NORMAL
1998	WET	2010	WET
1999	WET	2011	WET
2000	WET	2012	NORMAL
2001	NORMAL	2013	NORMAL
2002	DRY	2014	NORMAL
2003	DRY	2015	WET
2004	DRY	2016	WET
2005	DRY	2017	WET
2006	DRY	2018	NORMAL

For the eight years with reduced allocations, only two (2005 and 2006) were defined as dry years based on the annual hydrologic condition; all others were wet or normal years. Rather than randomly cherry-pick five dry years¹⁹ in the 1947-1994 period to have reduced allocations, the EDO evaluated Scenario 3 based on the results of Scenario 1 and Scenario 2. Specifically, it was assumed that since score results under Scenario 2 (25 percent years with reduced allocations) were uniformly reduced by 26.45 percent relative to Scenario 1, then scores under Scenario 3 (10.26 percent years with reduced allocations) must be 10.86 percent less than Scenario 1.

d. Return Flows from Surface Water Irrigation

The Scoring Subcommittee raised the issue of changes in downstream return flows as a result of forgone irrigation deliveries within the CNPPID system and discussed whether this should be reflected in the score analysis. Return flow considerations were discussed from the beginnings of the irrigator lease project, as indicated in Water Advisory Committee meeting minutes from October 2015²⁰: “Strauch and Altenhofen asked whether return flows from on-farm application are accounted for. Kenny says this was ignored for small-scale pilot. If this expanded into a larger project, probably need some sort of augmentation plan.” Although discussion of the CNPPID irrigator lease is mentioned in the minutes of every WAC meeting since then, the topic of return flows was never revisited and the magnitude of a “larger project” was never defined.

The project continued to operate at pilot scale through the 2018 irrigation season. With the new 5-year lease agreement beginning in 2019, the maximum enrollment was increased by more than 40 percent, from 2,100 acres to 3,000 acres. However, this still represents at most only about 2.7 percent of the approximately 112,000 acres²¹ to which CNPPID directly provides irrigation water. At this scale, and with enrolled parcels distributed throughout CNPPID’s irrigation delivery areas, the project presumably does not yet rise to the level of a “larger project.” In addition, the 9 inches per acre leased by the Program is less than typical irrigation deliveries, less

¹⁹ $5/48 = 0.1042$, or 10.42 percent, thus 5 years being the closest integer value to 10.26 percent of 48 years.

²⁰ PRRIP WAC Meeting Minutes, October 20, 2015.

²¹ Source: <https://www.cnppid.com/operations/irrigation/>



than the average net corn crop irrigation requirement, and surface water irrigation is now far more efficient than it was historically as a result of conservation measures implemented by CNPPID irrigators in the 1990s and in response to the drought of the early 2000s. This has the effect of reducing transit and application losses and associated return flows independent of the irrigator lease project.

For these reasons, the Scoring Subcommittee recommended against undertaking a complex effort to quantify reductions in return flows as a result of the CNPPID irrigator lease. Instead, a decision was made to make minor downward adjustments to the score to account for this uncertainty. This is based on the premise that accounting for return flows would most likely result in small reductions to the volume of irrigator lease water credited to the Lake McConaughy EA.

V. RESULTS

Table 7 summarizes the results of the CNPPID irrigator lease score analysis, which vary based on both the enrolled acreage and the frequency of reduced allocations. **Figure 1** illustrates the results graphically. Efficiency is the score divided by the volume credited to the Lake McConaughy EA.

Scenario 1 monthly and annual results showing shortage reduction (score) credits at Grand Island are tabulated in **Appendix F**. The same monthly and annual results for Scenario 2 are presented in **Appendix G**. Since the scores estimated for Scenario 3 are interpolated from the Scenario 1 and Scenario 2 results, full monthly and annual model output is not available.

Table 7. Results of CNPPID Irrigator Lease Score Analysis

Acres Enrolled	Credit to EA [AF]	Scenario 1		Scenario 2		Scenario 3	
		Score	Efficiency	Score	Efficiency	Score	Efficiency
1,037	778	686	88%	504	65%	612	79%
1,275	956	842	88%	620	65%	751	79%
2,000	1,500	1,322	88%	972	65%	1,178	79%
2,055	1,541	1,358	88%	999	65%	1,211	79%
2,100	1,575	1,388	88%	1,021	65%	1,237	79%
2,948	2,211	1,948	88%	1,433	65%	1,736	79%
3,000	2,250	1,983	88%	1,458	65%	1,768	79%

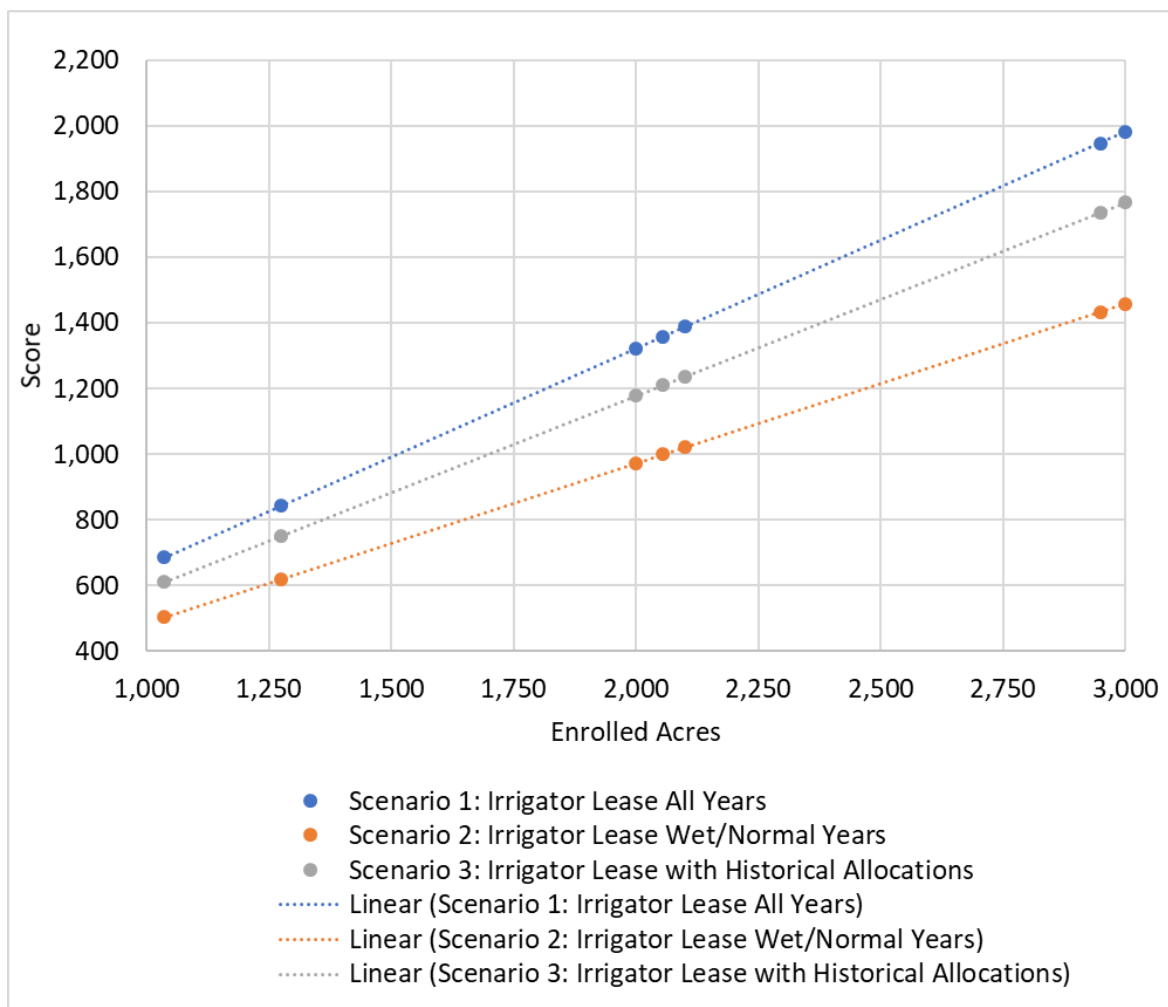


Figure 1. Score vs Enrolled Acres, CNPPID Irrigator Lease

As shown in Figure 1, the score analysis results essentially produce a box that is bounded on one end by the minimum actual enrolled acreage (1,037 acres) and on the other end by the maximum contractual enrollment cap (3,000 acres). On the top, the box is bounded by Scenario 1, with full allocation in all years; on the bottom, the box is bounded by Scenario 2, with full allocation in only wet and normal years (36 out of 48 years, or 75 percent) and reduced allocation in all dry years (12 out of 48 years, or 25 percent). Scenario 3, representing the historical frequency of years with reduced allocations, is represented by the gray marker dots and line across the middle. Results for each of the three scenarios are follow linear trends across the range of enrolled acres.

The Scoring Subcommittee met by conference call on May 15, 2019 to review and discuss the CNPPID irrigator lease score analysis and results. The following conclusions were agreed upon by the subcommittee members:

- Scenario 1 is the most appropriate approach to irrigation allocation because CNPPID had no years of reduced allocation (and thus, no years in which the irrigator lease could not have occurred) during the 1947-1994 historical period used for score modeling.



- Scenarios 2 and 3 were disregarded because CNPPID did not experience any reduced-allocation year during the 1947-1994 period, and the Scoring Subcommittee concluded that the appropriate approach was to maintain consistency with the OPSTUDY hydrology and previous score analyses.
- Any future revision to the project score considered by the GC should be based off of the line derived from the Scenario 1 model results as shown in **Table 7** and **Figure 1**.
- It is reasonable to base the score on the current year (2019) irrigator lease enrollment (2,948 acres out of a maximum of 3,000 acres). The Scenario 1 score corresponding to enrollment of 2,948 acres is 1,948 AF.
- The project score should be revisited at the conclusion of the 5-year lease agreement in 2023, or sooner if there is a large change (increase or decrease) in enrollment.
- The score based on Scenario 1 should be rounded down to account for uncertainties associated with the following:
 - Small, but unquantified changes to return flows resulting from the slightly reduced surface water irrigation deliveries within the CNPPID system;
 - Potential year-to-year enrollment variability; and
 - The possibility of reduced-allocation years in which the irrigator lease cannot occur.
- **The recommended score for the CNPPID irrigator lease project is 1,900 AF.**

Meeting minutes from the Scoring Subcommittee conference call are included in **Appendix H**.



Appendix A
CNPPID Irrigator Lease Documents
2016 Irrigation Season



Appendix B
CNPPID Irrigator Lease Documents
2017 Irrigation Season



Appendix C
CNPPID Irrigator Lease Documents
2018 Irrigation Season



Appendix D
CNPPID Irrigator Lease Documents
2019 Irrigation Season



Appendix E
CNPPID Irrigator Lease Score Analysis
OPSTUDY Modeled Shortages at Grand Island

Score Analysis - Monthly Target Flow Shortages

Table E-1: OPSTUDY Modeled Shortages at Grand Island (AF).

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yr Type
1947	0	0	10,300	0	1,300	0	0	24,000	17,500	5,500	0	0	NORMAL
1948	0	0	0	13,300	10,400	87,000	23,300	39,800	51,300	49,100	10,200	0	NORMAL
1949	0	48,600	0	0	14,400	0	0	24,300	16,900	0	0	0	WET
1950	0	0	10,700	28,600	1,900	87,200	0	27,000	9,400	0	5,200	0	NORMAL
1951	0	16,100	73,200	28,300	22,200	4,500	0	27,400	0	0	0	0	WET
1952	0	0	0	0	22,100	86,700	15,100	24,200	17,400	81,700	23,700	0	WET
1953	0	0	0	0	0	0	18,000	6,800	11,900	34,600	0	0	DRY
1954	0	0	34,600	24,700	0	6,400	29,600	10,000	9,300	46,500	7,900	0	DRY
1955	0	34,600	32,500	55,300	24,500	5,000	18,000	21,400	18,000	77,000	31,000	0	DRY
1956	0	46,000	71,600	61,600	12,900	32,300	24,800	26,700	17,100	67,100	32,700	0	DRY
1957	16,000	39,000	59,400	28,100	0	0	0	8,100	0	0	0	0	DRY
1958	0	56,200	27,900	0	0	0	0	24,200	17,600	16,300	7,600	0	NORMAL
1959	0	14,000	0	0	0	0	5,500	21,100	27,800	14,100	0	0	DRY
1960	0	30,100	0	2,300	26,800	55,700	23,400	42,700	24,000	53,300	10,100	0	NORMAL
1961	0	0	14,700	5,900	0	0	0	16,200	36,100	19,400	0	0	DRY
1962	0	0	0	43,500	82,200	0	0	12,100	35,600	35,800	5,800	0	NORMAL
1963	0	0	0	0	0	0	38,000	33,900	13,700	15,000	0	0	DRY
1964	0	18,600	15,300	0	0	7,900	21,200	23,200	29,400	43,500	14,900	0	DRY
1965	13,800	88,900	77,900	43,600	81,200	0	0	28,500	0	0	0	0	WET
1966	0	0	9,500	9,100	38,000	107,400	39,500	44,900	58,200	47,100	10,900	1,700	NORMAL
1967	0	54,800	84,800	76,300	81,800	0	0	33,900	35,500	39,100	4,200	0	NORMAL
1968	0	37,800	72,300	37,600	77,300	87,200	24,200	20,900	35,600	45,000	0	3,000	NORMAL
1969	0	40,900	0	23,100	1,400	25,400	0	24,300	17,800	14,900	0	0	NORMAL
1970	0	0	32,500	0	22,200	60,700	0	24,200	17,700	51,500	9,600	6,900	WET
1971	0	24,700	27,900	1,300	22,200	0	0	24,500	17,600	32,600	0	0	WET
1972	0	0	9,500	20,400	22,500	86,700	24,900	14,300	35,500	60,000	5,400	0	WET
1973	0	0	19,300	0	0	0	400	24,000	0	0	0	0	WET
1974	0	0	0	0	19,300	70,400	23,600	41,000	17,600	36,200	10,400	0	WET
1975	0	44,300	56,700	38,500	1,400	39,900	23,300	35,500	35,600	35,600	200	0	NORMAL
1976	0	0	0	0	0	0	24,100	26,700	25,800	38,300	14,800	0	DRY
1977	26,200	74,500	82,500	11,800	22,500	89,200	23,600	34,600	38,000	34,900	5,300	0	NORMAL
1978	16,900	71,100	0	21,800	14,900	87,000	48,700	44,000	39,000	78,200	43,000	27,300	NORMAL
1979	25,000	90,700	8,800	26,600	26,300	0	0	23,600	17,600	47,500	0	0	NORMAL
1980	0	0	0	4,700	0	0	24,900	24,600	17,700	39,000	35,000	0	WET
1981	0	38,000	32,600	29,900	0	0	8,300	0	11,900	38,300	2,200	0	DRY
1982	13,700	71,300	88,700	55,700	62,500	87,000	23,800	42,700	36,100	16,200	20,700	0	NORMAL
1983	0	0	11,200	0	0	0	0	24,000	0	0	0	0	WET
1984	0	0	0	0	0	0	0	24,000	0	0	0	0	WET
1985	0	0	0	0	16,700	39,000	25,300	27,300	0	5,700	6,000	0	WET
1986	0	0	9,700	0	0	0	18,700	24,600	0	0	0	0	WET
1987	0	0	0	0	0	0	0	24,400	0	0	0	0	WET
1988	0	0	10,200	18,200	1,400	99,100	0	30,400	17,700	26,200	0	0	NORMAL
1989	0	60,200	60,400	68,200	45,500	96,200	0	47,500	0	50,300	24,800	28,400	NORMAL
1990	0	57,500	70,400	72,200	42,100	86,800	50,100	46,700	43,900	93,800	49,500	34,600	NORMAL
1991	0	4,800	34,300	51,900	0	0	17,400	23,900	21,100	52,800	7,900	0	DRY
1992	0	68,300	83,700	94,900	115,600	131,300	18,600	73,800	65,500	59,500	37,800	0	NORMAL
1993	0	84,000	0	44,100	103,200	87,400	0	0	0	54,500	23,800	0	WET
1994	8,100	75,700	32,000	39,400	27,500	105,800	0	37,400	34,700	59,700	10,800	3,100	NORMAL



Appendix F
CNPPID Irrigator Lease Score Analysis Results
Scenario 1 Score Credit at Grand Island

Table F-1: Scenario 1 Score Credit at Grand Island (AF).

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1947	0	0	738	0	0	0	0	0	0	0	0	0	738
1948	0	0	0	714	0	0	0	0	0	0	0	0	714
1949	0	0	0	0	700	0	0	0	0	0	0	0	700
1950	0	0	738	0	0	0	0	0	0	0	0	0	738
1951	0	0	734	0	0	0	0	0	0	0	0	0	734
1952	0	0	0	0	700	0	0	0	0	0	0	0	700
1953	0	0	0	0	0	0	291	0	0	0	0	0	291
1954	0	0	717	0	0	0	0	0	0	0	0	0	717
1955	0	0	717	0	0	0	0	0	0	0	0	0	717
1956	0	0	717	0	0	0	0	0	0	0	0	0	717
1957	0	0	717	0	0	0	0	0	0	0	0	0	717
1958	0	0	738	0	0	0	0	0	0	0	0	0	738
1959	0	0	0	0	0	0	291	0	0	0	0	0	291
1960	0	0	0	714	0	0	0	0	0	0	0	0	714
1961	0	0	717	0	0	0	0	0	0	0	0	0	717
1962	0	0	0	714	0	0	0	0	0	0	0	0	714
1963	0	0	0	0	0	0	291	0	0	0	0	0	291
1964	0	0	717	0	0	0	0	0	0	0	0	0	717
1965	0	0	734	0	0	0	0	0	0	0	0	0	734
1966	0	0	738	0	0	0	0	0	0	0	0	0	738
1967	0	0	738	0	0	0	0	0	0	0	0	0	738
1968	0	0	738	0	0	0	0	0	0	0	0	0	738
1969	0	0	0	714	0	0	0	0	0	0	0	0	714
1970	0	0	734	0	0	0	0	0	0	0	0	0	734
1971	0	0	734	0	0	0	0	0	0	0	0	0	734
1972	0	0	734	0	0	0	0	0	0	0	0	0	734
1973	0	0	734	0	0	0	0	0	0	0	0	0	734
1974	0	0	0	0	700	0	0	0	0	0	0	0	700
1975	0	0	738	0	0	0	0	0	0	0	0	0	738
1976	0	0	0	0	0	0	291	0	0	0	0	0	291
1977	0	0	738	0	0	0	0	0	0	0	0	0	738
1978	0	0	0	714	0	0	0	0	0	0	0	0	714
1979	0	0	738	0	0	0	0	0	0	0	0	0	738
1980	0	0	0	706	0	0	0	0	0	0	0	0	706
1981	0	0	717	0	0	0	0	0	0	0	0	0	717
1982	0	0	738	0	0	0	0	0	0	0	0	0	738
1983	0	0	734	0	0	0	0	0	0	0	0	0	734
1984	0	0	0	0	0	0	0	637	0	0	0	0	637
1985	0	0	0	0	700	0	0	0	0	0	0	0	700
1986	0	0	734	0	0	0	0	0	0	0	0	0	734
1987	0	0	0	0	0	0	0	637	0	0	0	0	637
1988	0	0	738	0	0	0	0	0	0	0	0	0	738
1989	0	0	738	0	0	0	0	0	0	0	0	0	738
1990	0	0	738	0	0	0	0	0	0	0	0	0	738
1991	0	0	717	0	0	0	0	0	0	0	0	0	717
1992	0	0	738	0	0	0	0	0	0	0	0	0	738
1993	0	0	0	706	0	0	0	0	0	0	0	0	706
1994	0	0	738	0	0	0	0	0	0	0	0	0	738
Avg	0	0	473	104	58	0	24	27	0	0	0	0	686

Table F-2: Scenario 1 Score Credit at Grand Island (AF).

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1947	0	0	907	0	0	0	0	0	0	0	0	0	907
1948	0	0	0	878	0	0	0	0	0	0	0	0	878
1949	0	0	0	0	861	0	0	0	0	0	0	0	861
1950	0	0	907	0	0	0	0	0	0	0	0	0	907
1951	0	0	902	0	0	0	0	0	0	0	0	0	902
1952	0	0	0	0	861	0	0	0	0	0	0	0	861
1953	0	0	0	0	0	0	357	0	0	0	0	0	357
1954	0	0	881	0	0	0	0	0	0	0	0	0	881
1955	0	0	881	0	0	0	0	0	0	0	0	0	881
1956	0	0	881	0	0	0	0	0	0	0	0	0	881
1957	0	0	881	0	0	0	0	0	0	0	0	0	881
1958	0	0	907	0	0	0	0	0	0	0	0	0	907
1959	0	0	0	0	0	0	357	0	0	0	0	0	357
1960	0	0	0	878	0	0	0	0	0	0	0	0	878
1961	0	0	881	0	0	0	0	0	0	0	0	0	881
1962	0	0	0	878	0	0	0	0	0	0	0	0	878
1963	0	0	0	0	0	0	357	0	0	0	0	0	357
1964	0	0	881	0	0	0	0	0	0	0	0	0	881
1965	0	0	902	0	0	0	0	0	0	0	0	0	902
1966	0	0	907	0	0	0	0	0	0	0	0	0	907
1967	0	0	907	0	0	0	0	0	0	0	0	0	907
1968	0	0	907	0	0	0	0	0	0	0	0	0	907
1969	0	0	0	878	0	0	0	0	0	0	0	0	878
1970	0	0	902	0	0	0	0	0	0	0	0	0	902
1971	0	0	902	0	0	0	0	0	0	0	0	0	902
1972	0	0	902	0	0	0	0	0	0	0	0	0	902
1973	0	0	902	0	0	0	0	0	0	0	0	0	902
1974	0	0	0	0	861	0	0	0	0	0	0	0	861
1975	0	0	907	0	0	0	0	0	0	0	0	0	907
1976	0	0	0	0	0	0	357	0	0	0	0	0	357
1977	0	0	907	0	0	0	0	0	0	0	0	0	907
1978	0	0	0	878	0	0	0	0	0	0	0	0	878
1979	0	0	907	0	0	0	0	0	0	0	0	0	907
1980	0	0	0	867	0	0	0	0	0	0	0	0	867
1981	0	0	881	0	0	0	0	0	0	0	0	0	881
1982	0	0	907	0	0	0	0	0	0	0	0	0	907
1983	0	0	902	0	0	0	0	0	0	0	0	0	902
1984	0	0	0	0	0	0	0	782	0	0	0	0	782
1985	0	0	0	0	861	0	0	0	0	0	0	0	861
1986	0	0	902	0	0	0	0	0	0	0	0	0	902
1987	0	0	0	0	0	0	0	782	0	0	0	0	782
1988	0	0	907	0	0	0	0	0	0	0	0	0	907
1989	0	0	907	0	0	0	0	0	0	0	0	0	907
1990	0	0	907	0	0	0	0	0	0	0	0	0	907
1991	0	0	881	0	0	0	0	0	0	0	0	0	881
1992	0	0	907	0	0	0	0	0	0	0	0	0	907
1993	0	0	0	867	0	0	0	0	0	0	0	0	867
1994	0	0	907	0	0	0	0	0	0	0	0	0	907
Avg	0	0	581	128	72	0	30	33	0	0	0	0	842

Score Analysis - Scenario 1 with 2,000 acres enrolled

Table F-3: Scenario 1 Score Credit at Grand Island (AF).

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1947	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1948	0	0	0	1,377	0	0	0	0	0	0	0	0	1,377
1949	0	0	0	0	1,350	0	0	0	0	0	0	0	1,350
1950	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1951	0	0	1,415	0	0	0	0	0	0	0	0	0	1,415
1952	0	0	0	0	1,350	0	0	0	0	0	0	0	1,350
1953	0	0	0	0	0	0	560	0	0	0	0	0	560
1954	0	0	1,383	0	0	0	0	0	0	0	0	0	1,383
1955	0	0	1,383	0	0	0	0	0	0	0	0	0	1,383
1956	0	0	1,383	0	0	0	0	0	0	0	0	0	1,383
1957	0	0	1,383	0	0	0	0	0	0	0	0	0	1,383
1958	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1959	0	0	0	0	0	0	560	0	0	0	0	0	560
1960	0	0	0	1,377	0	0	0	0	0	0	0	0	1,377
1961	0	0	1,383	0	0	0	0	0	0	0	0	0	1,383
1962	0	0	0	1,377	0	0	0	0	0	0	0	0	1,377
1963	0	0	0	0	0	0	560	0	0	0	0	0	560
1964	0	0	1,383	0	0	0	0	0	0	0	0	0	1,383
1965	0	0	1,415	0	0	0	0	0	0	0	0	0	1,415
1966	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1967	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1968	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1969	0	0	0	1,377	0	0	0	0	0	0	0	0	1,377
1970	0	0	1,415	0	0	0	0	0	0	0	0	0	1,415
1971	0	0	1,415	0	0	0	0	0	0	0	0	0	1,415
1972	0	0	1,415	0	0	0	0	0	0	0	0	0	1,415
1973	0	0	1,415	0	0	0	0	0	0	0	0	0	1,415
1974	0	0	0	0	1,350	0	0	0	0	0	0	0	1,350
1975	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1976	0	0	0	0	0	0	560	0	0	0	0	0	560
1977	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1978	0	0	0	1,377	0	0	0	0	0	0	0	0	1,377
1979	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1980	0	0	0	1,360	0	0	0	0	0	0	0	0	1,360
1981	0	0	1,383	0	0	0	0	0	0	0	0	0	1,383
1982	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1983	0	0	1,415	0	0	0	0	0	0	0	0	0	1,415
1984	0	0	0	0	0	0	0	1,228	0	0	0	0	1,228
1985	0	0	0	0	1,350	0	0	0	0	0	0	0	1,350
1986	0	0	1,415	0	0	0	0	0	0	0	0	0	1,415
1987	0	0	0	0	0	0	0	1,228	0	0	0	0	1,228
1988	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1989	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1990	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1991	0	0	1,383	0	0	0	0	0	0	0	0	0	1,383
1992	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1993	0	0	0	1,360	0	0	0	0	0	0	0	0	1,360
1994	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
Avg	0	0	911	200	113	0	47	51	0	0	0	0	1,322

Table F-4: Scenario 1 Score Credit at Grand Island (AF).

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1947	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1948	0	0	0	1,415	0	0	0	0	0	0	0	0	1,415
1949	0	0	0	0	1,387	0	0	0	0	0	0	0	1,387
1950	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1951	0	0	1,454	0	0	0	0	0	0	0	0	0	1,454
1952	0	0	0	0	1,387	0	0	0	0	0	0	0	1,387
1953	0	0	0	0	0	0	576	0	0	0	0	0	576
1954	0	0	1,421	0	0	0	0	0	0	0	0	0	1,421
1955	0	0	1,421	0	0	0	0	0	0	0	0	0	1,421
1956	0	0	1,421	0	0	0	0	0	0	0	0	0	1,421
1957	0	0	1,421	0	0	0	0	0	0	0	0	0	1,421
1958	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1959	0	0	0	0	0	0	576	0	0	0	0	0	576
1960	0	0	0	1,415	0	0	0	0	0	0	0	0	1,415
1961	0	0	1,421	0	0	0	0	0	0	0	0	0	1,421
1962	0	0	0	1,415	0	0	0	0	0	0	0	0	1,415
1963	0	0	0	0	0	0	576	0	0	0	0	0	576
1964	0	0	1,421	0	0	0	0	0	0	0	0	0	1,421
1965	0	0	1,454	0	0	0	0	0	0	0	0	0	1,454
1966	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1967	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1968	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1969	0	0	0	1,415	0	0	0	0	0	0	0	0	1,415
1970	0	0	1,454	0	0	0	0	0	0	0	0	0	1,454
1971	0	0	1,454	0	0	0	0	0	0	0	0	0	1,454
1972	0	0	1,454	0	0	0	0	0	0	0	0	0	1,454
1973	0	0	1,454	0	0	0	0	0	0	0	0	0	1,454
1974	0	0	0	0	1,387	0	0	0	0	0	0	0	1,387
1975	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1976	0	0	0	0	0	0	576	0	0	0	0	0	576
1977	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1978	0	0	0	1,415	0	0	0	0	0	0	0	0	1,415
1979	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1980	0	0	0	1,397	0	0	0	0	0	0	0	0	1,397
1981	0	0	1,421	0	0	0	0	0	0	0	0	0	1,421
1982	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1983	0	0	1,454	0	0	0	0	0	0	0	0	0	1,454
1984	0	0	0	0	0	0	0	1,261	0	0	0	0	1,261
1985	0	0	0	0	1,387	0	0	0	0	0	0	0	1,387
1986	0	0	1,454	0	0	0	0	0	0	0	0	0	1,454
1987	0	0	0	0	0	0	0	1,261	0	0	0	0	1,261
1988	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1989	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1990	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1991	0	0	1,421	0	0	0	0	0	0	0	0	0	1,421
1992	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1993	0	0	0	1,397	0	0	0	0	0	0	0	0	1,397
1994	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
Avg	0	0	936	206	116	0	48	53	0	0	0	0	1,358

Score Analysis - Scenario 1 with 2,100 acres enrolled

Table F-5: Scenario 1 Score Credit at Grand Island (AF).

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1947	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1948	0	0	0	1,446	0	0	0	0	0	0	0	0	1,446
1949	0	0	0	0	1,418	0	0	0	0	0	0	0	1,418
1950	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1951	0	0	1,486	0	0	0	0	0	0	0	0	0	1,486
1952	0	0	0	0	1,418	0	0	0	0	0	0	0	1,418
1953	0	0	0	0	0	0	588	0	0	0	0	0	588
1954	0	0	1,452	0	0	0	0	0	0	0	0	0	1,452
1955	0	0	1,452	0	0	0	0	0	0	0	0	0	1,452
1956	0	0	1,452	0	0	0	0	0	0	0	0	0	1,452
1957	0	0	1,452	0	0	0	0	0	0	0	0	0	1,452
1958	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1959	0	0	0	0	0	0	588	0	0	0	0	0	588
1960	0	0	0	1,446	0	0	0	0	0	0	0	0	1,446
1961	0	0	1,452	0	0	0	0	0	0	0	0	0	1,452
1962	0	0	0	1,446	0	0	0	0	0	0	0	0	1,446
1963	0	0	0	0	0	0	588	0	0	0	0	0	588
1964	0	0	1,452	0	0	0	0	0	0	0	0	0	1,452
1965	0	0	1,486	0	0	0	0	0	0	0	0	0	1,486
1966	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1967	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1968	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1969	0	0	0	1,446	0	0	0	0	0	0	0	0	1,446
1970	0	0	1,486	0	0	0	0	0	0	0	0	0	1,486
1971	0	0	1,486	0	0	0	0	0	0	0	0	0	1,486
1972	0	0	1,486	0	0	0	0	0	0	0	0	0	1,486
1973	0	0	1,486	0	0	0	0	0	0	0	0	0	1,486
1974	0	0	0	0	1,418	0	0	0	0	0	0	0	1,418
1975	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1976	0	0	0	0	0	0	588	0	0	0	0	0	588
1977	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1978	0	0	0	1,446	0	0	0	0	0	0	0	0	1,446
1979	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1980	0	0	0	1,428	0	0	0	0	0	0	0	0	1,428
1981	0	0	1,452	0	0	0	0	0	0	0	0	0	1,452
1982	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1983	0	0	1,486	0	0	0	0	0	0	0	0	0	1,486
1984	0	0	0	0	0	0	0	1,289	0	0	0	0	1,289
1985	0	0	0	0	1,418	0	0	0	0	0	0	0	1,418
1986	0	0	1,486	0	0	0	0	0	0	0	0	0	1,486
1987	0	0	0	0	0	0	0	1,289	0	0	0	0	1,289
1988	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1989	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1990	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1991	0	0	1,452	0	0	0	0	0	0	0	0	0	1,452
1992	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1993	0	0	0	1,428	0	0	0	0	0	0	0	0	1,428
1994	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
Avg	0	0	957	210	118	0	49	54	0	0	0	0	1,388

Table F-6: Scenario 1 Score Credit at Grand Island (AF).

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1947	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1948	0	0	0	2,030	0	0	0	0	0	0	0	0	2,030
1949	0	0	0	0	1,990	0	0	0	0	0	0	0	1,990
1950	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1951	0	0	2,086	0	0	0	0	0	0	0	0	0	2,086
1952	0	0	0	0	1,990	0	0	0	0	0	0	0	1,990
1953	0	0	0	0	0	0	826	0	0	0	0	0	826
1954	0	0	2,039	0	0	0	0	0	0	0	0	0	2,039
1955	0	0	2,039	0	0	0	0	0	0	0	0	0	2,039
1956	0	0	2,039	0	0	0	0	0	0	0	0	0	2,039
1957	0	0	2,039	0	0	0	0	0	0	0	0	0	2,039
1958	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1959	0	0	0	0	0	0	826	0	0	0	0	0	826
1960	0	0	0	2,030	0	0	0	0	0	0	0	0	2,030
1961	0	0	2,039	0	0	0	0	0	0	0	0	0	2,039
1962	0	0	0	2,030	0	0	0	0	0	0	0	0	2,030
1963	0	0	0	0	0	0	826	0	0	0	0	0	826
1964	0	0	2,039	0	0	0	0	0	0	0	0	0	2,039
1965	0	0	2,086	0	0	0	0	0	0	0	0	0	2,086
1966	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1967	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1968	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1969	0	0	0	2,030	0	0	0	0	0	0	0	0	2,030
1970	0	0	2,086	0	0	0	0	0	0	0	0	0	2,086
1971	0	0	2,086	0	0	0	0	0	0	0	0	0	2,086
1972	0	0	2,086	0	0	0	0	0	0	0	0	0	2,086
1973	0	0	2,086	0	0	0	0	0	0	0	0	0	2,086
1974	0	0	0	0	1,990	0	0	0	0	0	0	0	1,990
1975	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1976	0	0	0	0	0	0	826	0	0	0	0	0	826
1977	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1978	0	0	0	2,030	0	0	0	0	0	0	0	0	2,030
1979	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1980	0	0	0	2,005	0	0	0	0	0	0	0	0	2,005
1981	0	0	2,039	0	0	0	0	0	0	0	0	0	2,039
1982	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1983	0	0	2,086	0	0	0	0	0	0	0	0	0	2,086
1984	0	0	0	0	0	0	0	1,809	0	0	0	0	1,809
1985	0	0	0	0	1,990	0	0	0	0	0	0	0	1,990
1986	0	0	2,086	0	0	0	0	0	0	0	0	0	2,086
1987	0	0	0	0	0	0	0	1,809	0	0	0	0	1,809
1988	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1989	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1990	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1991	0	0	2,039	0	0	0	0	0	0	0	0	0	2,039
1992	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1993	0	0	0	2,005	0	0	0	0	0	0	0	0	2,005
1994	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
Avg	0	0	1,343	295	166	0	69	75	0	0	0	0	1,948

Table F-7: Scenario 1 Score Credit at Grand Island (AF).

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1947	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1948	0	0	0	2,066	0	0	0	0	0	0	0	0	2,066
1949	0	0	0	0	2,025	0	0	0	0	0	0	0	2,025
1950	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1951	0	0	2,123	0	0	0	0	0	0	0	0	0	2,123
1952	0	0	0	0	2,025	0	0	0	0	0	0	0	2,025
1953	0	0	0	0	0	0	840	0	0	0	0	0	840
1954	0	0	2,075	0	0	0	0	0	0	0	0	0	2,075
1955	0	0	2,075	0	0	0	0	0	0	0	0	0	2,075
1956	0	0	2,075	0	0	0	0	0	0	0	0	0	2,075
1957	0	0	2,075	0	0	0	0	0	0	0	0	0	2,075
1958	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1959	0	0	0	0	0	0	840	0	0	0	0	0	840
1960	0	0	0	2,066	0	0	0	0	0	0	0	0	2,066
1961	0	0	2,075	0	0	0	0	0	0	0	0	0	2,075
1962	0	0	0	2,066	0	0	0	0	0	0	0	0	2,066
1963	0	0	0	0	0	0	840	0	0	0	0	0	840
1964	0	0	2,075	0	0	0	0	0	0	0	0	0	2,075
1965	0	0	2,123	0	0	0	0	0	0	0	0	0	2,123
1966	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1967	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1968	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1969	0	0	0	2,066	0	0	0	0	0	0	0	0	2,066
1970	0	0	2,123	0	0	0	0	0	0	0	0	0	2,123
1971	0	0	2,123	0	0	0	0	0	0	0	0	0	2,123
1972	0	0	2,123	0	0	0	0	0	0	0	0	0	2,123
1973	0	0	2,123	0	0	0	0	0	0	0	0	0	2,123
1974	0	0	0	0	2,025	0	0	0	0	0	0	0	2,025
1975	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1976	0	0	0	0	0	0	840	0	0	0	0	0	840
1977	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1978	0	0	0	2,066	0	0	0	0	0	0	0	0	2,066
1979	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1980	0	0	0	2,040	0	0	0	0	0	0	0	0	2,040
1981	0	0	2,075	0	0	0	0	0	0	0	0	0	2,075
1982	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1983	0	0	2,123	0	0	0	0	0	0	0	0	0	2,123
1984	0	0	0	0	0	0	0	1,841	0	0	0	0	1,841
1985	0	0	0	0	2,025	0	0	0	0	0	0	0	2,025
1986	0	0	2,123	0	0	0	0	0	0	0	0	0	2,123
1987	0	0	0	0	0	0	0	1,841	0	0	0	0	1,841
1988	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1989	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1990	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1991	0	0	2,075	0	0	0	0	0	0	0	0	0	2,075
1992	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1993	0	0	0	2,040	0	0	0	0	0	0	0	0	2,040
1994	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
Avg	0	0	1,367	300	169	0	70	77	0	0	0	0	1,983



Appendix G
CNPPID Irrigator Lease Score Analysis Results
Scenario 2 Score Credit at Grand Island

Score Analysis - Scenario 2 with 1,037 acres enrolled

Table G-1: Scenario 1 Score Credit at Grand Island (AF).

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1947	0	0	738	0	0	0	0	0	0	0	0	0	738
1948	0	0	0	714	0	0	0	0	0	0	0	0	714
1949	0	0	0	0	700	0	0	0	0	0	0	0	700
1950	0	0	738	0	0	0	0	0	0	0	0	0	738
1951	0	0	734	0	0	0	0	0	0	0	0	0	734
1952	0	0	0	0	700	0	0	0	0	0	0	0	700
1953	0	0	0	0	0	0	291	0	0	0	0	0	291
1954	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	291	0	0	0	0	0	291
1960	0	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	717	0	0	0	0	0	0	0	0	0	717
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	291	0	0	0	0	0	291
1964	0	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	738	0	0	0	0	0	0	0	0	0	738
1967	0	0	738	0	0	0	0	0	0	0	0	0	738
1968	0	0	738	0	0	0	0	0	0	0	0	0	738
1969	0	0	0	714	0	0	0	0	0	0	0	0	714
1970	0	0	734	0	0	0	0	0	0	0	0	0	734
1971	0	0	734	0	0	0	0	0	0	0	0	0	734
1972	0	0	734	0	0	0	0	0	0	0	0	0	734
1973	0	0	734	0	0	0	0	0	0	0	0	0	734
1974	0	0	0	0	700	0	0	0	0	0	0	0	700
1975	0	0	738	0	0	0	0	0	0	0	0	0	738
1976	0	0	0	0	0	0	291	0	0	0	0	0	291
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	714	0	0	0	0	0	0	0	0	714
1979	0	0	738	0	0	0	0	0	0	0	0	0	738
1980	0	0	0	706	0	0	0	0	0	0	0	0	706
1981	0	0	717	0	0	0	0	0	0	0	0	0	717
1982	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	734	0	0	0	0	0	0	0	0	0	734
1984	0	0	0	0	0	0	0	637	0	0	0	0	637
1985	0	0	0	0	700	0	0	0	0	0	0	0	700
1986	0	0	734	0	0	0	0	0	0	0	0	0	734
1987	0	0	0	0	0	0	0	637	0	0	0	0	637
1988	0	0	738	0	0	0	0	0	0	0	0	0	738
1989	0	0	738	0	0	0	0	0	0	0	0	0	738
1990	0	0	738	0	0	0	0	0	0	0	0	0	738
1991	0	0	717	0	0	0	0	0	0	0	0	0	717
1992	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	706	0	0	0	0	0	0	0	0	706
1994	0	0	738	0	0	0	0	0	0	0	0	0	738
Avg	0	0	321	74	58	0	24	27	0	0	0	0	504

Score Analysis - Scenario 2 with 1,275 acres enrolled

Table G-2: Scenario 1 Score Credit at Grand Island (AF).

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1947	0	0	907	0	0	0	0	0	0	0	0	0	907
1948	0	0	0	878	0	0	0	0	0	0	0	0	878
1949	0	0	0	0	861	0	0	0	0	0	0	0	861
1950	0	0	907	0	0	0	0	0	0	0	0	0	907
1951	0	0	902	0	0	0	0	0	0	0	0	0	902
1952	0	0	0	0	861	0	0	0	0	0	0	0	861
1953	0	0	0	0	0	0	357	0	0	0	0	0	357
1954	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	357	0	0	0	0	0	357
1960	0	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	881	0	0	0	0	0	0	0	0	0	881
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	357	0	0	0	0	0	357
1964	0	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	907	0	0	0	0	0	0	0	0	0	907
1967	0	0	907	0	0	0	0	0	0	0	0	0	907
1968	0	0	907	0	0	0	0	0	0	0	0	0	907
1969	0	0	0	878	0	0	0	0	0	0	0	0	878
1970	0	0	902	0	0	0	0	0	0	0	0	0	902
1971	0	0	902	0	0	0	0	0	0	0	0	0	902
1972	0	0	902	0	0	0	0	0	0	0	0	0	902
1973	0	0	902	0	0	0	0	0	0	0	0	0	902
1974	0	0	0	0	861	0	0	0	0	0	0	0	861
1975	0	0	907	0	0	0	0	0	0	0	0	0	907
1976	0	0	0	0	0	0	357	0	0	0	0	0	357
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	878	0	0	0	0	0	0	0	0	878
1979	0	0	907	0	0	0	0	0	0	0	0	0	907
1980	0	0	0	867	0	0	0	0	0	0	0	0	867
1981	0	0	881	0	0	0	0	0	0	0	0	0	881
1982	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	902	0	0	0	0	0	0	0	0	0	902
1984	0	0	0	0	0	0	0	782	0	0	0	0	782
1985	0	0	0	0	861	0	0	0	0	0	0	0	861
1986	0	0	902	0	0	0	0	0	0	0	0	0	902
1987	0	0	0	0	0	0	0	782	0	0	0	0	782
1988	0	0	907	0	0	0	0	0	0	0	0	0	907
1989	0	0	907	0	0	0	0	0	0	0	0	0	907
1990	0	0	907	0	0	0	0	0	0	0	0	0	907
1991	0	0	881	0	0	0	0	0	0	0	0	0	881
1992	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	867	0	0	0	0	0	0	0	0	867
1994	0	0	907	0	0	0	0	0	0	0	0	0	907
Avg	0	0	395	91	72	0	30	33	0	0	0	0	620

Score Analysis - Scenario 2 with 2,000 acres enrolled

Table G-3: Scenario 1 Score Credit at Grand Island (AF).

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1947	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1948	0	0	0	1,377	0	0	0	0	0	0	0	0	1,377
1949	0	0	0	0	1,350	0	0	0	0	0	0	0	1,350
1950	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1951	0	0	1,415	0	0	0	0	0	0	0	0	0	1,415
1952	0	0	0	0	1,350	0	0	0	0	0	0	0	1,350
1953	0	0	0	0	0	0	560	0	0	0	0	0	560
1954	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	560	0	0	0	0	0	560
1960	0	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	1,383	0	0	0	0	0	0	0	0	0	1,383
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	560	0	0	0	0	0	560
1964	0	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1967	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1968	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1969	0	0	0	1,377	0	0	0	0	0	0	0	0	1,377
1970	0	0	1,415	0	0	0	0	0	0	0	0	0	1,415
1971	0	0	1,415	0	0	0	0	0	0	0	0	0	1,415
1972	0	0	1,415	0	0	0	0	0	0	0	0	0	1,415
1973	0	0	1,415	0	0	0	0	0	0	0	0	0	1,415
1974	0	0	0	0	1,350	0	0	0	0	0	0	0	1,350
1975	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1976	0	0	0	0	0	0	560	0	0	0	0	0	560
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	1,377	0	0	0	0	0	0	0	0	1,377
1979	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1980	0	0	0	1,360	0	0	0	0	0	0	0	0	1,360
1981	0	0	1,383	0	0	0	0	0	0	0	0	0	1,383
1982	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	1,415	0	0	0	0	0	0	0	0	0	1,415
1984	0	0	0	0	0	0	0	1,228	0	0	0	0	1,228
1985	0	0	0	0	1,350	0	0	0	0	0	0	0	1,350
1986	0	0	1,415	0	0	0	0	0	0	0	0	0	1,415
1987	0	0	0	0	0	0	0	1,228	0	0	0	0	1,228
1988	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1989	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1990	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
1991	0	0	1,383	0	0	0	0	0	0	0	0	0	1,383
1992	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	1,360	0	0	0	0	0	0	0	0	1,360
1994	0	0	1,423	0	0	0	0	0	0	0	0	0	1,423
Avg	0	0	619	143	113	0	47	51	0	0	0	0	972

Score Analysis - Scenario 2 with 2,055 acres enrolled

Table G-4: Scenario 1 Score Credit at Grand Island (AF).

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1947	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1948	0	0	0	1,415	0	0	0	0	0	0	0	0	1,415
1949	0	0	0	0	1,387	0	0	0	0	0	0	0	1,387
1950	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1951	0	0	1,454	0	0	0	0	0	0	0	0	0	1,454
1952	0	0	0	0	1,387	0	0	0	0	0	0	0	1,387
1953	0	0	0	0	0	0	576	0	0	0	0	0	576
1954	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	576	0	0	0	0	0	576
1960	0	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	1,421	0	0	0	0	0	0	0	0	0	1,421
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	576	0	0	0	0	0	576
1964	0	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1967	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1968	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1969	0	0	0	1,415	0	0	0	0	0	0	0	0	1,415
1970	0	0	1,454	0	0	0	0	0	0	0	0	0	1,454
1971	0	0	1,454	0	0	0	0	0	0	0	0	0	1,454
1972	0	0	1,454	0	0	0	0	0	0	0	0	0	1,454
1973	0	0	1,454	0	0	0	0	0	0	0	0	0	1,454
1974	0	0	0	0	1,387	0	0	0	0	0	0	0	1,387
1975	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1976	0	0	0	0	0	0	576	0	0	0	0	0	576
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	1,415	0	0	0	0	0	0	0	0	1,415
1979	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1980	0	0	0	1,397	0	0	0	0	0	0	0	0	1,397
1981	0	0	1,421	0	0	0	0	0	0	0	0	0	1,421
1982	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	1,454	0	0	0	0	0	0	0	0	0	1,454
1984	0	0	0	0	0	0	0	1,261	0	0	0	0	1,261
1985	0	0	0	0	1,387	0	0	0	0	0	0	0	1,387
1986	0	0	1,454	0	0	0	0	0	0	0	0	0	1,454
1987	0	0	0	0	0	0	0	1,261	0	0	0	0	1,261
1988	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1989	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1990	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
1991	0	0	1,421	0	0	0	0	0	0	0	0	0	1,421
1992	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	1,397	0	0	0	0	0	0	0	0	1,397
1994	0	0	1,462	0	0	0	0	0	0	0	0	0	1,462
Avg	0	0	636	147	116	0	48	53	0	0	0	0	999

Score Analysis - Scenario 2 with 2,100 acres enrolled

Table G-5: Scenario 1 Score Credit at Grand Island (AF).

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1947	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1948	0	0	0	1,446	0	0	0	0	0	0	0	0	1,446
1949	0	0	0	0	1,418	0	0	0	0	0	0	0	1,418
1950	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1951	0	0	1,486	0	0	0	0	0	0	0	0	0	1,486
1952	0	0	0	0	1,418	0	0	0	0	0	0	0	1,418
1953	0	0	0	0	0	0	588	0	0	0	0	0	588
1954	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	588	0	0	0	0	0	588
1960	0	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	1,452	0	0	0	0	0	0	0	0	0	1,452
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	588	0	0	0	0	0	588
1964	0	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1967	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1968	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1969	0	0	0	1,446	0	0	0	0	0	0	0	0	1,446
1970	0	0	1,486	0	0	0	0	0	0	0	0	0	1,486
1971	0	0	1,486	0	0	0	0	0	0	0	0	0	1,486
1972	0	0	1,486	0	0	0	0	0	0	0	0	0	1,486
1973	0	0	1,486	0	0	0	0	0	0	0	0	0	1,486
1974	0	0	0	0	1,418	0	0	0	0	0	0	0	1,418
1975	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1976	0	0	0	0	0	0	588	0	0	0	0	0	588
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	1,446	0	0	0	0	0	0	0	0	1,446
1979	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1980	0	0	0	1,428	0	0	0	0	0	0	0	0	1,428
1981	0	0	1,452	0	0	0	0	0	0	0	0	0	1,452
1982	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	1,486	0	0	0	0	0	0	0	0	0	1,486
1984	0	0	0	0	0	0	0	1,289	0	0	0	0	1,289
1985	0	0	0	0	1,418	0	0	0	0	0	0	0	1,418
1986	0	0	1,486	0	0	0	0	0	0	0	0	0	1,486
1987	0	0	0	0	0	0	0	1,289	0	0	0	0	1,289
1988	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1989	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1990	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
1991	0	0	1,452	0	0	0	0	0	0	0	0	0	1,452
1992	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	1,428	0	0	0	0	0	0	0	0	1,428
1994	0	0	1,494	0	0	0	0	0	0	0	0	0	1,494
Avg	0	0	650	150	118	0	49	54	0	0	0	0	1,021

Score Analysis - Scenario 2 with 2,948 acres enrolled

Table G-6: Scenario 1 Score Credit at Grand Island (AF).

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1947	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1948	0	0	0	2,030	0	0	0	0	0	0	0	0	2,030
1949	0	0	0	0	1,990	0	0	0	0	0	0	0	1,990
1950	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1951	0	0	2,086	0	0	0	0	0	0	0	0	0	2,086
1952	0	0	0	0	1,990	0	0	0	0	0	0	0	1,990
1953	0	0	0	0	0	0	826	0	0	0	0	0	826
1954	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	826	0	0	0	0	0	826
1960	0	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	2,039	0	0	0	0	0	0	0	0	0	2,039
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	826	0	0	0	0	0	826
1964	0	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1967	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1968	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1969	0	0	0	2,030	0	0	0	0	0	0	0	0	2,030
1970	0	0	2,086	0	0	0	0	0	0	0	0	0	2,086
1971	0	0	2,086	0	0	0	0	0	0	0	0	0	2,086
1972	0	0	2,086	0	0	0	0	0	0	0	0	0	2,086
1973	0	0	2,086	0	0	0	0	0	0	0	0	0	2,086
1974	0	0	0	0	1,990	0	0	0	0	0	0	0	1,990
1975	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1976	0	0	0	0	0	0	826	0	0	0	0	0	826
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	2,030	0	0	0	0	0	0	0	0	2,030
1979	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1980	0	0	0	2,005	0	0	0	0	0	0	0	0	2,005
1981	0	0	2,039	0	0	0	0	0	0	0	0	0	2,039
1982	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	2,086	0	0	0	0	0	0	0	0	0	2,086
1984	0	0	0	0	0	0	0	1,809	0	0	0	0	1,809
1985	0	0	0	0	1,990	0	0	0	0	0	0	0	1,990
1986	0	0	2,086	0	0	0	0	0	0	0	0	0	2,086
1987	0	0	0	0	0	0	0	1,809	0	0	0	0	1,809
1988	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1989	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1990	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
1991	0	0	2,039	0	0	0	0	0	0	0	0	0	2,039
1992	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	2,005	0	0	0	0	0	0	0	0	2,005
1994	0	0	2,098	0	0	0	0	0	0	0	0	0	2,098
Avg	0	0	912	210	166	0	69	75	0	0	0	0	1,433

Score Analysis - Scenario 2 with 3,000 acres enrolled

Table G-7: Scenario 1 Score Credit at Grand Island (AF).

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1947	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1948	0	0	0	2,066	0	0	0	0	0	0	0	0	2,066
1949	0	0	0	0	2,025	0	0	0	0	0	0	0	2,025
1950	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1951	0	0	2,123	0	0	0	0	0	0	0	0	0	2,123
1952	0	0	0	0	2,025	0	0	0	0	0	0	0	2,025
1953	0	0	0	0	0	0	840	0	0	0	0	0	840
1954	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	840	0	0	0	0	0	840
1960	0	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	2,075	0	0	0	0	0	0	0	0	0	2,075
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	840	0	0	0	0	0	840
1964	0	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1967	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1968	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1969	0	0	0	2,066	0	0	0	0	0	0	0	0	2,066
1970	0	0	2,123	0	0	0	0	0	0	0	0	0	2,123
1971	0	0	2,123	0	0	0	0	0	0	0	0	0	2,123
1972	0	0	2,123	0	0	0	0	0	0	0	0	0	2,123
1973	0	0	2,123	0	0	0	0	0	0	0	0	0	2,123
1974	0	0	0	0	2,025	0	0	0	0	0	0	0	2,025
1975	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1976	0	0	0	0	0	0	840	0	0	0	0	0	840
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	2,066	0	0	0	0	0	0	0	0	2,066
1979	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1980	0	0	0	2,040	0	0	0	0	0	0	0	0	2,040
1981	0	0	2,075	0	0	0	0	0	0	0	0	0	2,075
1982	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	2,123	0	0	0	0	0	0	0	0	0	2,123
1984	0	0	0	0	0	0	0	1,841	0	0	0	0	1,841
1985	0	0	0	0	2,025	0	0	0	0	0	0	0	2,025
1986	0	0	2,123	0	0	0	0	0	0	0	0	0	2,123
1987	0	0	0	0	0	0	0	1,841	0	0	0	0	1,841
1988	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1989	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1990	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
1991	0	0	2,075	0	0	0	0	0	0	0	0	0	2,075
1992	0	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	2,040	0	0	0	0	0	0	0	0	2,040
1994	0	0	2,135	0	0	0	0	0	0	0	0	0	2,135
Avg	0	0	929	214	169	0	70	77	0	0	0	0	1,458



Appendix H
Scoring Subcommittee Meeting Minutes
May 15, 2019



PLATTE RIVER RECOVERY IMPLEMENTATION PROGRAM
GC Scoring Subcommittee Meeting Minutes
Conference Call
May 15, 2019

Meeting Attendees

Scoring Subcommittee

State of Colorado

n/a

State of Wyoming

Bryan Clerkin – Member

Jeff Cowley – Alternate

State of Nebraska

Jennifer Schellpeper – Member

Jessie Strom – Member

U.S. Fish and Wildlife Service

Tom Econopouly – Member

Jeff Runge

U.S. Bureau of Reclamation

Brock Merrill – Member

Downstream Water Users

Mike Drain – Chair

Brandi Flyr – Member

Jeff Shafer – Member

Colorado Water Users

Jon Altenhofen – Member

Luke Shawcross – Member

Upper Platte Water Users

Dennis Strauch – Member

Environmental Groups

n/a

Executive Director's Office (EDO)

Jason Farnsworth, ED

Courtney Black

Scott Griebeling

Seth Turner



Welcome and Administrative: *Mike Drain, 2018 Chair and Seth Turner, EDO*

Introductions were made. Altenhofen nominated Drain as Chair, second by Shafer, no objections, approved.

CNPPID Irrigator Lease Score Analysis: *Seth Turner, EDO*

Turner presented an overview of the CNPPID irrigator lease project operations and history, score analysis methods, score analysis results, and specific issues potentially affecting score that required input from the Scoring Subcommittee. The following is a summary of major topics of discussion, not necessarily in the chronological order in which they occurred.

Score analysis memo

Drain recommended a couple minor revisions to the text of the memo to reflect that transfers between irrigators are “not needed” when full allocation rather than “not allowed.” CNPPID created transfers in some years specifically because of reduced allocation. Also, the Program is not the “only potential customer” for lease water, but rather the only one that has expressed interest to date; there could be other customers in the future.

Turner said that the memo attempts to provide justification for why WAP projects contributing to Lake McConaughy EA are scored as if they are operated independently, even though all sources become one in the account. Previous score memos had not done this. Drain and Econopouly said the description was understood and made sense.

CNPPID irrigation practices

Drain described the process by which CNPPID determines the next year’s irrigation allocation. CNPPID staff assess water supply and inform irrigation customers about the supply stored in Lake McConaughy and the risk of running out of water. Recommendations from staff and irrigators are sent to the CNPPID Board of Directors, which makes the final allocation decision.

CNPPID irrigators can take up to 18 inches of water, but average use is typically less. Deliveries are scheduled over certain days and weeks. If an irrigator elects not to take water during a particular run, they can’t take it at a later date.

Potential changes to return flows

Drain raised the issue of potential changes to return flows as a result of the irrigator lease project, specifically that the score analysis does not take this into account. Drain wasn’t sure anything needed to be done to address the issue, but also didn’t want to dismiss it without discussion by the subcommittee. Drain noted that the effects of the irrigator lease are limited because irrigators are required to dryland farm the enrolled parcels. Because they are not allowed to switch to groundwater supplies, there is no need to offset pumping depletions, but there is still some loss of return flows from the surface water that is not delivered and applied.

Schellpeper asked if the OPSTUDY model would have accounted for the changes in return flow, and Drain said no, the model had fixed reach gain/loss terms. There was discussion of whether



the enrolled parcels are flood or sprinkler irrigated. Turner recalled that most are pivot corners. Altenhofen noted that if the lands are mostly sprinkler irrigated, there would be fewer return flows than from flood irrigation.

Turner asked about the typical volume of irrigation releases from Lake McConaughy. Drain said it was in the hundreds of thousands of acre-feet but had come down dramatically in recent years due to conservation practices and changes in approach to irrigation following the early-2000s drought. Due to these improvements, return flows are probably only 5% to 10% of applied surface water. Turner noted that in terms of return flow changes, if the Program is leasing at most 2,250 AF out of several hundred thousand acre-feet delivered, that would seem to be a very small amount of return flows to quantify.

Turner asked if others on the subcommittee thought the return flows issue should be addressed in the score analysis. There was a suggestion to consider it in the selection of a recommended score rather than specifically as part of the analysis, particularly given the variability in other assumptions such as acres enrolled. Econopouly liked this idea. There was a brief discussion of how CPNRD handles return flows in their surface transfer analysis.

A question was asked about how return flows were taken into account for the No-Cost NCCW that was scored previously. Drain said necessary adjustments were made in calculating the “net” component that could be transferred. The No-Cost NCCW specifically resulted from irrigation system improvements funded by Reclamation. The net calculation factored in how much would have returned to the Platte, and that amount was not credited to the EA. This all occurred before the start of the Program, so it was not an issue for the Program to address in the score analysis.

A recommendation was made to adjust the score to account for the return flows issue and to document in the score memo so the GC knows the discussion occurred.

Irrigation allocation scenarios

Turner explained the irrigation allocation scenarios considered by the EDO in the score analysis. Given that all 8 historical occurrences of reduced allocation happened in years just before and during the First Increment, Turner asked the subcommittee to consider whether this was a fluke or some change in hydrology and operations that should be reflected in the score.

Drain expressed concern about Scenarios 2 and 3 because there were no reduced-allocation years during the 1947-1994 model period. He noted that the recent reduced-allocation years followed significant droughts. That is not to say that there couldn't be reduced allocation years during irrigator lease operations, but it is fundamental that the score analysis should stay consistent with the hydrology of the model period. For that reason, the score should be much closer to Scenario 1 than Scenario 2 or 3. Altenhofen agreed with this take. Econopouly said there's some discomfort about ignoring the recent hydrology but agreed with the need to remain consistent with the established score analysis rules. Turner sought clarification of whether this meant that Scenarios 2 and 3 should be given less consideration, and Drain confirmed.



131 Acreage enrollment variability

132 Turner described two potential causes of year-to-year variability in acreage enrollment for the
133 irrigator lease based on information from Dave Ford at CNPPID: changes in precipitation
134 affecting the success of dryland crops and changes in commodity prices. If precipitation
135 continues to be adequate for good dryland crops, enrollment should be fairly stable given that
136 this year's enrollment is already almost at the cap specified in the new 5-year lease agreement. If
137 dry years result in poor dryland crops, could see drop in enrollment. Also, if commodity prices
138 increase, that might prompt participants to return to irrigation so they can get higher yields and
139 income than with dryland.

140
141 Drain first suggested that variability could result in as much as one-third enrollment reduction, so
142 perhaps 2,000 acres should be used as the basis for the score. The upper end assumption of
143 3,000 acres is good because that is the enrollment cap in the lease agreement. Econopouly
144 suggested considering a score in the 2,000-acre to 3,000-acre range. Farnsworth said if the score
145 was to be based on a lower enrollment level, then the Program might consider getting rid of the
146 project. If enrollment was low, the project wouldn't be worth doing. It was also noted that the
147 5-year lease agreement allows for the price paid per acre to be re-evaluated each year.

148
149 Score recommendation

150 Drain suggested basing score on the current enrollment of 2,948 acres but revisiting if it drops
151 below a certain level. Altenhofen concurred with this approach, as did Econopouly, with the
152 additional suggestion of revisiting the score at the end of the lease agreement in 2023.

153
154 Altenhofen proposed a score of 1,900 AF based on the 2,948 acres currently enrolled but
155 rounded down to the nearest hundred to account for uncertainties related to return flow changes.
156 The rounding down would also account for enrollment variability and the potential for reduced-
157 allocation years. The score should be revisited in 2023 or sooner if there's a big enough change
158 in acres. Farnsworth reiterated that if the enrollment crashed, the Program would probably just
159 end the project.

160
161 Drain requested that a revised memo be provided to the subcommittee to reflect this discussion.
162 Schellpeper said she was comfortable with the score recommendation and had no specific issues
163 with the analysis but would need confirmation within DNR before finalizing and presenting to
164 the GC.

165
166 **Altenhofen made a motion to go by consensus on the recommendation of a score of 1,900**
167 **AF, with acknowledgment of the need for DNR confirmation. The recommended score is**
168 **subject to review at the end of the current 5-year lease agreement, or sooner if there is a**
169 **substantial change (increase or decrease) in project enrollment. Any future revision to the**
170 **score should be based on the Scenario 1 results in Table 7 and Figure 1 in this memo, with**
171 **minor adjustments to account for the uncertainties that were addressed as part of the**
172 **Scoring Subcommittee discussion. Second by Econopouly. No one voiced objection.**
173



Schellpeper said she can respond to the subcommittee by email whether the recommended score is good or whether additional discussion is needed.

Turner said the revised memo including the recommended score of 1,900 AF can be ready by the end of this week or early next week. The suggestion was made to vote on approval by email rather than another conference call. If a majority vote yes, then the recommended score can go to the GC. If anyone says no, they should provide their reasons to the group.

Additional Business: *Mike Drain, Chair*
N/A

Action Items

ED Office

- Revise memo to reflect Scoring Subcommittee discussion and recommendations. Distribute to Scoring Subcommittee for review and approval by end of this week or early next week (week of May 20).

General Scoring Subcommittee

- Review revised memo once available. Vote on approval by email. If majority votes yes, then present to GC in June. If anyone says no, provide reason.