



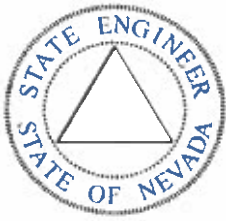
SOUTHERN NEVADA WATER AUTHORITY™

2022 VIRGIN RIVER INTENTIONALLY CREATED SURPLUS CERTIFICATION REPORT

Southern Nevada Water Authority
Water Resources Department
May 2023

This document's use of trade, product, or firm names is for descriptive purposes only and does not imply endorsement by the Southern Nevada Water Authority. Although trademarked names are used, a trademark symbol does not appear after every occurrence of a trademarked name. Every attempt has been made to use proprietary trademarks in the capitalization style used by the manufacturer.

Suggested citation: Southern Nevada Water Authority, 2023, Virgin River Tributary Conservation Intentionally Created Surplus Certification Report Calendar Year 2022 Southern Nevada Water Authority, Las Vegas, Nevada



Nevada Division of
WATER RESOURCES

STATE OF NEVADA
Department of Conservation and Natural Resources

Joe Lombardo, *Governor*
James A. Settelmeyer, *Director*
Adam Sullivan, P.E., *State Engineer*

June 5, 2023

Zane Marshall
Director, Water Resources Department
Southern Nevada Water Authority
PO Box 99956
Las Vegas, NV 89193-9956

Subject: Muddy and Virgin Rivers Tributary Conservation Intentionally Created Surplus Certification Reports, Calendar Year 2022

Dear Mr. Marshall:

Our office has reviewed the Southern Nevada Water Authority's (Authority) Calendar Year 2022 Certification Reports for Tributary Conservation Intentionally Created Surplus (ICS) for the Muddy and Virgin Rivers, dated May 2023. These Certification Reports demonstrate that the amount of Tributary Conservation ICS created by the Authority and conveyed to Lake Mead are consistent with Nevada Water Law and State Engineer's Orders 1193 and 1194.

The Nevada State Engineer's Office concurs that the Muddy and Virgin River water rights outlined in said reports are owned or controlled by the Authority, have a priority date prior to June 25, 1929, and were conveyed to the Colorado River mainstream (i.e., Lake Mead full pool elevation of 1,220 above mean sea level) as described and in the amounts indicated in the table below.

| Calendar Year 2022 | Volume, in acre-feet/year Cited in Certification Reports | | |
|-----------------------|---|---|------------------------------|
| | Muddy River (Tributary Conservation) | Virgin River (Tributary Conservation) | Coyote Springs (Imported) |
| Created ICS | 19,267 | 16,411 | 0 |

Zane Marshall
June 5, 2023
Page 2

Should you have any questions, please contact John Guillory, P.E. in the Southern Nevada Bureau Office at (702) 486-2770.

Sincerely,



Adam Sullivan, P.E.
State Engineer

AS/lr

cc: John Guillory, Deputy Administrator, E-mail
Chris Thorson, Deputy Administrator, E-mail
Kelly McGowan, Deputy Administrator, E-mail
Sean Collier, Southern Nevada Water Authority, E-mail
Eric Witkoski, Colorado River Commission of Nevada

Contents

| | | |
|-------------|--|-----|
| 1 | Background | 1-1 |
| 1.1 | Intentionally Created Surplus (ICS) | 1-1 |
| 1.2 | Plan of Creation | 1-1 |
| 1.3 | Certification Report | 1-1 |
| 2 | Project Description | 2-1 |
| 2.1 | Virgin River Project | 2-1 |
| 2.2 | Summary of Results for CY 2022 | 2-2 |
| 3 | SNWA Conservation of Virgin River Water Rights | 3-1 |
| 3.1 | Methodology | 3-1 |
| 3.2 | Verification Process of Fallowed Lands | 3-1 |
| 4 | Bunkerville Irrigation Company (BIC) | 4-1 |
| 4.1 | Background | 4-1 |
| 4.2 | BIC Water Rights Summary and Documentation of Conserved Water | 4-1 |
| 5 | Mesquite Irrigation Company (MIC) | 5-1 |
| 5.1 | Background | 5-1 |
| 5.2 | Water Rights Summary and Documentation of Conserved Water | 5-1 |
| 6 | Riverside Area | 6-1 |
| 6.1 | Background | 6-1 |
| 6.2 | Riverside Area Water Rights Summary and Documentation of Conserved Water | 6-1 |
| 7 | Conclusion | 7-1 |
| Appendix A. | SNWA Tributary Conservation ICS Plan of Creation Approval Letter | A-1 |
| Appendix B. | Virgin River Water Rights | B-1 |
| Appendix C. | Monthly BIC and MIC Acre Feet Per Share Calculations | C-1 |
| Appendix D. | MIC VVWD Unused Share Calculations | D-1 |
| Appendix E. | BIC Letter of Concurrence | E-1 |
| Appendix F. | MIC Letter of Concurrence | F-1 |

Figures

| | |
|--|-----|
| Figure 2-1 - Overview of Lower Virgin River and Major Agricultural Areas (highlighted) | 2-3 |
| Figure 3-1 - Detailed Imagery of Crop Delineation and Classification | 3-3 |
| Figure 4-1 - BIC PBU Areas | 4-4 |
| Figure 4-2 - BIC Winter Season 2021-2022 Agriculture | 4-5 |
| Figure 4-3 - BIC Summer Season 2022 Agriculture | 4-6 |
| Figure 4-4 - BIC Winter Season 2022-2023 Agriculture | 4-7 |
| Figure 5-1 - MIC POU Areas | 5-5 |
| Figure 5-2 - MIC Winter Season 2021-2022 Agriculture | 5-6 |
| Figure 5-3 - MIC Summer Season 2022 Agriculture | 5-7 |
| Figure 5-4 - MIC Winter Season 2022-2023 Agriculture | 5-8 |
| Figure 6-1 - Riverside PBU Areas | 6-4 |
| Figure 6-2 - Riverside Area Winter Season 2021-2022 Agriculture | 6-5 |
| Figure 6-3 - Riverside Area Summer Season 2022 Agriculture | 6-6 |
| Figure 6-4 - Riverside Area Winter Season 2022-2023 Agriculture | 6-7 |

Tables

| | |
|---|-----|
| Table 2-1 – Virgin River 2022 ICS..... | 2-2 |
| Table 4-1 – ICS Created in BIC | 4-3 |
| Table 5-1 – ICS Created in MIC | 5-4 |
| Table 6-1 – ICS Created in Riverside Area..... | 6-3 |
| Table C-1– BIC Monthly Breakdown of Water Rights and Share Volumes..... | C-2 |
| Table C-2 – MIC Monthly Breakdown of Water Rights and Share Volumes | C-3 |
| Table D-1 – VVWD Share Lease Worksheet 2022..... | D-2 |

Acronyms

| | |
|------|---------------------------------|
| BCPA | Boulder Canyon Project Act |
| BIC | Bunkerville Irrigation Company |
| CY | Calendar Year |
| ET | Evapotranspiration |
| MIC | Mesquite Irrigation Company |
| PBU | Proof of Beneficial Use |
| POU | Place of Use |
| RFO | Request for Offers |
| SNWA | Southern Nevada Water Authority |
| USGS | United States Geological Survey |

Abbreviations

| | |
|------|-----------------------|
| af | acre-feet |
| afy | acre-feet per year |
| amsl | above mean sea level |
| cfs | cubic-feet per second |
| ft | foot |
| in | inch |

Rounding Disclaimer

Due to rounding, numbers presented in tables throughout this document may not add up precisely to the totals provided.

1 Background

1.1 Intentionally Created Surplus (ICS)

The Secretary of Interior (Secretary) issued a Record of Decision for ‘*Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead*’ (Guidelines) on December 13, 2007, which established criteria for the development and delivery of ICS. One type of ICS is Tributary Conservation ICS, which allows a Contractor, as defined in the Guidelines, to increase tributary flows into the mainstream of the Colorado River within its state for ICS credits. Conserved tributary flows entering the mainstream of the Colorado River and available for ICS credit are limited to flows associated with water rights that have been used for a significant period of years and were perfected prior to the effective date of the Boulder Canyon Project Act (BCPA) of June 25, 1929 (pre-BCPA).

1.2 Plan of Creation

To generate ICS, the Guidelines require a Contractor to submit a plan for the creation of ICS (ICS Plan). SNWA submitted the 2022 Virgin River ICS Plan to Reclamation on July 15th, 2021. The Plan was approved by Reclamation on December 23, 2021 (Appendix A).

1.3 Certification Report

This report satisfies the requirements of the Guidelines and of Nevada State Engineer Order 1193 which can be found at the following url:

<http://images.water.nv.gov/images/Orders/1193o.pdf>.

Requirements of the Guidelines and Order 1193 are summarized as follows:

- ICS is declared a beneficial use under Nevada Revised Statutes 533.030(2).
- Nevada State Engineer Order 1193 requires that an annual report will be submitted to the Nevada Division of Water Resources giving a “full accounting of water rights on the Virgin River owned or controlled by the entity with an ICS Delivery Contract, which have been conveyed through the Virgin River system to the Colorado River mainstream for the creation of ICS.” After review of the annual report, the Nevada State Engineer will issue a letter verifying the quantity of water conveyed through the Virgin River system to the Colorado River mainstream for the purpose of creating ICS.
- Per the Guidelines, an annual certification report will be submitted for the Secretary of Interior’s review and verification that documents the amount of Tributary Conservation ICS created in the preceding year, and demonstrates that the method of creation was consistent with SNWA’s approved ICS Plan.

2 Project Description

2.1 Virgin River Project

Virgin River water rights used to create Tributary Conservation ICS water pursuant to the approved ICS Plan, as amended, and Exhibit A of the Forbearance Agreement are decreed Nevada state water rights with an established history of pre-BCPA use. Exhibit A of the Forbearance Agreement specifically allows SNWA to utilize any and all pre-BCPA Virgin River water rights to create Tributary Conservation ICS, regardless of those water rights history of use after 1928. Exhibit A of the Forbearance Agreement can be found at the following URL:

<https://www.usbr.gov/lc/region/programs/strategies/agreements/Forbearance.PDF>

The Virgin River begins in southwestern Utah and flows through Arizona and Nevada to its confluence with Lake Mead (Figure 2-1). Flows in the Virgin River are mainly sourced by snowmelt in the mountains in southwestern Utah and flooding from summer monsoonal storms. Additional inflow of about 50 to 60 cubic-feet per second (cfs) from springs and seeps occurs near Littlefield, Arizona and ensures year round flows into Nevada. The average annual flow of the Virgin River at the United States Geological Survey (USGS) gaging station 09415000 Virgin River at Littlefield, AZ is 170,275 acre-feet per year (afy) for Water Years 1930-2021. This gaging station is located downstream of the springs and seeps and upstream of the three agricultural areas in Nevada.

For the Virgin River within Nevada, pre-BCPA water rights are comprised of 17,785.5 afy of pre-1905 surface-water rights decreed by the Nevada Supreme Court in 1927 to the Bunkerville and Mesquite Irrigation companies and individual pre-BCPA permitted and certificated rights (Appendix B).

Surface-water rights owned and controlled by SNWA on the Virgin River are no longer used for agriculture and are conveyed to Lake Mead. The pre-BCPA rights represent the full right that has been historically used for agricultural irrigation or could have otherwise been diverted from the Virgin River and fully consumed by SNWA in Nevada.

Virgin River rights conveyed to Lake Mead passed by their historic points of diversion and either flowed through the irrigation company ditches and returned to the mainstream of the Virgin River further downstream or remained in the mainstream of the Virgin River. The full rights owned and leased by SNWA and documented to be conserved through land fallowing have been accounted for as Tributary Conservation ICS water.

2.2 Summary of Results for CY 2022

SNWA created 16,411 acre-feet (af) of Virgin River Tributary Conservation ICS during CY 2022. This volume excludes any overrun payback and the one-time system assessment for the benefit of Lake Mead water storage , as outlined in Section IV.A.2 of Exhibit 1 to the Lower Basin Drought Contingency Plan Agreement (Table 2-1). This volume is less than the 20,000 af outlined in the approved, amended CY 2022 ICS Plan. Detailed data and calculations are described in subsequent sections of this report.

Table 2-1 – Virgin River 2022 ICS

| <i>Pre-BCPA Water Rights</i> | <i>Volume Conserved (af)</i> |
|---|------------------------------|
| <i>Bunkerville Irrigation Company</i> | 7,591 |
| <i>Mesquite Irrigation Company</i> | 8,218 |
| <i>Riverside Area</i> | 602 |
| <i>Virgin River Tributary Conservation ICS</i> | 16,411 |

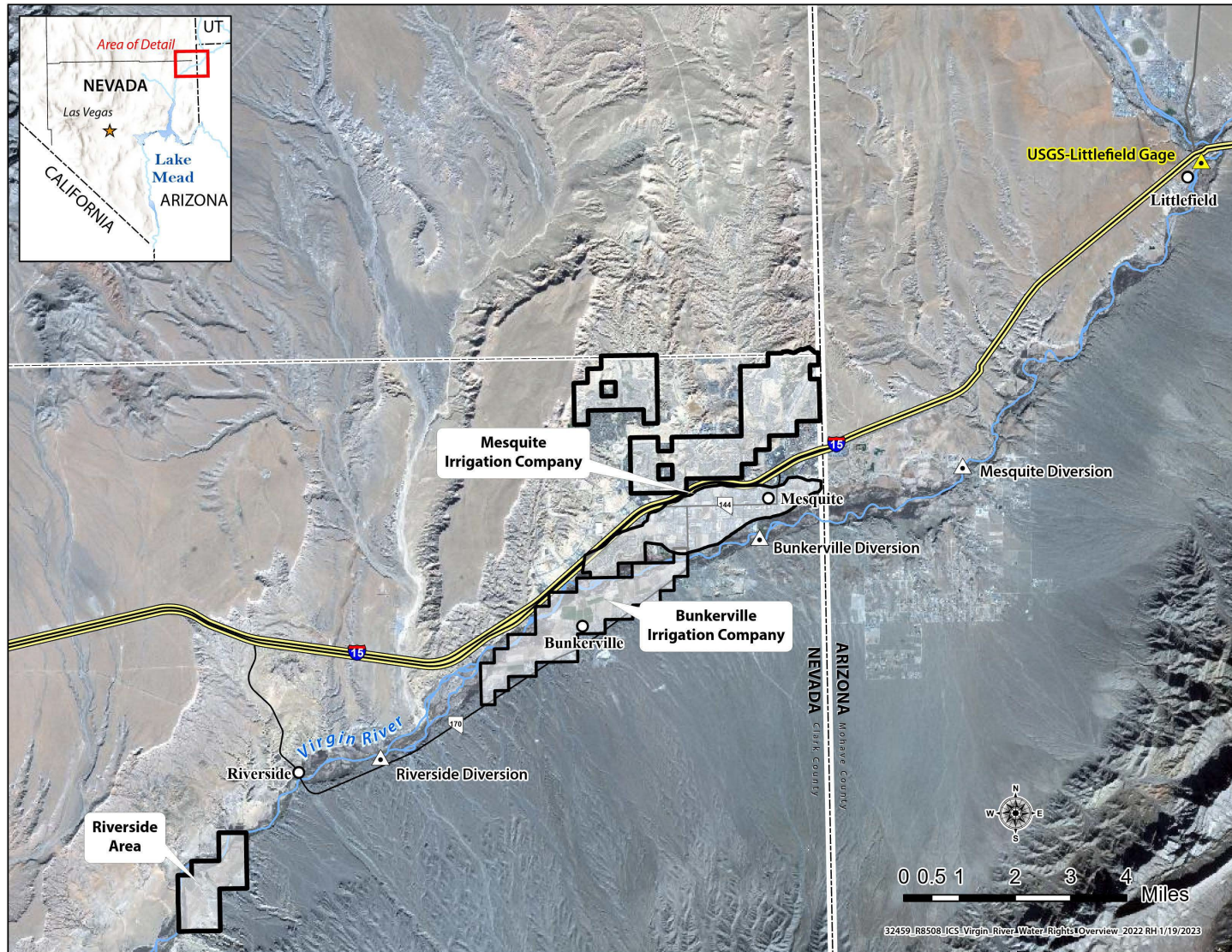


Figure 2-1 - Overview of Lower Virgin River and Major Agricultural Areas (highlighted)

3 SNWA Conservation of Virgin River Water Rights

3.1 Methodology

As described in the approved amended ICS Plan for CY 2022, conserved Virgin River water is calculated based on the reduction in agricultural acreage as follows:

$$\begin{aligned} & \text{Decrease in total agricultural acreage permitted by the Nevada Division of Water} \\ & \text{Resources calculated using remote sensing \& GIS} \\ & \times \text{The duty per acre specified by the water right} \\ & = \text{Flows to Lake Mead (Elevation 1,220 ft above mean sea level)} \end{aligned}$$

3.2 Verification Process of Fallowed Lands

Within the agricultural areas, boundaries of irrigable fields were originally digitized with a Geographic Information System using aerial photography, which were updated, as necessary, to account for changes in irrigation practices and landuse changes. For the maps created and analysis performed for this report, 10-meter pixel resolution Sentinel-2 true color satellite imagery (imagery) was acquired for the purpose of demonstrating fallowed lands for the Tributary Conservation ICS verification process. Imagery from the months of December and July was obtained to capture the agricultural activities during the winter and summer seasons of a given calendar year. SNWA field verification was performed in December and July to coincide with imagery capture dates.

Figure 3-1 provides an example of digitized agricultural field polygons displayed on the imagery. The top pane utilizes the Red-Green-Blue bands of the Sentinel-2 data to provide a natural color representation. The bottom pane of Figure 3-1 demonstrates an NDVI analysis performed using the Red and Near Infra-Red bands of the Sentinel-2 data. A higher NDVI value (the range is between -1 and 1), indicates dense and vigorous vegetation. The NDVI analyses assisted with identifying irrigated or fallowed agricultural fields.

The imagery combined with field verification and interviews with irrigation company managers ensured the highest degree of accuracy in determining the actual irrigated acreage along the Lower Virgin River during 2022.

Imagery from December 2021, July 2022, and December 2022 was utilized to effectively identify irrigated or fallowed lands during the winter and summer irrigation seasons. Since the summer irrigation season spans March through September, the July imagery documented areas of active irrigation. By July, most of the natural vegetation in the agricultural fields that is not irrigated has died back due to the high evaporative demand and lack of water.

Water rights on the Lower Virgin River have defined Place-of-Use (POU) maps and many have subsequent Proof-of-Beneficial-Use (PBU) maps showing the locations where the decreed

and permitted water rights were beneficially used within the defined POU. These POU and PBU maps, when compared to recent imagery, serve as the baseline for proof of fallowed lands, demonstrating conservation of the water. In some instances, the polygons digitized for CY 2022 do not exactly match those documented by the POU or PBU maps from decades prior. This is due to improved mapping capabilities, the natural movement of the Virgin River across its flood plain, and changes in land ownership resulting in divided/combined fields. However, since the water rights can be used anywhere within the defined POU, the breakdown of the fields is not as important as the total measured irrigated acreage within the POU.

Some of the fields documented by the imagery indicate the presence of green vegetation even though they were not actively irrigated. This is because many of the fallowed fields historically contained perennial alfalfa, which receive periodic precipitation from winter storms that temporarily turn the fields green. Many of the fields that appear to have some green vegetation during the cooler months are brown in the July imagery. To ensure the fields were not irrigated, SNWA met with irrigation company managers to review which fields were irrigated. Additionally, written verification from the irrigation companies was obtained documenting that the shares controlled by SNWA were not being used for irrigation (Appendices E and F). The results of these interviews and documentation of conserved water for each of the three agricultural areas is presented in the following sections.

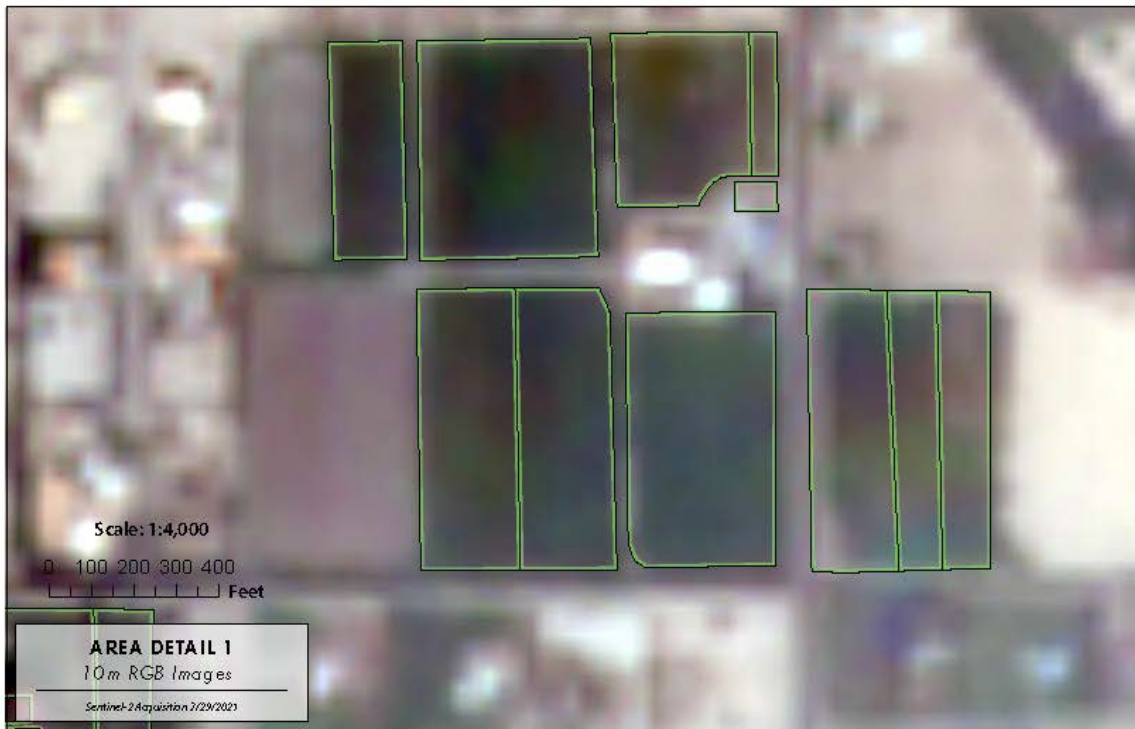


Figure 3-1 - Detailed Imagery of Crop Delineation and Classification

4 Bunkerville Irrigation Company (BIC)

4.1 Background

The BIC service area is located along the left bank of the Lower Virgin River southwest of Mesquite, Nevada. Virgin River water is diverted by BIC upstream of their service area. The POU for BIC's pre- and post-BCPA water rights totals 1,139.63 acres of irrigable land located on the Virgin River floodplain. Water rights associated with BIC are owned by its shareholders represented by 1,038 shares of stock (shares).

SNWA owned a total of 456 BIC shares during CY 2022. SNWA also leased BIC shares during CY 2022 bringing the total number of controlled shares from January 1, 2022 through December 31, 2022, to 971 shares.

4.2 BIC Water Rights Summary and Documentation of Conserved Water

Agricultural irrigation in Bunkerville has been occurring since the 1800s and the rights were decreed by the State of Nevada on May 14, 1927. The decree lists BIC water rights under Proof No. 02038 and they have a vested priority date of pre-1905. BIC was adjudicated a duty of 9.06 acre-feet per acre (af/acre) to irrigate 895.80 acres of land with a total volume of 8,115.94 afy. The 9.06 af/acre duty is based on application rates of 1 cfs per 100 acres in the winter (October through February) and 1 cfs per 70 acres in the summer (March through September).

The BIC holds permits for an additional 1,496 afy of post-BCPA water rights which were not used for the creation of Tributary Conservation ICS. Figure 4-1 presents the PBU areas for BIC's water rights, which shows three of the BIC water rights used for irrigating lands in the BIC service area.

The acre-foot per share value for creating Tributary Conservation ICS using pre-BCPA BIC Water Rights is calculated by dividing the decreed volume of pre-BCPA rights totaling 8,115.94 afy by the total number of BIC shares, 1,038, resulting in an annual acre-foot per share value of 7.82 af/share. Table C-1 in Appendix C details the calculations performed to arrive at the acre-foot per share values on a monthly time-step. In BIC and Mesquite Irrigation Company (MIC), a weighted average of the duty times the Place of Use (POU) for the water rights held by each respective company was calculated for determining the consumptive use of these rights. These calculations are detailed in Table C-1 for BIC and Table C-2 for MIC.

The original BIC POU has undergone little change since the water rights were decreed in the 1920s. Water use in the area has remained agricultural, with minimal urbanization. Agricultural acreage within BIC for CY 2022 was verified using imagery, field-verification, and interviews with the BIC Manager. The irrigated acreage documented in CY 2022 is listed in

Table 4-1. A comparison of irrigated acreage by season is illustrated by Figure 4-2 through Figure 4-4 which compare the PBU map for BIC water rights to observed fallowed and irrigated lands in December 2021, July 2022, and December 2022, respectively. The imagery indicates that some fields outside of the decreed POU were irrigated. For these areas, the other water rights held by BIC were used to irrigate the land and these areas were not included in the land fallowing calculations for ICS.

Based on an October 2022 Personal Communication with Mr. Bob Bunker (President of the Bunkerville Irrigation Company), perennial alfalfa seeds were planted in fields within BIC in the Fall of 2021 to begin establishing the Summer 2022 alfalfa crops. This planting required watering in September of 2021. These fields remained un-watered between October 2021 and February of 2022. Additionally, between October 2021 and February 2022 winter crops were planted and watered for harvest in early 2022.

Appendix E includes a letter of concurrence signed by the BIC Manager, documenting SNWA's control of BIC shares in CY 2022, and BIC's concurrence that the SNWA controlled shares were not used for irrigation.

Table 4-1 accounts for the total volume of water rights being conserved within BIC on a monthly and annual time-step by multiplying the weighted average duty by the total number of acres fallowed. The total amount of pre-BCPA water rights controlled by SNWA in CY 2022 is represented by the 971 controlled shares from January to December 2022. In CY 2022 these shares equate to 7,591 af. For CY 2022 the total volume of water conserved by fallowed or urbanized lands (8,599 af) exceeded the volume of water controlled by SNWA (7,591 af). Therefore, in CY 2022, all 7,591 af of SNWA-controlled pre-BCPA BIC water rights can be accounted for as Tributary Conservation ICS in Lake Mead.

Table 4-1 – ICS Created in BIC

| SNWA Control of Bunkerville Irrigation Company in Acre-Feet Per Month for CY 2022 | | | | | | | | | | | | | | | |
|---|------------------------------|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|------------|
| Notation | | Description | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
| A (From Table C-1) | | Total Volume AF/ Month | 677.9385 | 612.3315 | 913.8874 | 884.4072 | 913.8874 | 884.4072 | 913.8874 | 913.8874 | 884.4072 | 677.9385 | 656.0695 | 677.9385 | 9,610.9876 |
| B | | Total BIC Acreage | 1,139.63 | 1,139.63 | 1,139.63 | 1,139.63 | 1,139.63 | 1,139.63 | 1,139.63 | 1,139.63 | 1,139.63 | 1,139.63 | 1,139.63 | 1,139.63 | |
| C | | Measured Acres of Agriculture each Month | 174.79 | 174.79 | 174.79 | 79.64 | 79.64 | 79.64 | 79.64 | 79.64 | 79.64 | 168.3 | 168.3 | 168.3 | |
| D = B - C | | Fallowed Acreage each Month | 964.84 | 964.84 | 964.84 | 1,059.99 | 1,059.99 | 1,059.99 | 1,059.99 | 1,059.99 | 1,059.99 | 971.33 | 971.33 | 971.33 | |
| E | Water Conserved by Fallowing | Weighted Avg Duty | .5949 | .5373 | .8019 | .776 | .8019 | .776 | .8019 | .8019 | .776 | .5949 | .5757 | .5949 | 8.4334 |
| F = D * E | | Water Conserved by Fallowed Land (af) | 573.96 | 518.41 | 773.72 | 822.6 | 850.02 | 822.6 | 850.02 | 850.02 | 822.6 | 577.82 | 559.18 | 577.82 | 8,598.8 |
| Sh | Total BIC Shares | Total Number of BIC Shares | 1,038. | 1,038. | 1,038. | 1,038. | 1,038. | 1,038. | 1,038. | 1,038. | 1,038. | 1,038. | 1,038. | 1,038. | 1,038. |
| G | AF / Share | Pre-BCPA Acre-Feet per Share Per Month | .5306 | .4793 | .7581 | .7336 | .7581 | .7336 | .7581 | .7581 | .7336 | .5306 | .5135 | .5306 | 7.8179 |
| H | | Post-BCPA Acre-Feet per Share Per Month | .1225 | .1106 | .1224 | .1184 | .1224 | .1184 | .1224 | .1224 | .1184 | .1225 | .1185 | .1225 | 1.4412 |
| | | | .6531 | .5899 | .8804 | .852 | .8804 | .852 | .8804 | .8804 | .852 | .6531 | .6321 | .6531 | 9.2591 |
| ShC | SNWA Shares | Shares Controlled by SNWA | 971. | 971. | 971. | 971. | 971. | 971. | 971. | 971. | 971. | 971. | 971. | 971. | |
| J = G * ShC | SNWA AF | Tributary Conservation ICS Controlled by SNWA | 515.2605 | 465.3966 | 736.0864 | 712.3417 | 736.0864 | 712.3417 | 736.0864 | 736.0864 | 712.3417 | 515.2605 | 498.6392 | 515.2605 | 7,591.1878 |
| L > F | | Is conservation > than SNWA rights | | | | | | | | | | | | | Yes |
| | AF ICS Credit | Total Virgin River ICS Created | 515 | 465 | 736 | 712 | 736 | 712 | 736 | 736 | 712 | 515 | 499 | 515 | 7,591 |

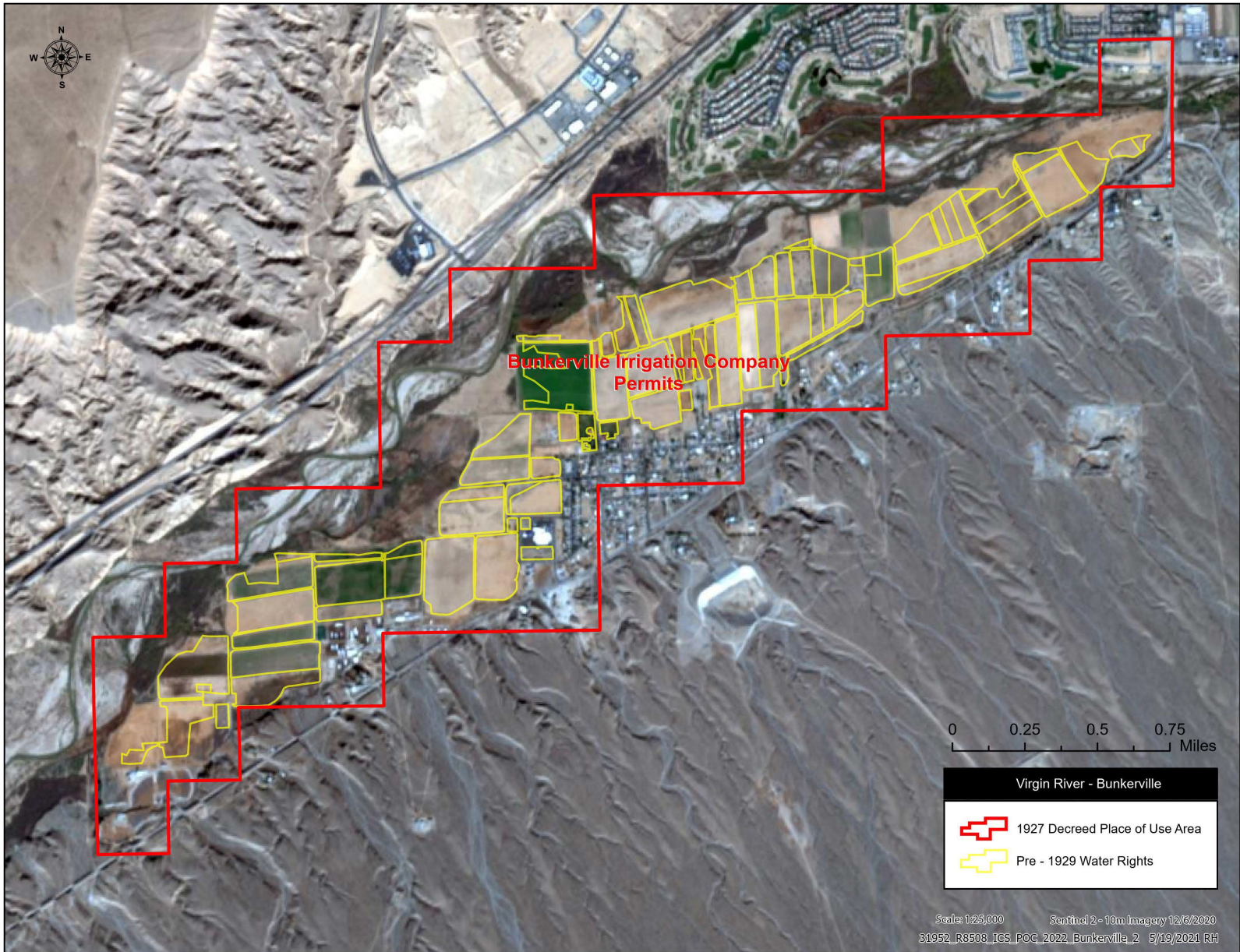


Figure 4-1 - BIC PBU Areas

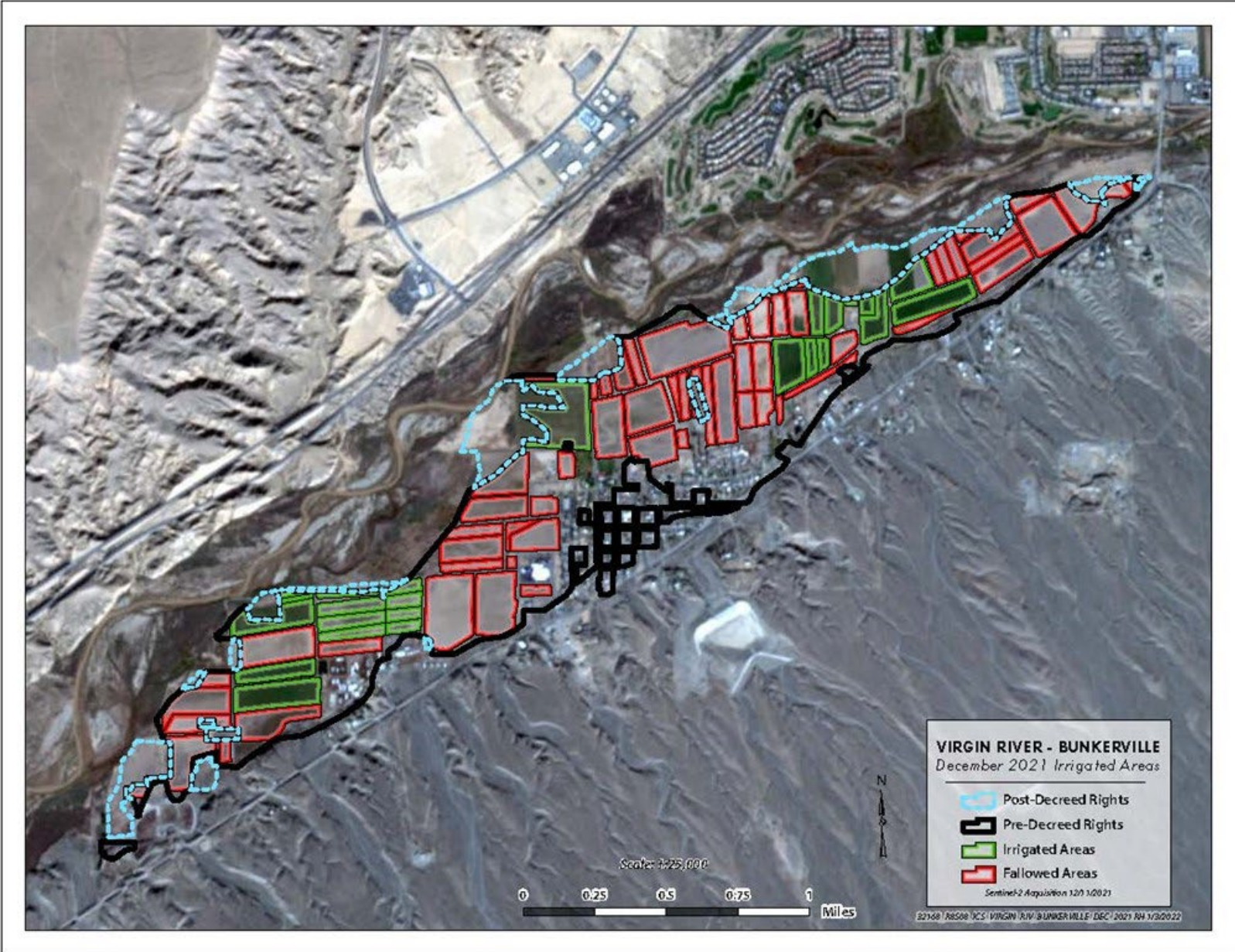


Figure 4-2 - BIC Winter Season 2021-2022 Agriculture

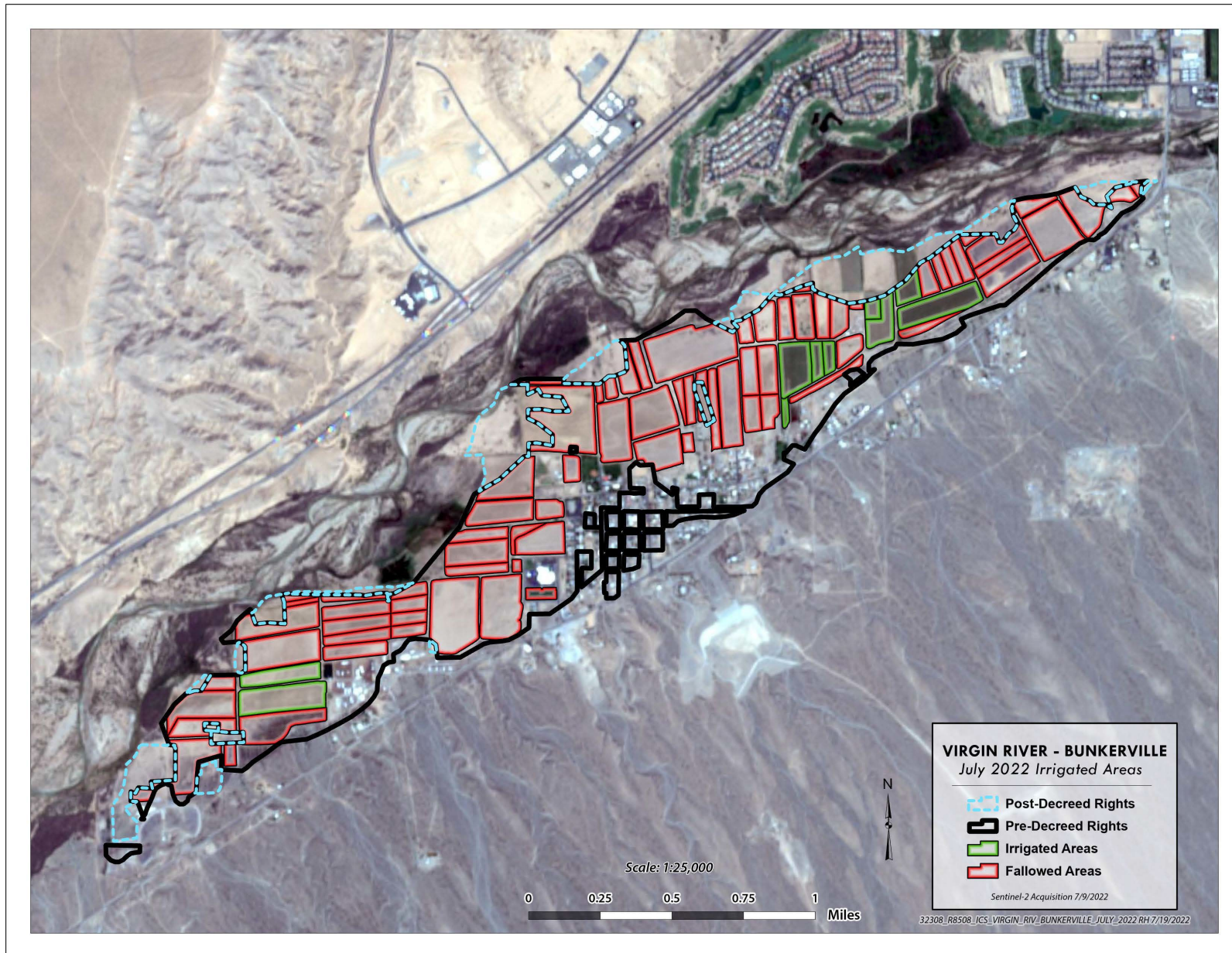


Figure 4-3 - BIC Summer Season 2022 Agriculture

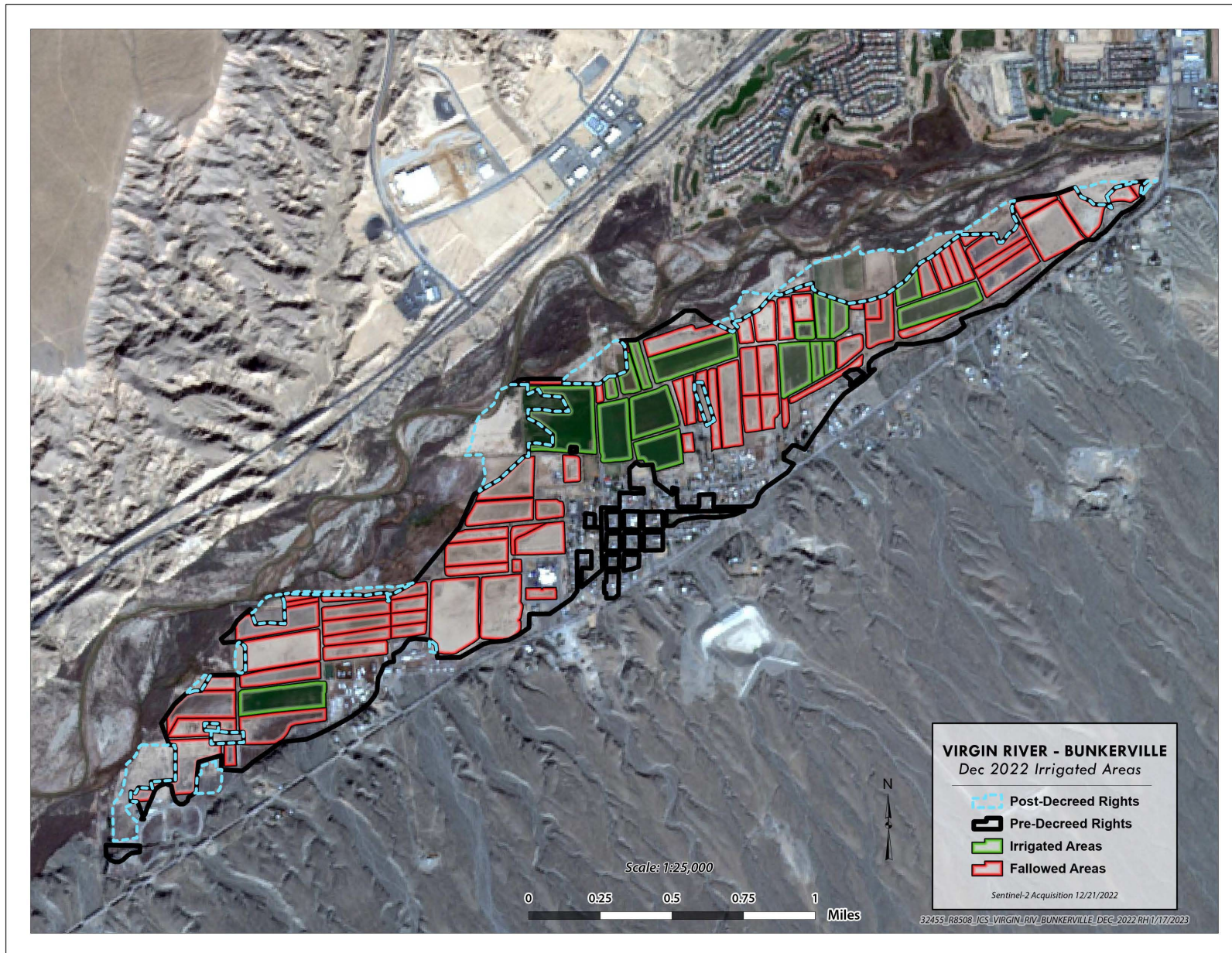


Figure 4-4 - BIC Winter Season 2022-2023 Agriculture

5 Mesquite Irrigation Company (MIC)

5.1 Background

The MIC service area is located along the right bank of the Lower Virgin River in the vicinity of the city of Mesquite, NV. On May 14, 1927, MIC was decreed 9,669.56 afy of water rights under the Virgin River Decree to irrigate 1,067.28 acres. Subsequently, another 2,106.00 afy of water rights to irrigate an additional 468 acres were granted to MIC under Permit No. 7624/Certificate No. 4509 with a priority date of 1926. Within the POU defined in the decree and Permit No. 7624, MIC has a total of 11,775.56 afy of pre-BCPA water rights to irrigate 1,535.37 acres of land. The duty per acre for the decreed rights is 9.06 af/acre, which is based on application rates of 1 cfs per 100 acres in the winter (October through February) and 1 cfs per 70 acres in the summer (March through September). The duty under Permit No. 7624 is 4.5 af/acre. Table 5-1 distributes the decreed right (with an annual duty of 9.06 af/acre) on a monthly time-step based on the summer and winter duty designated above and distributes the 4.5 af/acre based on the number of days per month. The result is a weighted average duty of 7.82 af/acre for the pre-BCPA water rights. In 1954, MIC was permitted an additional 234 af of post-BCPA water rights (but no additional land), bringing the total MIC owned water rights to 12,009.56 af. The post-BCPA portion of these water rights cannot be used for the creation of Tributary Conservation ICS. Table C-2 in Appendix C details the calculations performed to arrive at the acre-foot per share values on a monthly time-step.

MIC Certificates Nos. 22585 through 22587 (Permits 83920 through 83922) combine the volumes of all of the pre-BCPA and post-BCPA water rights associated with the 1,535.37 acre POU to demonstrate that MIC controls a total of 12,009.56 af of water rights consisting of 11,775.56 af of pre-BCPA rights and 234 af of post-BCPA rights. The monthly volume of the post-BCPA rights equate to approximately 20 af per month (Row K, Table C-2, Appendix C). For the purposes of documenting the total use of MIC's water rights across the entire POU of the water-right permits, the full 12,009.56 af volume was used in Table 5-1 to verify that enough water remained in the Virgin River for SNWA to receive ICS credit. Values in rows D and E of Table 5-1 exceed the 20 af per month of post-BCPA water rights, demonstrating that there is sufficient use of non-SNWA water rights to fully consume the post-BCPA water rights. Therefore, the remainder is considered entirely pre-BCPA water rights, a portion of which SNWA claims for ICS credit as listed in Row H of Table 5-1.

5.2 Water Rights Summary and Documentation of Conserved Water

The acre-foot per share value to account for Tributary Conservation ICS is determined by dividing the total pre-BCPA rights of 11,775.56 af by the total number of shares in MIC, 1,673.25, resulting in an annual acre-foot per share value of 7.04 af/share. Table 5-1 lists the

acre-foot per share value on a monthly time-step. During CY 2022, SNWA controlled shares in MIC representing 8,218 af of water.

Figure 5-1 presents the POU for the MIC decreed and certificated water rights. Figure 5-2 through Figure 5-4 presents the imagery for these areas and vicinity during December 2021, July 2022, and December 2022. Agricultural acreage within the MIC POU was verified using imagery, ground-truthing, and interviews of the MIC Manager.

A portion of MIC water rights not controlled by SNWA are being used to supply irrigation water to golf courses in Mesquite, Nevada. The golf courses pump leased and owned MIC water rights directly from MIC's ditches to golf course ponds for use on fairways and roughs.

5.2.1 Virgin Valley Water District (VVWD) Unused Shares

In January 2020, SNWA and Virgin Valley Water District (VVWD) executed a lease agreement where SNWA will, on a monthly time-step, calculate the unused portions of the 403 shares in MIC owned by the Virgin Valley Water District (VVWD) and SNWA will compensate VVWD for the unused water from VVWD's shares, including the pre-BCPA portion for which SNWA receives ICS credit.

The main purpose of the lease agreement between VVWD and SNWA is to provide VVWD more flexibility to utilize more MIC shares in the summer months (May through September for 2021) when golf course water use is high and to allow SNWA to take additional water in the winter months when the golf courses use is low, thereby maximizing beneficial use of the water. Table D-1 in Appendix D shows the month by month calculations and resulting VVWD shares controlled for each month in 2022.

5.2.2 Determination of Consumptive Use for MIC

The consumptive uses of MIC water are computed differently for the sprinkler irrigated acreages north of I-15 that rely on MIC water (mostly golf courses) versus the traditionally flood-irrigated POU south of I-15. The purpose of this different accounting is that a significant volume of the water diverted to the area south of I-15, which is still mostly reliant upon traditional flood irrigation infrastructure, returns to the river.

Conversely, the area north of I-15 is higher in elevation than the MIC main ditch thus the irrigation water must be pumped up to the lands. Since this MIC water is metered through the pressurized pipelines, then applied with sprinkler irrigation, it is assumed that all the water pumped through these meters is consumptively used. This accounting, where meters are used, will help more accurately measure the amount of water consumptively used. For the golf courses and flood irrigated areas south of I-15 where metering is more challenging,

the entire turf and pond surface-area acreage associated with the golf courses was included as irrigated agriculture within MIC and these monthly total acreages are included in Table 5-1.

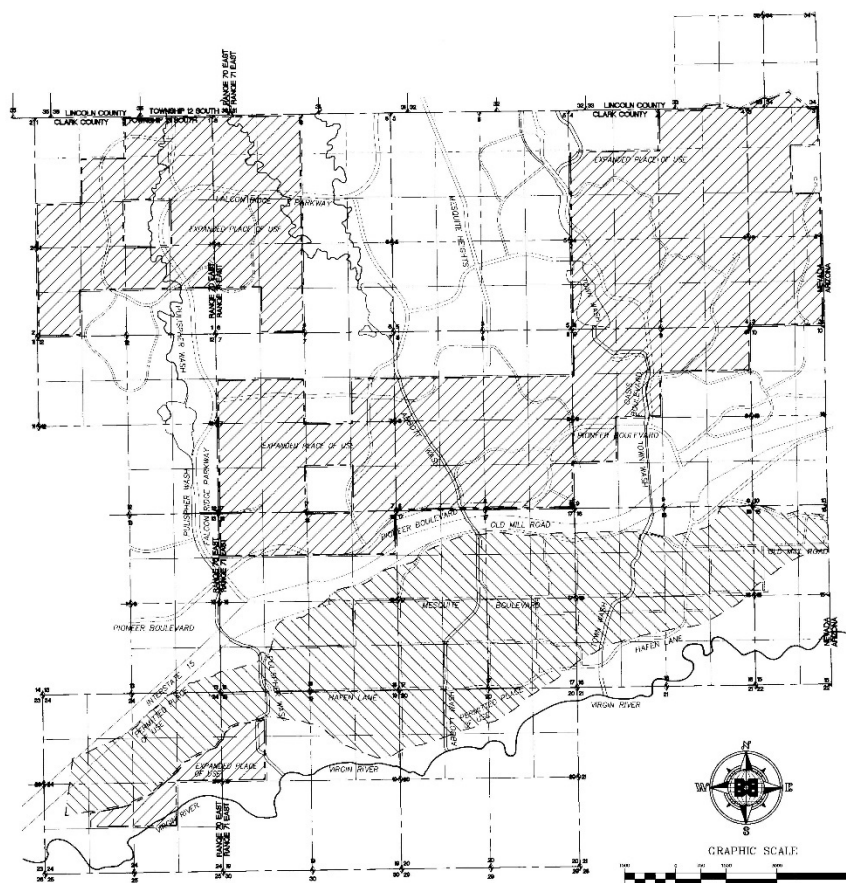
As presented in Table 5-1, SNWA controlled MIC shares representing 8,218 af in CY 2022. For CY 2022 the water conserved from fallowed or urbanized lands exceeded the volume of water controlled by SNWA, therefore all 8,218 af of SNWA's total controlled MIC rights can be accounted for as Tributary Conservation ICS created by SNWA in Lake Mead for CY 2022. Appendix F includes a letter of concurrence signed by the MIC Manager documenting SNWA's control of MIC shares in CY 2022 and MIC's concurrence that the SNWA controlled shares were not used for irrigation.

Table 5-1 – ICS Created in MIC

| SNWA Control of Mesquite Irrigation Company in Acre-Feet Per Month for CY 2022 | | | | | | | | | | | | | | | | |
|--|------------------------|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|------|
| Notation | | Description | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total | |
| A (From Table C-2) | MIC Total Rights | Total Volume MIC Water Rights (AF/Month) | 855.0495 | 772.3028 | 1,136.3252 | 1,099.6695 | 1,136.3252 | 1,099.6695 | 1,136.3252 | 1,136.3252 | 1,099.6695 | 855.0495 | 827.4673 | 855.0495 | 12,009.56 | |
| B | MIC Use By Agriculture | Measured Acres of Agriculture each Month (Acres) ¹ | 130.233 | 130.233 | 130.233 | 140.166 | 140.166 | 140.166 | 140.166 | 140.166 | 140.166 | 127.215 | 127.215 | 127.215 | | |
| C | | Total MIC Duty (AF/ Acre / Month) | .5569 | .503 | .7401 | .7162 | .7401 | .7162 | .7401 | .7401 | .7401 | .7162 | .5569 | .5389 | .5569 | 7.82 |
| D = B * C | | Use by Agriculture (AF / Month) | 72.5268 | 65.5081 | 96.3851 | 100.3906 | 103.737 | 100.3906 | 103.737 | 103.737 | 100.3906 | 70.8462 | 68.5608 | 70.8462 | 1,057.0561 | |
| E | MIC Metered Uses | Metered Uses (AF) ² | 31.279 | 83.4697 | 84.4438 | 195.0815 | 265.2691 | 342.5563 | 346.2622 | 260.3193 | 269.2013 | 157.7534 | 48.1855 | 20.5407 | 2,104.3618 | |
| F | MIC SNWA ICS | Shares Controlled by SNWA | 1,282.0882 | 1,232.2594 | 1,275.8229 | 1,160.2672 | 1,118.7908 | 1,017.0501 | 1,028.6027 | 1,148.4268 | 1,088.5252 | 1,161.9371 | 1,293.3265 | 1,319.1022 | | |
| G | | Acre-Feet per Share Per Month Pre BCPA | .4991 | .4508 | .6672 | .6457 | .6672 | .6457 | .6672 | .6672 | .6672 | .6457 | .4991 | .483 | .4991 | 7.04 |
| H = F * G | | Pre-BCPA Water Controlled by SNWA for ICS (AF / Month) | 639.9335 | 555.5401 | 851.2739 | 749.1978 | 746.4965 | 656.7209 | 686.3199 | 766.2707 | 702.8732 | 579.962 | 624.7189 | 658.4084 | 8,217.7158 | |
| I = D + E + H | | MIC Water Rights Total Use (AF/Month) | 743.74 | 704.52 | 1,032.10 | 1,044.67 | 1,115.50 | 1,099.67 | 1,136.32 | 1,130.33 | 1,072.47 | 808.56 | 741.47 | 749.80 | 11,379.1337 | |
| K = A - I | | Net Surplus or (Deficit) for Receiving ICS Credit (AF/Month) | 111.31 | 67.78 | 104.22 | 55.00 | 20.82 | 0.00 | 0.01 | 6.00 | 27.20 | 46.49 | 86.00 | 105.25 | 630.0942 | |
| L = H if K>0 Else H + K | | Total Virgin River ICS Created | 639.93 | 555.54 | 851.27 | 749.20 | 746.50 | 656.72 | 686.32 | 766.27 | 702.87 | 579.96 | 624.72 | 658.41 | 8,218 | |

¹ Acreage includes Coyote Willows Golf and Casablanca Golf Courses

² Metered Uses for Golf Courses North of I-15
VVWD Lease Shares



| EXPANDED PLACE OF USE TOTAL | | | | |
|-----------------------------|----------|---------|----------|---------------|
| SECTION | TOWNSHIP | RANGE | PT. FACE | TOT. USE |
| | | | | ACRES |
| SECTION 34 TOTAL | 22 SOUTH | 71 EAST | | 9.90 ACRES |
| SECTION 33 TOTAL | 22 SOUTH | 71 EAST | | 5.85 ACRES |
| SECTION 4 TOTAL | 23 SOUTH | 71 EAST | | 298.67 ACRES |
| SECTION 5 TOTAL | 23 SOUTH | 71 EAST | | 711.70 ACRES |
| SECTION 6 TOTAL | 23 SOUTH | 71 EAST | | 1484.80 ACRES |
| SECTION 7 TOTAL | 23 SOUTH | 71 EAST | | 368.81 ACRES |
| SECTION 8 TOTAL | 23 SOUTH | 71 EAST | | 419.85 ACRES |
| SECTION 9 TOTAL | 23 SOUTH | 71 EAST | | 290.15 ACRES |
| SECTION 10 TOTAL | 23 SOUTH | 71 EAST | | 158.75 ACRES |
| SECTION 19 TOTAL | 23 SOUTH | 71 EAST | | 52.12 ACRES |
| SECTION 20 TOTAL | 23 SOUTH | 70 EAST | | 368.63 ACRES |
| SECTION 24 TOTAL | 22 SOUTH | 69 EAST | | 80.24 ACRES |
| TOTAL PROPOSED AREA | | | | 3338.27 ACRES |

AFFIDAVIT

STATE OF NEVADA
 COUNTY OF CLARK

I, VICTOR R. CAMPBELL, BEING FIRST DULY SWORN, DEPOSE AND SAY THAT THE MAP, CONSISTING OF 6 SHEETS, NUMBERED FROM 1 TO 6, INCLOSURE, HAS BEEN CORRECTLY DRAWN TO THE 1/4 SECTION SCALE FROM FIELD NOTES OF A SURVEY MADE BY ME, OR UNDER MY SUPERVISION AND DIRECTION, BETWEEN THE JANUARY 4, 1904, AND THE SEPTEMBER 27, 2012; THAT IT TRULY AND CORRECTLY REPRESENTS THE PROPOSED LOCATION AND EXTENT OF THE WORKS USED TO DIVERT WATER FROM THE VIRGIN RIVER, IN MONAHIVE COUNTY, ARIZONA, BY THE MESQUITE IRRIGATION COMPANY, FOR IRRIGATION PURPOSES; THAT THE POINT OF DIVERSION, THE APPROXIMATE LOCATION AND SIZE OF THE DIVERTING CHANNEL, OR OTHER CONDUIT, ALL MEASUREMENTS OF EASERS, USE LOCATION AND DIMENSIONS OF ALL OTHER WORKS WHICH WILL CROSS OR CONNECT WITH THE PROPOSED WORKS, AND THE BOUNDARY OF ALL LANDS SURROUNDING THE 400-ACRE SUBDIVISION THE AREAS PROPOSED TO BE SEVERED, ARE TRULY AND CORRECTLY DESIGNATED THEREON.



VICTOR R. CAMPBELL
 PROFESSIONAL LAND SURVEYOR
 NEVADA LICENSE NO. 11424
 EXPIRATION DATE: SEPTEMBER 30, 2014
 STATE WATER RIGHTS SUPERVISOR
 CERTIFICATE NO. 2023

SWORN AND SIGNED TO BE TRUE ON THIS 17th DAY OF June 2014.

Valerie Huntington Clerk
 NOTARY PUBLIC IN AND FOR CLARK COUNTY,
 MY COMMISSION EXPIRES Aug 2, 2015

BASIS OF BEARINGS

THE BASIS OF BEARING IS THE SECTION LINE BETWEEN THE SOUTH QUARTER CORNER OF SECTION 8 AND THE SOUTHWEST CORNER OF SECTION 8, TOWNSHIP 13 SOUTH, RANGE 71 EAST, MOUNT Diablo BASE AND MERIDIAN (N 89° 51' 17" AS SHOWN ON FILED SET OF MISCELLANEOUS MAPS AS RECORDED IN THE OFFICIAL RECORDS OF CLARK COUNTY, NEVADA.

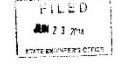
POINT OF DIVERSION

REPLY TO MAP NO. ACCOMPANY APPLICATION FOR IRRIGATION UNDER PERMIT NO. 15619, CERTIFICATE NO. 5240 ON FILE AT THE NEVADA STATE ENGINEERS OFFICE.

LEGEND

- SECTION LINE
- SUBDIVISION SECTION LINE
- SIXTEENTH SECTION LINE
- LOT SECTION LINE
- PERMITTED PLACE OF USE
- EXPANDED PLACE OF USE
- 1904 1/4 SECTION CORNERS - BRASS CAP
- PERMITTED PLACE OF USE
- EXPANDED PLACE OF USE

"STATE ENGINEER'S USE" 83920-83924



MAP TO ACCOMPANY APPLICATION TO CHANGE THE PLACE OF USE, UNDER VIRGIN RIVER DECREE, PROOF No. 01968 PERMIT No. 7624, CERTIFICATE No. 4509 PERMIT No. 15619, CERTIFICATE No. 5240 FOR IRRIGATION USE BY THE MESQUITE IRRIGATION COMPANY FROM THE VIRGIN RIVER IN CLARK AND LINCOLN COUNTIES, NEVADA

83922 83921 83920

Figure 5-1 - MIC POU Areas

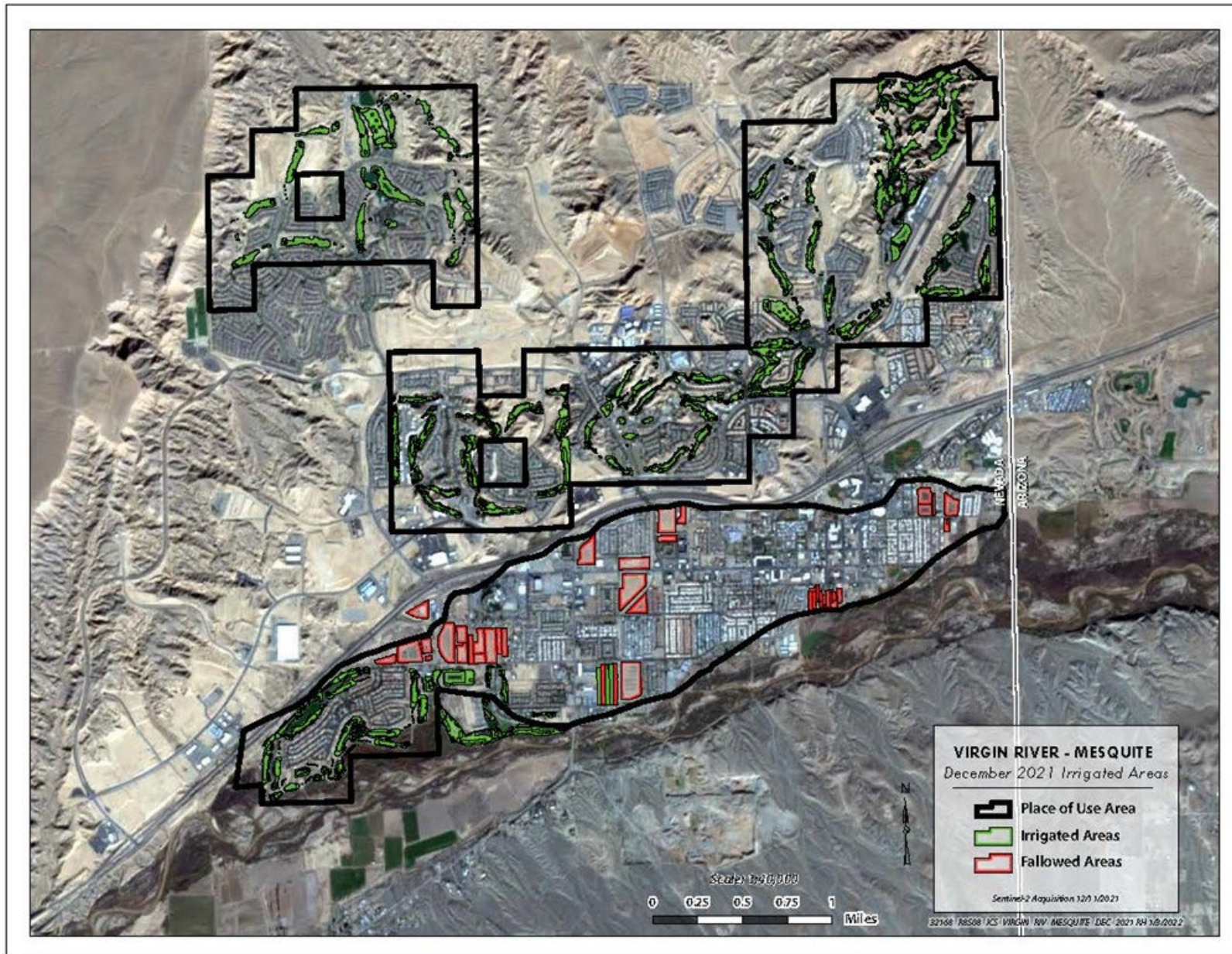


Figure 5-2 - MIC Winter Season 2021-2022 Agriculture

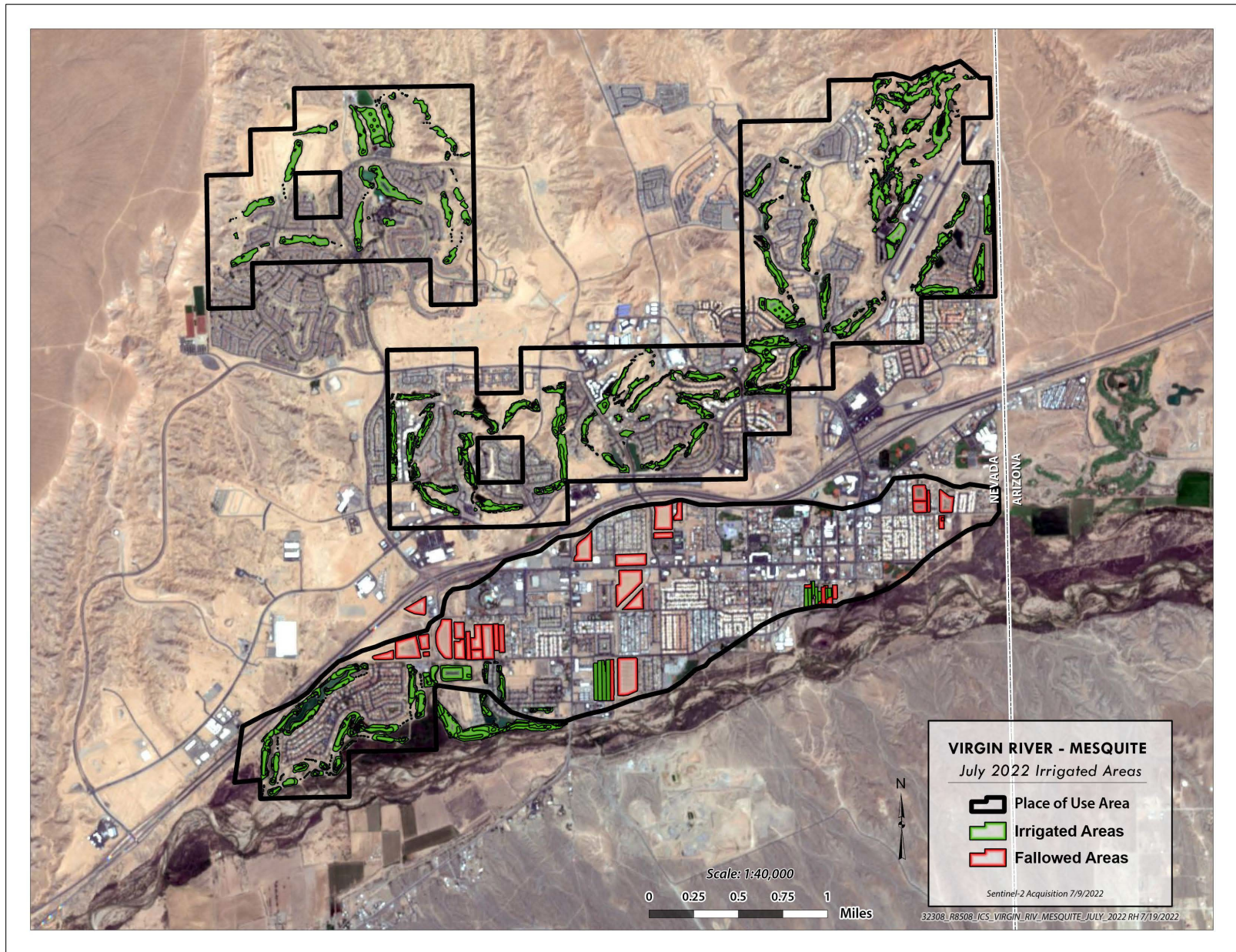


Figure 5-3 - MIC Summer Season 2022 Agriculture

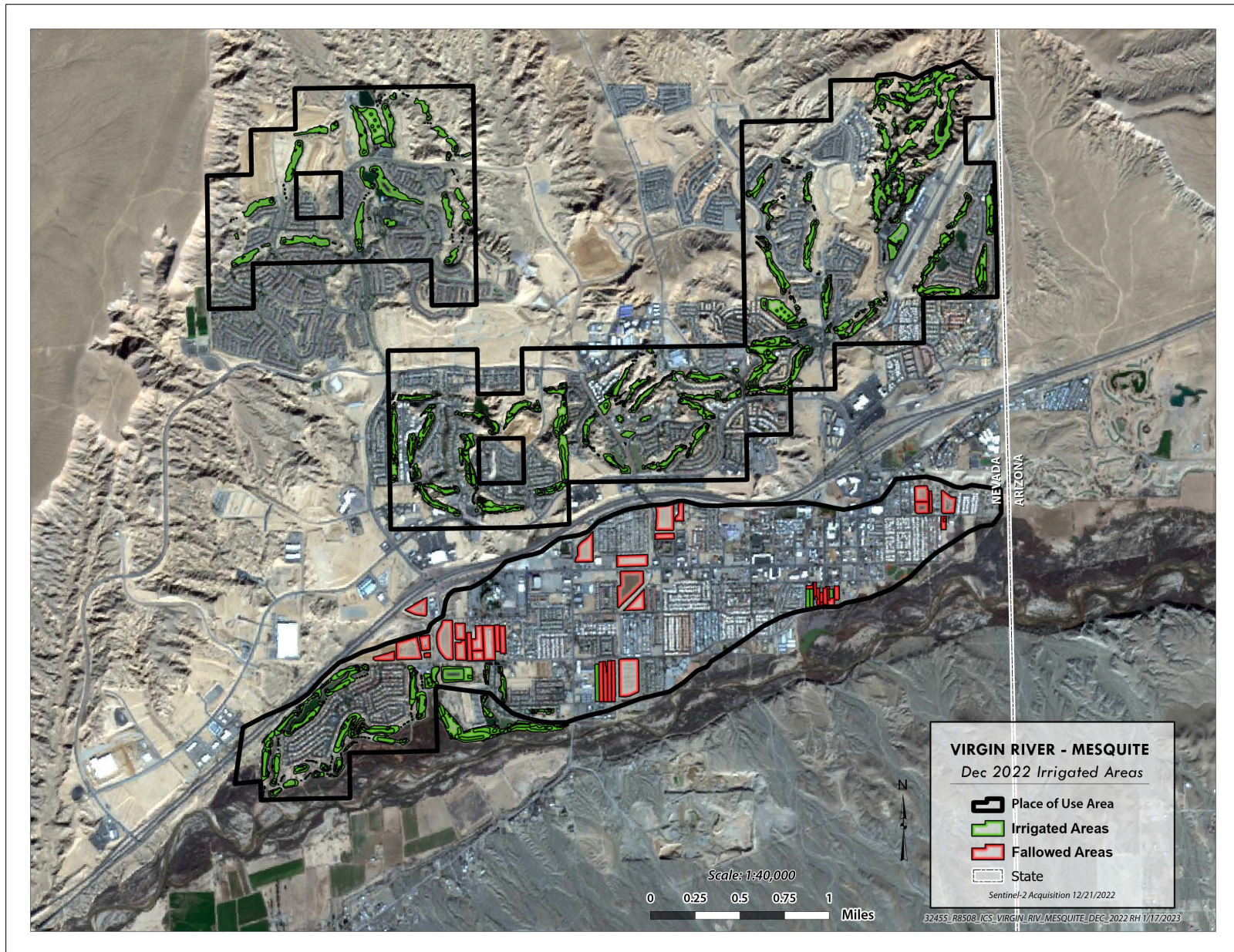


Figure 5-4 - MIC Winter Season 2022-2023 Agriculture

6 Riverside Area

6.1 Background

The Riverside Area, located downstream of MIC, BIC, and the City of Mesquite, Nevada, is an agricultural area with specific certificated water rights and associated POU.

In May 2008, SNWA purchased a portion of water right Certificate No. 1153 which has a priority date of October 30, 1925. The certificate has a total water right of 1,062.26 af to irrigate 177.044 acres of land on the Lower Virgin River near Riverside, Nevada, at an annual duty of 6 af/acre. SNWA's controlled portion of the right is 601.97 afy, which represents approximately 100 acres based on the annual duty.

In October 2015, the owner of a portion of the property associated with the POU for Certificate 1153 filed an application (Application No. 85504) with the Nevada State Engineer to change the POU for an existing, adjacent post-BCPA water right granted to the owner under Permit No. 54383 (See Figure 6-1). Specifically, Application 85504 expanded the POU associated with Permit No. 54383 such that a portion of the POU overlaps lands located within the POU for Certificate No. 1153 purchased by SNWA. The State Engineer approved the application in June 2016 (Permit 85504) effectively enabling the landowner to irrigate most of the acreage within the Certificate No. 1153 POU with the post-BCPA right while SNWA's controlled portion of the Certificate No. 1153 pre-BCPA water right remains in the Virgin River.

6.2 Riverside Area Water Rights Summary and Documentation of Conserved Water

Using the imagery obtained during CY 2021 and 2022, fallowed lands within the Riverside Area were determined. Figure 6-2 through Figure 6-4 compares the POU for Certificate No. 1153 and Permit 85504 to the observed irrigated and fallowed lands in December 2021, July 2022, and December 2022, respectively.

The current configuration of agricultural fields is much different than in 1925 when the PBU map for Certificate 1153 was filed. This is likely due to land ownership changes and the movement of the Virgin River channel within its flood plain. Fallowed acreage within the 1925 POU, as seen in Figure 6-1 through Figure 6-4, was determined by subtracting the irrigated acreage not overlapped by Permit 85504 from the total area of the 1925 POU during each season.

Table 6-1 details the calculations used to determine the monthly duty of water applied to irrigable lands in the Riverside Area along with the volume of Virgin River water conserved through non-use. Water applied on lands overlapped by Permit 85504 were not counted as

irrigated acreage under Certificate 1153. Instead, that water was accounted as use under Permit 85504. However, all irrigated acreage on the remaining POU of Certificate 1153 was quantified and is presented in Row C of Table 6-1.

Table 6-1 illustrates that from January through December 2022 the total water conserved from fallowed lands was approximately 798 af and exceeded the 602 af represented by SNWA's controlled water right. Therefore, all 602 af of SNWA's controlled rights in the Riverside Area can be accounted for as Tributary Conservation ICS created by SNWA and stored in Lake Mead.

Table 6-1 – ICS Created in Riverside Area

| Riverside Area Lonetti Water Right Purchase | | | | | | | | | | | | | | |
|---|--|----------------|----------------|----------------|---------------|----------------|---------------|----------------|----------------|---------------|----------------|---------------|----------------|-------------|
| Notation | Description | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
| | # Days | 31 | 28 | 31 | 30 | 31 | 30 | 31 | 31 | 30 | 31 | 30 | 31 | 365 |
| A | Total Certificate 1153 POU | 177.044 | 177.044 | 177.044 | 177.044 | 177.044 | 177.044 | 177.044 | 177.044 | 177.044 | 177.044 | 177.044 | 177.044 | |
| B | Duty of Riverside Area Water Rights (af/acre) | .5096 | .4603 | .5096 | .4931 | .5096 | .4931 | .5096 | .5096 | .4931 | .5096 | .4931 | .5096 | 6. |
| C | Acres Being Irrigated in Certificate 1153 POU | 37.11 | 37.11 | 37.11 | 59.75 | 59.75 | 59.75 | 59.75 | 59.75 | 59.75 | 19.49 | 19.49 | 19.49 | |
| D = A - C | Acres of Fallowed Land in Certificate 1153 POU | 139.9301 | 139.9301 | 139.9301 | 117.2967 | 117.2967 | 117.2967 | 117.2967 | 117.2967 | 117.2967 | 157.5545 | 157.5545 | 157.5545 | |
| E = B * D | Water Conserved from Fallowed Acreage (af) | 71.3084 | 64.4098 | 71.3084 | 57.839 | 59.7744 | 57.839 | 59.7744 | 59.7744 | 57.839 | 80.2898 | 77.6901 | 80.2898 | 798.1363 |
| F | Acre-Feet per Month of SNWA's Owned Right | 51.1262 | 46.1785 | 51.1262 | 49.477 | 51.1262 | 49.477 | 51.1262 | 51.1262 | 49.477 | 51.1262 | 49.477 | 51.1262 | 601.97 |
| E > F | Is conservation > than SNWA rights | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | |
| | Total ICS Created | 51.1262 | 46.1785 | 51.1262 | 49.477 | 51.1262 | 49.477 | 51.1262 | 51.1262 | 49.477 | 51.1262 | 49.477 | 51.1262 | 602. |

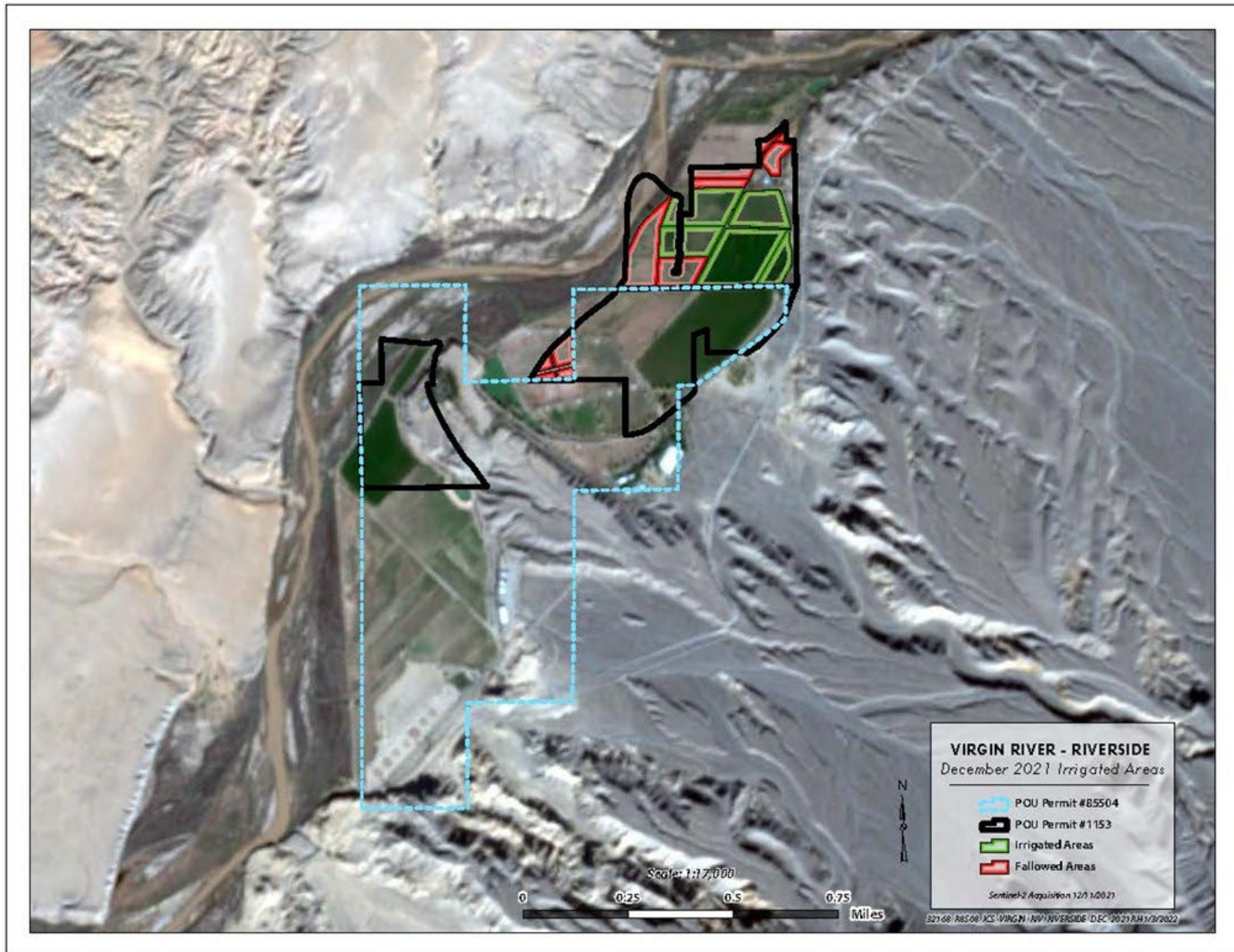


Figure 6-2 - Riverside Area Winter Season 2021-2022 Agriculture

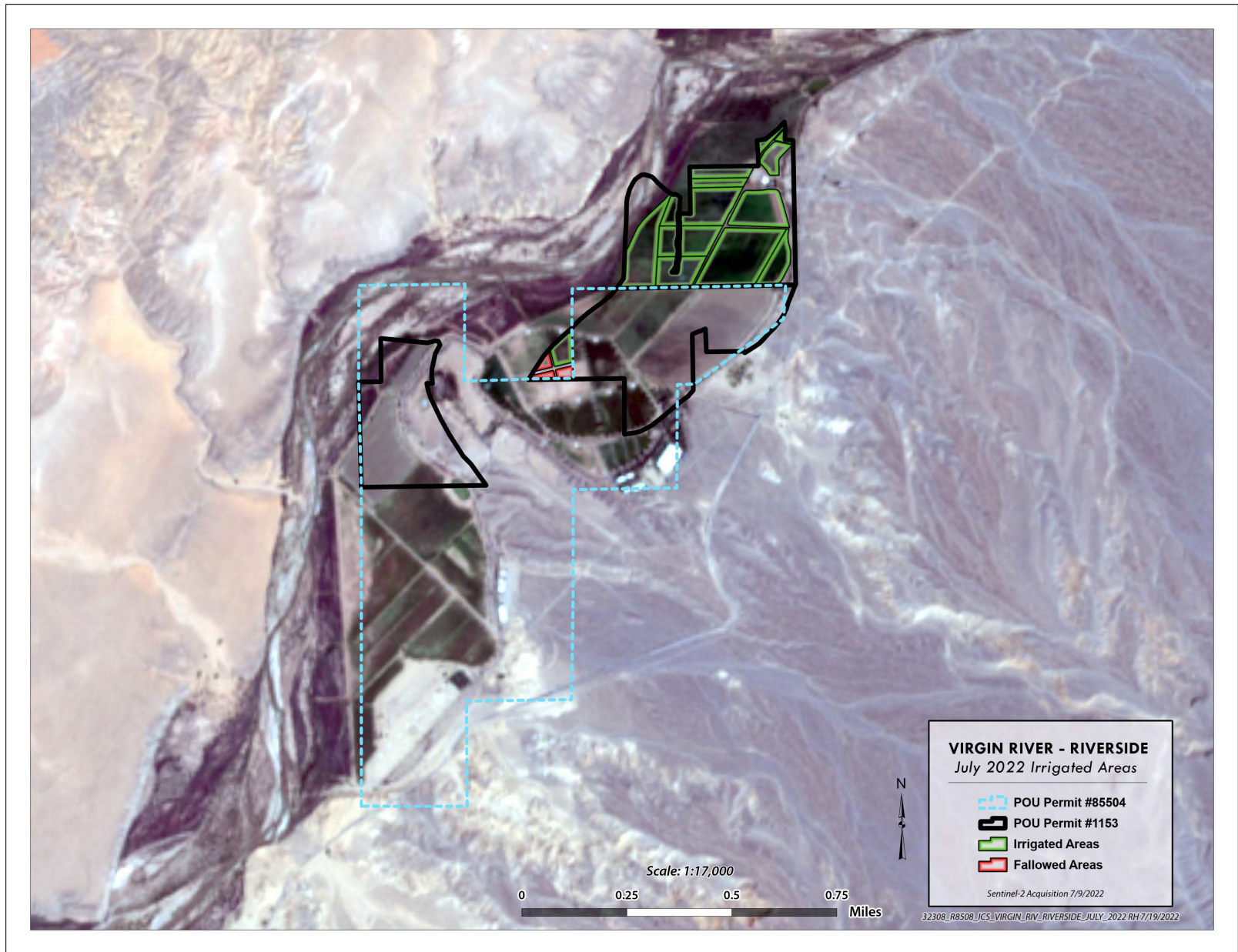


Figure 6-3 - Riverside Area Summer Season 2022 Agriculture

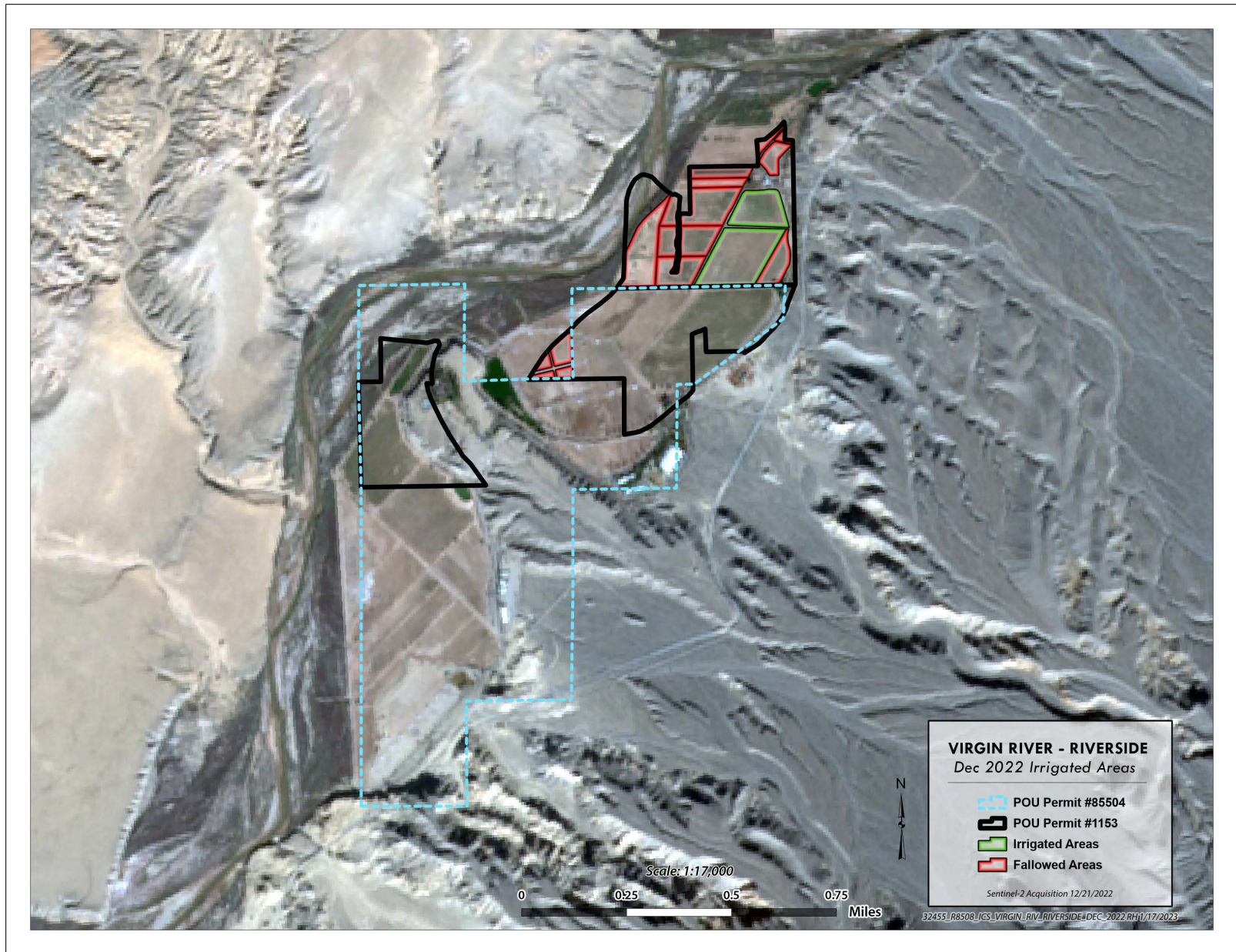


Figure 6-4 - Riverside Area Winter Season 2022-2023 Agriculture

7 Conclusion

During CY 2022, SNWA created 16,411 af of Virgin River Tributary Conservation ICS in Lake Mead using SNWA-owned and leased pre-BCPA Virgin River water rights. This total does not include any overrun payback or the one-time system assessment for the benefit of Lake Mead water storage . The method of creation for ICS is consistent with the approved, amended CY 2022 ICS Plan, Forbearance Agreement, and Guidelines.

Appendix A. SNWA Tributary Conservation ICS Plan of Creation
Approval Letter



United States Department of the Interior



BUREAU OF RECLAMATION
P.O. Box 61470
Boulder City, NV 89006-1470

IN REPLY REFER TO:
LCB-4200
2.2.4.23

VIA ELECTRONIC MAIL ONLY

John Entsminger
General Manager
Southern Nevada Water Authority
1001 South Valley View Boulevard, MS 480
Las Vegas, NV 89153

Subject: Approval of the Southern Nevada Water Authority's (SNWA) Calendar Year (CY) 2022 Plans for the Creation of Extraordinary Conservation (EC) Intentionally Created Surplus (ICS), Muddy River Tributary Conservation ICS, and Virgin River Tributary Conservation ICS (ICS Plans)

Dear John Entsminger:

The Bureau of Reclamation has received SNWA's ICS Plans. SNWA's ICS Plans were submitted in fulfillment of the requirements set forth in Section XI.G.3.B of the 2007 Record of Decision for *Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead (2007 Interim Guidelines)* regarding the creation of ICS.

SNWA's ICS Plans describe SNWA's Municipal Conservation and Offstream Storage (MCOS) Project, from which SNWA anticipates creating up to 100,000 acre-feet (AF) of EC ICS; and SNWA's Muddy River and Virgin River Tributary Conservation projects, from which SNWA anticipates creating up to 43,000 AF of Tributary Conservation ICS in CY 2022.¹ SNWA's MCOS Project is described in and incorporated as *Lower Basin Drought Contingency Operations (LBOPs)* ICS Exhibit W. SNWA's Muddy River and Virgin River Tributary Conservation projects are described in and incorporated as Exhibit A to the *Lower Colorado River Basin Intentionally Created Surplus Forbearance Agreement*.

Reclamation has reviewed SNWA's ICS Plans and confirms that they contain all necessary information required by Section XI.G.3.B of the 2007 Interim Guidelines. In accordance with Section XI.G.7.B.5 of the 2007 Interim Guidelines, Reclamation has consulted with the Basin States regarding SNWA's ICS Plans.

Based upon Reclamation's review of SNWA's ICS Plans and completion of the consultation process, I approve SNWA's ICS Plans for the creation of up to 100,000 AF of EC ICS and up to

¹ SNWA anticipates creating up to 20,000 AF of Virgin River Tributary Conservation ICS and up to 23,000 AF of Muddy River Tributary Conservation ICS in CY 2022.

INTERIOR REGION 8 • LOWER COLORADO BASIN

ARIZONA, CALIFORNIA*, NEVADA*

* PARTIAL

43,000 AF of Tributary Conservation ICS in CY 2022 for storage in SNWA's Lake Mead ICS Account as provided in the table below.

| Conservation Activity | Approved ICS Creation Amount |
|---|-------------------------------------|
| Muddy River Tributary Conservation | up to 23,000 AF |
| Virgin River Tributary Conservation | up to 20,000 AF |
| Total Approved Tributary Conservation ICS Creation for CY 2022 | up to 43,000 AF |
| MCOS Project | up to 100,000 AF |
| Total Approved EC ICS Creation for CY 2022 | up to 100,000 AF |

This approval is subject to the following:

1. While SNWA's approved EC ICS creation amount is within the state of Nevada's 125,000 AF maximum annual EC ICS creation limit, when combined with the approved EC ICS creation amounts for ICS creators in the states of Arizona and California, the total amount of EC ICS approved for creation by the Lower Division States in CY 2022 is 795,250 AF,² which exceeds the maximum total annual creation limitation set forth in Section XI.G.3.B.4 of the 2007 Interim Guidelines (625,000 AF). In a joint letter dated October 4, 2021, the Arizona Department of Water Resources (ADWR), MWD, SNWA, and the Colorado River Commission of Nevada (CRCN) informed Reclamation of their intent to share ICS creation capacity in CY 2022 in accordance with Section IV.B of LBOps. As noted in that letter, ADWR, MWD, SNWA and CRCN will coordinate, in consultation with Reclamation, on the specific volumes of shared creation capacity to ensure the maximum ICS creation in CY 2022 remains within the total annual limitation of 625,000 AF, and to ensure compliance with the flow reduction limitations set forth in the Lower Colorado River Multi-Species Conservation Program. Pursuant to Section IV.B of LBOps, sharing of EC ICS creation capacity requires authorization by the Secretary of the Interior.
2. Pursuant to Section IV.C of LBOps, the maximum total amount of EC ICS, Binational ICS, and Drought Contingency Plan (DCP) ICS that may be accumulated in the ICS Accounts (ICS Accumulation Limit) of Nevada Contractors at any time is limited to 500,000 AF, as may be adjusted by the ICS accumulation space sharing provision of Section IV.C and related agreements. Reclamation notes that, based on the ICS creation amounts anticipated for CY 2021 and the approved ICS creation amounts for CY 2022, it is anticipated that one or more of the Lower Division States will exceed its respective ICS Accumulation Limit and may exercise the sharing provision of Section IV.C in CY 2022 in accordance with the *DCP Contributions and ICS Accumulation Limits Sharing Agreement* dated September 12, 2019 and the *Agreement for Additional Interim Sharing of Intentionally Created Surplus Accumulation*

² The following EC ICS creation amounts have been approved for CY 2022, subject to the maximum annual creation limitation of 625,000 AF: up to 100,000 AF for the Central Arizona Water Conservation District; up to 4,685 AF for the Colorado River Indian Tribes; up to 78,565 AF for the Gila River Indian Community; up to 450,000 AF for The Metropolitan Water District of Southern California (MWD); up to 62,000 AF for the Imperial Irrigation District; and up to 100,000 AF for SNWA.

Limits dated June 4, 2021 (Additional Sharing Agreement). In accordance with Section 4 of the Additional Sharing Agreement, the parties shall coordinate and provide a joint report to Reclamation no later than December 15, 2022 regarding all projected sharing and evacuation activities during CY 2022.

Section XI.G.3.B.1 of the 2007 Interim Guidelines provides that, subject to approval by Reclamation, SNWA may modify its approved ICS Plans during the year of creation. In accordance with Section XI.G.3.D.1 of the 2007 Interim Guidelines, SNWA is required to submit a Certification Report to the Regional Director demonstrating the amount of ICS created and that the methods of creation were consistent with SNWA's approved ICS Plans.

If you have questions, please contact Jeremy Dodds, Water Accounting and Verification Group Manager, at (702) 293-8164 or jdodds@usbr.gov. For the hearing impaired, please call the Federal Relay System at (800) 877-8339.

Sincerely,

**JACKLYNN
GOULD** Digitally signed by
JACKLYNN GOULD
Date: 2021.12.23
14:04:24 -05'00'

Jacklynn L. Gould, P.E
Regional Director
Interior Region 8: Lower Colorado Basin
Bureau of Reclamation

cc: Christopher S. Harris
Executive Director
Colorado River Board of California
770 Fairmont Avenue, Suite 100
Glendale, CA 91203

Eric P. Witkoski
Executive Director
Colorado River Commission of Nevada
555 East Washington Avenue, Suite 3100
Las Vegas, NV 89101

Candice Hasenyager
Director
Utah Division of Water Resources
P.O. Box 146201
Salt Lake City, UT 84114-6201

Thomas Buschatzke
Director
Arizona Department of Water Resources
P.O. Box 36020
Phoenix, AZ 85067-6020

Rebecca Mitchell
Director
Colorado Water Conservation Board
1313 Sherman Street, Room 718
Denver, CO 80203

Sara G. Larsen
Interim Executive Director/Secretary
Upper Colorado River Commission
50 South 600 East, Suite 100
Salt Lake City, UT 84102

Continued on next page.

cc: Continued from previous page.

Amy Haas
Executive Director
Colorado River Authority of Utah
60 East South Temple, Suite 850
Salt Lake City, UT 84111

John R. D'Antonio Jr., P.E.
New Mexico State Engineer
Office of the State Engineer
State of New Mexico
P.O. Box 25102
Santa Fe, NM 87504-5012

Tina Anderholt Shields, P.E.
Water Department Manager
Imperial Irrigation District
P.O. Box 937
Imperial, CA 92251-0937

Charles B. Sherrill, Jr.
Chairman
Mohave Valley Irrigation
and Drainage District
1460 East Commercial Street
Mohave Valley, AZ 86440

Elston K. Grubaugh
Manager/Secretary
Wellton-Mohawk Irrigation
and Drainage District
30570 Wellton-Mohawk Drive
Wellton, AZ 85356

Honorable Amelia Flores
Tribal Chairperson
Colorado River Indian Tribes
26600 Mohave Road
Parker, AZ 85344

Greg Lanning, P.E.
Wyoming State Engineer
Wyoming State Engineer's Office
122 West 25th Street
Herschler Building, 2nd Floor West
Cheyenne, WY 82002

Theodore C. Cooke
General Manager
Central Arizona Water Conservation District
P.O. Box 43020
Phoenix, AZ 85080-3020

William Hasencamp
Manager, Colorado River Resources
The Metropolitan Water District
of Southern California
P.O. Box 54153
Los Angeles, CA 90054-0153

Colby Pellegrino
Deputy General Manager, Resources
Southern Nevada Water Authority
1001 South Valley View Boulevard, MS 520
Las Vegas, NV 89153

Honorable Stephen Roe Lewis
Governor
Gila River Indian Community
P.O. Box 97
Sacaton, AZ 85147-0097

Appendix B. Virgin River Water Rights

Virgin River Decree:

<http://images.water.nv.gov/images/Decrees/V/Virgin%20River.pdf>

Mequite Irrigation Company Permits:

<http://water.nv.gov/permitinformation.aspx?app=83920>

<http://water.nv.gov/permitinformation.aspx?app=83921>

<http://water.nv.gov/permitinformation.aspx?app=83922>

Bunkerville Irrigation Company Permits:

<http://water.nv.gov/permitinformation.aspx?app=13222>

<http://water.nv.gov/permitinformation.aspx?app=16883>

<http://water.nv.gov/permitinformation.aspx?app=19920>

Riverside Area Permits:

<http://water.nv.gov/permitinformation.aspx?app=3085>

<http://water.nv.gov/permitinformation.aspx?app=85504>

Appendix C. Monthly BIC and MIC Acre Feet Per Share
Calculations

Table C-1– BIC Monthly Breakdown of Water Rights and Share Volumes

| BIC Monthly Breakdown of Water Rights and Share Volumes | | | | | | | | | | | | | | |
|---|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|------------|
| Notation | Description | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
| A | # Days | 31 | 28 | 31 | 30 | 31 | 30 | 31 | 31 | 30 | 31 | 30 | 31 | 365 |
| B | Pre-BCPA POU (Acres) | 895.8 | 895.8 | 895.8 | 895.8 | 895.8 | 895.8 | 895.8 | 895.8 | 895.8 | 895.8 | 895.8 | 895.8 | |
| C | Post-Certificate 3509 (Acres) | 123.83 | 123.83 | 123.83 | 123.83 | 123.83 | 123.83 | 123.83 | 123.83 | 123.83 | 123.83 | 123.83 | 123.83 | |
| D | Post-Certificate 5343 (Acres) | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | 120. | |
| E = B + C + D | Total BIC Acreage | 1,139.63 | 1,139.63 | 1,139.63 | 1,139.63 | 1,139.63 | 1,139.63 | 1,139.63 | 1,139.63 | 1,139.63 | 1,139.63 | 1,139.63 | 1,139.63 | |
| F | Pre-BCPA (AF / Acre / Month) | .6149 | .5554 | .8784 | .8501 | .8784 | .8501 | .8784 | .8784 | .8501 | .6149 | .5951 | .6149 | 9.06 |
| G | Post-Certificate 3509 Duty | .6151 | .5556 | .6142 | .5943 | .6142 | .5943 | .6142 | .6142 | .5943 | .6151 | .5952 | .6151 | 7.24 |
| H | Post-Certificate 5343 Duty | .4247 | .3836 | .4247 | .411 | .4247 | .411 | .4247 | .4247 | .411 | .4247 | .411 | .4247 | 5. |
| I = ((F*B)+(G*C)+(H*D))/E | Weighted Avg Duty | .5949 | .5373 | .8019 | .776 | .8019 | .776 | .8019 | .8019 | .776 | .5949 | .5757 | .5949 | 8.43 |
| J = B * F | Total Pre-BCPA Rights AF / Month | 550.814 | 497.5094 | 786.8771 | 761.494 | 786.8771 | 761.494 | 786.8771 | 786.8771 | 761.494 | 550.814 | 533.0458 | 550.814 | 8,115. |
| K = (C*G) + (D*H) | Total Post Rights AF / Month | 127.1245 | 114.8221 | 127.0103 | 122.9132 | 127.0103 | 122.9132 | 127.0103 | 127.0103 | 122.9132 | 127.1245 | 123.0237 | 127.1245 | 1,496. |
| L = J + K | Total Volume AF/ Month | 677.9385 | 612.3315 | 913.8874 | 884.4072 | 913.8874 | 884.4072 | 913.8874 | 913.8874 | 884.4072 | 677.9385 | 656.0695 | 677.9385 | 9,610.9876 |
| Sh | Total BIC Shares | 1,038. | 1,038. | 1,038. | 1,038. | 1,038. | 1,038. | 1,038. | 1,038. | 1,038. | 1,038. | 1,038. | 1,038. | |
| P = J/Sh | Pre-BCPA Acre-Feet per Share Per Month | .5306 | .4793 | .7581 | .7336 | .7581 | .7336 | .7581 | .7581 | .7336 | .5306 | .5135 | .5306 | 7.82 |
| Q = K/Sh | Post-BCPA Acre-Feet per Share Per Month | .1225 | .1106 | .1224 | .1184 | .1224 | .1184 | .1224 | .1224 | .1184 | .1225 | .1185 | .1225 | 1.44 |
| | | .6531 | .5899 | .8804 | .852 | .8804 | .852 | .8804 | .8804 | .852 | .6531 | .6321 | .6531 | 9.26 |

| Notation for AF/Day | AF/Acre From Decree (Permit 83920) | Days in Season | AF/Day | |
|---------------------|------------------------------------|----------------|--------|----------|
| S | Summer (March to September) | 6.06 | 214 | 0.028321 |
| W | Winter (October to February) | 3.00 | 151 | 0.019835 |
| | | 9.06 | 365 | |

Table C-2 – MIC Monthly Breakdown of Water Rights and Share Volumes

| MIC Monthly Breakdown of Water Rights and Share Volumes | | | | | | | | | | | | | | |
|---|--|-----------|----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-----------|-----------|-----------|-----------|
| Notation | Description | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
| A | # Days | 31 | 28 | 31 | 30 | 31 | 30 | 31 | 31 | 30 | 31 | 30 | 31 | 365 |
| B | Permit 83920 (Acres) | 1,067.37 | 1,067.37 | 1,067.37 | 1,067.37 | 1,067.37 | 1,067.37 | 1,067.37 | 1,067.37 | 1,067.37 | 1,067.37 | 1,067.37 | 1,067.37 | |
| C | Permit 83921 and 83922 (Acres) | 468. | 468. | 468. | 468. | 468. | 468. | 468. | 468. | 468. | 468. | 468. | 468. | |
| D=B+C | Total MIC POU (acres) | 1,535.37 | 1,535.37 | 1,535.37 | 1,535.37 | 1,535.37 | 1,535.37 | 1,535.37 | 1,535.37 | 1,535.37 | 1,535.37 | 1,535.37 | 1,535.37 | |
| E=A*(Summer or Winter) | Permit 83920 Duty Pre-BCPA (AF/ Acre / Month) | .6149 | .5554 | .8784 | .8501 | .8784 | .8501 | .8784 | .8784 | .8501 | .6149 | .5951 | .6149 | 9.06 |
| F= (4.5/365)*A | Permit 83921 Duty Pre-BCPA (AF/ Acre / Month) | .3822 | .3452 | .3822 | .3699 | .3822 | .3699 | .3822 | .3822 | .3699 | .3822 | .3699 | .3822 | 4.5 |
| G= [(B*E)+(C*F)] / (B+C) | Total MIC Pre-BCPA Duty (AF/ Acre / Month) | .544 | .4913 | .7272 | .7037 | .7272 | .7037 | .7272 | .7272 | .7037 | .544 | .5264 | .544 | 7.67 |
| H = (0.5/365)*A | Permit 83922 Duty Post-BCPA (AF/ Acre / Month) | .0425 | .0384 | .0425 | .0411 | .0425 | .0411 | .0425 | .0425 | .0411 | .0425 | .0411 | .0425 | .5 |
| I = [(B*E)+(C*F)+(C*H)]/(B+C+H) | Total MIC Duty (AF/ Acre / Month) | .5569 | .503 | .7401 | .7162 | .7401 | .7162 | .7401 | .7401 | .7162 | .5569 | .5389 | .5569 | 7.82 |
| J = D * G | Total Volume Pre-BCPA Rights (AF/Month) | 835.1756 | 754.3521 | 1,116.4512 | 1,080.4366 | 1,116.4512 | 1,080.4366 | 1,116.4512 | 1,116.4512 | 1,080.4366 | 835.1756 | 808.2344 | 835.1756 | 11,775.56 |
| K= C * H | Total Volume Post-BCPA Rights (AF/Month) | 19.874 | 17.9507 | 19.874 | 19.2329 | 19.874 | 19.2329 | 19.874 | 19.874 | 19.2329 | 19.874 | 19.2329 | 19.874 | 234. |
| L = J + K | Total Volume MIC Water Rights (AF/Month) | 855.04953 | 772.3028 | 1,136.32516 | 1,099.66951 | 1,136.32516 | 1,099.66951 | 1,136.32516 | 1,136.32516 | 1,099.66951 | 855.04953 | 827.46729 | 855.04953 | 12,009.56 |
| N | Total MIC Shares | 1,673.25 | 1,673.25 | 1,673.25 | 1,673.25 | 1,673.25 | 1,673.25 | 1,673.25 | 1,673.25 | 1,673.25 | 1,673.25 | 1,673.25 | 1,673.25 | |
| N = J / L | AF/Share Pre BCPA | .49913 | .45083 | .66724 | .64571 | .66724 | .64571 | .66724 | .66724 | .64571 | .49913 | .48303 | .49913 | 7.04 |
| O = K/N | Acres-Feet per Share Post BCPA | .01188 | .01073 | .01188 | .01149 | .01188 | .01149 | .01188 | .01188 | .01149 | .01188 | .01149 | .01188 | .14 |
| P = N + O | Total MIC AF Per shares | .51101 | .46156 | .67911 | .65721 | .67911 | .65721 | .67911 | .67911 | .65721 | .51101 | .49453 | .51101 | 7.18 |

| Notation for AF/Day | AF/Acre From Decree (Permit 83920) | Days in Season | AF/Day |
|---------------------|------------------------------------|----------------|--------------|
| S | Summer (March to September) | 6.06 | 214 0.028321 |
| W | Winter (October to February) | 3.00 | 151 0.019835 |
| | | 9.06 | 365 |

Appendix D. MIC VVWD Unused Share Calculations

Table D-1 – VVWD Share Lease Worksheet 2022

| VVWD Share Lease Worksheet 2022 | | | | | | | | | | | | | | |
|---|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------|
| Notation | AF | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Total |
| VVWD Shares | Total MIC Shares Owned by VVWD (shares) | 403.00 | 403.00 | 403.00 | 403.00 | 403.00 | 403.00 | 403.00 | 403.00 | 403.00 | 403.00 | 403.00 | 403.00 | |
| | Pre-BCPA AF/Share/Month | 0.50 | 0.45 | 0.67 | 0.65 | 0.67 | 0.65 | 0.67 | 0.67 | 0.65 | 0.50 | 0.48 | 0.50 | 7.04 |
| | Post-BCPA AF/Share/Month | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.14 |
| | Total AF/Share/Month | 0.51 | 0.46 | 0.68 | 0.66 | 0.68 | 0.66 | 0.68 | 0.68 | 0.66 | 0.51 | 0.49 | 0.51 | 7.18 |
| A = VVWD Shares * MIC AF per Share Pre | Total VVWD Pre-BCPA Water in MIC Shares (af) | 201.15 | 181.68 | 268.90 | 260.22 | 268.90 | 260.22 | 268.90 | 268.90 | 260.22 | 201.15 | 194.66 | 201.15 | 2,836.05 |
| B = VVWD Shares * MIC AF per Share Post | Total VVWD Post-BCPA Water in MIC Shares (af) | 4.79 | 4.32 | 4.79 | 4.63 | 4.79 | 4.63 | 4.79 | 4.79 | 4.63 | 4.79 | 4.63 | 4.79 | 56.36 |
| C = MIC Meter Data Submitted to NDWR | MIC Meter Wolf Creek (af) | 31.28 | 52.07 | 46.38 | 67.13 | 85.89 | 62.77 | 78.53 | 92.25 | 87.91 | 67.61 | 32.33 | 20.54 | 724.70 |
| D = MIC Meter Data Submitted to NDWR | MIC Meter Oasis / Pulte (af) | 0.00 | 31.40 | 38.06 | 127.95 | 143.37 | 193.27 | 211.86 | 118.90 | 161.57 | 90.14 | 15.86 | 0.00 | 1,132.38 |
| E = From Table Below | Other Shares that use Oasis/Pulte Meter (af) | 58.77 | 53.08 | 78.10 | 75.58 | 78.10 | 75.58 | 78.10 | 78.10 | 75.58 | 58.77 | 56.87 | 58.77 | 825.38 |
| F = C + (D-E) if D > E | VVWD MIC Metered Diversions (af) | 31.28 | 52.07 | 46.38 | 119.50 | 151.16 | 180.46 | 212.30 | 133.05 | 173.90 | 98.99 | 32.33 | 20.54 | 1,251.97 |
| G = A - (F-B) | Remaining Pre-BCPA VVWD Water to be leased (af) | 174.66 | 133.94 | 227.30 | 145.35 | 122.52 | 84.39 | 61.38 | 140.63 | 90.96 | 106.95 | 166.97 | 185.40 | 1,640.44 |
| H = If F <= B, B-F | Remaining Post-BCPA VVWD Water to be leased (af) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| I = G / AF per Share Pre | Max Potential VVWD Pre-BCPA Shares Leased Per Month | 349.92 | 297.09 | 340.66 | 225.10 | 183.63 | 130.70 | 92.00 | 210.76 | 140.86 | 214.27 | 345.66 | 371.44 | |
| J | Deduction Due to Overuse in MIC** (shares) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 51.31 | 1.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | |
| K = I - J if I > 0, else 0 | Final VVWD Shares Leased | 349.92 | 297.09 | 340.66 | 225.10 | 183.63 | 79.39 | 90.94 | 210.76 | 140.86 | 214.27 | 345.66 | 371.44 | |
| L = MIC AF per Share Pre * K | Final Volume Leased (af) | 174.66 | 133.94 | 227.30 | 145.35 | 122.52 | 51.26 | 60.68 | 140.63 | 90.96 | 106.95 | 166.97 | 185.40 | 1,606.60 |
| M = G - L | Annual Exceedence (af) | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 33.13 | 0.71 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 33.84 |

| Other Shares that Go Through Meters | Shares |
|-------------------------------------|------------|
| Oasis GC (Oasis/Pulte Meter) | 100 |
| Mesquite Vistas (Oasis/Pulte Meter) | 15 |
| Total | 115 |

** Calculated by determining if there is overuse in Table 5-1 of the Virgin River ICS Report then backing that amount off in this table.

Appendix E.

BIC Letter of Concurrence



100 City Parkway, Suite 700 • Las Vegas, NV 89106
 MAILING ADDRESS: PO Box 99956 • Las Vegas, NV 89193-9956
 702-862-3400 • snwa.com

March 1, 2023

Robert Bunker, General Manager
 Bunkerville Irrigation Company
 P.O. Box 7150
 Bunkerville, Nevada 89007

Dear Mr. Bunker:

The Southern Nevada Water Authority (SNWA) would like to confirm the number of Bunkerville Irrigation Company (BIC) shares SNWA owned and leased during Calendar Year (CY) 2022. This letter of concurrence verifying the number of shares controlled will be provided to the Bureau of Reclamation and the Nevada State Engineer's Office in support of SNWA's accounting of its BIC water rights, in lieu of providing them copies of owned share certificates and numerous lease agreements.

Please review the table below detailing the shares that SNWA controlled during CY 2022. Please sign and return this letter confirming that these SNWA-controlled shares were not used for irrigation during CY 2022.

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Owned | 456 | 456 | 456 | 456 | 456 | 456 | 456 | 456 | 456 | 456 | 456 | 456 |
| Leased | 515 | 515 | 515 | 515 | 515 | 515 | 515 | 515 | 515 | 515 | 515 | 515 |
| Total | 971 | 971 | 971 | 971 | 971 | 971 | 971 | 971 | 971 | 971 | 971 | 971 |

Thank you for your assistance. If you have any questions, please contact Sean Collier at (702) 691-5375.

Sincerely,

Zane L. Marshall
 Director, Water Resources

Concurrence by:

Robert Bunker, General Manager
 Bunkerville Irrigation Company

Date

SNWA MEMBER AGENCIES

Big Bend Water District • Boulder City • Clark County Water Reclamation District • City of Henderson • City of Las Vegas • City of North Las Vegas • Las Vegas Valley Water District

Appendix F.

MIC Letter of Concurrence



SOUTHERN NEVADA WATER AUTHORITY™

100 City Parkway, Suite 700 • Las Vegas, NV 89106
MAILING ADDRESS: P.O. Box 99956 • Las Vegas, NV 89193-9956
702-862-3400 • snwa.com

March 1, 2023

Kraig Hafen, Manager
Mesquite Irrigation Company
P.O. Box 142
Mesquite, Nevada 89024

Dear Mr. Hafen:

The Southern Nevada Water Authority (SNWA) would like to confirm the number of Mesquite Irrigation Company (MIC) shares SNWA owned and leased during Calendar Year (CY) 2022. This letter of concurrence verifying the number of shares controlled will be provided to the Bureau of Reclamation and the Nevada State Engineer's Office in support of SNWA's accounting of its MIC water rights, in lieu of providing them copies of owned share certificates and numerous lease agreements.

Please review the attached table for the correct number of shares that SNWA has described it controlled during CY 2022. Please sign and return this letter confirming SNWA-controlled shares were not used for irrigation during CY 2022.

Thank you for your assistance. If you have any questions, please contact Sean Collier at (702) 691-5375.

Sincerely,

Zane L. Marshall
Director, Water Resources

Concurrence by:

Kraig Hafen, Manager
Mesquite Irrigation Company

3-6-23

Date

SNWA MEMBER AGENCIES

Big Bend Water District • Boulder City • Clark County Water Reclamation District • City of Henderson • City of Las Vegas • City of North Las Vegas • Las Vegas Valley Water District

2022 NIC Shares Controlled by SNWA

| Notation | | Jan | Feb | Mar | April | May | June | July | Aug | Sept | Oct | Nov | Dec |
|---------------|---------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| A | Owned by SNWA | 144.8330 | 147.8330 | 147.8330 | 147.8330 | 147.8330 | 150.3330 | 168.3330 | 168.3330 | 178.3330 | 178.3330 | 179.3330 | 178.3330 |
| B | Leased From Shareholders | 787.3320 | 787.3320 | 787.3320 | 787.3320 | 787.3320 | 787.3320 | 769.3320 | 769.3320 | 769.3320 | 769.3320 | 769.3320 | 769.3320 |
| C | Leased Monthly Shares from VVWD | 349.9232 | 297.0944 | 340.6579 | 225.1022 | 183.6258 | 79.3851 | 90.9377 | 210.7618 | 140.8602 | 214.2721 | 345.6615 | 371.4372 |
| D = A + B + C | Total SNWA Shares Controlled | 1,282.0882 | 1,232.2594 | 1,275.8229 | 1,160.2672 | 1,118.7908 | 1,017.0501 | 1,028.6027 | 1,148.4268 | 1,088.5252 | 1,161.9371 | 1,293.3265 | 1,319.1022 |