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2. Reclamation's letter to SNWA dated December 21, 2018, approving SNWA's Plans for the Creation of Muddy River Tributary Conservation ICS and Virgin River Tributary Conservation ICS and System Conservation Water for Calendar Year 2019.
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6. Reclamation's letter to SNWA dated May 15, 2020, verifying the amount of Extraordinary Conservation ICS created by SNWA in Calendar Year 2019.

SOUTHERN NEVADA WATER AUTHORITY
1001 South Valley View Boulevard • Las Vegas, NV 89153
(702) 258-3939 • snwa.com

July 2, 2018

Terry Fulp, Ph.D., Regional Director
Bureau of Reclamation
Lower Colorado Regional Office
P.O. Box 61470
Boulder City, Nevada 89006

Dear Dr. Fulp: Terry

SUBJECT: SOUTHERN NEVADA WATER AUTHORITY PLANS OF CREATION FOR MUDDY AND VIRGIN RIVER TRIBUTARY CONSERVATION INTENTIONALLY CREATED SURPLUS CALENDAR YEAR 2019

Enclosed are the Southern Nevada Water Authority (SNWA) 2019 Plans of Creation (Plans) for Tributary Conservation Intentionally Created Surplus (ICS) for the Muddy and Virgin Rivers in Nevada. These Plans describe how SNWA intends to meet all the requirements as outlined in Section 3 of the *Colorado River Interim Guidelines Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead.*

SNWA anticipates creating Tributary Conservation ICS System Conservation water during Calendar Year 2019 are listed in the table below:

Calendar Year	**Planned Volume, in acre-feet/year**		
	Virgin River ICS	Muddy River ICS	System Conservation
2019	20,000	22,000	860

If you have any questions, please contact me at (702) 822-3378 or Sean Collier at (702) 691-5375.

Sincerely,

Colby N. Pellegrino
Director, Water Resources Department

Enclosures (2)

cc: Jayne Harkins, Director, Colorado River Commission of Nevada
Steve Hvinden, Office Director, Lower Colorado River Regional Office, Bureau of Reclamation w/enclosures
Paul Matuska, Manager, Water Conservation and Accounting Group, Lower Colorado River Regional Office, Bureau of Reclamation w/enclosures

Muddy River Tributary Conservation
Intentionally Created Surplus
Plan of Creation
Calendar Year 2019

Intentionally Created Surplus (ICS)

The Secretary of Interior (Secretary) issued a Record of Decision for *Colorado River Interim Guidelines for Lower Basin Shortages and the 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, 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. The conservation of tributary flows into the mainstream of the Colorado River is limited to water rights that have been used for a significant period of years and were perfected prior to June 25, 1929, the effective date of the Boulder Canyon Project Act.

To generate ICS, the Guidelines require a Contract holder to enter into a Delivery Agreement with the [United States of America] and a Forbearance Agreement with Lower Basin Contract holders. On December 13, 2007, the Southern Nevada Water Authority (SNWA) and Colorado River Commission of Nevada (CRC) entered into a Forbearance Agreement with Lower Basin Contract holders. Exhibit A of the Forbearance Agreement describes the surface water rights on the Muddy and Virgin Rivers, pre-dating June 25, 1929, which SNWA plans to use to create Tributary Conservation ICS, and how the Muddy River flows reaching Lake Mead will be calculated.

SNWA and CRC entered into a Delivery Agreement with the United States of America on December 13, 2007. Exhibit A from the Forbearance Agreement is attached to the Delivery Agreement.

The Guidelines, Forbearance Agreement, and Delivery Agreement require that a plan for the creation of ICS (ICS Plan) be submitted to the Secretary of Interior demonstrating how all requirements of the Guidelines will be met. Section G.3.B.1 of the Guidelines outline that an ICS Plan will consist of, at a minimum, the following information:

1) Project description including what extraordinary measures will be taken to conserve or import the water
2) Term of activity
3) Estimate of the amount of water that will be conserved
4) Proposed methodology for verification of the amount of water conserved

5) Documentation regarding any state or federal permits or other regulatory approvals that have already been obtained by the Contractor or that need to be obtained prior to the creation of ICS

The following sections document each of these requirements. It is important to note that the majority of the information presented in the following sections is reiterated from Exhibit A of the Forbearance Agreement.

Project Description

Muddy River water rights that will be utilized to create Tributary Conservation pursuant to this ICS Plan and Exhibit A of the Forbearance Agreement are decreed Nevada state water rights with an established history of use prior to 1927. Per Exhibit A of the Forbearance Agreement, SNWA is specifically allowed to utilize any and all pre-June 25, 1929, Muddy River water rights to create Tributary Conservation ICS regardless of those water rights history of use after 1928.

The Muddy River originates from regional springs in the Muddy River Springs Area in Nevada and flows into the Overton Arm of Lake Mead (Figure 1). The Muddy River Springs that form the Muddy River headwaters are regional springs with relatively consistent flows, consequently the Muddy River flows are also consistent. The average annual flow of the Muddy River at U.S. Geological Survey (USGS) gaging station *09419000 Muddy River near Glendale, NV,* (Glendale Gage) for water years 1951 to 2017 was 30,728 acre-feet per year (afy).

Muddy River water rights were decreed in 1920 and the decree allocated the entire flow of the river. On the lower Muddy River, the entire flow of the river is diverted for agricultural use by the Muddy Valley Irrigation Company (MVIC). SNWA owns and is leasing shares in MVIC. In addition, SNWA leases and owns decreed Muddy River water rights on the upper reach of the Muddy River, which are not represented by MVIC shares. For the purposes of this plan, the point that separates the upper and lower Muddy River is the Glendale Gage.

Muddy River water rights and MVIC shares controlled by SNWA will be conveyed to Lake Mead's Overton Arm. This water constitutes pre-June 25, 1929, water rights and represents the full right that is and has been historically used for agricultural purposes or could have otherwise been diverted from the Muddy River and fully consumed by SNWA within Nevada.

Tributary ICS Muddy River water conveyed to Lake Mead will pass through the historic points of diversion and either flow through the irrigation company ditches and return to the mainstream of the Muddy River further downstream or will remain in the mainstream of the Muddy River.

Term of Activity

The term of activity for this ICS Plan is Calendar Year 2019. SNWA anticipates receiving Tributary Conservation ICS credits for Muddy River water into the foreseeable future. As more water rights are acquired and more land is fallowed, the amount of water claimed as Tributary Conservation ICS is anticipated to increase. Subsequent ICS Plans will be updated to reflect the acquired pre-June 25, 1929, water rights.

Estimate of Water Conserved

For Calendar Year 2019, SNWA anticipates creating up to 22,000 afy of Muddy River Tributary Conservation ICS from SNWA controlled water rights described below.

Upper Muddy River Water Rights

1) SNWA lease of up to 2,001 afy leased from the Church of Latter Day Saints (LDS Lease) pursuant to Certificate Nos. 6795, 10944, 10951, 10952, and 10953 (Figure 2).

2) Muddy River decree proofs V01619 and V01631, also referred to as the Cox and Mitchell Rights, for a total of 111 afy that SNWA acquired with the purchase of the Warm Springs Natural Area (Figure 2).

3) Up to 1,040 afy pursuant to the Muddy River decree owned by SNWA (commonly referred to as the Hidden Valley rights) (Figure 3).

4) Up to 3,700 afy pursuant to Permits 73482, 73483, and 73695 held in a long-term lease by the Moapa Band of Paiutes and subleased to SNWA. (Figure 4).

5) Up to 811 afy of decreed Muddy River water under Certificate 9609 which was acquired by SNWA (referred to as the Knox and Holmes right in this document) (Figure 5).

6) Up to 3,000 afy pursuant to Certificates 7316 and 13851 held by MVIC and being leased by SNWA.

Lower Muddy River Water Rights (MVIC Shares)

The volume of water represented by MVIC shares is quantified based on a percentage of the total flows (divided by total shares) in the Muddy River at the Glendale gage less the Upper Muddy River rights owned or controlled by SNWA that reach the gage (Figure 1).

1) SNWA-Owned MVIC Shares

   a) 1,009 preferred shares in the MVIC estimated to represent approximately 8,000 afy in 2019.

   b) 2,839 common shares in the MVIC estimated to represent approximately 2,000 afy in 2019.

   c) If additional shares are acquired, the water rights represented by the shares will be included in the year-end Certification Report.

   A portion of the shares owned by SNWA have a provision for the seller to lease the shares back from SNWA for agricultural use. The amount of water being leased-back by sellers varies by year and is not known until just before the beginning of the water year when sellers must notify SNWA of their intention to lease the water back for agricultural use. As an example, in CY 2017 approximately 1,800 afy of purchased shares were leased back to sellers.

2) SNWA-Leased MVIC Shares

   a) The lease contracts for both preferred and common shares in MVIC are based on water years (October 1 to September 30) and are subject to change.

   a) Approximately 200 preferred shares could be leased in the MVIC for 2019. For planning purposes the lease of 200 preferred shares for CY 2019 are estimated to represent about 1,400 afy.

   b) Up to 400 common shares could be leased in the MVIC for 2019. For planning purposes the lease of 400 common shares for CY 2019 are estimated to represent about 200 afy.

If additional shares or water rights are acquired, they will be included in the year-end Certification Report.

Methodology

Muddy River Flows reaching Lake Mead will be calculated as follows:

Flows measured by USGS at the Glendale, NV gage
- (minus) consumptive uses by agriculture below the Glendale gage
- (minus) direct uses by industry below the Glendale gage
- (minus) channel evapotranspiration below Glendale gage to Lake Mead
- (minus) evapotranspiration from the managed acreage on the Overton Wildlife Management Area

= Total Flow to Lake Mead (Elevation 1,220 AMSL)

- To calculate the consumptive uses of crops and phreatophytes in the Lower Muddy River, a combination of data from metered diversions, the Lower Colorado River Accounting System, Nevada Division of Water Resources' (NDWR) *Evapotranspiration (ET) and Net Irrigation Requirements for Nevada* report, and locally measured reference ET data will be used.

- If the total amount of water represented by the rights controlled by SNWA described in this ICS Plan and documented in the Certification Report (described below) is found to be equal to or less than the amount of water calculated to reach Lake Mead, then SNWA shall be credited with the full amount of water rights described in the ICS Plan.

- If the total amount of water rights described in this ICS Plan and documented in the Certification Report is more than the amount calculated to reach Lake Mead, SNWA shall be credited with only the amount calculated to reach Lake Mead.

1) Proof of Fallowed Land:

a) To demonstrate the fallowing of land and the conservation of water, aerial photography will be acquired, verified, and analyzed during the calendar year. A Geographic Information System (GIS) will be used to compare the current irrigated acreage with acreage defined by the water rights as approved by NDWR and the Muddy River decree. On the attached figures, the original Place of Use (POU) is shown as a red polygon. If a subsequent Proof of Beneficial Use (PBU) map was submitted to NDWR, the PBU boundaries are included as yellow polygons for reference. PBU maps were not filed for all decreed rights, because they are not required for vested rights- implying beneficial use was initiated prior to the establishment of Nevada Water Law in 1905.

2) Certification Report:

a) In compliance with Section G.3.D of the Guidelines, a Certification Report will be submitted for the Secretary's review and verification, demonstrating the amount of ICS created and that the method of creation was consistent with this ICS Plan, the Delivery Agreement and Forbearance Agreement. The Certification Report will be submitted to the Secretary in the year following the creation of the ICS.

b) The Certification Report, at a minimum, will include:

- Proof of acreage fallowed using aerial photography and GIS
- Calculations of the amount of pre-June 25, 1929, water rights reaching Lake Mead, including gage records of Muddy River flows
- Documentation and calculations of the amount of SNWA owned and controlled pre-June 25, 1929, water rights reaching Lake Mead
- Letter from the NDWR verifying the quantity of water conveyed through the Muddy River system to the Colorado River mainstream for the purpose of creating ICS

Regulatory Approvals

Tributary Conservation ICS on the Muddy River was evaluated in the Environmental Impact Statement and Record of Decision (dated December 13, 2007) for the Guidelines. Compliance for Muddy River Tributary Conservation ICS was also obtained under Section 7 of the Endangered Species Act through formal consultation with the U.S. Fish and Wildlife Service. The Final Biological Opinion for the Guidelines was issued December 12, 2007.

Nevada Revised Statute 533.030 declares that surface and groundwater rights conveyed to Lake Mead for the purpose of creating ICS are a beneficial use.

The NDWR issued State Engineer Order 1194 on July 15, 2008, regarding Tributary Conservation ICS on the Muddy River. The Order outlines the Nevada water rights on the Muddy River and the following process for verification of Muddy River rights being conveyed to the Colorado River mainstream:

> "An entity with an ICS Delivery Contract, which uses water rights adjudicated under the Muddy River Decree for the creation of ICS, shall file an annual report with the State Engineer's Office. The annual report shall give a full accounting of adjudicated water rights on the Muddy River or its tributaries owned or controlled by the entity with an ICS Delivery Contract, which have been conveyed through the Muddy River system to the Colorado River mainstream for the creation of ICS. After review of the annual report, the State Engineer shall issue a letter verifying the quantity of water conveyed through the Muddy River system to the Colorado River mainstream for the purpose of creating ICS."

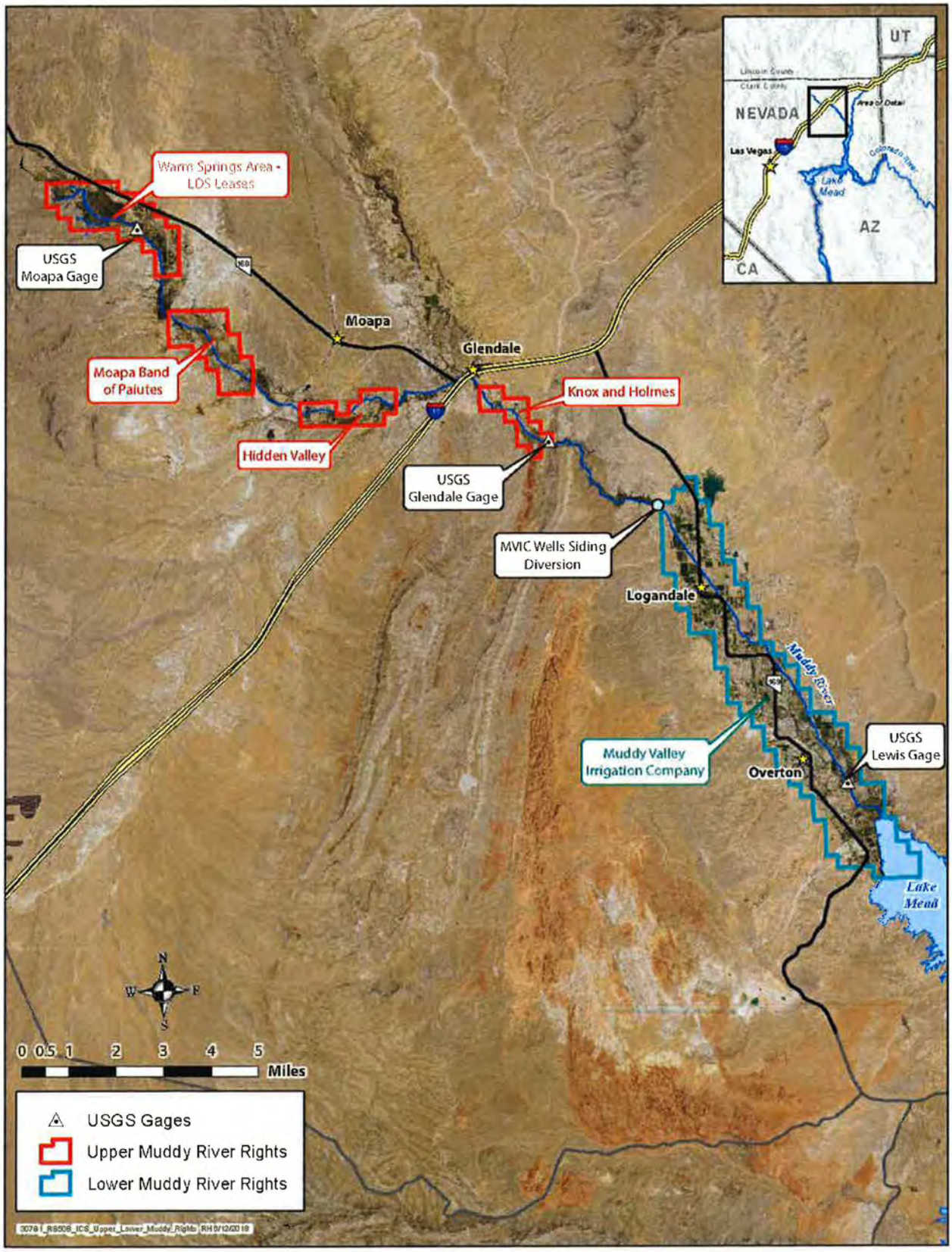


Figure 1 - Muddy River

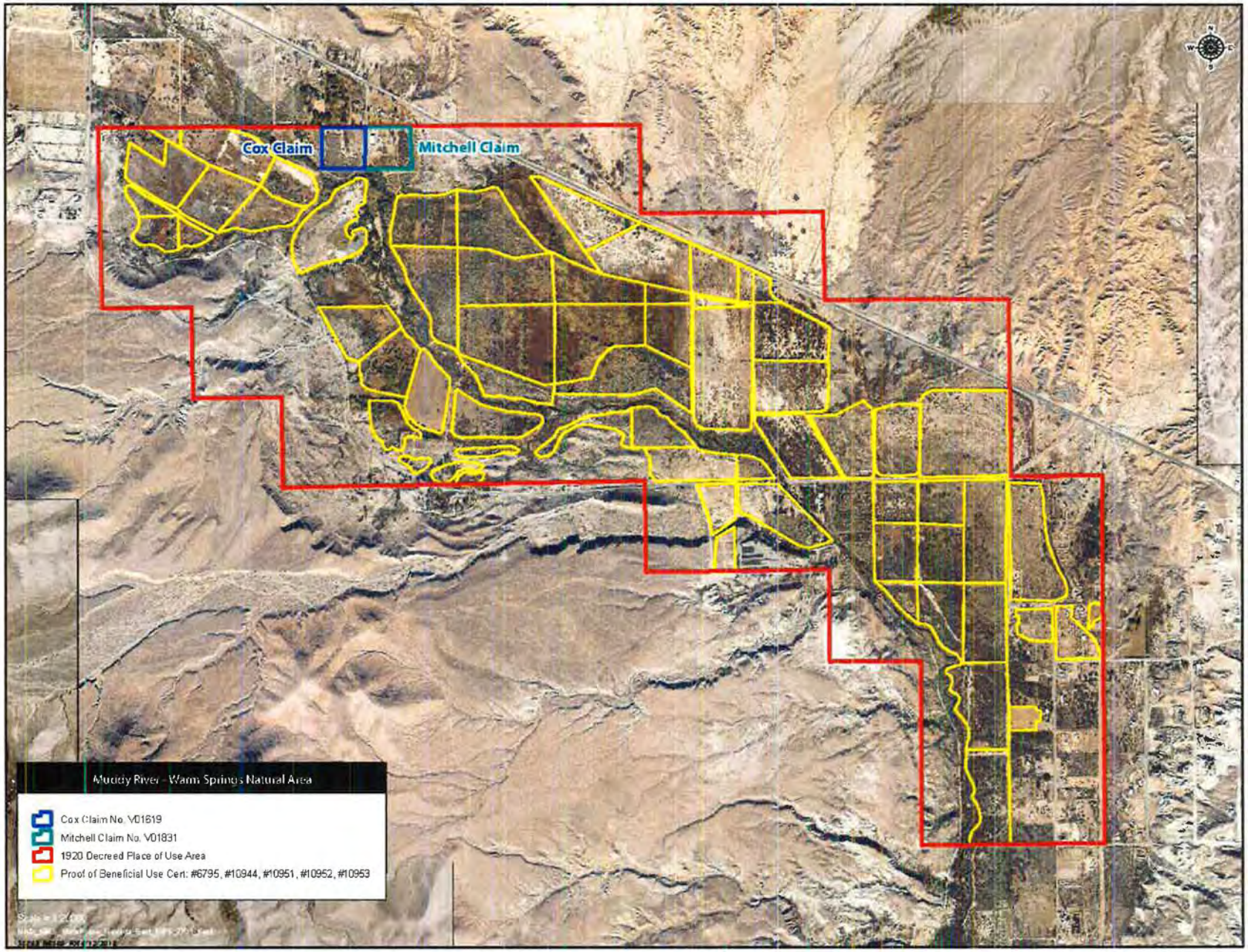


Figure 2 - LDS Water Rights POU and PBU and Cox and Mitchell POU. Aerial Photography December 2017

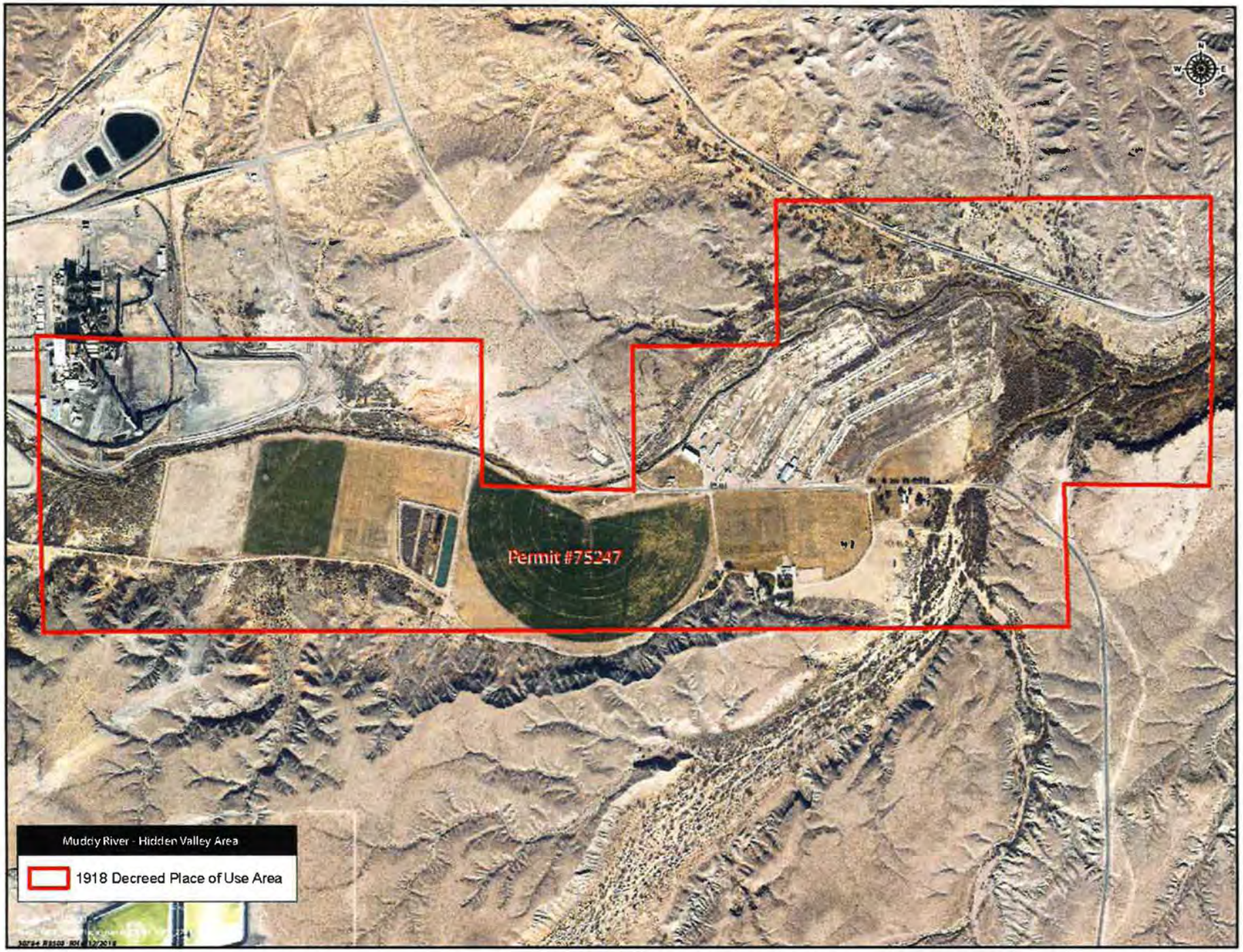


Figure 3 - Hidden Valley Decreed Water Right POU. Aerial Photography December 2017

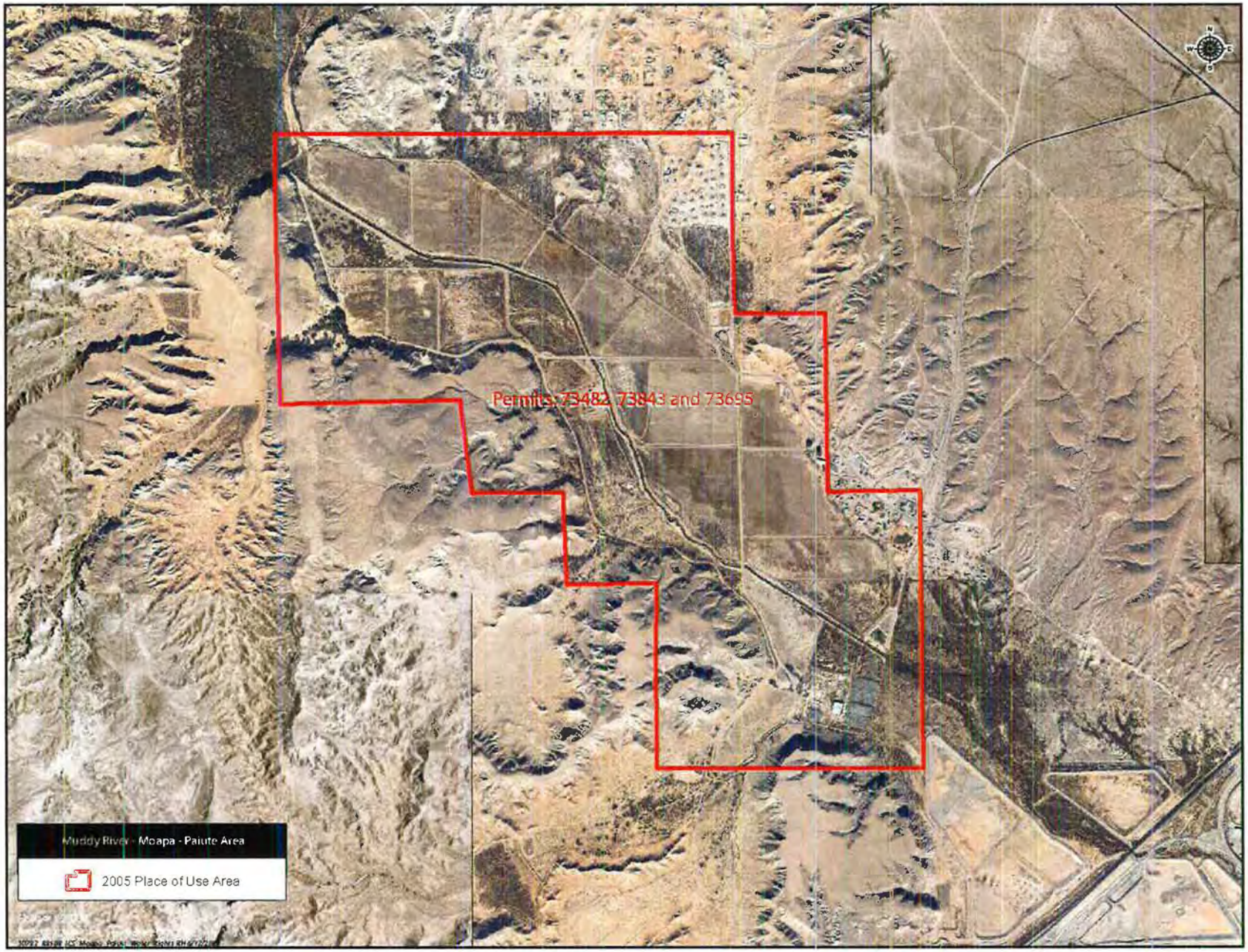


Figure 4 - Moapa Band of Paiutes POU. Aerial Photography December 2017

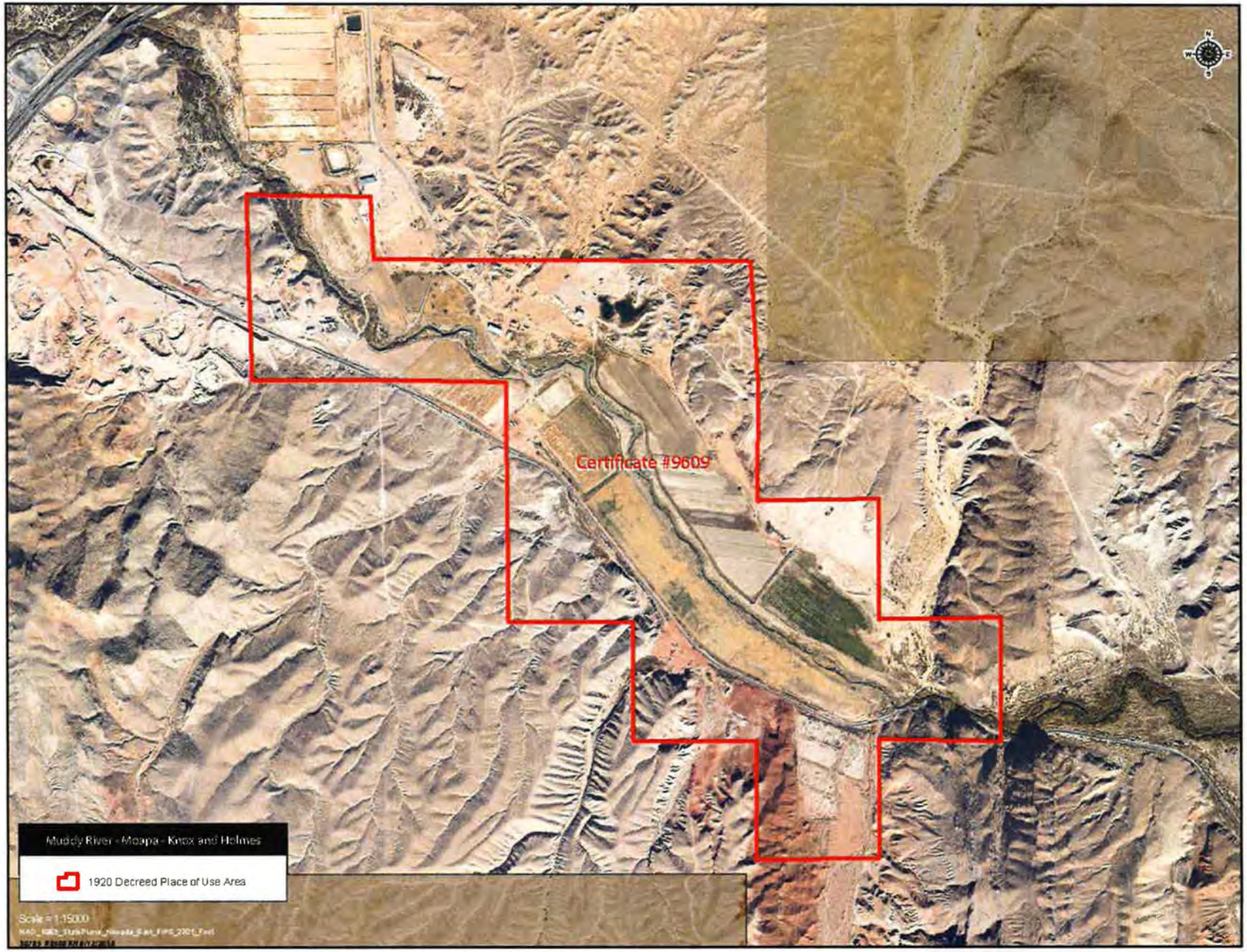


Figure 5 – Knox and Holmes Decreed Water Right POU. Aerial Photography December 2017

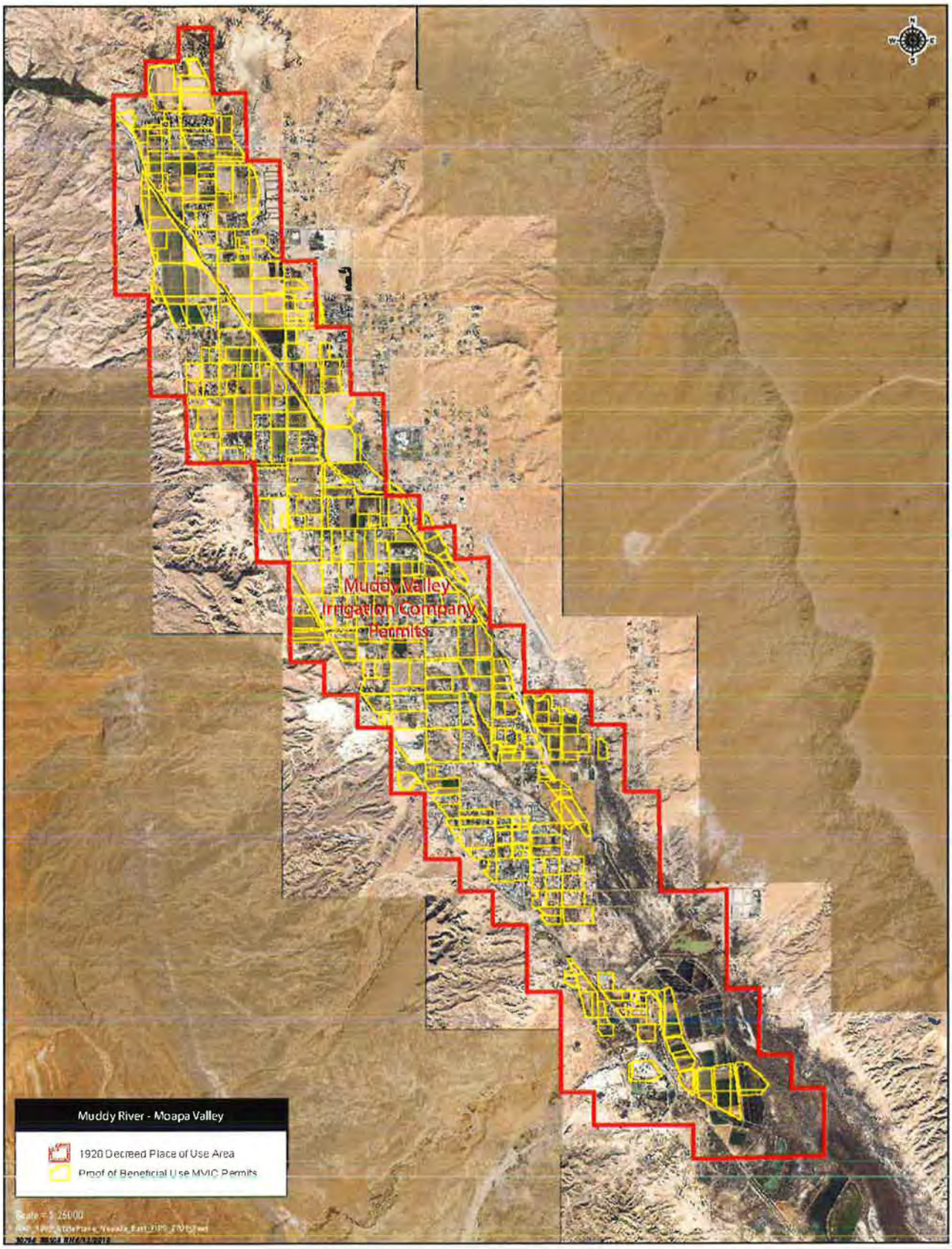


Figure 6 - MVIC Decreed POU and PBU. Aerial Photography December 2017

Virgin River Tributary Conservation Intentionally Created Surplus and System Conservation Water Plan of Creation Calendar Year 2019

Introduction

Intentionally Created Surplus (ICS)

The Secretary of Interior (Secretary) issued a Record of Decision for *Colorado River Interim Guidelines for Lower Basin Shortages and the 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, 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. The conservation of tributary flows into the mainstream of the Colorado River is limited to water rights that have been used for a significant period of years and were perfected prior to June 25, 1929, the effective date of the Boulder Canyon Project Act.

To generate ICS, the Guidelines require a Contract holder to enter into a Delivery Agreement with the United States of America and a Forbearance Agreement with Lower Basin Contract holders. On December 13, 2007, the Southern Nevada Water Authority (SNWA) and Colorado River Commission of Nevada (CRC) entered into a Forbearance Agreement with Lower Basin Contract holders. Exhibit A of the Forbearance Agreement describes the surface water rights on the Muddy and Virgin Rivers, pre-dating June 25, 1929, which SNWA plans to use to create Tributary Conservation ICS, and how the Virgin River flows reaching Lake Mead will be calculated.

SNWA and CRC entered into a Delivery Agreement with the United States of America on December 13, 2007. Exhibit A from the Forbearance Agreement is attached to the Delivery Agreement.

Pilot System Conservation Program Participation (Pilot Program)

On July 30, 2014, the U.S. Bureau of Reclamation and four municipal entities, the Central Arizona Water Conservation District, The Metropolitan Water District of Southern California, Denver Water, and SNWA entered into an agreement for a Pilot Program for funding the creation of Colorado River System water through voluntary water conservation and reductions in use.

On October 17, 2016, SNWA entered into a System Conservation Implementation Agreement (SCIA) with the Bureau of Reclamation for a Pilot Program to conserve up to 860 af per year of the Post-1929 Virgin River surface water rights that SNWA controls in the Bunkerville Irrigation Company (BIC) for a 3-year period beginning October 1, 2016 through September 30, 2019. In accordance with the SCIA, this ICS Plan of Creation describes the volumes of water that will be dedicated as System Conservation Water resulting from this Pilot Program.

ICS Plan

The Guidelines, Forbearance Agreement, and Delivery Agreement require that a plan for the creation of ICS (ICS Plan) be submitted to the Secretary of Interior demonstrating how all requirements of the Guidelines will be met. Section G.3.B.1 of the Guidelines outline that an ICS Plan will consist of, at a minimum, the following information:

1) Project description including what extraordinary measures will be taken to conserve or import the water

2) Term of activity

3) Estimate of the amount of water that will be conserved

4) Proposed methodology for verification of the amount of water conserved

5) Documentation regarding any state or federal permits or other regulatory approvals that have already been obtained by the Contractor or that need to be obtained prior to the creation of ICS

The following sections document each of these requirements. It is important to note that the majority of the information presented below is reiterated from Exhibit A of the Forbearance Agreement and Delivery Agreement.

Project Description

Tributary Conservation ICS

Virgin River water rights that will be utilized to create Tributary Conservation pursuant to this ICS Plan and Exhibit A of the Forbearance Agreement are decreed and permitted Nevada state water rights with an established history of use prior to 1927. Per Exhibit A of the Forbearance Agreement, SNWA is specifically allowed to utilize any and all pre-June 25, 1929, Virgin River water rights to create Tributary Conservation ICS regardless of those water rights history of use after 1928.

The headwaters of the Virgin River are in southwestern Utah, and the river flows through Arizona and Nevada, before terminating in Lake Mead (Figure 1). The average annual flow of the Virgin River entering Nevada at U.S. Geological Survey gaging station *09415000 Virgin River at Littlefield, AZ* for water years 1930 to 2017 was 172,078 acre-feet per year (afy).

Nevada state water rights that pre-date the Boulder Canyon Project Act on the Virgin River are comprised of pre-1905 priority surface water rights decreed by the Nevada Supreme Court in 1927 for 17,785 afy to the Bunkerville and Mesquite Irrigation Companies, and additional permitted and certificated rights authorized by the Nevada Division of Water Resources (NDWR).

Agricultural water rights acquired by SNWA will be conveyed to Lake Mead's Overton Arm. The pre-June 25, 1929, water rights conveyed to Lake Mead represent the full right that is and has been historically used for agricultural purposes or could have otherwise been diverted from the Virgin River and fully consumed by SNWA in Nevada.

Virgin River rights conveyed to Lake Mead will pass through their historic points of diversion and either flow through the irrigation company ditches and return to the mainstream of the Virgin River further downstream or will remain in the mainstream of the Virgin River. The rights controlled and documented by SNWA to flow to Lake Mead will be accounted for as Tributary Conservation ICS.

System Conservation Pilot Programs

Virgin River Post 1929 Pilot Program

In accordance with the SCIA, for the purpose of creating System Conservation Water through participation in the Pilot Program in CY 2019, SNWA will conserve up to 860 acre-feet of Virgin River water from the Post-1929 Virgin River surface water rights that SNWA controls in BIC. SNWA will use the approved methods consistent with the ICS program documented in Exhibit A of the Forbearance Agreement and described below to document the volume of conserved Virgin River water to be dedicated as Pilot Program water that will remain in the Colorado River System.

Term of Activity

The term of activity for this ICS Plan is Calendar Year 2019. SNWA anticipates receiving Tributary Conservation ICS credits for Virgin River water into the foreseeable future. As more water rights are acquired and more land is fallowed, the amount of water claimed as Tributary Conservation ICS is anticipated to increase. Subsequent ICS Plans will be updated to reflect the acquired pre-June 25, 1929, water rights.

Estimate of Water Conserved

SNWA currently owns or controls the following Virgin River rights:

1) Bunkerville Irrigation Company (Figure 2):
    a) 961 shares representing approximately 7,600 afy of Pre-1929 and 1,500 afy of Post-1929 surface water rights.
    b) These shares are owned and leased by SNWA. The lease contracts are based on water years (October 1 to September 30) and can be subject to change.
2) Mesquite Irrigation Company (Figure 3):
    a) Up to 1,400 shares representing approximately 10,000 afy of surface water rights.
    b) These shares are owned, leased, or otherwise controlled by SNWA. The lease contracts are based on water years (October 1 to September 30) and can be subject to change.
3) A portion of Certificate 1153 with a priority date of 1914 for 601.97 afy designated to irrigate a portion of 177.044 acres of land (Figure 4).

If additional shares or water rights are acquired, they will be included in the year-end Certification Report.

For Calendar Year 2019, SNWA anticipates creating up to 20,000 afy of Tributary Conservation ICS and 860 afy of System Conservation Water with the above listed water rights.

Methodology

Because the acreage represented by the water rights SNWA controls is a small percentage (< 15%) of the total annual flow of the Virgin River, Tributary Conservation ICS on the Virgin River can be calculated based on the reduction in agricultural acreage as follows:

Virgin River Calculation:

Decrease in total agricultural acreage permitted by the Nevada Division of Water Resources calculated using remote sensing & Geographic Information System (GIS)
x The duty per acre specified by the water right

= Flows to Lake Mead (Elevation 1,220 AMSL)

1) Proof of Fallowed Land

To demonstrate the fallowing of land and the conservation of water, aerial photography will be acquired, verified, and analyzed periodically during the calendar year. GIS will be used to compare the current irrigated acreage with acreage defined by the water rights as approved by the NDWR. On the attached figures 1-4, the original Place of Use is shown as a red polygon. Subsequent Proof of Beneficial Use maps were submitted to NDWR in support of additional permits and are included as yellow polygons on the figures for reference.

2) Certification Report

a) In compliance with Section G.3.D of the Guidelines, a Certification Report will be submitted for the Secretary's review and verification, demonstrating the amount of ICS created and that the method of creation was consistent with this ICS Plan, the Delivery Agreement and Forbearance Agreement. The Certification Report will be submitted to the Secretary in the year following the creation of the ICS.

b) The Certification Report, at a minimum, will include:

- Proof of acreage fallowed using aerial photography and GIS
- Documentation and calculations of the amount of the pre-June 25, 1929, water rights reaching Lake Mead owned or controlled by SNWA
- Letter from the NDWR verifying the quantity of water conveyed through the Virgin River to the Colorado River mainstream for the purpose of creating ICS

Regulatory Approvals

Tributary Conservation ICS on the Virgin River was evaluated in the Environmental Impact Statement and Record of Decision (dated December 13, 2007) for the Guidelines. Compliance for Virgin River Tributary Conservation ICS was also obtained under Section 7 of the Endangered Species Act through formal consultation with the U.S. Fish and Wildlife Service. The Final Biological Opinion for the Guidelines was issued December 12, 2007.

Nevada Revised Statute 533.030 declares that surface and groundwater rights conveyed to Lake Mead for the purpose of creating ICS are a beneficial use.

The NDWR issued State Engineer Order 1193 on July 15, 2008, regarding Tributary Conservation ICS on the Virgin River. The Order outlines the Nevada water rights on the Virgin River and the following process for verification of Virgin River rights being conveyed to the Colorado River mainstream.

> "An entity with an ICS Delivery Contract, which uses water rights adjudicated under the Virgin River Decree or water rights on the Virgin River issued by the State Engineer with a priority date prior to June 25, 1929, for the creation of ICS, shall file an annual report with the State Engineer's Office. The annual report shall give 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 State Engineer shall 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."

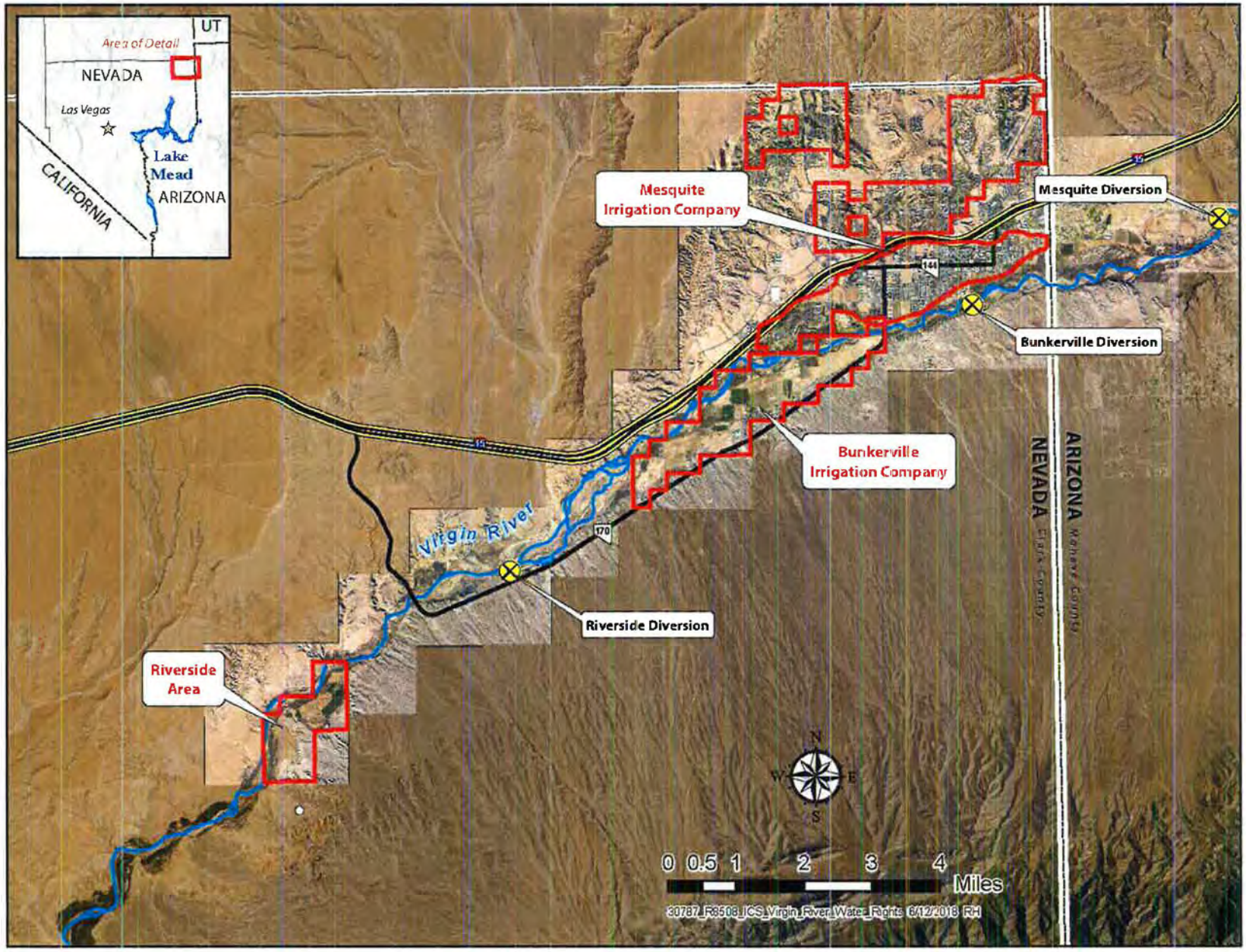


Figure 1 - Lower Virgin River showing Places of Use (red) for Pre-BCPA Water Rights

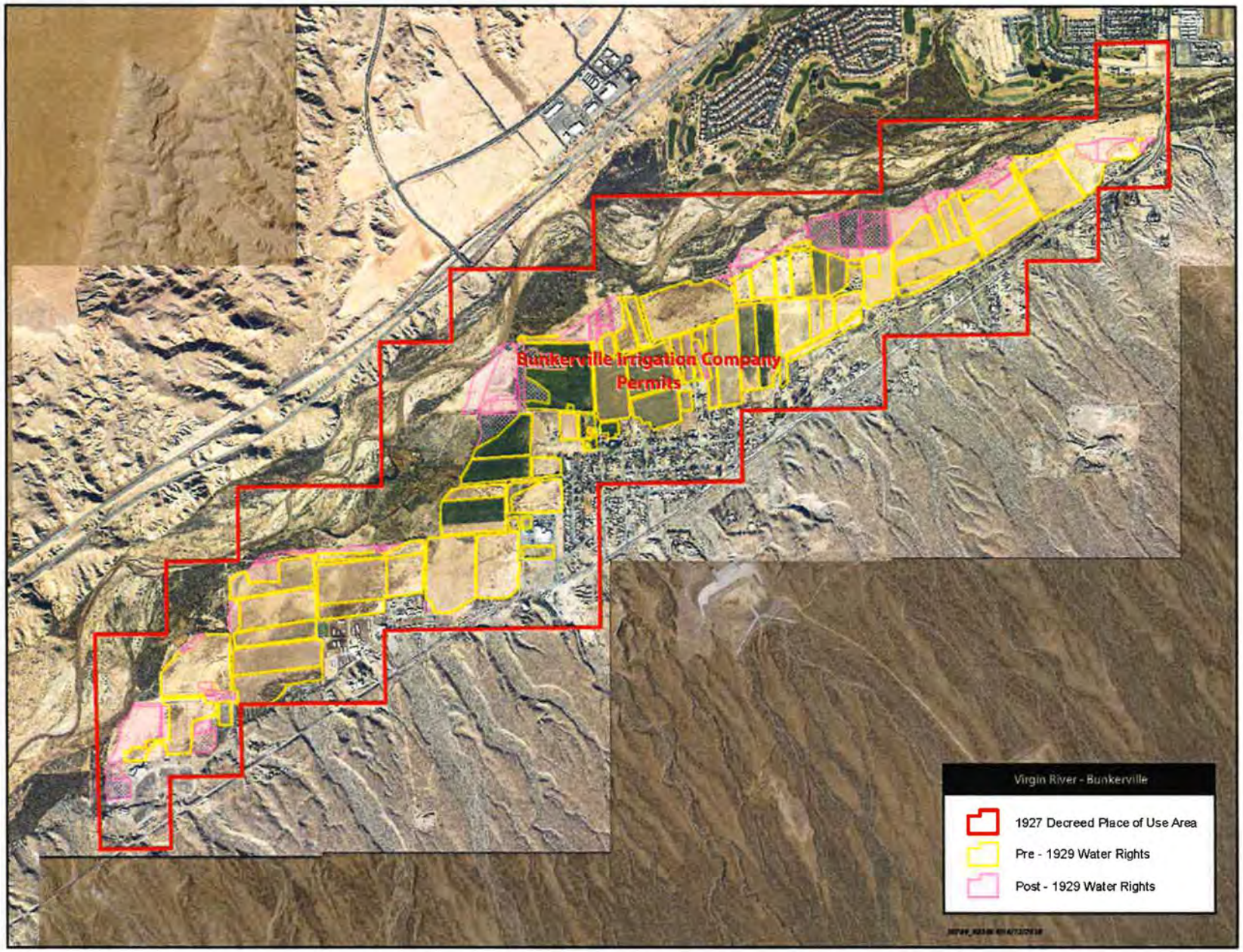


Figure 2 - Bunkerville Decreed Place of Use (red) and Proof of Beneficial Use (yellow). Aerial Photography December 2017

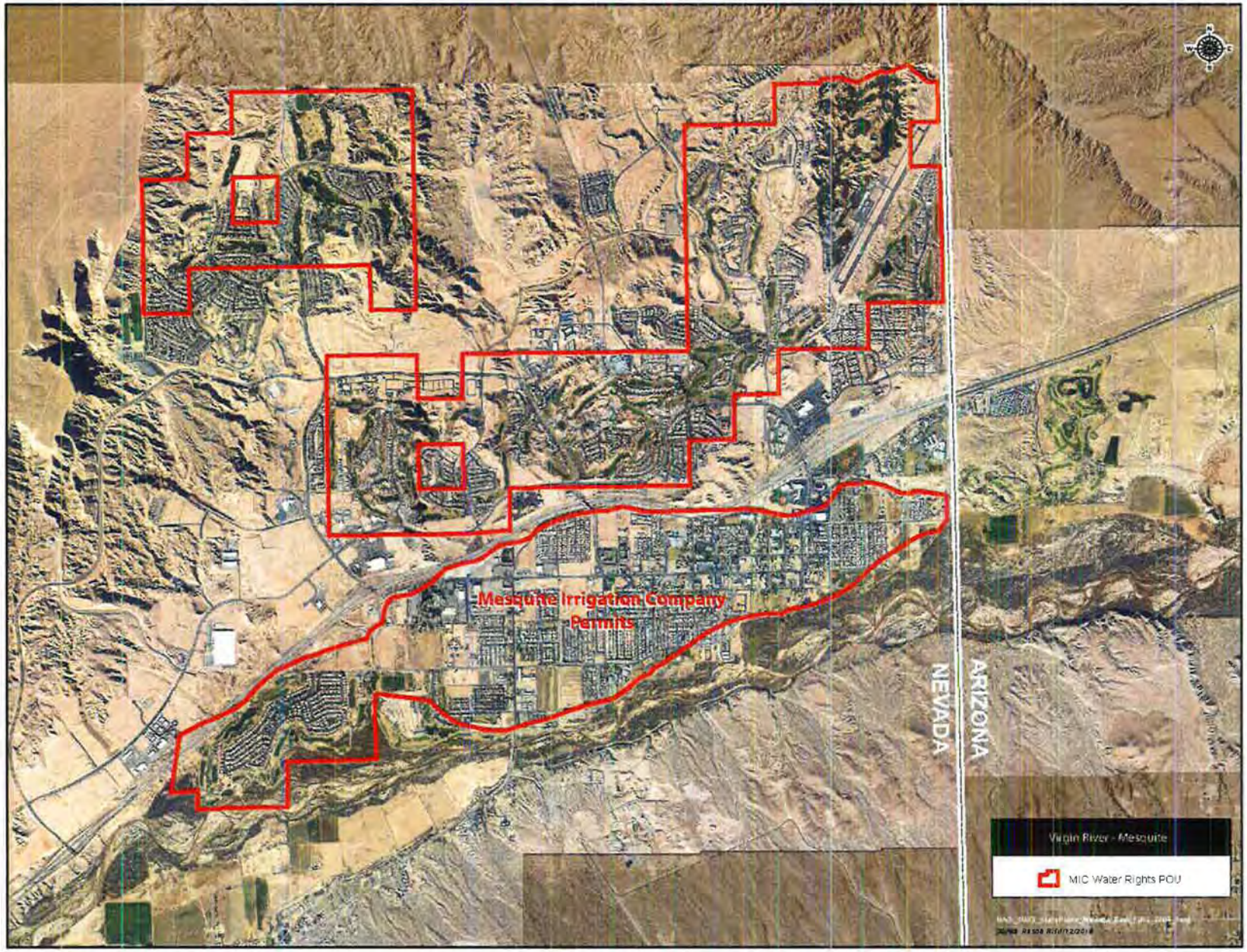


Figure 3 - Mesquite Decreed Place of Use (red) and Proof of Beneficial Use (yellow). Aerial Photography December 2017

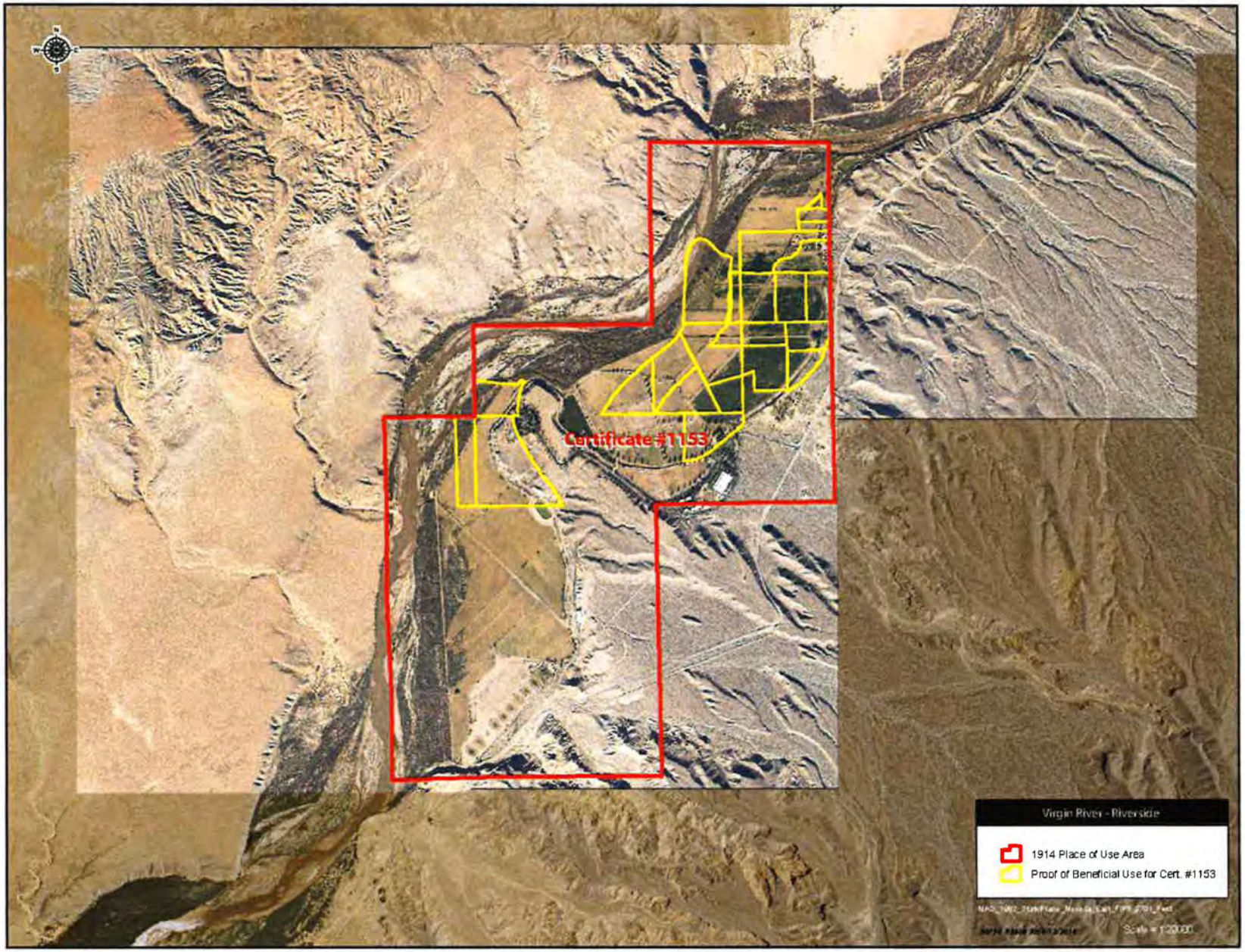


Figure 4 – Riverside Certificate 1153 Decreed Place of Use (red) and Proof of Beneficial Use (yellow). Aerial Photography December 2017

United States Department of the Interior

BUREAU OF RECLAMATION
Lower Colorado Regional Office
P.O. Box 61470
Boulder City, NV 89006-1470

IN REPLY REFER TO:
LC-4220
2.2.4.23

DEC 2 1 2018

CERTIFIED – RETURN RECEIPT REQUESTED

Mr. 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) 2019 Plans for the Creation of Muddy River Tributary Conservation Intentionally Created Surplus (ICS) and Virgin River Tributary Conservation ICS and System Conservation Water (ICS Plans)

Dear Mr. Entsminger:

The Bureau of Reclamation has received SNWA's ICS Plans, submitted by letter dated July 2, 2018. SNWA's ICS Plans describe the Muddy River and Virgin River Tributary Conservation ICS projects from which SNWA intends to conserve up to 42,000 acre-feet (AF) of Colorado River water during CY 2019 for purposes of creating ICS under the *Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead* (Interim Guidelines). In accordance with Sections 4.7 and 4.9 of System Conservation Implementation Agreement (SCIA) No. 16-XX-30-W0612 between Reclamation and SNWA, SNWA's Virgin River Tributary Conservation plan also describes SNWA's plan to create up to 860 AF of System Conservation Water in CY 2019 using Post-1929 Virgin River surface water rights that SNWA controls in the Bunkerville Irrigation Company.

Reclamation has reviewed SNWA's ICS Plans and confirms that they contain all necessary information required by Section XI.G.3.B of the Interim Guidelines and Section 4.9 of the SCIA. In accordance with Section XI.G.7.B.5 of the Interim Guidelines and Section 4.11 of the SCIA, Reclamation has consulted with the Basin States regarding SNWA's ICS Plans.

Based upon Reclamation's review of SNWA's ICS Plans and the completion of the consultation process, I approve SNWA's ICS Plans for the creation of up to 42,000 AF of ICS and up to 860 AF of System Conservation Water as provided in the table on the following page.

Conservation Project	Approved ICS/System Conservation Water Creation Amount (AF)
Muddy River Tributary Conservation ICS	up to 22,000
Virgin River Tributary Conservation ICS	up to 20,000
Total Tributary Conservation ICS for CY 2019	Not to exceed 42,000
Total Virgin River System Conservation Water (Post-1929 Virgin River Surface Water Rights)	up to 860

Section XI.G.3.B.1 of the Interim Guidelines provides that, subject to approval by Reclamation, a contractor may modify its approved ICS plan during the year of creation. In accordance with Section XI.G.3.D.1 of the Interim Guidelines and Sections 4.7 and 4.10 of the SCIA, SNWA is required to submit a Certification Report to the Regional Director demonstrating the amount of ICS and System Conservation Water created and that the methods of creation were consistent with SNWA's approved plans, a Forbearance Agreement, and a Delivery Agreement.

If you have questions, please contact Mr. Paul Matuska, Water Accounting and Verification Group Manager, at 702-293-8164 or pmatuska@usbr.gov.

Sincerely,

Terrance J. Fulp, Ph.D.
Regional Director

cc: Mr. Christopher S. Harris
Executive Director
Colorado River Board of California
770 Fairmont Avenue, Suite 100
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Manager, Colorado River Resources
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Continued on next page.

cc: Continued from previous page.

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Executive Director
Upper Colorado River Commission
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Imperial, CA 92251-0937

SOUTHERN NEVADA WATER AUTHORITY
1001 South Valley View Boulevard • Las Vegas, NV 89153
(702) 258-3939 • snwa.com

June 12, 2019

Terry Fulp, Ph.D., Regional Director
Bureau of Reclamation
Lower Colorado Regional Office
P.O. Box 61470
Boulder City, Nevada 89006

Dear ~~Dr. Fulp~~ Terry:

SUBJECT: SOUTHERN NEVADA WATER AUTHORITY PLAN OF CREATION FOR EXTRAORDINARY CONSERVATION INTENTIONALLY CREATED SURPLUS CALENDAR YEAR 2019

Enclosed is the Southern Nevada Water Authority (SNWA) Plan of Creation (Plan) for Extraordinary Conservation Intentionally Created Surplus (EC ICS) for the Municipal Conservation and Offstream Storage (MCOS) Project for Calendar Year 2019. This Plan describes how SNWA intends to meet all the requirements as outlined in Section 3 of the *Colorado River Interim Guidelines Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead.*

As stated in the Plan, SNWA anticipates creating up to 100,000 AF of EC ICS through MCOS for Calendar Year 2019.

If you have any questions, please contact me at (702) 822-3378 or Sean Collier at (702) 691-5375.

Sincerely,

Colby N. Pellegrino
Director, Water Resources Department

Enclosures (1)

cc: Eric Witkoski, Executive Director, Colorado River Commission of Nevada
Steve Hvinden, Office Director, Lower Colorado River Regional Office, Bureau of Reclamation w/enclosures
Paul Matuska, Manager, Water Conservation and Accounting Group, Lower Colorado River Regional Office, Bureau of Reclamation w/enclosures

Southern Nevada Water Authority
Extraordinary Conservation Intentionally Created Surplus Plan of Creation
Calendar Year 2019

Introduction

Intentionally Created Surplus

The Secretary of Interior (Secretary) issued a Record of Decision for *Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead* (Guidelines) on December 13, 2007, which established criteria for the development and delivery of Intentionally Created Surplus (ICS).

On April 16, 2019, the Colorado River Drought Contingency Plan Authorization Act (Act) became law (Public Law No: 116-14). Among other matters, the Act, notwithstanding any other provision of law, directs the Secretary of the Interior to execute and carry out certain agreements concerning Colorado River Drought Contingency Management and Operations after execution by the other parties thereto, including the Lower Basin Drought Contingency Plan Agreement ("LB DCP Agreement"). Exhibit 1 to the LB DCP Agreement contains the Lower Basin Drought Contingency Operations (LBOps) provisions for implementing drought actions in the Lower Basin. Section IV.E.2 of the LBOps provides that the parties from each State to the Lower Basin Drought Contingency Agreement "shall identify, for their respective States, such new or modified ICS Exhibits from that State that are necessary to implement the provisions of the LB DCP Agreement and these LBOps, and the Secretary shall approve and implement such new or modified ICS Exhibits."

Pursuant to the Act, SNWA and the Colorado River Commission of Nevada submitted to the Secretary, and the Secretary approved and shall implement, SNWA's "Extraordinary Conservation Intentionally Created Surplus (EC ICS) Using Municipal Conservation and Offstream Storage for implementation under the Lower Basin Drought Contingency Plan" (hereafter Exhibit W).

Extraordinary Conservation ICS

Beginning in 2017, Exhibit W (also known as SNWA's Municipal Conservation and Offstream Storage Project (MCOS Project) authorizes SNWA to create Extraordinary Conservation (EC) ICS from the many municipal conservation programs it has implemented since 2002. Additionally, SNWA has developed many options to store unused Colorado River resources in California, Arizona, and in the Las Vegas Valley.

Investments in conservation have reduced SNWA's water use below its annual allocation of Colorado River Water. Investments in creating and obtaining offstream storage capability have provided opportunities for SNWA to store this water offstream. Creating ICS in lieu of storing

the water offstream will help Lake Mead by proactively managing the reservoir elevation and increasing storage.

ICS Plan

Section G.3.B.1 of the Guidelines requires that a plan for the creation of ICS (ICS Plan) be submitted to the Secretary consisting of, at a minimum, the following:

1) Project description including what extraordinary measures will be taken to conserve or import the water;
2) Term of activity;
3) Estimate of the amount of water that will be conserved;
4) Proposed methodology for verifying the amount of water conserved; and
5) Documentation regarding any state or federal permits or other regulatory approvals that have already been obtained by the Contractor or that need to be obtained prior to the creation of ICS.

The following sections document each of these requirements for ICS proposed to be created in Calendar Year 2019 pursuant to Exhibit W.

Project Description

Municipal Conservation

Nevada's consumptive use of Colorado River water peaked at over 325,000 acre-feet in 2002. Since that time, SNWA has reduced annual use by as much as 100,000 acre-feet through the implementation of aggressive municipal conservation programs. SNWA's investment in municipal conservation totaled over $250,000,000 between 2000 and 2018. In addition to the funds expended by SNWA, SNWA's purveyor members have taken many actions to ensure the coordinated success of these conservation programs. The major municipal conservation programs are described in Attachment E to Exhibit W.

Offstream Storage

SNWA has developed many options to store unused Colorado River resources in offstream storage accounts within California, Arizona, and the Las Vegas Valley aquifer. SNWA has invested over $129 million in order to store approximately 614,000 acre-feet of water in Arizona. In addition, SNWA and its member agencies invest annually to maintain their well capacity for pumping and conducting offstream storage within the Las Vegas Valley.

Term of Activity

The term of activity for this ICS Plan is Calendar Year 2019. SNWA anticipates creating EC ICS credits through the MCOS Project throughout the period authorized in the LBOps.

Estimate of Water Conserved

Beginning in 2017, the amount of EC ICS made available to the system as a direct result of SNWA's implementation of this ICS project will be determined annually. The amount of EC ICS created each year will be based on the method presented in Exhibit W and as further explained in Attachment F to Exhibit W. This amount will be limited to the difference between Nevada's consumptive use of Colorado River Water and Nevada's allocation of Colorado River Water in a given year and shall not exceed 100,000 acre-feet per year.

Calendar Year 2019

SNWA anticipates creating up to 100,000 AF of EC ICS for Calendar Year 2019.

Proposed Methodology

Total Amount of EC ICS Credited Annually

As described in Exhibit W, the amount of EC ICS that can be created in each year is the difference between SNWA's net per capita consumptive water use (NPCCU) in 2002 multiplied by the calculated SNWA service area population (SNWA Population) in that year and SNWA's NPCCU for that year multiplied by that year's SNWA Population as shown in the following equation found in Exhibit W:

$$(NPCCU_{2002} \times SNWA\ Population_{Current\ Year}) - (NPCCU_{Current\ Year} \times SNWA\ Population_{Current\ Year}) = EC\ ICS\ in\ Current\ Year$$

The NPCCU will be calculated by summing all sources and consumptive uses of water (including Colorado River water, local ground water use by SNWA and its member agencies, and other imported water supplies), divided by the SNWA Population. Each year's SNWA Population shall be calculated as described in Exhibit W. Diversions of Colorado River water for offstream storage will not be included in the NPCCU calculation.

Limitations of EC ICS Created by MCOS Project

a) The amount of water conserved by SNWA to be devoted to the creation of EC ICS is limited by SNWA's sole discretion to participate in storage and interstate release of water and other annual water use adjustments.
b) The amount of EC ICS that shall be credited by the Secretary to SNWA's Extraordinary Conservation ICS Account in each *Colorado River Accounting and Water Use Report: Arizona, California and Nevada* compiled by the Bureau of Reclamation's Lower Colorado Region shall not be greater than the difference between Nevada's consumptive use of Colorado River Water and Nevada's allocation of Colorado River Water for that year.
c) The quantity of EC ICS credited to SNWA shall not exceed 100,000 acre-feet per year.

Certification Report

In compliance with Section G.3.D of the Guidelines, a Certification Report will be submitted for the Secretary's review and verification, demonstrating the amount of ICS created and that the method of creation was consistent with this ICS Plan and Exhibit W.

The Certification Report will be submitted to the Secretary in the year following the creation of the ICS and will document the following two items to verify EC ICS activity:

1) Maintaining the ability to store water offstream in either Nevada, California, or Arizona; and
2) Continuation of all or a portion of the actions described in Attachment E to Exhibit W and any additional municipal water conservation activity that results in a decrease in SNWA's consumptive use of water resources. As part of SNWA's annual EC ICS Certification Report for its MCOS Project, SNWA will submit information summarizing municipal conservation programs and actions taken during the year, including approximate direct expenditures for all programs and actions (exclusive of staff time).

The Certification Report will also include the calculation of SNWA EC ICS for the year.

Regulatory Approval

The activities and actions described in this ICS Plan are authorized by the Act and its effects are within the range of effects analyzed in environmental documentation prepared in connection with issuance of the Guidelines (Final Environmental Impact Statement, 72 Fed. Reg. 62272), and in connection with adoption of the Lower Colorado River Multi Species Habitat Conservation Plan (LCR MSCP) (Final Environmental Impact Statement, 69 Fed. Reg. 75556). The LCR MSCP provides Endangered Species Act coverage for the activities and actions described in this ICS Plan, and SNWA is a covered permittee of the incidental take permit issued thereunder (TE086834-1).

United States Department of the Interior

BUREAU OF RECLAMATION
Lower Colorado Regional Office
P.O. Box 61470
Boulder City, NV 89006-1470

IN REPLY REFER TO:

LC-4220
2.2.4.23

AUG 1 3 2019

CERTIFIED – RETURN RECEIPT REQUESTED

Mr. 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) 2019 Extraordinary Conservation (EC) Intentionally Created Surplus (ICS) Plan of Creation

Dear Mr. Entsminger:

The Bureau of Reclamation has received SNWA's *Extraordinary Conservation Intentionally Created Surplus Plan of Creation – Calendar Year 2019* (EC ICS Plan), submitted by letter dated June 12, 2019. SNWA's EC ICS Plan was 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 requirements for the creation of ICS.

SNWA's EC ICS Plan describes SNWA's Municipal Conservation and Offstream Storage Project, described in and incorporated as *Lower Basin Drought Contingency Operations* (LBOps) Exhibit W. As outlined in the plan, SNWA anticipates creating up to 100,000 acre-feet (AF) of EC ICS during CY 2019 for storage in Lake Mead.

Reclamation has reviewed SNWA's EC ICS Plan and confirms that it contains 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 EC ICS Plan.

Based upon Reclamation's review of SNWA's EC ICS Plan and completion of the consultation process, I approve SNWA's EC ICS Plan for the creation of up to 100,000 AF of EC ICS in CY 2019 for storage in SNWA's Lake Mead ICS account.

SNWA's approved EC ICS creation amount is within the state of Nevada's 125,000 AF maximum annual EC ICS creation limit. Pursuant to Section IV.B of LBOps, and as authorized by this office on behalf of the Secretary of the Interior,[1] SNWA has committed to provide 50,000 AF of ICS creation capacity in CY 2019 for ICS creators in the state of Arizona. Should the state of Arizona fully utilize this 50,000 AF, the maximum amount of EC ICS that may be created by the state of Nevada in CY 2019 is 75,000 AF. In accordance with Section XI.G.3.B.4 of the 2007 Interim Guidelines, the maximum total amount of EC ICS that may be created by the Lower Division States during any year will continue to be limited to 625,000 AF.

Section XI.G.3.B.1 of the 2007 Interim Guidelines provides that, subject to approval by Reclamation, SNWA may modify its approved ICS Plan 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 Plan.

If you have questions, please contact Mr. Jeremy Dodds, Water Accounting and Verification Group Manager, at 702-293-8164 or jdodds@usbr.gov.

Sincerely,

Terrance J. Fulp, Ph.D.
Regional Director

cc: Mr. Christopher S. Harris
Executive Director
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770 Fairmont Avenue, Suite 100
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Executive Director
Colorado River Commission of Nevada
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Arizona Department of Water Resources
P.O. Box 36020
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Ms. Rebecca Mitchell
Director
Colorado Water Conservation Board
1313 Sherman Street, Room 718
Denver, CO 80203

Continued on next page.

[1]By joint letter from the Arizona Department of Water Resources, SNWA, and The Metropolitan Water District of Southern California, dated June 17, 2019; countersigned by Reclamation's Lower Colorado Regional Director on July 9, 2019.

cc: Continued from previous page.

Mr. Eric Millis
Water Resources Director
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Honorable Stephen R. Lewis
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United States Department of the Interior

BUREAU OF RECLAMATION
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Boulder City, NV 89006-1470

May 15 2020

IN REPLY REFER TO:

LC-4220
2.2.4.23

CERTIFIED – RETURN RECEIPT REQUESTED

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

Subject: Verification of Tributary Conservation Intentionally Created Surplus (ICS) and System Conservation Water Created by the Southern Nevada Water Authority (SNWA) in Calendar Year (CY) 2018

Dear Mr. Entsminger:

The Bureau of Reclamation has received SNWA's *2018 Muddy River Intentionally Created Surplus Certification Report* and *2018 Virgin River Intentionally Created Surplus Certification Report* (Certification Reports). SNWA's Certification Reports were submitted in fulfillment of the requirements set forth in Section XI.G.3.D. 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 accounting for ICS. SNWA did not create Imported ICS in CY 2018 and therefore did not submit a CY 2018 Imported ICS Certification Report. In accordance with Section XI.G.3.D.2 of the 2007 Interim Guidelines, this letter provides SNWA with notice of my determination regarding the amount of ICS created by SNWA in CY 2018.

Additionally, on October 17, 2016, Reclamation and SNWA entered into System Conservation Implementation Agreement (SCIA) No. 16-XX-30-W0612, in which SNWA agreed to conserve up to 860 acre-feet (AF) per year, from October 1, 2016 through September 30, 2019, of post-1929 Virgin River surface water rights to create System Conservation Water. In accordance with Section 4.10 of the SCIA, SNWA's Virgin River ICS Certification Report also serves to identify the volume of System Conservation Water created by SNWA in CY 2018 under this Agreement.

SNWA's Certification Reports document that SNWA created 17,178 AF of Muddy River Tributary Conservation ICS and 15,110 AF of Virgin River Tributary Conservation ICS in CY 2018, for a total of 32,288 AF of Tributary Conservation ICS. Additionally, pursuant to SCIA No. 16-XX-30-W0612, SNWA created and conveyed to Lake Mead 744 AF of System Conservation Water in CY 2018 using post-1929 Virgin River surface water rights.[1]

[1] While terms of SCIA No. 16-XX-30-W0612 are based on a water year schedule (October 1 through September 30), the amount of System Conservation Water created by SNWA in CY 2018 as documented in SNWA's Virgin River ICS Certification Report represents the total conservation amount for the period January 1, 2018 through December 31, 2018.

Reclamation has reviewed the information contained in the Certification Reports and confirms that it adequately demonstrates: (1) the amount of Tributary Conservation ICS created in CY 2018 and that the methods of ICS creation were consistent with SNWA's approved ICS Plans of Creation, as amended,[2] Exhibit A of the *Lower Colorado River Basin Intentionally Created Surplus Forbearance Agreement*, and the *Delivery Agreement* (Contract No. 07-XX-30-W0520) among the United States, SNWA, and the Colorado River Commission of Nevada; and (2) the amount of System Conservation Water created pursuant to SCIA No. 16-XX-30-W0612. Therefore, I verify and make the final determination that, in CY 2018, SNWA created the conservation amounts shown in the table below.

Conservation Project	**Conservation Amount (AF)**
Muddy River Tributary Conservation[3]	17,178
Virgin River Tributary Conservation[3]	15,110
Total Muddy River and Virgin River Tributary Conservation ICS[3]	32,288
Virgin River Tributary Conservation (Post-1929 Rights) – System Conservation Water (SCIA No. 16-XX-30-W0612)[4]	744

Thank you for submitting SNWA's Certification Reports. If you have questions, please contact Mr. Jeremy Dodds, Water Accounting and Verification Group Manager, at (702) 293-8164 or jdodds@usbr.gov.

Sincerely,

Terrance J. Fulp, Ph.D.
Regional Director
Interior Region 8: Lower Colorado Basin
Bureau of Reclamation

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

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

Continued on next page.

[2] Reclamation approved SNWA's *Muddy River Tributary Conservation Intentionally Created Surplus Plan of Creation Calendar Year 2018* and *Virgin River Tributary Conservation Intentionally Created Surplus and System Conservation Water Plan of Creation Calendar Year 2018*, as amended, by letter dated November 8, 2017.

[3] Volume shown is prior to accounting for the one-time deduction of 5 percent for the benefit of system storage as specified in Section XI.G.3.B.2 of the 2007 Interim Guidelines; additionally, the total assessed losses on this ICS creation amount will be trued up to 10 percent, as specified in Section IV.A.1 of *Lower Basin Drought Contingency Operations*.

[4] Volume represents the amount of System Conservation Water created for the period January 1, 2018 through December 31, 2018.

cc: Continued from previous page.

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Arizona Department of Water Resources
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United States Department of the Interior

BUREAU OF RECLAMATION
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IN REPLY REFER TO:

May 15 2020

LC-4220
2.2.4.23

CERTIFIED – RETURN RECEIPT REQUESTED

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

Subject: Verification of Extraordinary Conservation (EC) Intentionally Created Surplus (ICS) Created by the Southern Nevada Water Authority (SNWA) in Calendar Year (CY) 2019

Dear Mr. Entsminger:

The Bureau of Reclamation has received SNWA's *2019 Extraordinary Conservation Intentionally Created Surplus Certification Report* (Certification Report). SNWA's Certification Report was submitted in fulfillment of the requirements set forth in Section XI.G.3.D. 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 accounting for ICS. In accordance with Section XI.G.3.D.2 of the 2007 Interim Guidelines, this letter provides SNWA with notice of my determination regarding the amount of ICS created by SNWA in CY 2019.

SNWA's Certification Report documents that SNWA created 66,004 acre-feet (AF) of EC ICS in CY 2019 through implementation of its Municipal Conservation and Offstream Storage project.

Reclamation has reviewed the information contained in SNWA's Certification Report and confirms it adequately demonstrates the amount of ICS created and that the method of ICS creation was consistent with SNWA's approved ICS Plan of Creation[1] and *Lower Basin Drought Contingency Operations* (LBOps) ICS Exhibit W. Therefore, I verify and make the final determination that SNWA created 66,004 AF of EC ICS in CY 2019, prior to accounting for the one-time deduction of 10 percent for the benefit of additional system storage, as specified in Section IV.A.2 of LBOps.

[1] Reclamation approved SNWA's *Extraordinary Conservation Intentionally Created Surplus Plan of Creation Calendar Year 2019* by letter dated August 13, 2019.

Thank you for submitting SNWA's Certification Report. If you have questions, please contact Mr. Jeremy Dodds, Water Accounting and Verification Group Manager, at (702) 293-8164 or jdodds@usbr.gov.

Sincerely,

Terrance J. Fulp, Ph.D.
Regional Director
Interior Region 8: Lower Colorado Basin
Bureau of Reclamation

cc: Mr. Christopher S. Harris
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cc: Continued from previous page.

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Tina Anderholt Shields, P.E.
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