

SYSTEM CONSERVATION IMPLEMENTATION AGREEMENT (SCIA)
BETWEEN THE UNITED STATES BUREAU OF RECLAMATION AND
THE MOHAVE VALLEY IRRIGATION AND DRAINAGE DISTRICT

1. PREAMBLE This SCIA is entered into this 17th day of December, 2020, by and between the United States Bureau of Reclamation (Reclamation), represented by the Secretary of the Interior acting through the official executing this SCIA, and the Mohave Valley Irrigation and Drainage District (MVIDD), an irrigation district formed under Arizona Revised Statutes, Title 48, Chapter 19, hereinafter referred to singularly as “Party” or collectively as “Parties” and pursuant to the Act of Congress approved June 17, 1902 (32 Stat. 388), designated the Reclamation Act, and acts amendatory thereof or supplementary thereto, the Act of December 21, 1928 (45 Stat. 1057), designated the Boulder Canyon Project Act, and Public Law 116-14, the Colorado River Drought Contingency Plan Authorization Act, dated April 16, 2019.

2. EXPLANATORY RECITALS

2.1 WHEREAS, MVIDD holds a Colorado River water entitlement not to exceed 41,000 acre-feet per year under Contract No. 14-06-W-204 dated November 14, 1968, as amended, and also holds a Subcontract No. 09-101, as amended, in the amount of 1,250 acre-feet per year with the Mohave County Water Authority (MVIDD Contracts);

2.2 WHEREAS, the Colorado River Basin is experiencing the driest 21-year period in the historical record;

2.3 WHEREAS, due to the Colorado River Basin experiencing its driest 21-year period in recorded history, the United States and the Colorado River Basin States developed the Agreement Concerning the Colorado River Drought Contingency Management and Operations (Companion Agreement). Attachment B to the Companion Agreement is the Lower Basin Drought Contingency Plan Agreement (LBDCP), which, among other things, is designed to create new flexibility to incentivize additional voluntary conservation of water to be stored in Lake Mead;

2.4 WHEREAS, among other things, the Companion Agreement provides for several interstate agreements to be implemented that include the LBDCP and its Attachment Exhibit 1 - Lower Basin Drought Contingency Operations (collectively DCP Agreements);

2.5 WHEREAS, Public Law 116-14, the Colorado River Drought Contingency Plan Authorization Act (Act), was signed into law on April 16, 2019. This Act directed the Secretary of the Interior (Secretary) to execute the DCP Agreements, and the DCP Agreements were subsequently executed on May 20, 2019;

2.6 WHEREAS, Section 3 b. of the LBDCP, among other things, provides that, subject to appropriations, (1) the Secretary will take affirmative actions to implement Lower Basin programs designed to create or conserve 100,000 acre-feet per annum or more of Colorado River System water to contribute to conservation of water supplies in Lake Mead and other

Colorado River reservoirs in the Lower Basin and (2) the other Parties hereto shall not request delivery of, and the Secretary shall not deliver to any Party or Contractor the volumes of Colorado River System water conserved through such programs;

2.7 WHEREAS, recognizing the severity of the ongoing historic drought, MVIDD desires to help mitigate the impacts of the current drought by entering into an agreement with the United States through Reclamation making some of its Colorado River water entitlement under its MVIDD Contracts available in calendar year 2020 and calendar year 2021 as Colorado River System water with the intent that Reclamation will apply such water to help meet the Secretary's commitment under Section 3 b. of the LBDCP;

2.8 WHEREAS, initially, MVIDD proposed to create Extraordinary Conservation Intentionally Created Surplus (EC ICS) for calendar year 2020 and submitted to Reclamation a *Plan for the Creation of Extraordinary Conservation Intentionally Created Surplus During Calendar Year 2020* (EC ICS Plan); however, MVIDD has modified its EC ICS Plan by letter dated December 2, 2020, in which it decided to create System Conservation Water in lieu of creating EC ICS and enter into a SCIA with Reclamation to forego irrigation water deliveries and fallow 1,196 irrigated acres located in the state of Arizona beginning January 1, 2020 and ending December 31, 2020, that have a history of use and make the System Conservation Water available to the Colorado River System;

2.9 WHEREAS, for purposes of this SCIA the EC ICS Plan has been modified through negotiation of this SCIA to be the *Plan for the Creation of System Conservation Water During Calendar Year 2020* and is attached hereto as Exhibit A;

2.10 WHEREAS, MVIDD also submitted to Reclamation a *Revised Plan for the Creation of System Conservation Water During Calendar Year 2021*, attached hereto as Exhibit B, to forego irrigation water deliveries and fallow 1,344.4 irrigated acres located in the state of Arizona beginning January 1, 2021 and ending December 31, 2021, that have a history of use and make the System Conservation Water available to the Colorado River System;

2.11 WHEREAS, such plans require MVIDD to submit a Certification Report which is not necessary now that MVIDD is creating System Conservation Water in lieu of EC ICS;

2.12 WHEREAS, Reclamation's Interior Region 8: Lower Colorado Basin has received appropriated funds in fiscal year 2020 for drought related purposes that may be utilized for system conservation; and

2.13 WHEREAS, Reclamation and MVIDD desire to enter into a SCIA whereby MVIDD agrees, among other things, to reduce its annual water order in calendar year 2020 by 8,372 acre-feet that is associated with 1,196 acres of farmland being fallowed that results in an estimated consumptive use of 6,137 acre-feet, and to reduce its annual water order in calendar year 2021 by 9,411 acre-feet that is associated with 1,344.4 acres of farmland being fallowed that results in an estimated consumptive use of 6,925 acre-feet, and allow such consumptive use volumes to remain in Lake Mead in exchange for financial compensation.

NOW, THEREFORE, in consideration of the terms and conditions set forth herein, Reclamation and MVIDD agree as follows:

3. DEFINITIONS

3.1 Colorado River Compact means the document signed on November 24, 1922, at Santa Fe, New Mexico, pursuant to an act of Congress approved August 19, 1921 (42 Stat. 171). The Colorado River Compact was approved in Section 13(a) of the Boulder Canyon Project Act.

3.2 Colorado River System shall have the meaning ascribed to such term in the Colorado River Compact.

3.3 Exhibit A means the *Plan of Creation of Extraordinary Conservation Intentionally Created Surplus During Calendar Year 2020* which has been modified by letter dated December 2, 2020, from MVIDD, and through negotiation of this SCIA, to a *Plan of Creation of System Conservation Water During Calendar Year 2020* (Calendar Year 2020 Plan) including, but not limited to, a map of the irrigated farmland being fallowed under this SCIA beginning January 1, 2020 and ending December 31, 2020. Exhibit A is attached hereto and made part of this SCIA.

3.4 Exhibit B means the *Revised Plan of Creation of System Conservation Water During Calendar Year 2021* (Calendar Year 2021 Plan) including, but not limited to, a map of the irrigated farmland being fallowed under this SCIA beginning January 1, 2021 and ending December 31, 2021. Exhibit B is attached hereto and made part of this SCIA.

3.5 Exhibit C means a *Plan of Creation of System Conservation Water During Calendar Year 2022* (Calendar Year 2022 Plan) including, but not limited to, a map of the irrigated farmland being fallowed under this SCIA beginning January 1, 2022 and ending December 31, 2022. Exhibit C will be attached hereto and made part of this SCIA in the event Reclamation and MVIDD exercise the option as described in Section 5.10 herein.

3.6 System Conservation Water means Colorado River water that is conserved by MVIDD under this SCIA for storage in Lake Mead to benefit the Colorado River System.

4. PURPOSE

4.1 The purpose of this SCIA is for Reclamation to compensate MVIDD for the System Conservation Water that is created by MVIDD. MVIDD agrees to forego irrigation water deliveries and fallow irrigated farmland in accordance with this SCIA, thereby allowing such System Conservation Water to remain in Lake Mead as Colorado River System water with the intent of Reclamation applying such water toward the Secretary's commitment to create or conserve 100,000 acre-feet per annum or more of Colorado River System water, as required in Section 3 b. of the LBDCP. In the absence of this SCIA, MVIDD attests that it used such water in previous years and it would have used such water in the calendar years covered under this SCIA.

5. IMPLEMENTATION

5.1 Implementation begins upon execution of this SCIA and continues until termination of this SCIA in writing by Reclamation.

5.2 MVIDD is administering a fallowing program at the local level and has established criteria to determine eligibility for agricultural landowners to participate in the fallowing program. MVIDD also developed a policy document to govern participation within MVIDD. Each participating landowner entered into an individual contract with MVIDD. Copies of such contracts will be made available in a timely manner to Reclamation by MVIDD if requested by Reclamation.

5.3 The fallowing period begins January 1, 2020 and will end December 31, 2021, unless the option is exercised by Reclamation in Section 5.10 herein, in which case the fallowing period continues through December 31, 2022.

5.4 CALENDAR YEAR 2020: MVIDD agrees to fallow 1,196 acres of irrigated farmland as shown in Exhibit A attached hereto, beginning January 1, 2020 and ending December 31, 2020, and will reduce its annual diversion water order by 8,372 acre-feet during the fallowing period which results in an estimated consumptive use of 6,137 acre-feet, in accordance with MVIDD's Calendar Year 2020 Plan contained in Exhibit A.

5.5 As provided in MVIDD's Calendar Year 2020 Plan, the consumptive use of Colorado River water within MVIDD is affected by various factors that are not within the control of MVIDD, such as, the number of acres planted and the types of crops planted by non-participating landowners. In order to control the volume of water diverted by MVIDD, MVIDD shall limit total agricultural (irrigation) fields within MVIDD planted in calendar year 2020 to no more than 4,386.23 acres (an Agricultural Acreage Limitation), which is calculated by aggregating the highest planted acreage in each farm unit within MVIDD during the period 2014 through 2018. MVIDD shall also limit the maximum volume of water MVIDD will divert in calendar year 2020 for agricultural irrigation to 21,353 acre-feet (an Agricultural Diversion Limitation), which is calculated by subtracting the sum of the required diversion reduction amounts for each participating farm unit (8,372 acre-feet) from the MVIDD Agricultural Baseline Diversion of 29,725 acre-feet in calendar year 2020. The Agricultural Baseline Diversion is calculated by MVIDD's agricultural diversion average as reported by Reclamation for the highest 4 of the most recent 5 years (2014 through 2018). The required diversion reduction for each farm unit is calculated by multiplying each fallowed acre by 7 acre-feet per acre which is the MVIDD diversion allowance for farm units, then applying that reduction to each farm unit. The total sum of the required diversion reductions (8,372 acre-feet) is then subtracted from the Agricultural Baseline Diversion (29,725 acre-feet) to arrive at the Agricultural Diversion Limitation (21,353 acre-feet) for MVIDD for calendar year 2020.

5.6 In the event that either the Agricultural Acreage Limitation or the Agricultural Diversion Limitation is inadvertently exceeded, MVIDD agrees that the reduction in conservation yield attributable to that exceedance shall be deducted from the System Conservation Water volume to be created in calendar year 2020 which is estimated to be a consumptive use of 6,137 acre-feet and its Payment 3 in Section 8.1.3 herein will be reduced accordingly.

5.7 CALENDAR YEAR 2021: MVIDD agrees to fallow 1,344.4 acres of farmland as shown in Exhibit B attached hereto, beginning January 1, 2021 and ending December 31, 2021, and to reduce its annual diversion water order by 9,411 acre-feet during the fallowing period which results in an estimated consumptive use of 6,925 acre-feet, in accordance with

MVIDD's Calendar Year 2021 Plan contained in Exhibit B.

5.8 As provided in MVIDD's Calendar Year 2021 Plan, the consumptive use of Colorado River water within MVIDD is affected by various factors that are not within the control of MVIDD, such as, the number of acres planted and the types of crops planted by non-participating landowners. In order to control the volume of water diverted by MVIDD, MVIDD shall limit total agricultural (irrigation) fields within MVIDD planted in calendar year 2021 to no more than 4,361.2 acres (an Agricultural Acreage Limitation), which is calculated by aggregating the highest planted acreage in each farm unit within MVIDD during the period 2015 through 2019. MVIDD shall also limit the maximum volume of water MVIDD will divert in calendar year 2021 for agricultural irrigation to 19,901 acre-feet (an Agricultural Diversion Limitation), which is calculated by subtracting the sum of the required diversion reduction amounts for each participating farm unit (9,411 acre-feet) from the MVIDD Agricultural Baseline Diversion of 29,312 acre-feet in calendar year 2021. The Agricultural Baseline Diversion is calculated by MVIDD's agricultural diversion average as reported by Reclamation for the highest 4 of the most recent 5 years (2015 through 2019). The required diversion reduction for each farm unit is calculated by multiplying each fallowed acre by 7 acre-feet per acre which is the MVIDD diversion allowance for farm units, then applying that reduction to each farm unit. The total sum of the required diversion reductions (9,411 acre-feet) is then subtracted from the Agricultural Baseline Limitation (29,312 acre-feet) to arrive at the Agricultural Diversion Limitation (19,901 acre-feet) for MVIDD for calendar year 2021.

5.9 In the event that either the Agricultural Acreage Limitation or the Agricultural Diversion Limitation is inadvertently exceeded, MVIDD agrees that the reduction in conservation yield attributable to that exceedance shall be deducted from the System Conservation Water volume to be created in calendar year 2021 which is estimated to be a consumptive use of 6,925 acre-feet and its Payment 4 in Section 8.3.2.4 herein will be reduced accordingly.

5.10 THIRD YEAR OPTION - CALENDAR YEAR 2022: Reclamation and MVIDD may agree to renew this SCIA for an additional 1-year term in order to conserve additional System Conservation Water. Reclamation will consult with MVIDD regarding the possibility of exercising the option for a third year, on or before June 1, 2021. In the event that Reclamation desires to exercise the option for a third year for fallowing beginning January 1, 2022 through December 31, 2022, Reclamation shall notify MVIDD in writing by letter or electronic mail dated on or before November 1, 2021. MVIDD will respond in writing to Reclamation within 30 days whether or not it agrees to the exercise of the option. In the event MVIDD agrees to the exercise of the option, MVIDD will provide to Reclamation its Calendar Year 2022 Plan, which will be attached hereto as Exhibit C, on or before December 1, 2021, along with its response agreeing to the exercise of the option as discussed in Section 5.10 herein, and this SCIA will be amended in writing, accordingly, if necessary.

5.11 In the event that Reclamation agrees with MVIDD to extend the term under Section 5.10 herein, the terms and conditions shall apply in the third year option in the same manner as they do in the calendar years 2020 and 2021 following years under this SCIA, except as otherwise provided herein, or as modified by a mutually agreed upon amendment to this SCIA.

5.12 The compensation amount and payments to MVIDD for the third year option if exercised will be addressed by amendment to this SCIA.

6. MONITORING

6.1 Reclamation is required to verify and document reductions in consumptive use of Colorado River water under this SCIA. MVIDD agrees that Reclamation, (1) shall verify information in MVIDD's Calendar Year 2020 Plan, Calendar Year 2021 Plan, and if the third year option is exercised, the Calendar Year 2022 Plan and (2) shall provide MVIDD its final written decision regarding the amount of System Conservation Water created by MVIDD under this SCIA.

6.2 Reclamation will use its existing Colorado River water order approval process and other authorities to ensure that MVIDD's Colorado River water under this SCIA is not ordered or used by other Colorado River water entitlement holders.

6.3 By entering into this SCIA, MVIDD grants access to Reclamation, or will provide such access, to perform periodic on-site inspections of the farmland to verify compliance with this SCIA.

6.4 Reclamation will use its existing in person periodic on-field verification process, and satellite imagery in conjunction with its *Remotely Sensed Data Acquisition Program* to determine that the farmlands associated with this SCIA as shown in Exhibit A, Exhibit B, and if the third year option is exercised Exhibit C, are being fallowed.

6.5 During the fallowing periods in order to ensure that any vegetation remaining on the fallowed lands does not consumptively use Colorado River water by drawing water from the Colorado River aquifer, MVIDD shall, at its expense, by February 15th of each fallowing period ensure that any such vegetation is eradicated through tillage, application of herbicides, or other means. If MVIDD cannot perform this action, MVIDD will notify Reclamation as soon as possible to resolve the issue. MVIDD agrees to provide Reclamation with information and updates, when requested, regarding the vegetation eradication program.

6.6 MVIDD agrees to furnish and install padlocks to lock the irrigation ditch turnouts on fields fallowed under the terms of this SCIA to the extent possible to do so. In the event that a turnout services multiple fields of which not all are being fallowed, other practical mechanisms, including, but not limited to dirt beams in the portion of the irrigation ditch serving the fallowed field, or sealing the turnouts onto fallowed fields will be used to the extent possible to assure that no water deliveries can be made onto the fallowed fields.

6.7 MVIDD agrees to report any identified discrepancy to Reclamation, during the year or at year's end regarding the lands being fallowed under this SCIA.

6.8 Reclamation and MVIDD agree to continue to work together on the MVIDD Agricultural Baseline Diversion amounts and acreage limitations for future System Conservation Water created by MVIDD and will monitor MVIDD's water use during the calendar year 2020 and 2021 fallowing periods under this SCIA. Reclamation and MVIDD will confer with each other and with the Arizona Department of Water Resources after the calendar year 2020

following period to assess the water use results of the following program as it relates to the MVIDD Agricultural Baseline Diversion and acreage limitation amounts.

7. IDENTIFICATION AND TRACKING OF COLORADO RIVER SYSTEM WATER

7.1 Reclamation will document the quantity of Colorado River System water created by MVIDD, in the annual *Colorado River Accounting and Water Use Report – Arizona, California, and Nevada* (Water Accounting Report). The quantity of System Conservation Water to remain in Lake Mead, as determined by Reclamation, will be reported in the section of the annual Water Accounting Report titled, “Conservation, Transfers and Exchanges.

7.2 Reclamation and MVIDD agree that the water left in Lake Mead pursuant to this SCIA shall accrue to the benefit of the Colorado River System and shall not accrue to the individual benefit of MVIDD or any third party.

8. COMPENSATION AND PAYMENTS

8.1 CALENDAR YEAR 2020. For calendar year 2020, Reclamation will pay MVIDD a maximum payment in the amount of \$1,196,715.00 (\$195.00 per acre-foot x up to 6,137 acre-feet of System Conservation Water), unless such per acre-foot amount is adjusted pursuant to Section 10 herein, as follows:

8.1.1 Payment 1 in the amount of \$598,357.50 will be made by Reclamation to MVIDD no later than 30 days after the last of the following events occurs: (1) the execution of this SCIA, (2) Reclamation’s receipt of a copy of MVIDD’s revised 2020 water order reducing its diversion request by 8,372 acre-feet resulting in an estimated 6,137 acre-feet of System Conservation Water in lieu of EC ICS, and (3) Reclamation’s verification that the farmlands as shown in Exhibit A are being fallowed.

8.1.2 Payment 2 in the amount of \$299,178.75 will be made by Reclamation to MVIDD no later than 30 days after December 31, 2020, the date which is the end of the following period for calendar year 2020; provided that, Reclamation verified that the farmlands associated with this SCIA as shown in Exhibit A were fallowed the entire following period beginning January 1, 2020 and ending December 31, 2020.

8.1.3 Payment 3 in the amount of up to \$299,178.75 will be made by Reclamation to MVIDD no later than 30 days after the letter is signed by the Regional Director verifying the amount of System Conservation Water created in calendar year 2020. Such letter is anticipated to be signed in May 2021.

8.1.4 In the event that Reclamation finds any portion of the farmlands associated with this SCIA as shown in Exhibit A have not been fallowed the entire following period thereby reducing the volume of System Conservation Water created by MVIDD, Payment 3 in Section 8.1.3 herein shall be reduced accordingly.

8.2 CALENDAR YEAR 2021 For calendar year 2021, Reclamation will pay MVIDD a maximum payment in the amount of \$1,350,375.00 (\$195.00 per acre-foot x up to

6,925 acre-feet of System Conservation Water), unless such per acre-foot amount is adjusted in accordance with Section 10 herein, as follows:

8.2.1 Payment 1 in the amount of \$675,187.50 will be made by Reclamation to MVIDD no later than 30 days after the last of the following events occurs: (1) Reclamation's receipt of a copy of MVIDD's revised 2021 water order reducing its diversion request by 9,411 acre-feet resulting in an estimated 6,925 acre-feet of System Conservation Water and (2) Reclamation's verification during its February 2021 field verification inspection that the farmlands as shown in Exhibit B are being fallowed.

8.2.2 Payment 2 in the amount of \$225,062.50 will be made by Reclamation to MVIDD no later than 30 days following Reclamation's confirmation during its July 2021 field verification inspection that the farmlands associated with this SCIA as shown in Exhibit B are being fallowed.

8.2.3 Payment 3 in the amount of \$225,062.50 will be made by Reclamation to MVIDD no later than 30 days after December 31, 2021, the date which is the end of the following period for calendar year 2021; provided that, Reclamation verified that the farmlands associated with this SCIA as shown in Exhibit B were fallowed the entire following period beginning January 1, 2021 and ending December 31, 2021.

8.2.4 Payment 4 in the amount of up to \$225,062.50 will be made by Reclamation to MVIDD no later than 30 days after the letter is signed by the Regional Director verifying the amount of System Conservation Water created in calendar year 2021. Such letter is anticipated to be signed May 2022.

8.2.5 In the event that Reclamation finds any portion of the farmlands associated with this SCIA as shown in Exhibit B have not been fallowed the entire following period thereby reducing the volume of System Conservation Water created by MVIDD, Payment 4 in Section 8.2.4 herein shall be reduced accordingly.

9. MVIDD COSTS

9.1 MVIDD agrees to bear all costs for implementation of this SCIA including the fixed operation and maintenance costs for the farmlands that will participate in land fallowing under this SCIA in return for the payments to be made by Reclamation, as specified in this SCIA.

10. PRICE ADJUSTMENT

10.1 The United States does not anticipate entering into an agreement for the creation of System Conservation Water with another entity at a higher price per acre-foot than \$195.00 during the duration of this SCIA; however, in the event that Reclamation enters into a SCIA for the creation of System Conservation Water with another entity at a higher price per acre-foot than \$195.00, Reclamation will notify MVIDD in writing of such action and will adjust MVIDD's price per acre-foot under this SCIA from \$195.00 per acre-foot to the price per acre-foot given to that entity, and will amend this SCIA in writing, accordingly.

11. REIMBURSEMENT FOR OVERPAYMENT

11.1 In the unanticipated and unforeseen event the total amount of System Conservation Water under this SCIA is not added to Lake Mead as Colorado River System water as was paid for by Reclamation, due to MVIDD taking an action that interferes with the foregoing objective (such as irrigating fallowed lands enrolled in the following program or exceeding the MVIDD Agricultural Baseline Diversion Amounts), MVIDD agrees to reimburse for the overpayment for the water that was not added to Lake Mead within 30 days of receipt of a bill for collection from Reclamation.

12. DISPUTE RESOLUTION

12.1 In the event that either MVIDD or Reclamation disputes any compliance with or performance under this SCIA by the other Party, the Party claiming such dispute shall notify the other Party in writing, specifically identifying the claimed deficiency in compliance or performance. Upon such notice, the Parties shall timely meet and confer regarding the claim and use good faith efforts to resolve the claim informally.

12.2 To the extent any claim of non-compliance or non-performance affects any payment from Reclamation to MVIDD hereunder, amounts of such payment that are not associated with such non-compliance or non-performance shall be paid in a timely manner, and any remaining balance shall be held pending resolution of the claim of non-compliance or non-performance.

13. GENERAL TERMS

13.1 MVIDD agrees to remain in compliance with applicable Federal, State, and local environmental, cultural, and paleontological resource protection laws and regulations throughout the term of this SCIA.

13.2 Reclamation shall be responsible to obtain any consents or forbearances required to ensure that the water left in Lake Mead by MVIDD remains in the Colorado River System and does not inure to the benefit of any individual entitlement holder.

13.3 The water left in Lake Mead under this SCIA will not be charged against MVIDD's use of Colorado River water or charged to Arizona's Colorado River apportionment.

13.4 None of the provisions of this SCIA shall be considered waived, except when such waiver is given in writing. The failure of a party to this SCIA to insist in any one or more instances upon strict performance of any of the provisions, or to take advantage of any of its rights hereunder shall not be construed as a waiver of any such provisions or that party's relinquishment of any such rights for the future, but such provisions and rights shall continue and remain in full force and effect.

13.5 This SCIA is not intended nor shall it be construed to create any third-party beneficiary rights to enforce the terms of this SCIA on any person or entity that is not a party.

13.6 The Parties do not intend that any right or remedy given to a Party on the breach of any provision under this SCIA be exclusive; each such right or remedy is cumulative and in addition to any other remedy provided in this SCIA or otherwise available at law or in equity. If the non-breaching Party fails to exercise or delays in exercising any such right or remedy, the non-breaching party does not thereby waive that right or remedy. In addition, no single or partial exercise of any right, power or privilege precludes any other or further exercise of a right, power or privilege granted by this SCIA or otherwise.

13.7 Each Party to this SCIA represents that the person executing on behalf of such Party has full power and authority to do so, and that his/her signature is legally sufficient to bind the Party on whose behalf he/she is signing.

13.8 This SCIA constitutes a valid and binding agreement of each Party, enforceable against each Party in accordance with its terms. This SCIA is and will be binding upon and will inure to the benefit of the Parties and, upon dissolution, the legal successors and assigns of their assets and liabilities.

13.9 This SCIA may be supplemented, amended, or modified only by the written agreement of the Parties. No supplement, amendment, or modification will be binding unless it is in writing and signed by the Parties.

13.10 Any notice, demand, or request shall be deemed properly served, given, or made if delivered in person; sent by registered or certified mail, postage prepaid; or overnight delivery, charges prepaid or charged to the sender's account to the persons in the positions executing this SCIA.

13.11 All information and data obtained or developed with the performance of duties mentioned in this SCIA shall be available upon request to a Party, subject to the provisions of the Freedom of Information Act, if applicable, or other applicable law. However, use of said reports, data and information shall appropriately reference the source for the respective documents.

13.12 The expenditure or advance of any money or the performance of any obligation by the United States under this SCIA shall be contingent upon the appropriation or allotment of funds. No monetary liability shall accrue to the United States in case funds are not appropriated or allocated.

13.13 No member of or Delegate to Congress, Resident Commissioner, or official of MVIDD shall benefit from this SCIA other than as a water user or landowner in the same manner as other water users or landowners.

13.14 Nothing in this SCIA diminishes or abrogates the authority of the Secretary of the Interior under applicable Federal law, regulations, or the Consolidated Decree of the Supreme Court of the United States in the case of *Arizona v. California, et al.*, entered March 27, 2006, (547 U.S. 150 (2006)), or as it may be further modified.

13.15 In the event that any dispute arises regarding this SCIA, Reclamation and MVIDD agree to meet and attempt to resolve the dispute before seeking any remedy.


14. EFFECTIVE DATE

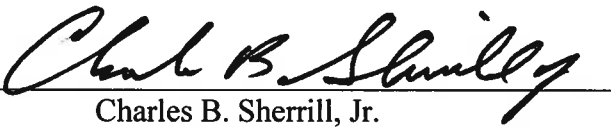
14.1 This SCIA shall become effective upon the date of its execution by both Parties. Once effective, this SCIA will remain in effect until all of the terms and conditions are satisfied and Reclamation provides a notice of termination to MVIDD.

14.2 The Parties hereto have executed this SCIA on the day and year first written above.

Approved as to form:

**MOHAVE VALLEY IRRIGATION AND
DRAINAGE DISTRICT**

By: 
Michael J. Pearce
District Counsel

By: 
Charles B. Sherrill, Jr.
Chairman

THE UNITED STATES OF AMERICA

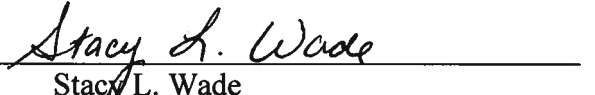
By: 
Stacy L. Wade
Acting Regional Director
Interior Region 8: Lower Colorado Basin
Bureau of Reclamation

EXHIBIT A

1. A copy of MVIDD's Calendar Year 2020 Plan is attached as was modified through negotiation of the SCIA.
2. MVIDD and Reclamation agree that the Calendar Year 2020 Plan requires MVIDD to submit a Certification Report which is not necessary since MVIDD is creating System Conservation Water in lieu of creating EC ICS.

MOHAVE VALLEY IRRIGATION AND DRAINAGE DISTRICT
Plan for the Creation of Extraordinary Conservation Intentionally Created Surplus
During Calendar Year 2020

Mohave Valley Irrigation and Drainage District (MVIDD) proposes to create Extraordinary Conservation Intentionally Created Surplus (EC-ICS) in calendar year 2020 pursuant to the Lower Basin Drought Contingency Operations Exhibit U.

MVIDD is an irrigation district created under the laws of the State of Arizona and holds a contract with the United States Bureau of Reclamation (Contract No. 14-06-W-204) for the delivery of Colorado River water to MVIDD for distribution to Arizona Priority 1 and 4 water entitlement holders within MVIDD. MVIDD administers agricultural water use within the district through a set of Agricultural Water Use subcontracts for delivery of Colorado River water to the individual landowners. For purposes of this EC-ICS program, these subcontracts will define the basic “farm unit” that is enrolled within the program. Within that farm unit, the individual fields are analyzed for their specific cropping history. That history is then analyzed for crop consumptive use over the five-year historical period and a historical consumptive use value for each field is assigned.

Project Description:

MVIDD proposes to create 6,137 acre-feet of EC-ICS in calendar year 2020. The following program will be administered at the local level. MVIDD has established criteria to determine eligibility for agricultural landowners to participate in the following program. To be eligible, agricultural landowners must:

1. Demonstrate a consistent pattern of historical irrigation of crops on fields within identified farm units in at least three over the past 5 years.
2. Demonstrate the calculation of past consumptive use for the individual fields to be fallowed in 2020 within the farm unit.
3. Agree to limit or alter the planting of crops on their land and reduce diversions to remain within an allowed diversion quantity of water for the farm unit.
4. Comply with MVIDD Resolution 2019-01 regarding installation of flow meters on all agricultural wells.
5. Ensure participating farm units are a minimum of 10 acres.

MVIDD has developed a policy document to govern program participation within the District. In addition, each participating landowner will be required to enter into a contract with the District agreeing to (1) abide by the terms of the policy document; (2) fallow the acres specified in this Plan of Creation; (3) reduce actual diversion of Colorado River water to the farm unit for the fallowed acres. The policy document and the individual contracts will be reviewed and approved by MVIDD’s Board of Directors before the end of calendar year 2019 and thereafter will be included as attachments to MVIDD’s 2020 ICS Certification Report.

Quantification Methodology:

Exhibit 1, attached hereto, is a Technical Memorandum that provides the details of the 5 year (2014-2018) crop history and the quantification methods and calculations used to determine the consumptive use of the historical crops and the consumptive use reduction quantities (conservation yields) for each of the fields participating in the fallowing program.¹ MVIDD has prepared a summary of this historical consumptive use history for the years 2014-2018 for the fields in each farm unit identified as participating in the fallowing program. A list of participating farm units for 2020, the identification of the fields, location and number of acres to be temporarily taken out of production in calendar year 2020, and the quantification of each farm unit's anticipated reduction in consumptive use (conservation yield) is set forth in the table attached as Exhibit 2 to this Plan. In addition, Exhibit 2 quantifies the diversion reduction for each farm unit as discussed below.

In 2020, no farm unit within MVIDD proposes to engage in seasonal fallowing of any acres.

Exhibit 3 to this Plan of Creation is a table that identifies the Priority 1 (Present Perfected) and Priority 4 water entitlements within each participating farm unit, and calculates the relative conservation yield of fallowed acres within that farm unit that represent a reduction in consumptive use of Priority 1 water.

Limitations on ICS Creation:

The consumptive use of Colorado River water within MVIDD is affected by various factors that are not within the control of the participating farm units, including the number of acres planted and the types of crops planted by non-participating landowners. In order to control the volume of water diverted by MVIDD and to provide assurance that EC-ICS is created through a reduction in agricultural consumptive use within MVIDD, the District agrees to the following limitations:

- An Agricultural Acreage Limitation. MVIDD shall limit total agricultural (irrigation) fields within MVIDD planted in year 2020 to no more than 4,386.23 acres. The Agricultural Acreage Limitation is calculated by aggregating the highest planted acreage in each farm unit within MVIDD during the period 2014-2018. This calculation is shown in the attached Exhibit 4.
- An Agricultural Diversion Limitation. The Agricultural Diversion Limitation is the maximum volume of water MVIDD will divert in 2020 for agricultural irrigation (21,353 acre-feet). It is calculated by subtracting the sum of the required diversion reduction amounts for each participating farm unit (8,372 acre-feet) from the MVIDD Agricultural

¹ After completion of the Technical Memorandum, MVIDD determined that one of the fields identified for fallowing (Green Acres, Mohave II, LLC (18.22 acres)) was inadvertently planted. MVIDD has eliminated the field from this 2020 ICS Plan and has adjusted the conservation yield (from 6,232 AF to 6,137 AF) and the corresponding diversion reduction (from 8,499 AF to 8,372 AF) volumes accordingly.

Baseline Diversion (29,725 acre-feet in 2020). The Agricultural Baseline Diversion is calculated by MVIDD's agricultural diversion average as reported by the United States Bureau of Reclamation for the highest four of the most recent five years (2014-2018), not including the immediately preceding year (2019). The required diversion reduction for each farm unit is calculated by multiplying each fallowed acre by 7 acre-feet per acre (the MVIDD diversion allowance for farm units), then applying that reduction to each farm unit. These calculations are shown on Exhibit 2. The total sum of the required diversions is then subtracted from the Agricultural Baseline Diversion to arrive at the Agricultural Diversion Limitation for MVIDD for calendar year 2020.

In the event that either Agricultural Acreage Limitation or the Agricultural Diversion Limitation is inadvertently exceeded, MVIDD agrees that the reduction in conservation yield attributable to that exceedance shall be deducted from the planned EC-ICS volume to be created in that year.

Verification Methodology:

MVIDD will monitor the program throughout calendar year 2020 to ensure that participating lands are fallowed in accordance with the program, that the MVIDD Agricultural Acreage Limitation is not exceeded for planted acres within MVIDD, and that MVIDD agricultural (irrigation) diversions are reduced to remain within the Agricultural Diversion Limitation. MVIDD will also monitor total water use within each farm unit to ensure that remaining water use allocation for the enrolled but not fallowed lands has not been exceeded. MVIDD will report any identified discrepancy to the Bureau of Reclamation during the year or at year's end and document the same within its Certification Report. MVIDD will also monitor the fields selected for fallowing within each farm unit so that, in future years, mandatory rotation of fallowed versus planted fields can be enforced by MVIDD.

MVIDD understands and agrees that both the Bureau of Reclamation and the Arizona Department of Water Resources may conduct independent reviews of program compliance throughout the year, including on-site verification inspections. MVIDD and participating landowners, agree to allow reasonable access for and to cooperate with any such inspections.

During 2020, to ensure that any vegetation remaining on the fallowed lands does not consumptively use Colorado River water by drawing water from the Colorado River aquifer, and for dust control purposes, MVIDD and its participating farmers shall ensure that any such vegetation is desiccated through application of herbicides or other means. MVIDD agrees to provide Reclamation with information and updates regarding the vegetation eradication program. MVIDD and its participating farmers agree to use all means and practical mechanisms, including but not limited to, dirt berms in the portion of the irrigation ditch serving the fallowed field, or sealing the on-farm turnouts onto fallowed fields, to ensure no water deliveries can be made onto the fallowed fields.

Certification Report:

MVIDD will submit an ICS Certification Report as required by Section XI.G.3.D.1 of the 2007 Colorado River Interim Guidelines. The Certification Report will contain appropriate information that documents the amount of ICS created, and demonstrates that the method of creation was consistent with this ICS Plan, LBOps Exhibit U, and a Delivery Agreement. MVIDD acknowledges that, in accordance with Section 2.5.B of the Forbearance Agreement, the Secretary of the Interior, acting through the Lower Colorado Regional Director, shall verify information in MVIDD's Certification Report in consultation with the Lower Division States, and shall provide a final written decision regarding the amount of ICS created.

Exhibits:

- Exhibit 1 Technical Memorandum prepared for MVIDD by Land IQ detailing the planted acres within MVIDD in the period 2014-2018, the crop history for fields of interest (those fields selected for fallowing) and the average consumptive use of water on those fields for the historical period (conservation yield).

- Exhibit 2: Table showing all of the participating land units (identified by sub-contract number within MVIDD), name, parcel number, FSA Farm number, crop history by field, planted acres, consumptive use by year and planted crop for each year 2014-2018, average 5 year field consumptive use history and per acre consumptive use. This Table also calculates the reduction in diversion quantity for each farm unit by multiplying the number of acres fallowed by 7 acre-feet per acre (the MVIDD contractual diversion allowance).

- Exhibit 3: Table showing the allocation of Priority 1 (Present Perfected) and Priority 4 water entitlements for each participating farm unit holding Priority 1 entitlement, and calculating the relative conservation yield of Priority 1 and Priority 4 water for the fallowed fields in each participating farm unit.

- Exhibit 4: Table showing the lands actually planted in MVIDD in each year 2014-2018 (derived from the satellite imagery analysis contained in Exhibit 1) and calculating the highest planted acreage in each farm unit. This analysis is used to calculate the total Agricultural Acreage Limitation of 4,386.23 acres.

Summary:

The Summary Table on the next page lists the participating farm units, the acreage to be fallowed, the 5-year average consumptive use volume for each fallowed field, the corresponding conservation yield for the fallowed fields, and a breakdown between the conservation yield attributable to PPR and 4th Priority water. The total diversion reduction for each participating farm unit is also shown, and is broken down by PPR and 4th Priority. The values in the table are taken directly from Exhibit 2.

Contract No.	Farm Unit Name	Fallowed Fields Historic	Farm Unit Total Acres	2020 Fallowed Acres	Consumptive Use (Conservation Yield)		PPR Cons. Yield	4th Priority Cons. Yield	Total Diversion Reduction Annual AFY (7 AF/ac)	4th Priority Diversion Reduction	PPR Diversion Reduction
					Average AF/ac	Annual AFY					
		Cropping Pattern 2014-2018									
1989-05	Nancy Vanderslice, Trustee	Alfalfa	108	36.64	5.20	190.54	10.21	180.33	256.48	242.74	13.74
2006-03	Yadegar/Tropicana Ranch	Alfalfa and Bermuda	152.6	77.24	4.47	344.97	0	344.97	540.68	540.68	0
2008-02	Sherrill Ventures, LLLP - West	Alfalfa and Hay	287.9	89.63	5.21	467.14	0	467.14	627.40	627.40	0
2009-01	Green Acres Mohave, LLC; Sec. 3	Alfalfa	127.5	72.37	5.20	376.36	0	376.36	506.60	506.60	0
2009-04	Green Acres Mohave, LLC; Sec. 31	Alfalfa	180	86.19	5.20	448.20	14.23	433.97	603.30	584.13	19.17
2009-03	Sherrill Ventures, LLLP - East	Alfalfa	138.4	33.20	5.20	172.66	0	172.64	232.42	232.42	0
2012-04C	WPI-919 Farm AZ, LLC	Alfalfa	847.3	426.35	5.20	2,217.20	0	2,217.02	2,984.48	2,984.48	0
2013-04A	WPI-Hancock Farms AZ, LLC	Alfalfa and Sudan	138.4	35.93	5.04	180.91	0	180.91	251.50	251.50	0
2013-05	WPI-Hulet Farms AZ, LC	Alfalfa and Sudan	105.3	33.82	5.02	169.77	169.77	0.00	236.73	7.09	229.64
2015-06C	WPI-R3 Farm AZ, LLC	Alfalfa	310	162.98	5.20	847.54	0	847.54	1,140.84	1,140.84	0
2018-01	WPI II-COL Farm AZ, LLC	Alfalfa and Sudan	271.5	141.63	5.10	722.10	22.54	699.56	991.41	960.02	31.39
Totals			2666.9	1195.98		6,137.39	216.75	5,920.44	8,371.84	8,077.90	293.94

Exhibit 1
Land IQ Technical Memorandum

MOHAVE VALLEY IRRIGATION & DRAINAGE DISTRICT— CROP CONSUMPTIVE USE ANALYSIS IN MOHAVE VALLEY, AZ

PREPARED FOR: Mohave Valley Irrigation & Drainage District

PREPARED BY: Chris Stall/Land IQ
Joel Kimmelshue/Land IQ

DATE: November 6, 2019

1 PURPOSE AND BACKGROUND

Mohave Valley Irrigation & Drainage District (MVIDD) has asked Land IQ, LLC to perform a temporal and average consumptive use (CU) analysis for a proposed fallowing program in Mohave County, Arizona. Within MVIDD, there are 36 landowners or farming entities totaling 4,564 acres (Figure 1). Eleven of these 36 landowners in MVIDD own 2,759 acres (139 fields) that have been farmed in the last five years. These eleven participating landowners propose to fallow a subset of 61 of these fields, fields of interest (FOI), that encompass 1,214 acres of the total 2,759 acres owned (Figure 2). The water savings for fallowing FOI will be based on the previous five-year crop history and the calculated consumptive use. Crops typically grown in this area are alfalfa, Bermuda grass/other hay, cotton, and Sudan grass, with alfalfa dominating the planted acreage. Land IQ performed a remote sensing analysis to identify crop types from 2014 through 2018 for the MVIDD fields.

The consumptive use analysis performed by Land IQ was completed using cleaned reference evapotranspiration (ET_o) calculations from Dr. Paul Brown (University of Arizona Cooperative Extension). The analysis was also informed with area-specific crop parameters.

2 REMOTE SENSING ANALYSIS

Land IQ employs various remote sensing methods of crop identification in California with over 97% accuracy. The accuracy for this project should be as precise as the California analyses because the Mojave Valley has lower crop diversity comparatively. Additionally, the field boundaries only encompass the irrigated portion of parcel boundaries digitized at a 1:2,000 scale. This eliminates error from navigable roads, farm shops, and any other non-irrigated area. Land IQ used multiple imagery and raster data sources. National Agriculture Imagery Program (aerial) and Landsat (satellite-based) imagery was used for all crop classification via remote sensing. A secondary QA/QC was completed using the Cropscape (USDA remote sensing product) data layers (Figure 3). Crop mapping was completed for years 2014-2018 (Figures 4-8). Irrigated acreages by crop and by year are shown in Table 1. Acreage by MVIDD landowner can be found in Section 4.

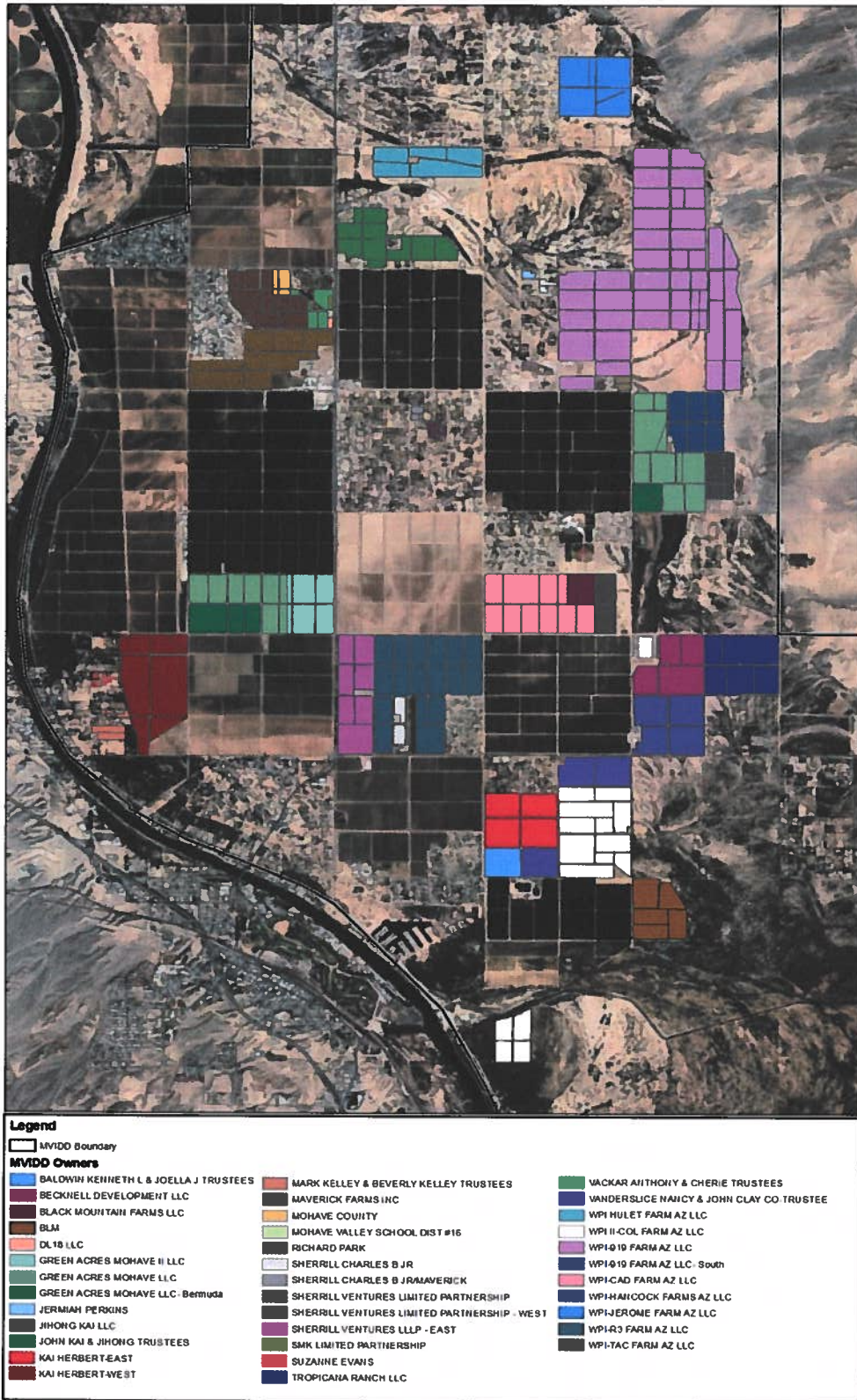


Figure 1. Ownership of MVIDD Fields.

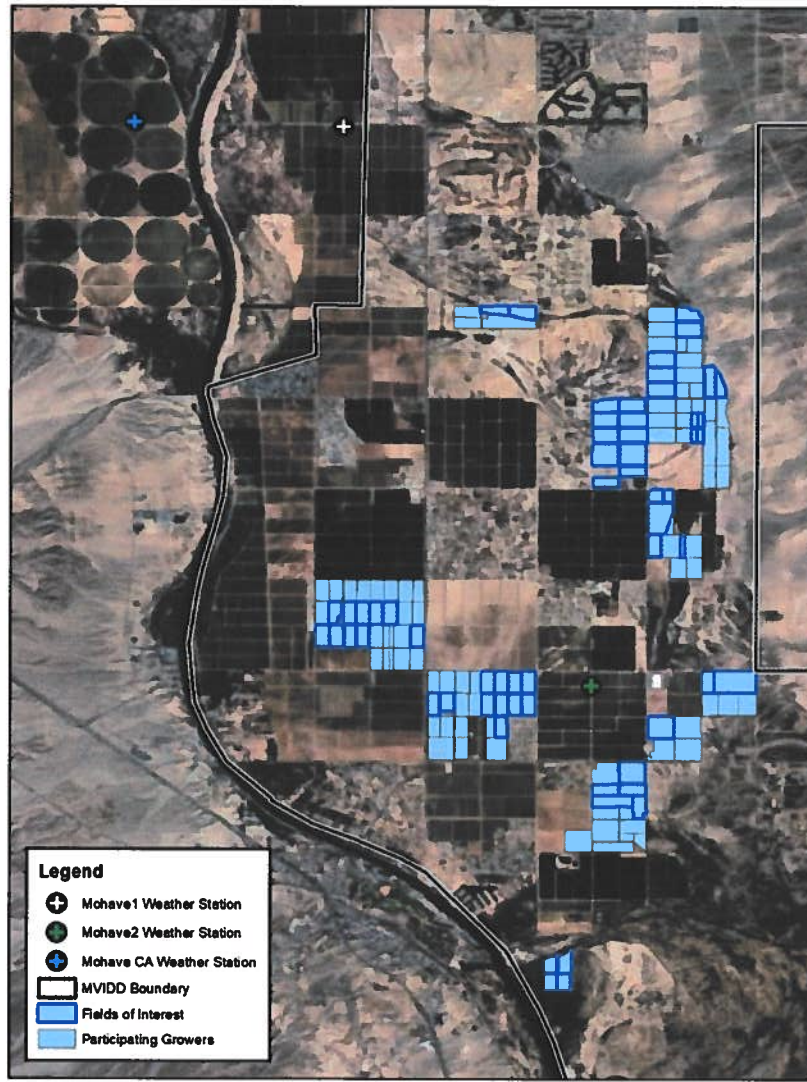


Figure 2. Distribution of the Fields of Interest within MVIDD.



Figure 3. Examples of Landsat Imagery (left), NAIP Imagery (center) and Cropscape Data (right)

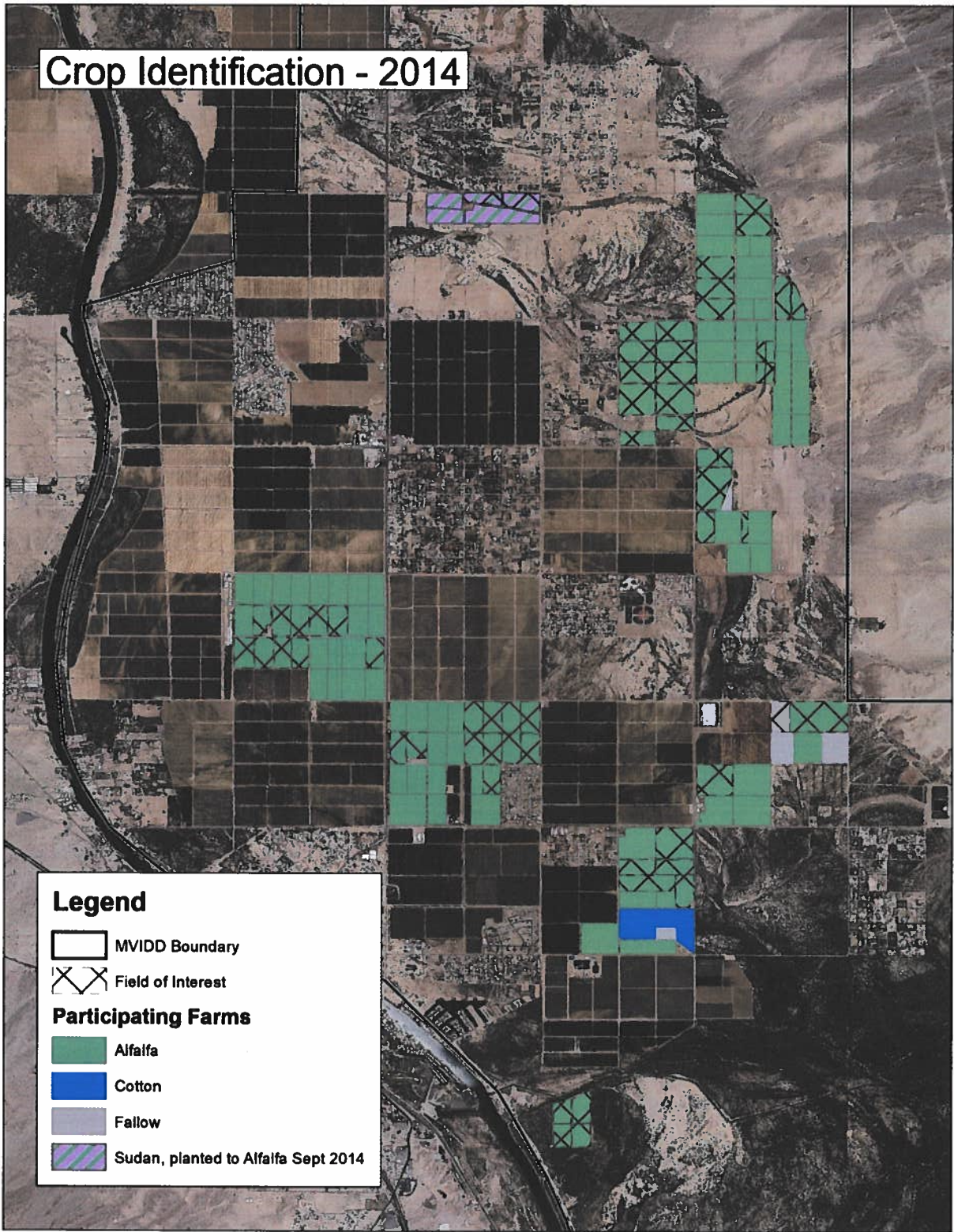


Figure 4. MVIDD Crop Identification – 2014

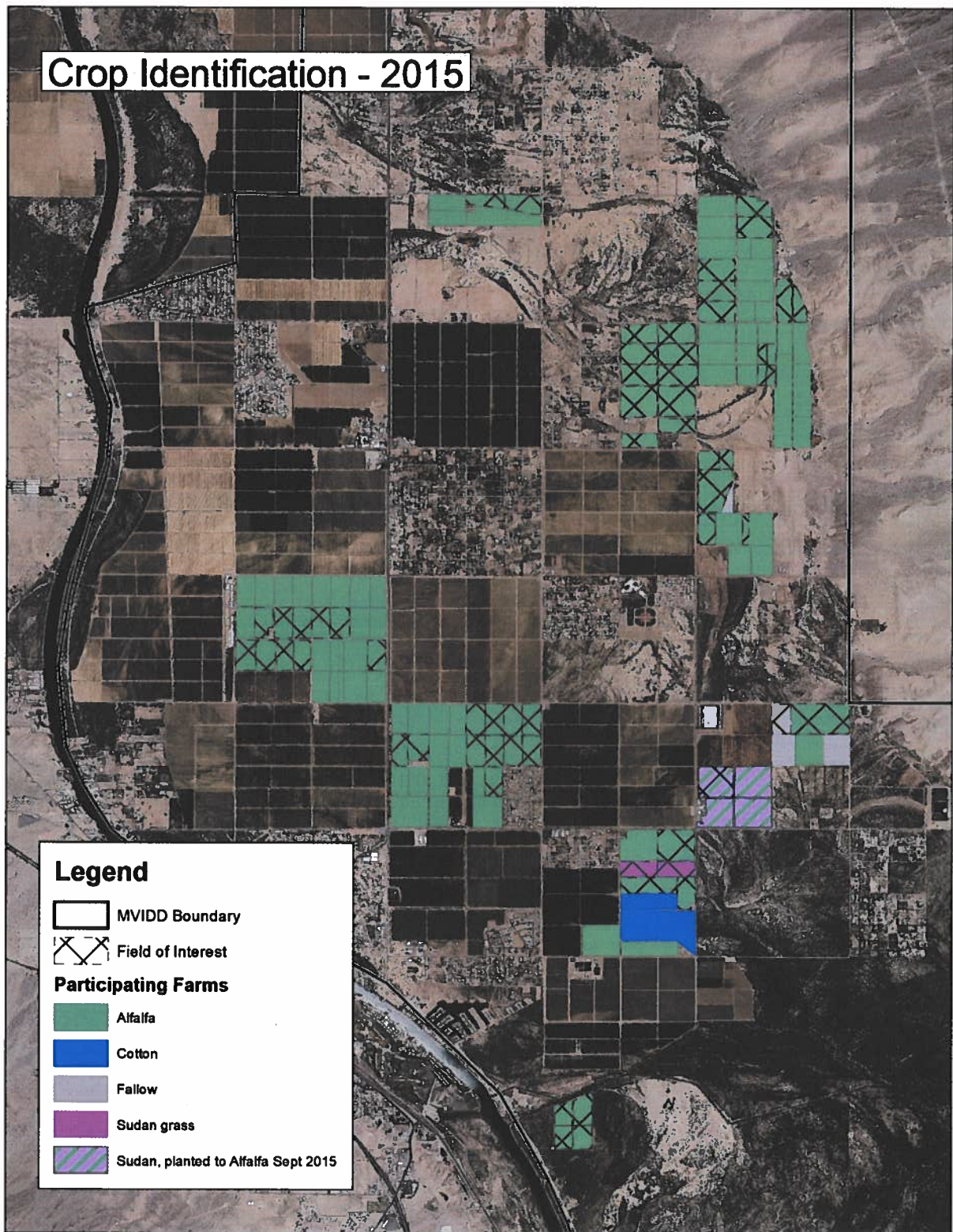


Figure 5. MVIDD Crop Identification – 2015

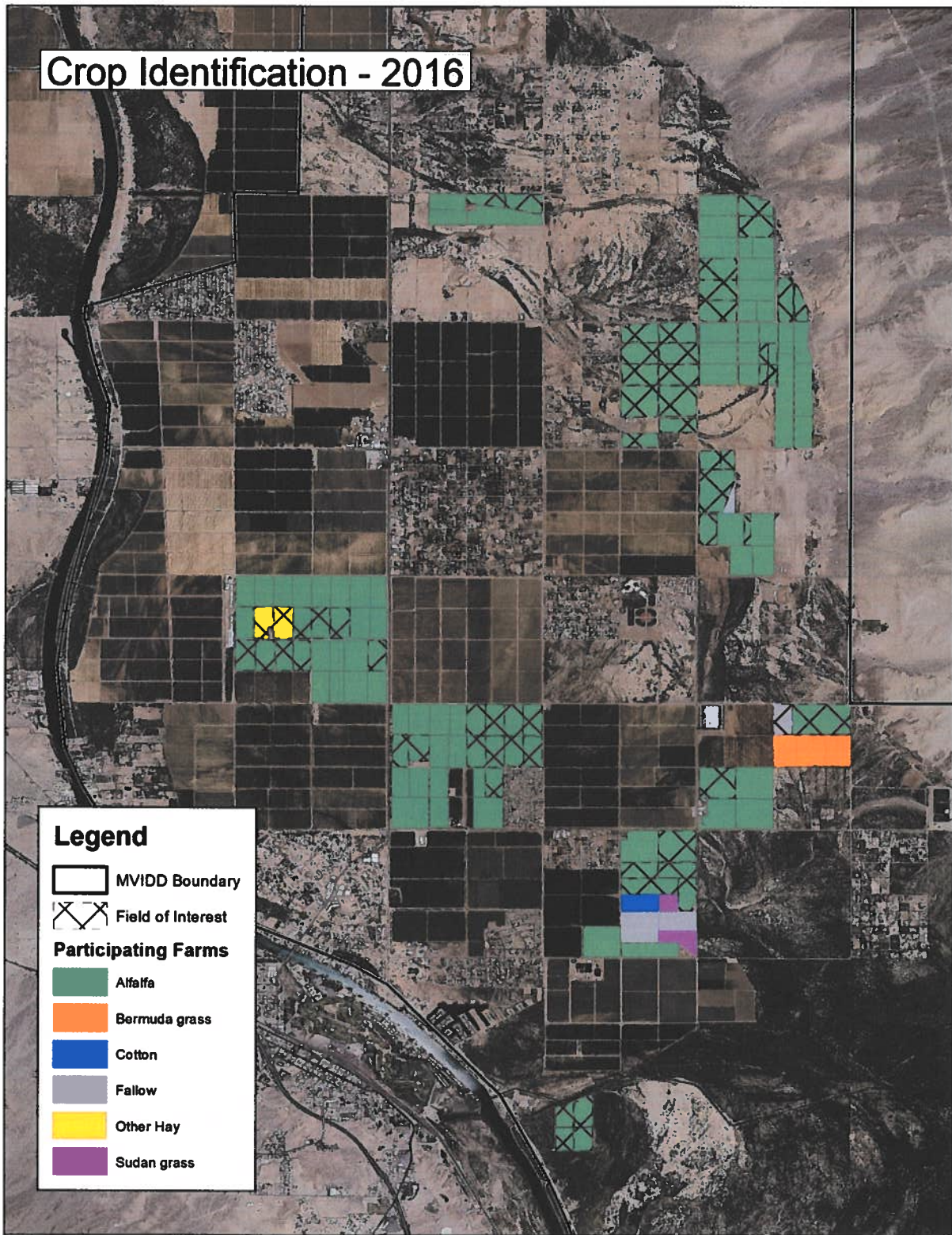


Figure 6. MVIDD Crop Identification – 2016

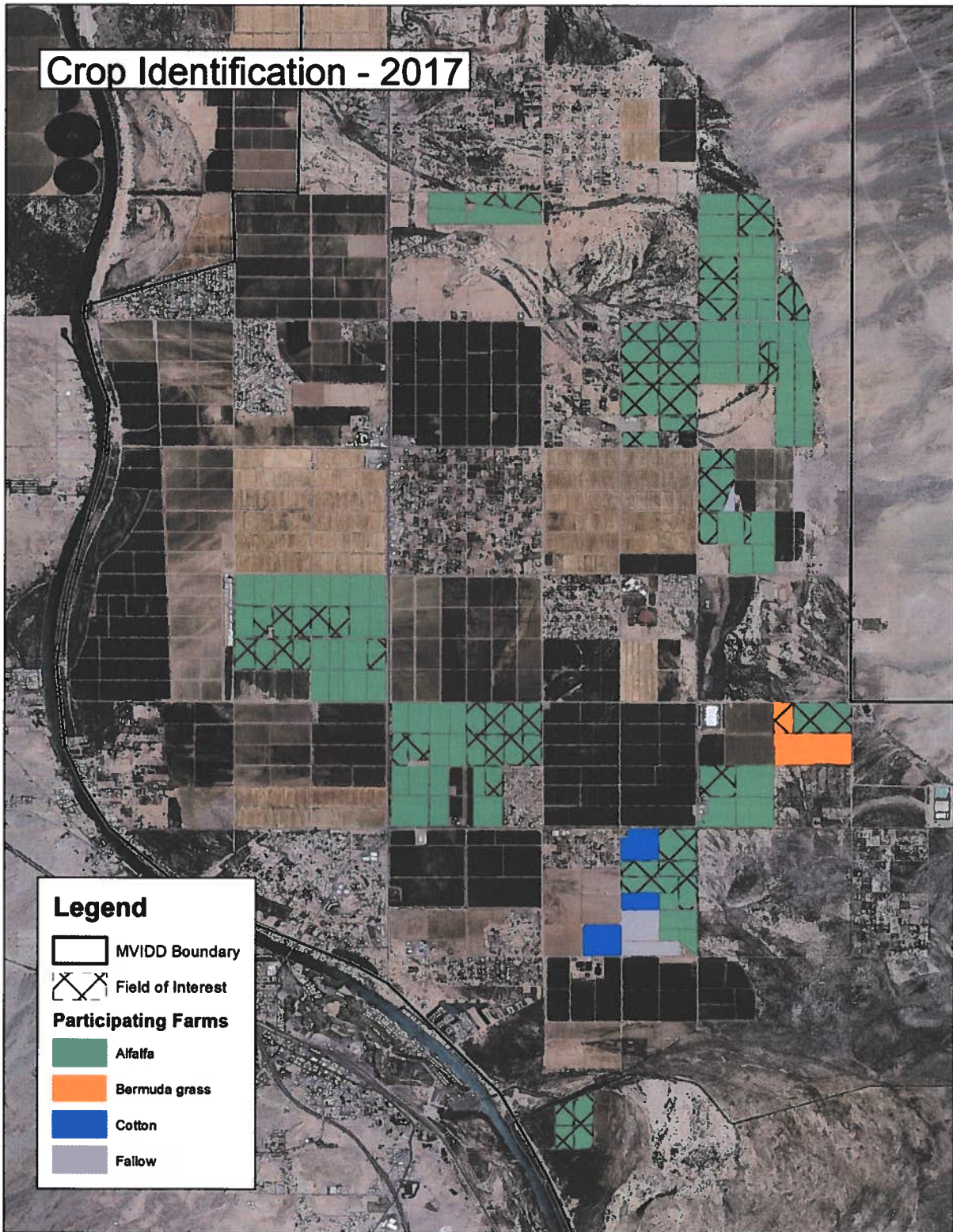


Figure 7. MVIDD Crop Identification – 2017

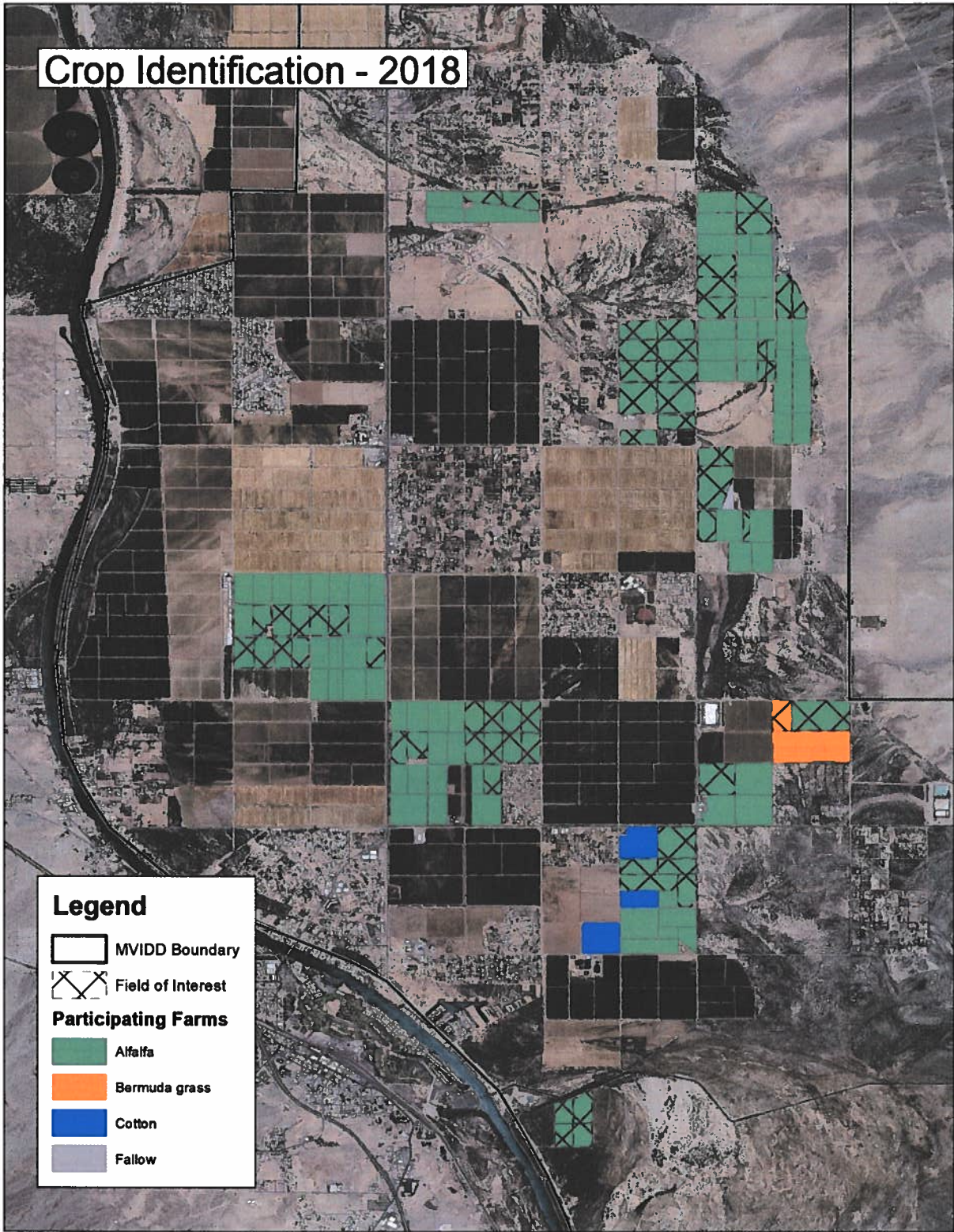


Figure 8. MVIDD Crop Identification – 2018

Table 1. Crop Acreage by Year for the Fields of Interest in MVIDD

Crop	2014	2015	2016	2017	2018
Alfalfa	1,161.6	1,123.1	1,161.0	1,195.4	1,195.4
Bermuda Grass/Other Hay	-	-	-	18.9	18.9
Fallow	18.9	18.9	18.9	-	-
Sudan Grass	33.8*	72.3**	-	-	-
Total	1,214	1,214	1,214	1,214	1,214

*33.8 acres of summer Sudan grass planted to alfalfa in September 2014

**35.9 acres of summer Sudan grass planted to alfalfa in September 2015

3 ETO DATA

For this consumptive use analysis, reference evapotranspiration was calculated and put through a quality control (QC) process by Dr. Paul Brown, the Associate Director for Extension Programs in Agriculture and Natural Resources who currently oversees the operation of the Arizona Meteorological Network (AZMET).

ETo is an estimate of the evapotranspiration (ET) of a well-watered short grass plant, influenced only by the climactic variables. Crop coefficient values (Kc) are then applied to the calculated ETo values to adjust for differences in crop physiology and thus produce crop specific evapotranspiration (ETc). Kc values may range from 0.4 (ETc<ETo) up to 1.2 (ETc>ETo).

Accuracy of the CU calculations depend on the precision and reliability of the weather data for ETo calculation. For this reason, the Arizona Meteorological Network (AZMET) was the primary data source. AZMET has been providing weather-based information to agricultural interests across central and southern Arizona since 1987. AZMET is a trusted data source because it is closely monitored by the University of Arizona and its Cooperative Extension programs.

There are three AZMET stations within a short distance of the FOI within MVIDD (Figure 2). These stations are Mohave1, Mohave2, and Ft. Mohave, CA. Mohave1 station data collection started in 1992, Mohave2 started in 2003, and Ft. Mohave, CA started midway through 2017. These stations are within five miles of each other and have an elevation difference of 12 feet, so the data should be very similar and can be easily compared for the overlapping time period.

The Mohave1 station is in the corner of an alfalfa field in the northeast portion of MIVDD. Mohave2 is located on an unpaved shop road between alfalfa fields in the center of MVIDD. Ft. Mohave, CA weather station is located between three center-pivot alfalfa fields across the Colorado River in California.

As a result of these weather stations being close to the FOI and proximity to agriculture, an average of Mohave1 and Mohave2 ETo values were used from 2014-2017 and an average ETo value from all three stations was used in 2018.

Kc values applied to the ETo values to calculate crop ET were referenced from Allen et al., 1998 and personal communications with professors at University of California, Davis (Snyder, 2016).

4 RESULTS AND CONCLUSIONS

Total consumptive use calculations are comprised of calculated unit consumptive use per crop and the area of each crop.

4.1 EVAPOTRANSPIRATION

Total CU represents the total amount of water that the crop uses in the growing season, regardless of the source (Irrigation or precipitation). Total CU was calculated for crops grown in the FOI from 2014 through 2018. The results of these calculations are shown in Table 2. These values represent the total potential amount of water that the crop would use during the year if there were no restrictions. Table 3 shows the consumptive use of applied water (CU of AW) in acre-inches. The CU of AW accounts for the contributions of effective precipitation to the system.

These values compare favorably with the report published in 2013 from the Bureau of Reclamation (BOR, 2013) using the Lower Colorado River Accounting System (LCRAS). Although the report calculates values from 2013, the total CU for alfalfa was 65.1 Acre-in/Ac and total Sudan grass CU was 42 Acre-in/Ac.

Table 2. Comparison of Crop CU in the Mohave Valley, AZ

Crop	2014	2015	2016	2017	2018
Alfalfa	62.1	63.3	62.8	63.5	66.6
Bermuda Grass/Other Hay	62.3	63.5	62.7	64.0	67.0
Sudan Grass	37.0	38.4	38.3	38.8	41.3

Table 3. Comparison of Crop CU from AW in the Mohave Valley, AZ

Crop	2014	2015	2016	2017	2018
Alfalfa	59.6	60.6	59.6	61.0	65.0
Bermuda Grass/Other Hay	59.8	60.8	59.5	61.5	65.5
Sudan Grass	35.1	37.8	35.6	37.9	40.9

4.2 AVERAGE CONSUMPTIVE USE BY LANDOWNER

Average CU is calculated for each landowner by using an area weighted average for the consumptive use of all the FOI. For these purposes, an average of total consumptive use (Table 2) and CU from AW (Table 3) was used for calculations, due to the intensity and variability of precipitation within the Mohave Valley.

Tables 4-8 show the results of the yearly crop mapping by owner for 2014 through 2018. Alfalfa dominates the crop mix for most owners in most years, with few exceptions. An annual area weighted

average CU by owner was calculated for the FOI. The annual average CU by owner (Table 9) was calculated by multiplying the average CU (Tables 2 and 3) by the area-weighted crop type acreage.

The participating growers listed in the tables below plan to fallow acreage for the 2020 growing season. The water savings caused by fallowing is calculated in Table 10, showing the planned acreage to be fallowed in 2020, the area-weighted average CU for each owner's FOI, and the anticipated water savings.

Table 4. Crop Acreage by Type and Owner, 2014

Owner	Alfalfa	Bermuda Grass	Fallow	Hay	Sudan Grass
GREEN ACRES MOHAVE II LLC	18.2	-	-	-	-
GREEN ACRES MOHAVE LLC	158.6	-	-	-	-
SHERRILL VENTURES LIMITED PARTNERSHIP - WEST	89.6	-	-	-	-
SHERRILL VENTURES LLLP - EAST	33.2	-	-	-	-
TROPICANA RANCH LLC	58.4	-	18.8	-	-
VANDERSLICE NANCY & JOHN CLAY CO-TRUSTEE	36.6	-	-	-	-
WPI HULET FARM AZ LLC	-	-	-	-	33.8*
WPI II-COL FARM AZ LLC	141.6	-	-	-	-
WPI-919 FARM AZ LLC	426.4	-	-	-	-
WPI-HANCOCK FARMS AZ LLC	35.9	-	-	-	-
WPI-R3 FARM AZ LLC	163.0	-	-	-	-

*33.8 Acres double cropped with spring/summer Sudan grass and fall planted alfalfa

Table 5. Crop Acreage by Type and Owner, 2015

Owner	Alfalfa	Bermuda Grass	Fallow	Hay	Sudan Grass
GREEN ACRES MOHAVE II LLC	18.2	-	-	-	-
GREEN ACRES MOHAVE LLC	158.6	-	-	-	-
SHERRILL VENTURES LIMITED PARTNERSHIP - WEST	89.6	-	-	-	-
SHERRILL VENTURES LLLP - EAST	33.2	-	-	-	-
TROPICANA RANCH LLC	58.4	-	18.8	-	-
VANDERSLICE NANCY & JOHN CLAY CO-TRUSTEE	36.6	-	-	-	-
WPI HULET FARM AZ LLC	33.8	-	-	-	-
WPI II-COL FARM AZ LLC	105.3	-	-	-	36.3
WPI-919 FARM AZ LLC	426.4	-	-	-	-
WPI-HANCOCK FARMS AZ LLC	-	-	-	-	35.9*
WPI-R3 FARM AZ LLC	163.0	-	-	-	-

*35.9 Acres double cropped with spring/summer Sudan grass and fall planted alfalfa

Table 6. Crop Acreage by Type and Owner, 2016

Owner	Alfalfa	Bermuda Grass	Fallow	Hay	Sudan Grass
GREEN ACRES MOHAVE II LLC	18.2	-	-	-	-
GREEN ACRES MOHAVE LLC	158.6	-	-	-	-
SHERRILL VENTURES LIMITED PARTNERSHIP - WEST	55.2	-	-	-	-
SHERRILL VENTURES LLLP - EAST	33.2	-	-	34.4	-
TROPICANA RANCH LLC	58.4	-	18.8	-	-
VANDERSLICE NANCY & JOHN CLAY CO-TRUSTEE	36.6	-	-	-	-
WPI HULET FARM AZ LLC	33.8	-	-	-	-
WPI II-COL FARM AZ LLC	141.6	-	-	-	-
WPI-919 FARM AZ LLC	426.4	-	-	-	-
WPI-HANCOCK FARMS AZ LLC	35.9	-	-	-	-
WPI-R3 FARM AZ LLC	163.0	-	-	-	-

Table 7. Crop Acreage by Type and Owner, 2017

Owner	Alfalfa	Bermuda Grass	Fallow	Hay	Sudan Grass
GREEN ACRES MOHAVE II LLC	18.2	-	-	-	-
GREEN ACRES MOHAVE LLC	158.6	-	-	-	-
SHERRILL VENTURES LIMITED PARTNERSHIP - WEST	89.6	-	-	-	-
SHERRILL VENTURES LLLP - EAST	33.2	-	-	-	-
TROPICANA RANCH LLC	58.4	18.8	-	-	-
VANDERSLICE NANCY & JOHN CLAY CO-TRUSTEE	36.6	-	-	-	-
WPI HULET FARM AZ LLC	33.8	-	-	-	-
WPI II-COL FARM AZ LLC	141.6	-	-	-	-
WPI-919 FARM AZ LLC	426.4	-	-	-	-
WPI-HANCOCK FARMS AZ LLC	35.9	-	-	-	-
WPI-R3 FARM AZ LLC	163.0	-	-	-	-

Table 8. Crop Acreage by Type and Owner, 2018

Owner	Alfalfa	Bermuda Grass	Fallow	Hay	Sudan Grass
GREEN ACRES MOHAVE II LLC	18.2	-	-	-	-
GREEN ACRES MOHAVE LLC	158.6	-	-	-	-
SHERRILL VENTURES LIMITED PARTNERSHIP - WEST	89.6	-	-	-	-
SHERRILL VENTURES LLLP - EAST	33.2	-	-	-	-
TROPICANA RANCH LLC	58.4	18.8	-	-	-
VANDERSLICE NANCY & JOHN CLAY CO-TRUSTEE	36.6	-	-	-	-
WPI HULET FARM AZ LLC	33.8	-	-	-	-
WPI II-COL FARM AZ LLC	141.6	-	-	-	-
WPI-919 FARM AZ LLC	426.4	-	-	-	-
WPI-HANCOCK FARMS AZ LLC	35.9	-	-	-	-
WPI-R3 FARM AZ LLC	163.0	-	-	-	-

Table 9. Area-Weighted CU (Acre-In/Ac) by Year and Owner

Owner	2014	2015	2016	2017	2018	Avg CU
GREEN ACRES MOHAVE II LLC	60.8	61.9	61.2	62.2	65.8	62.4
GREEN ACRES MOHAVE LLC	60.8	61.9	61.2	62.2	65.8	62.4
SHERRILL VENTURES LIMITED PARTNERSHIP - WEST	60.8	61.9	61.2	62.2	65.8	62.4
SHERRILL VENTURES LLLP - EAST	60.8	61.9	61.2	62.2	65.8	62.4
TROPICANA RANCH LLC	46.0	46.8	46.3	62.4	65.9	53.6
VANDERSLICE NANCY & JOHN CLAY CO-TRUSTEE	60.8	61.9	61.2	62.2	65.8	62.4
WPI HULET FARM AZ LLC	50.0	61.9	61.2	62.2	65.8	60.2
WPI II-COL FARM AZ LLC	60.8	55.8	61.2	62.2	65.8	61.2
WPI-919 FARM AZ LLC	60.8	61.9	61.2	62.2	65.8	62.4
WPI-HANCOCK FARMS AZ LLC	60.8	52.0	61.2	62.2	65.8	60.4
WPI-R3 FARM AZ LLC	60.8	61.9	61.2	62.2	65.8	62.4

Table 10. Average CU, Planned 2020 Fallow Acreage and Estimated Fallowed Water Savings

Owner	Average CU (Ac-In/Acre)	Planned 2020 Fallow Acreage	Estimated Water Savings (Acre Feet)
GREEN ACRES MOHAVE II LLC	62.4	18.2	94.7
GREEN ACRES MOHAVE LLC	62.4	158.6	824.6
SHERRILL VENTURES LIMITED PARTNERSHIP - WEST	62.4	89.6	466.1
SHERRILL VENTURES LLLP - EAST	62.4	33.2	172.7
TROPICANA RANCH LLC	53.6	77.2	345.0
VANDERSLICE NANCY & JOHN CLAY CO-TRUSTEE	62.4	36.6	190.5
WPI HULET FARM AZ LLC	60.2	33.8	169.8
WPI II-COL FARM AZ LLC	61.2	141.6	722.1
WPI-919 FARM AZ LLC	62.4	426.4	2,217.2
WPI-HANCOCK FARMS AZ LLC	60.4	35.9	180.9
WPI-R3 FARM AZ LLC	62.4	163.0	847.5
SUM	-	1,214	6,232

5 REFERENCES

Allen, R.G., Pereira, L.S., Raes, D., & Smith, M. 1998. Crop evapotranspiration-Guidelines for computing crop requirements- FAO Irrigation and drainage paper 56. FAO, Rome.

Bureau of Reclamation. 2013. Lower Colorado River Annual Summary of Evapotranspiration and Evaporation. Retrieved from https://www.usbr.gov/lc/region/g4000/4200Rpts/LCRASRpt/2013/LCRAS_Report_2013.pdf on 8/5/19

University of Arizona, AZMET. 2019. The Arizona Meteorological Network. Retrieved from <https://cals.arizona.edu/azmet/az-data.htm> on 8/5/2019.

Exhibit 2
Table of Participating Farm Units

Exhibit 2. MVIDD 2020 ICS Plan 5 Year Consumptive Use History for EC-ICS Participating Lands for 2020

Entitlement Contract No.	Farm Unit Name	Mohave County Parcel No.	FSA Farm #	FSA Tract #	FSA Field #	Farmers Field #	Crop Type History by Field	Planted Acres Per Year	2014 CU by Crop History	2015 CU by Crop History	2016 CU by Crop History	2017 CU by Crop History	2018 CU by Crop History	Total 5-YR CU Field History	Average 5-YR Field History	Average 5-YR per Acre History	Diversion Reduction 7 AF/acre
1989-05 Sec.13	Nancy Vanderrilloe, Trustee	224-23-015	19	20	2	2	Alfalfa	36.64	5.07	5.16	5.10	5.19	5.48	952.69	190.54	5.20	
	Total Conserved								185.68	189.10	186.96	200.90			190.54	5.20	256.48
2006-03 Sec. 7	Yedigir/Tropicana Ranch	224-07-014	63	31	2		Blended Crop	77.24	5.07	5.16	5.09	5.23	5.52	1,724.83	344.97	4.47	
	Total Conserved						Partial Acreage Years (2014-2016) ->		295.91	301.35	297.42	403.82	426.33		344.97	4.47	540.68
2008-02 Sec. 3	Sheriff Ventures, LLP	224-21-007	4	19	10	5E	Blended Crop		5.07	5.16	Mix	5.19	5.48	420.63	84.13	5.20	
			4	19	11	6W	Blended Crop		92.01	83.52	82.43	83.94	88.73	473.99	94.80	5.20	
			4	19	12	6E	Alfalfa		92.41	94.11	92.89	94.59	99.99	473.99	94.71	5.20	
			4	19	13	7W	Alfalfa		92.29	93.99	92.93	94.46	99.86	464.86	92.97	5.25	
			4	19	14	7E	Alfalfa		89.82	91.47	94.46	91.93	97.18	502.69	100.54	5.22	
	Total Conserved							89.63	97.68	99.48	99.86	99.98	105.69		100.54	5.22	627.40
2009-01 Sec. 3	Green Acres Mohave, LLC	224-21-008	457		1	1	Alfalfa		5.07	5.16	5.10	5.19	5.48	512.51	102.50	5.20	
			457		2	2	Alfalfa		92.89	101.73	100.58	102.24	108.08	492.22	98.44	5.20	
			457		3	3	Alfalfa		95.94	97.70	96.60	98.19	103.80	431.63	86.33	5.20	
			457		4	4	Alfalfa		84.13	85.67	84.71	86.10	91.02	445.44	89.09	5.20	
	Total Conserved							72.37	86.82	88.41	87.42	88.86	93.93		376.35	5.20	506.60
2009-04 Sec. 31	Green Acres Mohave, LLC	225-09-047			1	1	Alfalfa		5.07	5.16	5.10	5.19	5.48	314.46	62.89	5.20	
					2	2	Alfalfa		61.29	62.42	61.71	62.73	66.31	206.00	41.20	5.20	
					3	3	Alfalfa		40.15	40.89	40.43	41.09	43.44	1,104.79	220.96	5.07	
					4	4	Alfalfa		215.33	219.29	216.81	220.39	232.97	457.28	91.46	5.20	
					6	6	Alfalfa		89.13	90.76	89.74	91.22	96.43	158.46	31.69	5.20	
	Total Conserved							86.19	30.88	31.45	31.10	31.61	33.42		448.20	2.83	603.30
2009-03 Sec. 11	Sheriff Ventures, LLP	224-42-003A	4	12	9	5W	Alfalfa		5.07	5.16	5.10	5.19	5.48	421.95	84.39	5.20	
			4	12	10	5E	Alfalfa		82.24	83.75	82.81	84.17	88.98	441.38	88.28	5.20	
	Total Conserved							33.20	86.03	87.61	86.62	88.05	93.08		172.66	5.20	232.42
12-04C / 2012-C Sec.19	WPH-919 Farm AZ, LLC	225-11-010			2	2	Alfalfa		5.07	5.16	5.10	5.19	5.48	514.31	102.86	5.20	
					4	4	Alfalfa		100.24	102.08	100.98	102.60	108.46	608.82	121.76	5.20	
					7	7	Alfalfa		118.66	120.84	119.48	121.45	128.39	662.94	132.59	5.20	
					9	9	Alfalfa		129.21	131.58	130.10	132.25	139.80	638.77	127.75	5.20	
	Total Conserved							124.50	126.79	125.96	127.42	134.70	137.75		127.75	5.20	

Entitlement Contract No.	Farm Unit Name	Mokawa County Parcel No.	FSA Farm #	FSA Tract #	FSA Field #	FSA Field #	Crop Type History by Field	Planned Acres Per Year	2014 CU by Crop History	2015 CU by Crop History	2016 CU by Crop History	2017 CU by Crop History	2018 CU by Crop History	Total 5-yr CU Field History	Average 5-yr Field History	Average 5-yr per Acre History	Diversion Reduction 7 AF/acre			
Sec 25		225-11-005	11	11	11	11	Alfalfa	20.8	105.49	107.43	106.22	107.97	114.34	541.26	108.25	5.20				
			12	12	12	12	Alfalfa	11.9	60.07	61.17	60.48	61.48	64.99	308.18	61.64	5.20				
			13	13	13	13	Alfalfa	24.2	122.88	125.34	123.78	125.77	132.96	630.49	126.10	5.20				
			15	15	15	15	Alfalfa	21.4	108.41	110.40	109.16	110.96	117.29	556.22	111.24	5.20				
			16	16	16	16	Alfalfa	23.5	119.00	121.19	119.82	121.80	128.75	610.56	122.11	5.20				
			21	21	21	21	Alfalfa	24.1	122.29	124.54	123.13	125.16	132.31	627.43	125.49	5.20				
			22	22	22	22	Alfalfa	26.0	131.79	134.22	132.70	134.89	142.60	676.20	135.24	5.20				
			25	25	25	25	Alfalfa	24.0	121.79	124.03	122.63	124.66	131.77	624.89	124.98	5.20				
			26	26	26	26	Alfalfa	26.1	132.06	134.49	132.97	135.16	142.88	677.57	135.51	5.20				
			30	30	30	30	Alfalfa	36.9	186.84	190.27	188.13	191.23	202.15	956.62	191.72	5.20				
Sec 30		225-25-026	31	31	31	31	Alfalfa	17.2	88.72	192.19	190.02	193.15	204.18	968.26	193.65	5.20				
			33	33	33	33	Alfalfa	17.8	90.02	91.67	90.64	92.13	97.40	461.86	92.37	5.20				
			34	34	34	34	Alfalfa	16.8	85.20	86.76	85.79	87.20	92.38	437.13	87.43	5.20				
			24	24	24	24	Alfalfa	11.4	57.97	59.03	58.37	59.33	62.72	297.42	59.48	5.20				
Sec 7	WPH-Hancock Farms AZ, LLC	224-07-028 & 224-07-027	28	28	28	Alfalfa	44.0	55.56	56.58	55.95	56.87	60.12	285.08	57.02	5.20					
			Total Conserved				426.35							2,217.20		5.20	2,364.48			
2013-04A	WPH-Hancock Farms AZ, LLC	224-07-028 & 224-07-027	13	383	1	12	Blended Crop	35.9	5.07	4.34	5.10	5.19	5.48	904.55	180.91	5.04				
2013-05	WPH-Hancock Farms AZ, LLC	225-24-004	161	132	2	2	Blended Crop	14.03	4.17	5.16	5.10	5.19	5.48	352.20	70.44	5.02				
			161	132	3	3	Blended Crop	14.79	102.12	100.97	102.63	108.49	496.63	99.33	5.02					
			Total Conserved				33.82								169.77		5.02	236.73		
2015-06C	WPH-R3 Farm AZ, LLC	224-42-014E																		
Sec 11		224-42-014E	5	2W			Alfalfa	11.5	5.07	5.16	5.10	5.19	5.48	482.32	96.46	5.20				
			6	2E			Alfalfa	18.6	94.36	96.09	95.01	96.58	102.09	484.12	96.82	5.20				
			7	1W			Alfalfa	18.4	93.37	95.08	94.01	95.56	101.02	479.04	95.81	5.20				
			8	1E			Alfalfa	19.0	96.38	98.15	97.05	98.65	104.28	494.50	98.90	5.20				
			13	7W			Alfalfa	18.4	93.18	94.89	93.82	95.37	100.81	478.06	95.61	5.20				
			14	7E			Alfalfa	18.3	92.94	94.65	93.58	95.12	100.55	476.84	95.37	5.20				
			23	10E			Alfalfa	15.9	80.73	82.22	81.29	82.63	87.35	414.21	82.84	5.20				
			4	12	15	8W			Alfalfa	17.8	90.25	91.91	90.87	92.37	97.64	465.04	92.61	5.20		
			16	8E			Alfalfa	17.9	90.74	92.41	91.36	92.87	98.17	465.55	93.11	5.20				
			Total Conserved						162.98							847.54		5.20	1,140.84	
			2018-01	WPH-II-COL Farm AZ, LLC	224-23-017															
			Sec 13		224-23-017	3	1	1	1	Blended Crop	18.3	5.07	5.07	5.10	5.19	5.48	453.19	87.84	4.80	
						3	1	2	2	Blended Crop	18.1	91.67	93.31	94.85	96.27	100.27	433.63	86.73	4.80	
						3	1	3	3	Alfalfa	29.2	148.02	150.74	149.04	151.50	160.15	759.46	151.89	5.20	
3	1	4				4	Alfalfa	18.1	91.58	93.27	92.21	93.73	99.09	465.88	93.98	5.20				
Sec 33 & 34		216-18-002	88	88	1	1	Alfalfa	13.4	5.07	5.16	5.10	5.19	5.48	347.64	69.53	5.20				
			2	2	2	2	Alfalfa	17.4	67.76	69.00	68.22	69.35	73.31	453.03	90.61	5.20				

Exhibit 3
Table of Priority 1 and 4 Rights
in Participating Farm Units

Exhibit 4
Table of Acres Planted 2014-2018

Exhibit 4. Agricultural Acreage Limitation Calculation

Owner	Total Acres	2018- Irrigated	2017- Irrigated	2016- Irrigated	2015- Irrigated	2014- Irrigated	Max- Irrigated
BALDWIN KENNETH L & JOELLA J TRUSTEES	37.4	37.4	37.4	37.4	37.4	37.4	37.4
BECKNELL DEVELOPMENT LLC	119.1	119.1	119.1	119.1	119.1	119.1	119.1
BLACK MOUNTAIN FARMS LLC	28.1	28.1	28.1	-	-	-	28.1
BLM	99.2	99.2	99.2	99.2	99.2	99.2	99.2
DL18 LLC	2.1	2.1	2.1	2.1	-	2.1	2.1
GREEN ACRES MOHAVE II LLC - Sec 3 E Fields	92.0	92.0	92.0	92.0	92.0	92.0	92.0
GREEN ACRES MOHAVE LLC- Sec 3N & Sec 31 Fields	307.5	301.6	301.6	301.6	301.6	301.6	301.6
GREEN ACRES MOHAVE LLC- Sec 3 SW Fields	102.6	73.0	73.0	73.0	73.0	73.0	73.0
Jeremiah Perkins	3.2	3.2	3.2	3.2	3.2	3.2	3.2
JIHONG KAI LLC	175.7	135.3	114.0	114.0	114.0	175.7	175.7
John Kai & Jihong Trustees	131.1	-	-	-	-	-	-
KAI HERBERT - Sec 9	215.3	-	215.3	215.3	215.3	206.5	215.3
KAI HERBERT - Sec 13	134.5	-	-	-	134.5	134.5	134.5
Mark Kelley & Beverly Kelley Trustees	19.3	12.0	12.0	3.8	12.0	12.0	12.0
MAVERICK FARMS INC - Sec 25	7.3	7.3	7.3	-	-	-	7.3
MOHAVE COUNTY	14.0	14.0	14.0	14.0	14.0	-	14.0
MOHAVE VALLEY SCHOOL DIST #16	7.9	7.9	7.9	7.9	7.9	7.9	7.9
Richard Park	6.1	5.4	5.4	5.4	5.4	5.4	5.4
SHERRILL CHARLES B JR	22.0	22.0	17.3	17.3	17.3	17.3	22.0
SHERRILL CHARLES B JR/MAVERICK - Sec 35	4.5	4.5	4.5	4.5	4.5	4.5	4.5
SHERRILL VENTURES LIMITED PARTNERSHIP	86.2	86.2	86.2	-	-	-	86.2
SHERRILL VENTURES LIMITED PARTNERSHIP - WEST	287.9	287.9	287.9	287.9	287.9	287.9	287.9
SHERRILL VENTURES LLLP - EAST	138.4	138.4	138.4	138.4	138.4	138.4	138.4
SMK LIMITED PARTNERSHIP	2.9	2.9	2.9	2.9	-	2.9	2.9
Suzanne Evans	5.6	-	2.6	2.4	2.5	-	2.6
TROPICANA RANCH LLC	152.6	152.6	152.6	133.8	86.8	86.8	152.6
VACKAR ANTHONY & CHERIE TRUSTEES	22.3	22.3	22.3	22.3	7.8	19.8	22.3
VANDERSLICE NANCY & JOHN CLAY CO-TRUSTEE	108.0	108.0	108.0	108.0	108.0	108.0	108.0
WPI HULET FARM AZ LLC	105.3	105.3	105.3	105.3	105.3	105.3	105.3
WPI II-COL FARM AZ LLC	271.5	271.5	210.1	213.5	271.5	264.5	271.5
WPI-919 FARM AZ LLC	847.3	847.3	847.3	847.3	847.3	847.3	847.3
WPI-919 FARM AZ LLC- South	108.1	108.1	108.1	-	-	-	108.1
WPI-CAD FARM AZ LLC	193.9	193.9	193.9	-	-	-	193.9
WPI-HANCOCK FARMS AZ LLC	138.4	138.4	138.4	138.4	138.4	138.4	138.4
WPI-JEROME FARM AZ LLC	146.1	146.1	139.2	-	-	-	146.1
WPI-R3 FARM AZ LLC	310.0	310.0	310.0	310.0	310.0	310.0	310.0
WPI-TAC FARM AZ LLC	110.2	110.2	110.2	89.2	64.9	35.9	110.2
Sum	4,563.9	3,993.5	4,116.9	3,509.3	3,619.1	3,636.5	4,386.2

Acreage limitation is calculated by determining the highest planted acreage in MVIDD by farm unit in the last five years (2014-2018).

EXHIBIT B

1. A copy of MVIDD's Calendar Year 2021 Plan is attached, as was modified through negotiation of the SCIA.
2. MVIDD and Reclamation agree that the Calendar Year 2021 Plan requires MVIDD to submit a Certification Report which is not necessary since MVIDD is creating System Conservation Water in lieu of creating EC ICS.

MOHAVE VALLEY IRRIGATION AND DRAINAGE DISTRICT
Plan for the Creation of Extraordinary Conservation Intentionally Created Surplus
During Calendar Year 2021
Revised August 20, 2020

Mohave Valley Irrigation and Drainage District (MVIDD) proposes to create Extraordinary Conservation Intentionally Created Surplus (EC-ICS) in calendar year 2021 pursuant to the Lower Basin Drought Contingency Operations Exhibit U.

MVIDD is an irrigation district created under the laws of the State of Arizona and holds a contract with the United States Bureau of Reclamation (Contract No. 14-06-W-204) for the delivery of Colorado River water to MVIDD for distribution to Arizona Priority 1 and 4 water entitlement holders within MVIDD. MVIDD administers agricultural water use within the district through a set of Agricultural Water Use subcontracts for delivery of Colorado River water to the individual landowners. For purposes of this EC-ICS program, these subcontracts will define the basic “farm unit” that is enrolled within the program. Within that farm unit, the individual fields are analyzed for their specific cropping history. That history is then analyzed for crop consumptive use over the five-year historical period and a historical consumptive use value for each field is assigned.

Project Description:

MVIDD proposes to create **6,925** acre-feet of EC-ICS in calendar year 2021. The following program will be administered at the local level. MVIDD has established criteria to determine eligibility for agricultural landowners to participate in the following program. To be eligible, agricultural landowners must:

1. Demonstrate a consistent pattern of historical irrigation of crops on fields within identified farm units in each of the last three of the past 5 years.
2. Demonstrate the calculation of past consumptive use for the individual fields to be fallowed in 2021 within the farm unit.
3. Agree to limit or alter the planting of crops on their land and reduce diversions to remain within an allowed diversion quantity of water for the farm unit.
4. Comply with MVIDD Resolution 2019-01 regarding installation of flow meters on all agricultural wells.
5. Ensure participating farm units are a minimum of 10 acres.

MVIDD has developed a policy document to govern program participation within the District. In addition, each participating landowner has entered into, or will be required to enter into, a contract with the District agreeing to (1) abide by the terms of the policy document; (2) fallow the acres specified in this Plan of Creation; (3) reduce actual diversion of Colorado River water to the farm unit for the fallowed acres. The individual contracts will be reviewed and approved by MVIDD’s Board of Directors before the end of calendar year 2020 and thereafter will be included as attachments to MVIDD’s ICS Certification Report.

Quantification Methodology:

Exhibit 1, attached hereto, is a Technical Memorandum that provides the details of the 5 year (2015-2019) crop history and the quantification methods and calculations used to determine the consumptive use of the historical crops and the consumptive use reduction quantities (conservation yields) for each of the fields participating in the fallowing program. MVIDD has prepared a summary of this historical consumptive use history for the years 2015-2019 for the fields in each farm unit identified as participating in the fallowing program. That summary is at the end of this description. In addition, MVIDD has prepared the spreadsheet attached as Exhibit 2 to this Plan that shows the participating farm units for 2021, the identification of the fields, location and number of acres to be temporarily taken out of production in calendar year 2021, and the quantification of each farm unit's anticipated reduction in consumptive use (conservation yield) in greater detail. In addition, Exhibit 2 quantifies the diversion reduction for each farm unit as discussed below.

In 2021, no farm unit within MVIDD proposes to engage in seasonal fallowing of any acres. As such, the fallowing period will be implemented from January 1, 2021 through December 31, 2021.

Exhibit 3 to this Plan of Creation is a table that identifies the Priority 1 (Present Perfected) and Priority 4 water entitlements within each participating farm unit, and calculates the relative conservation yield of fallowed acres within that farm unit that represent a reduction in consumptive use of Priority 1 water.

Limitations on ICS Creation:

The consumptive use of Colorado River water within MVIDD is affected by various factors that are not within the control of the participating farm units, including the number of acres planted and the types of crops planted by non-participating landowners. In order to control the volume of water diverted by MVIDD and to provide assurance that EC-ICS is created through a reduction in agricultural consumptive use within MVIDD, the District agrees to the following limitations:

- An Agricultural Acreage Limitation. MVIDD shall limit total agricultural (irrigation) fields within MVIDD planted in year 2021 to no more than 4,361.2 acres. The Agricultural Acreage Limitation is calculated by aggregating the highest planted acreage in each farm unit within MVIDD during the period 2015-2019. This calculation is shown in the attached Exhibit 4.
- An Agricultural Diversion Limitation. The Agricultural Diversion Limitation is the maximum volume of water MVIDD will divert in 2021 for agricultural irrigation (19,901 acre-feet). It is calculated by subtracting the sum of the required diversion reduction amounts for each participating farm unit (9,411 acre-feet) from the MVIDD Agricultural Baseline Diversion (29,312 acre-feet in 2021).
- The Agricultural Baseline Diversion is calculated by MVIDD's agricultural diversion

average as reported by the United States Bureau of Reclamation for the highest four of the most recent five years (2015-2019), not including the immediately preceding year (2020), as shown in the following table:

Agricultural Diversions Reported to USBR + Topock Losses	2015	2016	2017	2018	2019	Total of Years 2016-2019, eliminating 2015	Average of Years 2016, 2017, 2018 and 2019
Acre-feet	25,669	30,798	27,693	31,427	27,328	117,246	29,312

- The required diversion reduction for each farm unit is calculated by multiplying each fallowed acre by 7 acre-feet per acre (the MVIDD diversion allowance for farm units), then applying that reduction to each farm unit. The individual farm unit reduction calculations, and total sum, are shown on Exhibit 2. The total sum of the required diversion reductions (9,411 acre-feet) is then subtracted from the Agricultural Baseline Diversion (29,312 acre-feet) to arrive at the Agricultural Diversion Limitation (19,901 acre-feet) for MVIDD for calendar year 2021.

In the event that either Agricultural Acreage Limitation or the Agricultural Diversion Limitation is inadvertently exceeded, MVIDD agrees that the reduction in conservation yield attributable to that exceedance shall be deducted from the planned EC-ICS volume to be created in that year.

Verification Methodology:

MVIDD will monitor the program throughout calendar year 2021 to ensure that participating lands are fallowed in accordance with the program, that the MVIDD Agricultural Acreage Limitation is not exceeded for planted acres within MVIDD, and that MVIDD agricultural (irrigation) diversions are reduced to remain within the Agricultural Diversion Limitation. MVIDD will also monitor total water use within each farm unit to ensure that remaining water use allocation for the enrolled but not fallowed lands has not been exceeded. MVIDD will report any identified discrepancy to the Bureau of Reclamation during the year or at year’s end and document the same within its Certification Report. MVIDD will also monitor the fields selected for fallowing within each farm unit so that, in future years, mandatory rotation of fallowed versus planted fields can be enforced by MVIDD.

MVIDD understands and agrees that both the Bureau of Reclamation and the Arizona Department of Water Resources may conduct independent reviews of program compliance throughout the year, including on-site verification inspections. MVIDD and participating landowners, agree to allow reasonable access for and to cooperate with any such inspections.

During 2021, to ensure that any vegetation remaining on the fallowed lands does not consumptively use Colorado River water by drawing water from the Colorado River aquifer, and

for dust control purposes, MVIDD and its participating farmers shall ensure that any such vegetation is desiccated through application of herbicides or other means. MVIDD agrees to provide Reclamation with information and updates regarding the vegetation eradication program. MVIDD and its participating farmers agree to use all means and practical mechanisms, including but not limited to, dirt berms in the portion of the irrigation ditch serving the fallowed field, or sealing the on-farm turnouts onto fallowed fields, to ensure no water deliveries can be made onto the fallowed fields.

Certification Report:

MVIDD will submit an ICS Certification Report as required by Section XI.G.3.D.1 of the 2007 Colorado River Interim Guidelines. The Certification Report will contain appropriate information that documents the amount of ICS created, and demonstrates that the method of creation was consistent with this ICS Plan, LBOps Exhibit U, and a Delivery Agreement. MVIDD acknowledges that, in accordance with Section 2.5.B of the Forbearance Agreement, the Secretary of the Interior, acting through the Lower Colorado Regional Director, shall verify information in MVIDD's Certification Report in consultation with the Lower Division States, and shall provide a final written decision regarding the amount of ICS created.

Exhibits:

- Exhibit 1 Technical Memorandum prepared for MVIDD by Land IQ detailing the planted acres within MVIDD in the period 2015-2019, the crop history for fields of interest (those fields selected for fallowing) and the average consumptive use of water on those fields for the historical period (conservation yield).

- Exhibit 2: Table showing all of the participating land units (identified by sub-contract number within MVIDD), name, parcel number, FSA Farm number, crop history by field, planted acres, consumptive use by year and planted crop for each year 2015-2019, average 5 year field consumptive use history and per acre consumptive use. This Table also calculates the reduction in diversion quantity for each farm unit by multiplying the number of acres fallowed by 7 acre-feet per acre (the MVIDD contractual diversion allowance).

- Exhibit 3: Table showing the allocation of Priority 1 (Present Perfected) and Priority 4 water entitlements for each participating farm unit holding Priority 1 entitlement, and calculating the relative conservation yield of Priority 1 and Priority 4 water for the fallowed fields in each participating farm unit.

- Exhibit 4: Table showing the lands actually planted in MVIDD in each year 2015-2019 (derived from the satellite imagery analysis contained in Exhibit 1) and calculating the highest planted acreage in each farm unit. This analysis is used to calculate the total Agricultural Acreage Limitation of 4,361.2 acres.

Summary:

The Summary Table on the next page lists the participating farm units, the acreage to be fallowed, the 5-year average consumptive use volume for each fallowed field, the corresponding conservation yield for the fallowed fields, and a breakdown between the conservation yield attributable to PPR and 4th Priority water. The total diversion reduction for each participating farm unit is also shown, and is broken down by PPR and 4th Priority.

Contract No.	Farm Unit Name	Followed Fields Historic	Farm Unit Total Acres	2021 Followed Acres	Consumptive Use (Conservation Yield)		4th Priority Cons. Yield	Total Diversion Reduction Annual AFY (7 AF/ac)	4th Priority Diversion Reduction	PPR Diversion Reduction
					Average AF/ac	Annual AFY				
1989-05	Nancy Vanderslice, Trustee	Alfalfa	108	36.64	5.20	190.60	180.38	256.48	242.74	13.74
2006-03	Yadegar/Tropiana Ranch	Alfalfa and Bermuda	152.6	75.40	4.58	345.66	0	527.80	527.80	0
2008-02	Sherrill Ventures, LLLP - West	Alfalfa and Hay	287.9	89.63	5.20	466.18	0	627.40	627.40	0
2009-01C	Green Acres Mohave, LLC; Sec. 3	Alfalfa	197.0	72.37	5.20	376.48	0	506.60	506.60	0
	Green Acres Mohave, LLC; Sec. 31	Alfalfa	207.2	129.30	5.17	665.99	65.75	905.10	872.61	32.49
2009-03	Sherrill Ventures, LLLP - East	Alfalfa	138.4	33.20	5.20	172.72	0	232.42	232.42	0
2012-04C	WPI-919 Farm AZ, LLC	Alfalfa	847.3	426.58	5.20	2219.08	0	2986.08	2986.08	0
2013-04A	WPI-Hancock Farms AZ, LLC	Alfalfa and Sudan	138.4	35.93	5.04	181.07	0	251.50	251.50	0
2013-05	WPI-Hulet Farms AZ, LC	Alfalfa and Sudan	105.3	33.82	5.20	175.93	175.93	236.73	7.10	229.63
2015-06C	WPI- R3 Farm AZ, LLC	Alfalfa	310.4	162.98	5.20	847.81	0	1,140.84	1,140.84	0
2015-08	Black Mountain Farm, LLC	Alfalfa	28.4	13.82	5.08	70.27	0	96.74	96.74	0
2015-10C	WPI-CAD Farm AZ, LLC	Alfalfa and Bermuda	193.6	93.11	5.27	490.69	0	651.77	651.77	0
2018-01	WPI II-COL Farm AZ, LLC	Alfalfa and Sudan	271.5	141.63	5.10	722.42	22.54	991.41	960.02	31.39
Totals			2986	1344.41		6924.90	274.44	9410.87	9103.62	307.25

Exhibit 1
Land IQ Technical Memorandum

MOHAVE VALLEY IRRIGATION & DRAINAGE DISTRICT— CROP CONSUMPTIVE USE ANALYSIS IN MOHAVE VALLEY, AZ

PREPARED FOR: Mohave Valley Irrigation & Drainage District
PREPARED BY: Chris Stall/Land IQ
DATE: August 20, 2020

1 PURPOSE AND BACKGROUND

Mohave Valley Irrigation & Drainage District (MVIDD) has asked Land IQ, LLC to perform a temporal and average consumptive use (CU) analysis for a proposed fallowing program in Mohave County, Arizona. Within MVIDD, there are 41 landowners or farming entities/sections totaling 4,580 acres (Figure 1). Twelve of these 41 landowners in MVIDD own 2,986 acres (150 fields) that have been farmed in the last five years and have expressed interest in fallowing fields in 2021. These twelve participating landowners propose to fallow a subset of 68 of these fields, fields of interest (FOI), that encompass 1,344 acres of the total 2,986 acres owned (Figure 2). The water savings for fallowing FOI will be based on the previous five-year crop history and the calculated consumptive use. Crops typically grown in this area are alfalfa, Bermuda grass/other hay, cotton, and Sudan grass, with alfalfa dominating the planted acreage. Land IQ performed a remote sensing analysis to identify crop types from 2015 through 2019 for the MVIDD fields and then validated/verified with MVIDD records.

The consumptive use analysis performed by Land IQ was completed using cleaned reference evapotranspiration (ET_o) calculations from Dr. Paul Brown (University of Arizona Cooperative Extension). The analysis was also informed with area-specific crop parameters.

2 REMOTE SENSING ANALYSIS

Land IQ employs various remote sensing methods of crop identification in California with over 97% accuracy. The accuracy for this project should be as precise as the California analyses because the Mohave Valley has lower crop diversity comparatively. Additionally, the field boundaries only encompass the irrigated portion of parcel boundaries digitized at a 1:2,000 scale. This eliminates error from navigable roads, farm shops, and any other non-irrigated area. Land IQ used multiple imagery and raster data sources. National Agriculture Imagery Program (aerial) and Landsat (satellite-based) imagery was used for all crop classification via remote sensing. A secondary QA/QC was completed using the Cropscape (USDA remote sensing product) data layers (Figure 3). Crop mapping was completed for years 2015-2019 (Figures 4-8). Irrigated acreages by crop and by year are shown in Table 1. Acreage by MVIDD landowner can be found in Section 4.

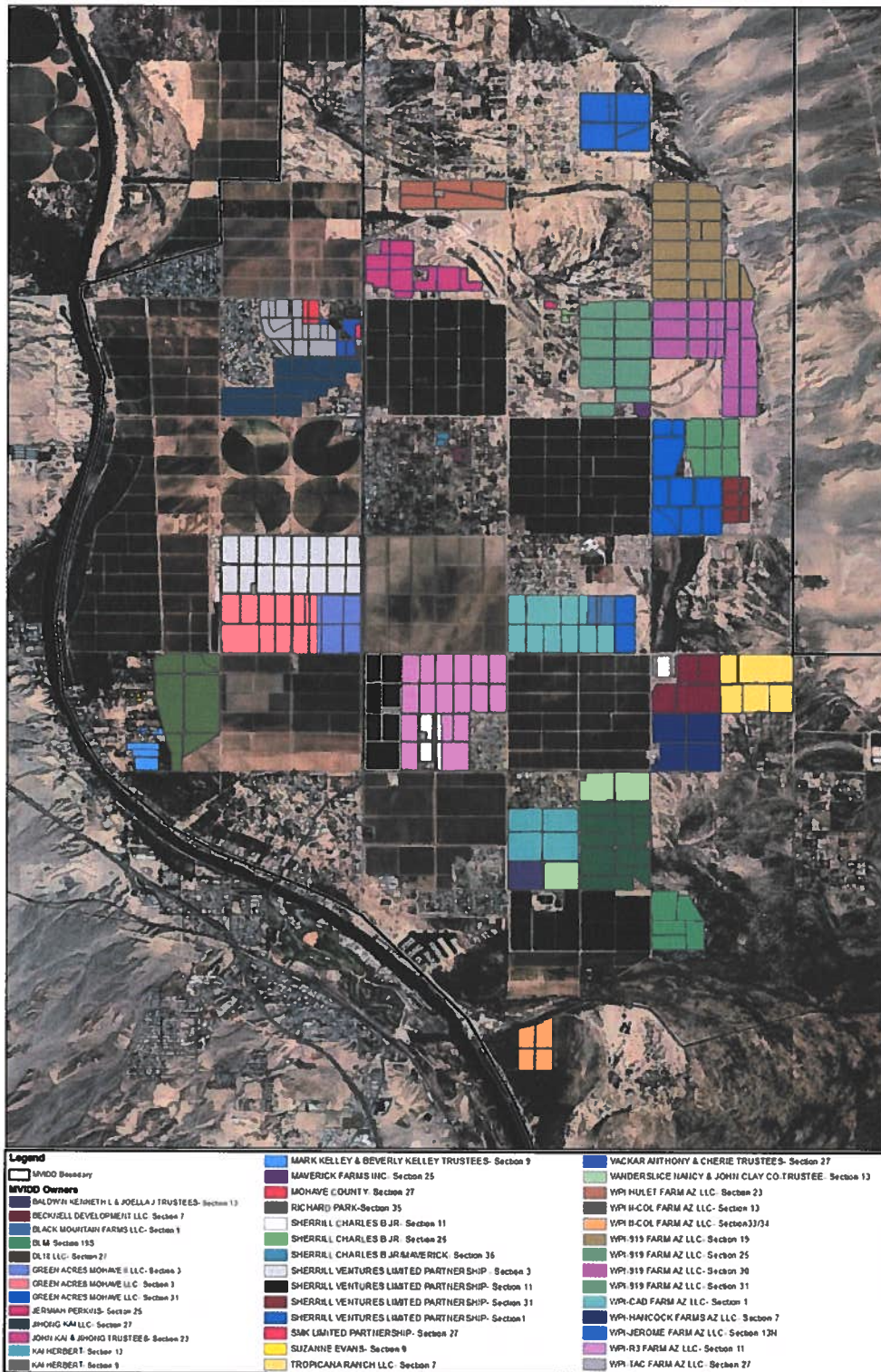


Figure 1. Ownership of MVIDD Fields.

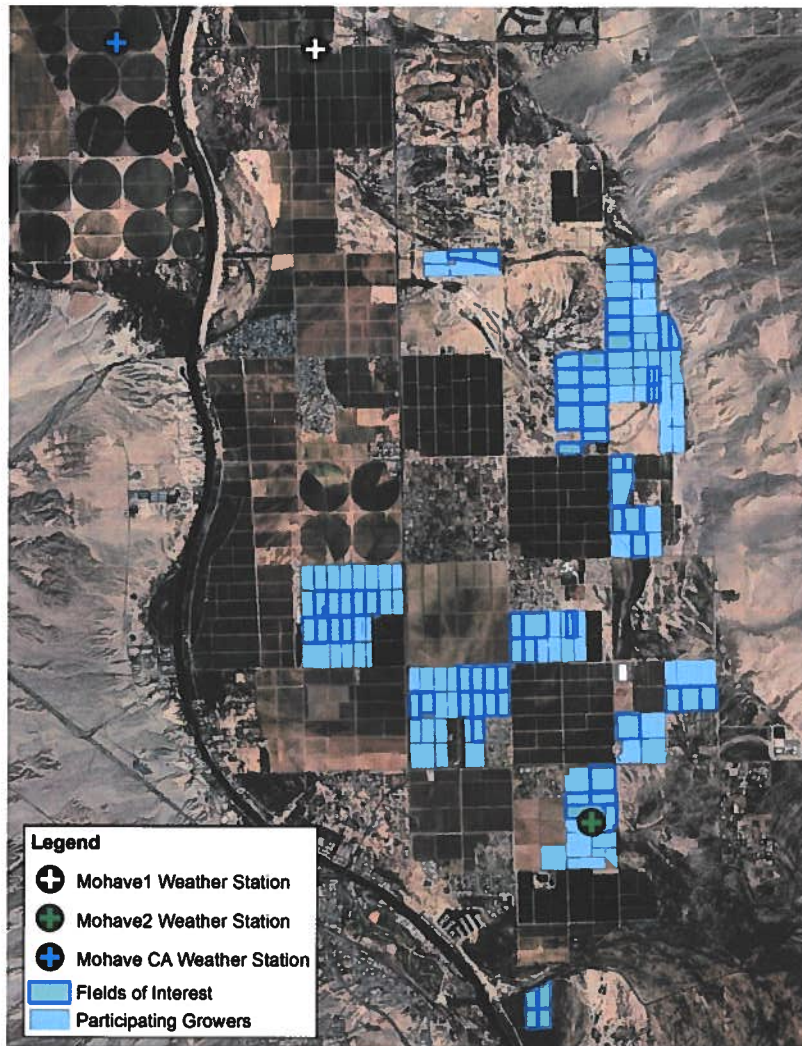


Figure 2. Distribution of the Fields of Interest within MVIDD.



Figure 3. Examples of Landsat Imagery (left), NAIP Imagery (center) and Cropscape Data (right)

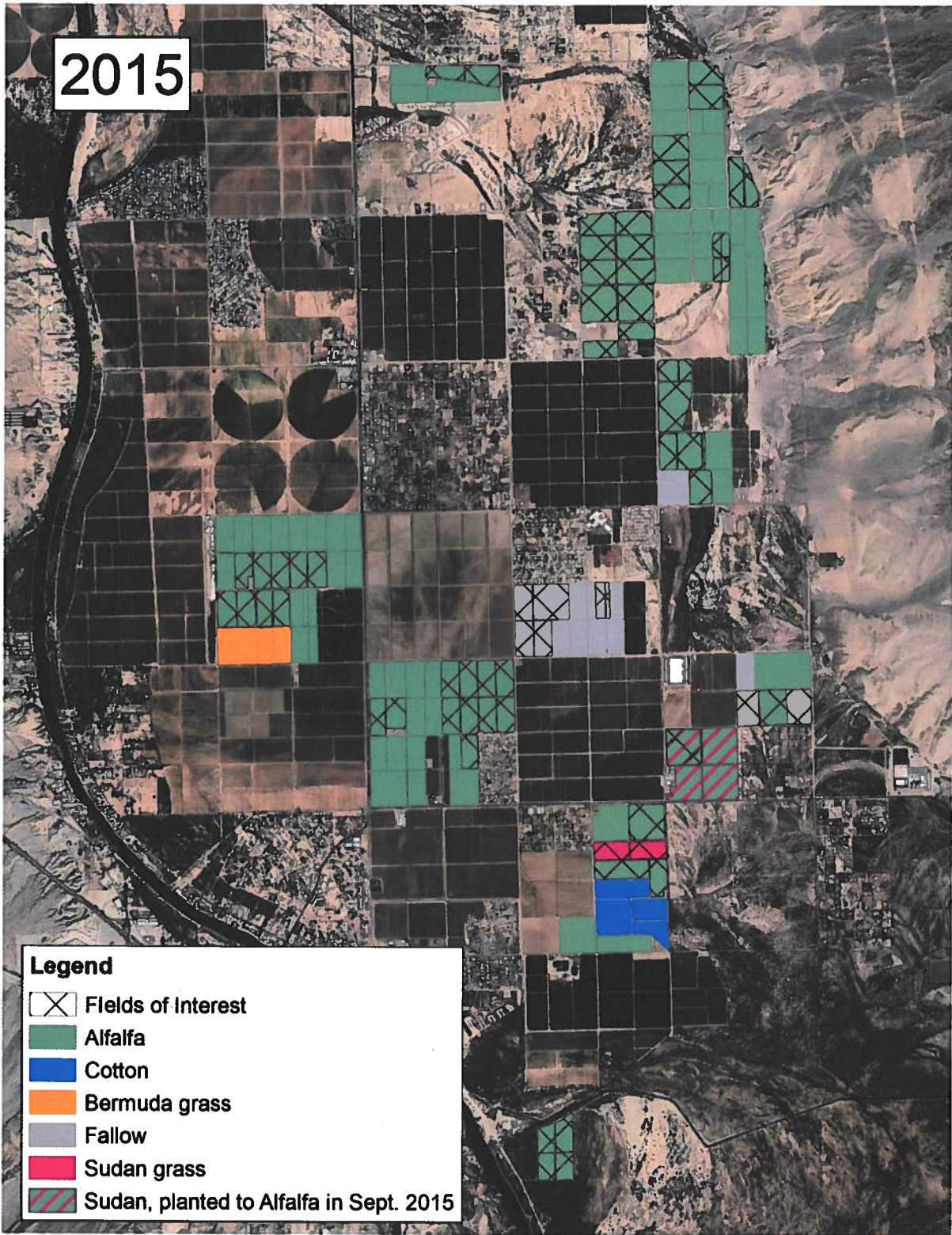


Figure 4. MVIDD Crop Identification – 2015

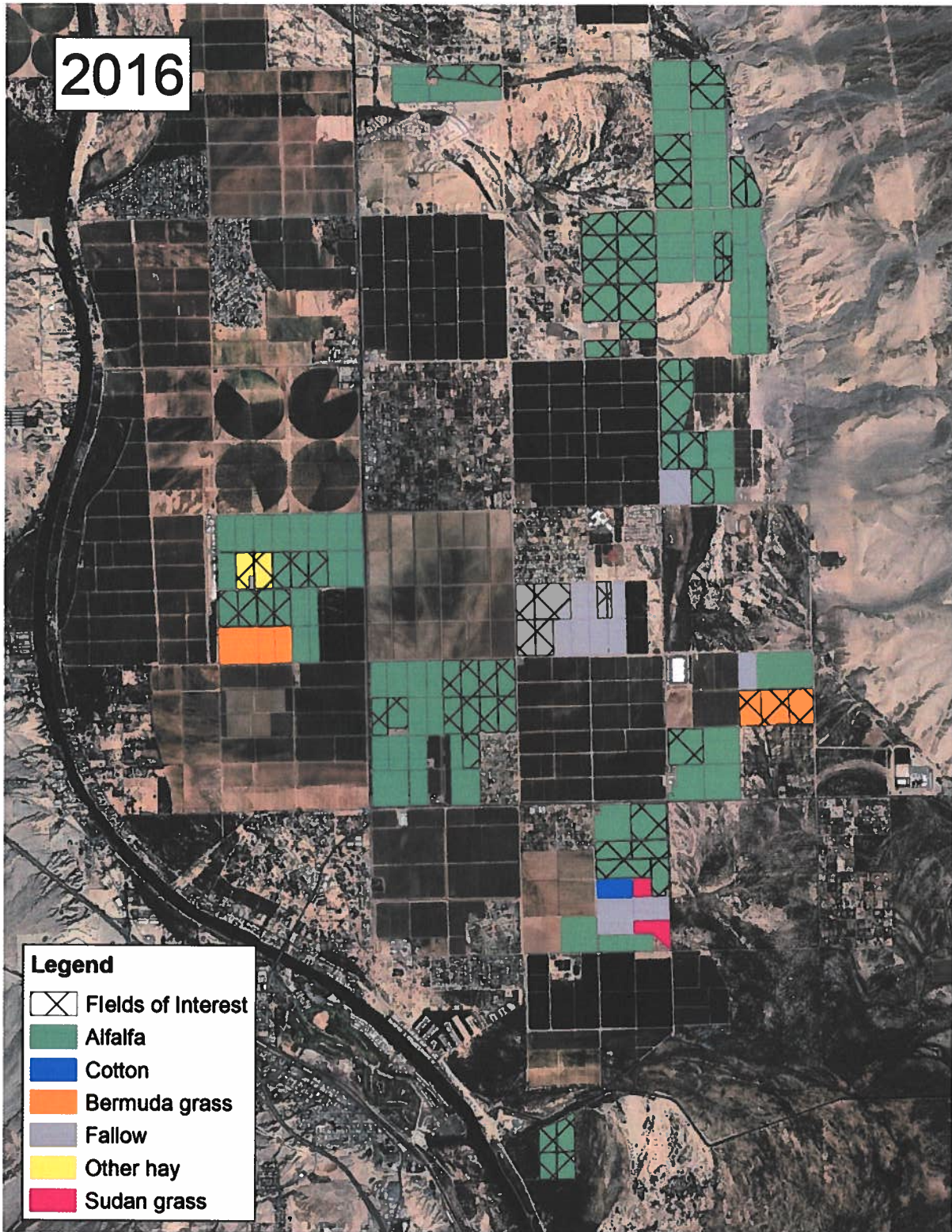


Figure 5. MVIDD Crop Identification – 2016

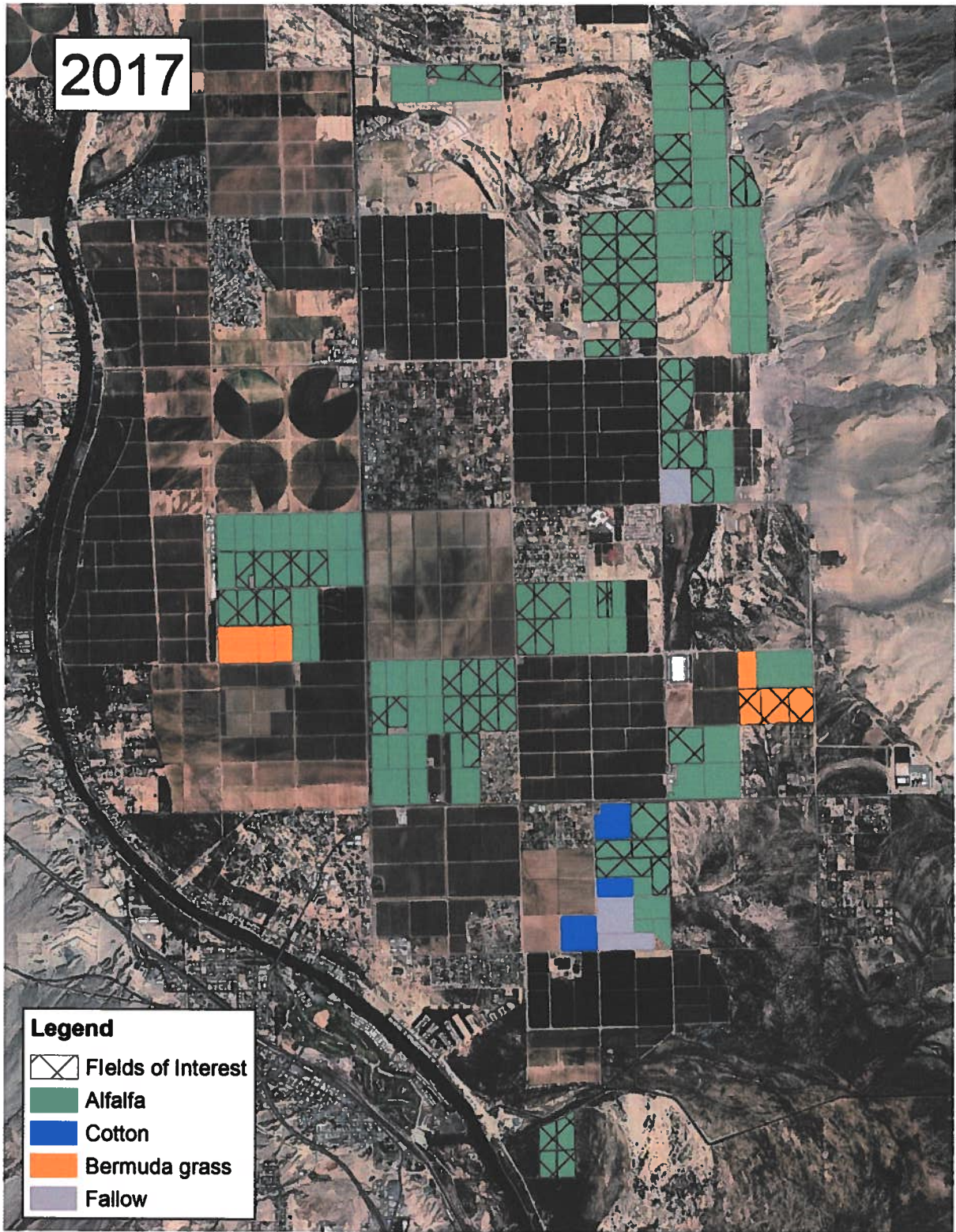


Figure 6. MVIDD Crop Identification – 2017

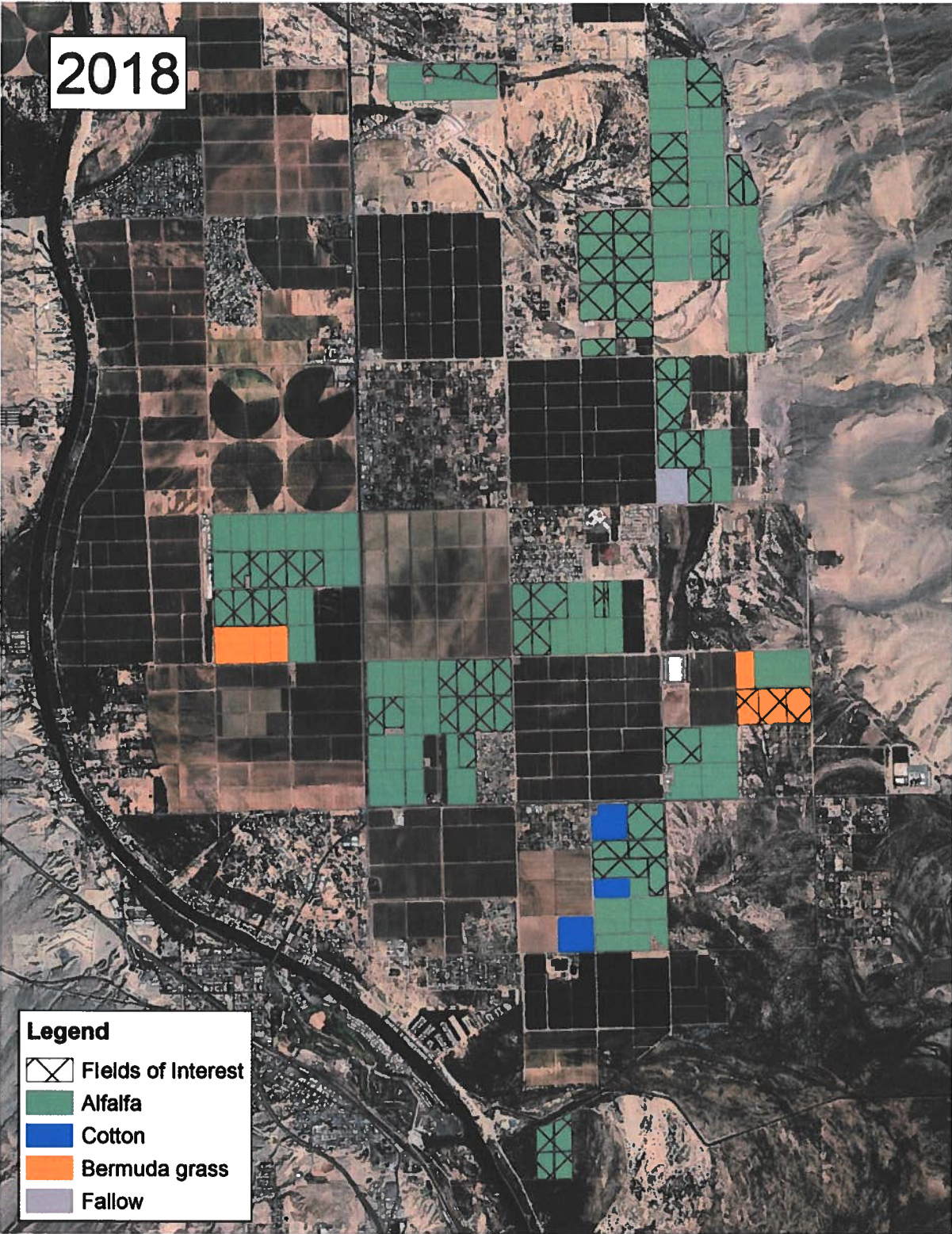


Figure 7. MVIDD Crop Identification – 2018

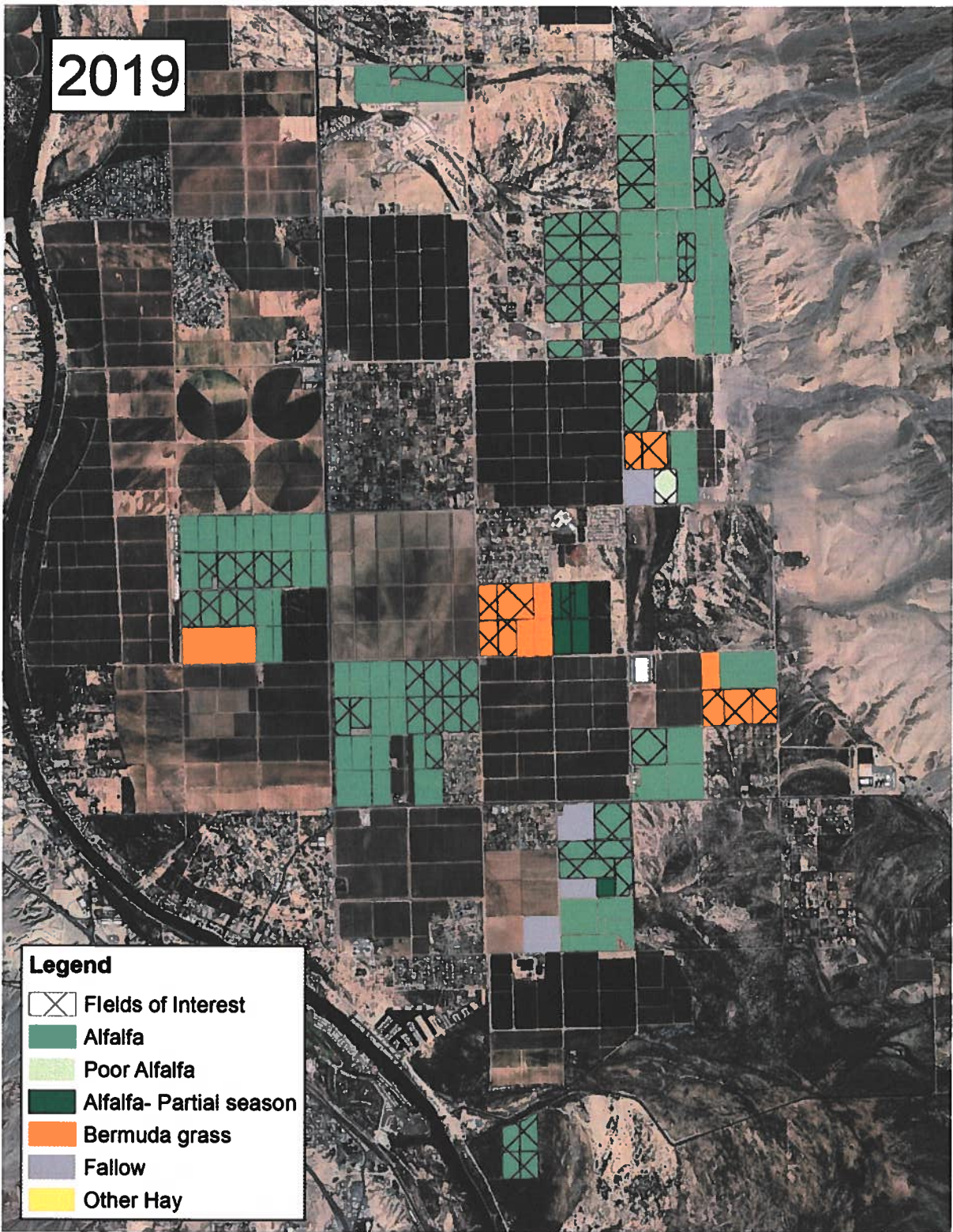


Figure 8. MVIDD Crop Identification – 2019

Table 1. Crop Acreage by Year for the Fields of Interest in MVIDD

Crop	2015	2016	2017	2018	2019
Alfalfa	1,118.0	1,127.5	1,268.8	1,268.8	1,097.2
Poor Hay/Partial Year	-	-	-	-	34.9
Bermuda Grass/Other Hay	-	109.8	75.4	75.4	212.1
Fallow	153.9	106.9	-	-	-
Sudan Grass	72.3*	-	-	-	-
Total	1,344	1,344	1,344	1,344	1,344

*35.9 acres of summer Sudan grass planted to alfalfa in September 2015

3 ETO DATA

For this consumptive use analysis, reference evapotranspiration was calculated and put through a quality control (QC) process by Dr. Paul Brown, the Associate Director for Extension Programs in Agriculture and Natural Resources who currently oversees the operation of the Arizona Meteorological Network (AZMET).

ETo is an estimate of the evapotranspiration (ET) of a well-watered short grass plant, influenced only by the climactic variables. Crop coefficient values (Kc) are then applied to the calculated ETo values to adjust for differences in crop physiology and thus produce crop specific evapotranspiration (ETc). Kc values may range from 0.4 (ETc<ETo) up to 1.2 (ETc>ETo).

Accuracy of the CU calculations depend on the precision and reliability of the weather data for ETo calculation. For this reason, the Arizona Meteorological Network (AZMET) was the primary data source. AZMET has been providing weather-based information to agricultural interests across central and southern Arizona since 1987. AZMET is a trusted data source because it is closely monitored by the University of Arizona and its Cooperative Extension programs.

There are three AZMET stations within a short distance of the FOI within MVIDD (Figure 2). These stations are Mohave1, Mohave2, and Ft. Mohave, CA. Mohave1 station data collection started in 1992, Mohave2 started in 2003, and Ft. Mohave, CA started midway through 2017. These stations are within five miles of each other and have an elevation difference of 12 feet, so the data should be very similar and can be easily compared for the overlapping time period.

The Mohave1 station is in the corner of an alfalfa field in the northeast portion of MIVDD. Mohave2 is located on an unpaved shop road between alfalfa fields in the center of MVIDD. Ft. Mohave, CA weather station is located between three center-pivot alfalfa fields across the Colorado River in California.

As a result of these weather stations being close to the FOI and proximity to agriculture, an average of Mohave1 and Mohave2 ETo values were used from 2015-2017 and an average ETo value from all three stations was used in 2018-2019.

Kc values applied to the ETo values to calculate crop ET were referenced from Allen et al., 1998 and personal communications with professors at University of California, Davis (Snyder, 2016).

An extra reduction factor was added to the poor alfalfa crop classification. As shown by Lindenmayer et al. (2010), alfalfa has a linear relationship with consumptive use. Since the poor alfalfa was less than 100% yield, a conservative 1/3 reduction factor was applied to the consumed water for these fields. For the partial season alfalfa, consumptive use calculations were summed only when vegetation was present and verified using satellite imagery.

4 RESULTS AND CONCLUSIONS

Total consumptive use calculations are comprised of calculated unit consumptive use per crop and the area of each crop.

4.1 EVAPOTRANSPIRATION

Total CU represents the total amount of water that the crop uses in the growing season, regardless of the source (Irrigation or precipitation). Total CU was calculated for crops grown in the FOI from 2015 through 2019. The results of these calculations are shown in Table 2. These values represent the total potential amount of water that the crop would use during the year if there were no restrictions. Table 3 shows the consumptive use of applied water (CU of AW) in acre-inches. The CU of AW accounts for the contributions of effective precipitation to the system.

These values compare favorably with the report published in 2013 from the Bureau of Reclamation (BOR, 2013) using the Lower Colorado River Accounting System (LCRAS). Although the report calculates values from 2013, the total CU for alfalfa was 65.1 Acre-in/Ac and total Sudan grass CU was 42 Acre-in/Ac.

Table 2. Comparison of Crop CU in the Mohave Valley, AZ

Crop	2015	2016	2017	2018	2019
Alfalfa	63.3	62.8	63.5	66.6	63.3
Bermuda Grass/Other Hay	63.5	62.7	64.0	67.0	64.0
Sudan Grass	38.4	38.3	38.8	41.3	39.2

Table 3. Comparison of Crop CU from AW in the Mohave Valley, AZ

Crop	2015	2016	2017	2018	2019
Alfalfa	60.6	59.6	61.0	65.0	58.6
Bermuda Grass/Other Hay	60.8	59.5	61.5	65.5	59.3
Sudan Grass	37.8	35.6	37.9	40.9	38.6

4.2 AVERAGE CONSUMPTIVE USE BY LANDOWNER

Average CU is calculated for each landowner by using an area weighted average for the consumptive use of all the FOI. For these purposes, an average of total consumptive use (Table 2) and CU from AW (Table 3) was used for calculations, due to the intensity and variability of precipitation within the Mohave Valley.

Tables 4-8 show the results of the yearly crop mapping by owner for 2015 through 2019 for the fields of interest. Alfalfa dominates the crop mix for most owners in most years, with few exceptions. An annual area weighted average CU by owner was calculated for the FOI. The annual average CU by owner (Table 9) was calculated by multiplying the average CU (Tables 2 and 3) by the area-weighted crop type acreage.

The participating growers listed in the tables below plan to fallow acreage for the 2021 growing season. The water savings caused by fallowing is calculated in Table 10, showing the planned acreage to be fallowed in 2021, the area-weighted average CU for each owner's FOI, and the anticipated water savings.

Table 4. Crop Acreage by Type and Owner, 2015

Owner	Alfalfa	Bermuda Grass/Other Hay	Cotton	Fallow	Sudan Grass
BLACK MOUNTAIN FARMS LLC	-	-	-	13.8	-
GREEN ACRES MOHAVE LLC- Alfalfa	201.7	-	-	-	-
SHERRILL VENTURES LIMITED PARTNERSHIP - WEST	89.6	-	-	-	-
SHERRILL VENTURES LLLP - EAST	33.2	-	-	-	-
TROPICANA RANCH LLC	28.4	-	-	47.0	-
VANDERSLICE NANCY & JOHN CLAY CO-TRUSTEE	36.6	-	-	-	-
WPI HULET FARM AZ LLC	33.8	-	-	-	-
WPI II-COL FARM AZ LLC	105.3	-	-	-	36.3
WPI-919 FARM AZ LLC	426.4	-	-	-	-
WPI-CAD FARM AZ LLC	-	-	-	93.1	-
WPI-HANCOCK FARMS AZ LLC	-	-	-	-	35.9*
WPI-R3 FARM AZ LLC	163.0	-	-	-	-

*35.9 Acres double cropped with spring/summer Sudan grass and fall planted alfalfa

Table 5. Crop Acreage by Type and Owner, 2016

Owner	Alfalfa	Bermuda Grass/Other Hay	Cotton	Fallow	Sudan Grass
BLACK MOUNTAIN FARMS LLC	-	-	-	13.8	-
GREEN ACRES MOHAVE LLC- Alfalfa	201.7	-	-	-	-
SHERRILL VENTURES LIMITED PARTNERSHIP - WEST	55.2	34.4	-	-	-
SHERRILL VENTURES LLLP - EAST	33.2	-	-	-	-
TROPICANA RANCH LLC	-	75.4	-	-	-
VANDERSLICE NANCY & JOHN CLAY CO-TRUSTEE	36.6	-	-	-	-
WPI HULET FARM AZ LLC	33.8	-	-	-	-
WPI II-COL FARM AZ LLC	141.6	-	-	-	-
WPI-919 FARM AZ LLC	426.4	-	-	-	-
WPI-CAD FARM AZ LLC	-	-	-	93.1	-
WPI-HANCOCK FARMS AZ LLC	35.9	-	-	-	-
WPI-R3 FARM AZ LLC	163.0	-	-	-	-

Table 6. Crop Acreage by Type and Owner, 2017

Owner	Alfalfa	Bermuda Grass/Other Hay	Cotton	Fallow	Sudan Grass
BLACK MOUNTAIN FARMS LLC	13.8	-	-	-	-
GREEN ACRES MOHAVE LLC- Alfalfa	201.7	-	-	-	-
SHERRILL VENTURES LIMITED PARTNERSHIP - WEST	89.6	-	-	-	-
SHERRILL VENTURES LLLP - EAST	33.2	-	-	-	-
TROPICANA RANCH LLC	-	75.4	-	-	-
VANDERSLICE NANCY & JOHN CLAY CO-TRUSTEE	36.6	-	-	-	-
WPI HULET FARM AZ LLC	33.8	-	-	-	-
WPI II-COL FARM AZ LLC	141.6	-	-	-	-
WPI-919 FARM AZ LLC	426.4	-	-	-	-
WPI-CAD FARM AZ LLC	93.1	-	-	-	-
WPI-HANCOCK FARMS AZ LLC	35.9	-	-	-	-
WPI-R3 FARM AZ LLC	163.0	-	-	-	-

Table 7. Crop Acreage by Type and Owner, 2018

Owner	Alfalfa	Bermuda Grass/Other Hay	Cotton	Fallow	Sudan Grass
BLACK MOUNTAIN FARMS LLC	13.8	-	-	-	-
GREEN ACRES MOHAVE LLC- Alfalfa	201.7	-	-	-	-
SHERRILL VENTURES LIMITED PARTNERSHIP - WEST	89.6	-	-	-	-
SHERRILL VENTURES LLLP - EAST	33.2	-	-	-	-
TROPICANA RANCH LLC	-	75.4	-	-	-
VANDERSLICE NANCY & JOHN CLAY CO-TRUSTEE	36.6	-	-	-	-
WPI HULET FARM AZ LLC	33.8	-	-	-	-
WPI II-COL FARM AZ LLC	141.6	-	-	-	-
WPI-919 FARM AZ LLC	426.4	-	-	-	-
WPI-CAD FARM AZ LLC	93.1	-	-	-	-
WPI-HANCOCK FARMS AZ LLC	35.9	-	-	-	-
WPI-R3 FARM AZ LLC	163.0	-	-	-	-

Table 8. Crop Acreage by Type and Owner, 2019

Owner	Alfalfa	Poor Hay/ Partial Season*	Bermuda Grass/Other	Cotton	Fallow	Sudan Grass
BLACK MOUNTAIN FARMS LLC	-	13.8	-	-	-	-
GREEN ACRES MOHAVE LLC- Alfalfa	137.0	21.1	43.6	-	-	-
SHERRILL VENTURES LIMITED PARTNERSHIP - WEST	89.6	-	-	-	-	-
SHERRILL VENTURES LLLP - EAST	33.2	-	-	-	-	-
TROPICANA RANCH LLC	-		75.4			
VANDERSLICE NANCY & JOHN CLAY CO-TRUSTEE	36.6	-	-	-	-	-
WPI HULET FARM AZ LLC	33.8	-	-	-	-	-
WPI II-COL FARM AZ LLC	141.6	-	-	-	-	-
WPI-919 FARM AZ LLC	426.4	-	-	-	-	-
WPI-CAD FARM AZ LLC	-	-	93.1	-	-	-
WPI-HANCOCK FARMS AZ LLC	35.9	-	-	-	-	-
WPI-R3 FARM AZ LLC	163.0	-	-	-	-	-

*Poor alfalfa sparsely watered/not irrigated and removed during the season, replanted in November

Table 9. Area-Weighted CU (Acre Inches/Ac) by Year and Owner

Owner	2015	2016	2017	2018	2019	Avg CU
BLACK MOUNTAIN FARMS LLC*	-	-	62.2	65.8	55.0	61.0
GREEN ACRES MOHAVE LLC- Alfalfa	61.9	61.2	62.2	65.8	59.0	62.0
SHERRILL VENTURES LIMITED PARTNERSHIP - WEST	61.9	61.2	62.2	65.8	61.0	62.4
SHERRILL VENTURES LLLP - EAST	61.9	61.2	62.2	65.8	61.0	62.4
TROPICANA RANCH LLC	23.3	61.1	62.7	66.2	61.7	55.0
VANDERSLICE NANCY & JOHN CLAY CO-TRUSTEE	61.9	61.2	62.2	65.8	61.0	62.4
WPI HULET FARM AZ LLC	61.9	61.2	62.2	65.8	61.0	62.4
WPI II-COL FARM AZ LLC	55.8	61.2	62.2	65.8	61.0	61.2
WPI-919 FARM AZ LLC	61.9	61.2	62.2	65.8	61.0	62.5
WPI-CAD FARM AZ LLC*	-	-	62.2	65.8	61.7	63.2
WPI-HANCOCK FARMS AZ LLC	52.0	61.2	62.2	65.8	61.0	60.6
WPI-R3 FARM AZ LLC	61.9	61.2	62.2	65.8	61.0	62.4

* Average CU is calculated based on previous 3 years, instead of 5

Table 10. Average CU, Planned 2021 Fallow Acreage and Estimated Fallowed Water Savings

Owner	Average CU (Ac-In/Acre)	Planned 2021 Fallow Acreage	Estimated Water Savings (Acre Feet)
BLACK MOUNTAIN FARMS LLC	61.0	13.8	70
GREEN ACRES MOHAVE LLC- Alfalfa	62.0	201.7	1,042
SHERRILL VENTURES LIMITED PARTNERSHIP - WEST	62.4	89.6	466
SHERRILL VENTURES LLLP - EAST	62.4	33.2	173
TROPICANA RANCH LLC	55.0	75.4	346
VANDERSLICE NANCY & JOHN CLAY CO-TRUSTEE	62.4	36.6	190
WPI HULET FARM AZ LLC	62.4	33.8	176
WPI II-COL FARM AZ LLC	61.2	141.6	722
WPI-919 FARM AZ LLC	62.5	426.4	2,220
WPI-CAD FARM AZ LLC	63.2	93.1	490
WPI-HANCOCK FARMS AZ LLC	60.6	35.9	181
WPI-R3 FARM AZ LLC	62.4	163.0	848
SUM	-	1,344	6,925

5 REFERENCES

Allen, R.G., L.S. Pereira, D. Raes, & M. Smith. 1998. Crop evapotranspiration-Guidelines for computing crop requirements- FAO Irrigation and drainage paper 56. FAO, Rome.

Bureau of Reclamation. 2013. Lower Colorado River Annual Summary of Evapotranspiration and Evaporation. Retrieved from https://www.usbr.gov/lc/region/g4000/4200Rpts/LCRASRpt/2013/LCRAS_Report_2013.pdf on 8/5/19

Lindenmayer, R. B., N.C. Hansen, J. Brummer, and J.G. Pritchett. 2010. Deficit irrigation of alfalfa for water savings in the Great Plains and Intermountain West: a review and analysis of the literature. *Agron. J.* 103:45–50

University of Arizona, AZMET. 2019. The Arizona Meteorological Network. Retrieved from <https://cals.arizona.edu/azmet/az-data.htm> on 8/5/2019.

Exhibit 2
Table of Participating Farm Units

Exhibit 2. MVIDD 2021 ICS Plan 5 Year Consumptive Use History for EC-ICS Participating Lands for 2021

Entitlement Contract No.	Farm Unit Name	Mohave County Parcel No.	FSA Farm #	FSA Tract #	FSA Field #	Farmers Field #	Crop Type History by Field	Planted Acres Per Year	2015 CU by Crop History	2016 CU by Crop History	2017 CU by Crop History	2018 CU by Crop History	2019 CU by Crop History	Total 5-YR CU Field History	Average 5-YR Field History	Average 5-YR per Acre History	Diversion Reduction 7 AS/ac		
1988-05 Sec.13	Nancy Vonderhille, Trustee	224-23-015	19	20	2	2	Alfalfa	36.64	5.16	5.10	5.19	5.48	5.08	952.99	190.60	5.20			
									189.06	186.86	190.16	200.78	186.13						
									Total Conserved								190.60	5.20	256.48
2006-03 Sec. 7	Yedegar/Tropicana Ranch	224-07-014	63	31	2		Blended Crop	75.40	1.94	5.09	5.23	5.52	5.14	1,728.29	345.66	4.58			
									146.40	383.79	394.34	416.21	387.56						
									Total Conserved								345.66	4.58	527.80
2008-02 Sec. 3	Sherrill Ventures, LLLP	224-21-007	4	19	10	5E	Blended Crop	89.63	5.16	Mix	5.19	5.48	5.08						
									83.50	82.37	83.99	88.66	82.21						
									94.09	92.82	94.64	99.93	92.64	420.75	84.15	5.20			
									93.97	92.88	94.52	99.80	92.51	474.12	94.82	5.20			
									91.45	90.39	91.98	97.12	90.03	473.68	94.74	5.20			
									99.46	98.30	100.04	105.63	97.92	460.98	92.20	5.20			
									Total Conserved								466.18	5.20	627.40
2009-03 Sec. 3	Green Acres Mohave, LLC	224-21-008	457	1	1	1	Alfalfa	72.37	5.16	5.10	5.19	5.48	Mix						
									101.71	100.52	102.30	108.01	100.13	512.67	102.53	5.20			
									97.68	96.54	98.25	103.74	96.17	492.38	98.48	5.20			
									85.66	84.66	86.15	90.97	84.33	431.76	86.35	5.20			
									88.40	87.37	88.91	93.88	87.03	445.58	89.12	5.20			
									Total Conserved								376.48	5.20	506.60
									2009-03 Sec. 31	Sherrill Ventures, LLLP	225-09-047	1	1	1	1	Alfalfa	129.30	62.40	61.68
40.88	40.40	41.12	43.41	40.25	206.06	41.21	5.20												
219.24	216.69	220.52	232.84	215.84	1,105.13	221.09	5.20												
90.30	89.25	90.83	95.90	89.95	456.23	91.25	5.21												
134.16	132.60	134.94	142.48	133.64	677.82	135.56	5.21												
10.84	10.71	10.90	11.51	10.67	54.62	10.92	5.20												
109.39	108.12	110.03	116.18	71.82	515.54	103.11	4.86												
Total Conserved								665.99										5.17	905.13
2009-03 Sec. 11	Sherrill Ventures, LLLP	224-42-003A	4	12	9	5W	Alfalfa	33.20	5.16	5.10	5.19	5.48	5.08						
									83.73	82.76	84.22	88.93	82.44	422.08	84.42	5.20			
									87.59	86.57	88.10	93.02	86.23	441.51	88.30	5.20			
Total Conserved								172.72	5.20	232.42									
12-04C/ 2012-4 Sec 19	WPP-919 Farm AZ, LLC	225-11-010	2	2	2	2	Alfalfa		5.16	5.10	5.19	5.48	5.08	514.48	102.90	5.20			
									102.06	100.88	102.66	108.39	100.48	609.01	121.80	5.20			
									120.82	119.41	121.52	128.31	118.95						
Total Conserved								121.80	5.20	164.22									

Entitlement Contract No.	Farm Unit Name	Mohave County Parcel No.	FSA Farm #	FSA Tract #	FSA Field #	Farmers Field #	Crop Type History by Field	Planted Acres Per Year	2015 CU by Crop History	2016 CU by Crop History	2017 CU by Crop History	2018 CU by Crop History	2019 CU by Crop History	Total 5-YR CU Field History	Average 5-YR Field History	Average 5-YR per Acre History	Diversion Reduction 7 AF/nc
						7	Alfalfa	21.9	131.58	130.06	132.35	139.74	123.54	663.26	132.65	5.20	
						9	Alfalfa	21.6	126.94	125.46	127.67	134.81	124.97	639.85	127.97	5.20	
		225-11-005				11	Alfalfa	20.8	107.43	106.18	108.06	114.09	105.77	541.53	108.31	5.20	
						12	Alfalfa	11.9	61.40	60.69	61.76	65.21	60.45	309.52	61.90	5.20	
		225-11-010				13	Alfalfa	24.3	125.13	123.68	125.86	132.89	123.19	630.74	126.15	5.20	
						15	Alfalfa	21.4	110.42	109.14	111.07	117.27	108.71	556.61	111.32	5.20	
		225-25-076				16	Alfalfa	21.5	121.26	119.85	121.97	128.78	119.38	611.24	122.25	5.20	
						21	Alfalfa	24.1	124.51	123.06	125.23	132.23	122.58	627.62	125.52	5.20	
						22	Alfalfa	26.0	134.19	132.63	134.97	142.51	132.11	676.42	135.28	5.20	
						25	Alfalfa	24.0	124.01	122.57	124.73	131.70	122.08	625.08	125.02	5.20	
						26	Alfalfa	26.1	134.46	132.90	135.24	142.80	132.38	677.78	135.56	5.20	
		225-25-077				30	Alfalfa	30.9	190.40	188.19	191.51	202.21	187.45	959.77	191.95	5.20	
						31	Alfalfa	37.2	192.16	189.92	193.28	204.08	189.18	968.61	193.72	5.20	
						33	Alfalfa	17.8	91.85	90.78	92.38	97.54	90.42	462.98	92.60	5.20	
		225-25-026				34	Alfalfa	10.8	86.75	85.74	87.25	92.13	85.40	437.26	87.45	5.20	
		Z25-09-027 & Z25-09-020				24	Alfalfa	11.4	59.03	58.34	59.37	63.69	58.12	297.55	59.51	5.20	
						28	Alfalfa	11.0	56.76	56.10	57.09	60.28	55.88	286.11	57.22	5.20	
								426.58						2,219.08		5.20	2,986.08
2015-04A	WPH-Hancock Farms AZ, LLC	Z24-07-028 & Z24-07-027	13	383	1	12	Blended Crop	35.9	4.35	5.10	5.19	5.48	5.08	905.37	181.07	5.04	
								35.93		183.24	186.47	196.89	182.52				
																	251.50
2015-05	WPH-Hullet Farms AZ, LC	225-24-004	161	132	2	2	Blended Crop	14.03	5.16	5.10	5.19	5.48	5.08	364.98	73.00	5.20	
			161	132	3	3	Blended Crop	19.79	72.41	71.57	72.83	76.90	71.28	514.65	102.93	5.20	
								33.82	102.10	100.91	102.69	108.43	100.52				
																	236.73
2015-06C	WPH-183 Farm AZ, LLC	224-42-014E				5	Alfalfa	18.5	5.16	5.10	5.19	5.48	5.08	482.47	96.49	5.20	
						6	Alfalfa	10.6	95.72	94.60	96.27	101.65	94.23	484.27	96.85	5.20	
						7	Alfalfa	18.4	96.07	94.96	96.63	102.03	94.58	484.27	96.85	5.20	
						8	Alfalfa	18.0	95.06	93.96	95.62	100.96	95.59	479.19	95.84	5.20	
						13	Alfalfa	18.4	98.13	96.99	98.70	104.22	96.61	494.66	98.93	5.20	
						14	Alfalfa	18.3	94.63	93.77	95.42	100.75	95.40	478.21	95.64	5.20	
						23	Alfalfa	18.9	82.20	81.24	82.68	87.30	80.93	414.94	82.87	5.20	
		224-42-074G	4	12	15	8W	Alfalfa	17.8	91.89	90.82	92.42	97.59	90.46	463.19	92.64	5.20	
						16	Alfalfa	17.0	92.39	91.31	92.93	98.12	90.96	465.70	93.14	5.20	
								162.98						847.81		5.20	1,140.84
2015-08	Black Mountain Farm, LLC	224-20-024				1	Alfalfa	13.8	0.00	0.00	5.19	5.48	4.58	210.80	70.27	5.08	
								13.82	0.00	0.00	71.73	75.73	63.34				
																	96.74
2015-10C	WPH-LAD Farm AZ, LLC	224-02-005 & 224-02-022				1	Blended Crop	55.0	0.00	0.00	5.19	5.48	5.14	885.52	295.17	5.27	
						3	Blended Crop	37.1	0.00	0.00	192.55	203.31	190.69	586.55	195.52	5.27	

Entitlement Contract No.	Farm Unit Name	Mohave County Parcel No.	PSA Farm #	PSA Tract #	PSA Field #	Farmers Field #	Crop Type History by Field	Planted Acres Per Year	2015 CU by Crop History	2016 CU by Crop History	2017 CU by Crop History	2018 CU by Crop History	2019 CU by Crop History	Total 5-YR CU Field History	Average 5-YR Field History	Average 5-YR per Acre History	Diversion Reduction 7 AF/ac
	Total Conserved							99.11							490.69	5.27	651.77
2018-08 Sec 13	WPI II-CO1 Farm AZ, LLC	224-23-017	3	1	1	1	Blended Crop	18.9	Mix	5.10	5.19	5.48	5.08	439.43	87.89	4.81	
			3	1	2	2	Blended Crop	18.1	58.15	93.26	94.91	100.21	92.90	433.87	86.77	4.81	
			3	1	3	3	Alfalfa	29.2	57.42	92.08	93.71	98.94	91.72	759.70	151.94	5.20	
			3	1	4	4	Alfalfa	18.1	150.71	148.96	151.59	160.06	148.38	470.03	94.01	5.20	
								83.62	93.25	92.16	93.79	99.03	91.80				
Sec 33 & 34		216-18-002	88	88	1	1	Alfalfa	13.4	68.99	68.19	69.39	73.27	67.92	347.75	69.55	5.20	
					2	2	Alfalfa	17.4	89.90	88.86	90.43	95.48	88.51	453.18	90.64	5.20	
					3	3	Alfalfa	13.3	68.82	68.02	69.22	73.08	67.75	346.89	69.38	5.20	
					4	4	Alfalfa	13.0	71.89	70.78	72.03	76.06	70.51	361.27	72.25	5.21	
								58.01									
	Total Conserved							141.63							722.42	5.10	991.41
	Total Acres Followed In 2021							1,344.4									
	Total Acre Feet Conserved In 2021														6,925		9,410.89
	Crop planned Alfalfa																
	Crop planned Bermuda Grass																
	Crop planned Cotton																
	Crop planned Sudan Grass																
	Crop planned Hay																
	Partial Year Alfalfa																
	Poor Hay																

Exhibit 3
Table of Priority 1 and 4 Rights
in Participating Farm Units

Exhibit 4
Table of Acres Planted 2015-2019

Exhibit 4. Agricultural Acreage Limitation Calculation

Owner	Total Acres	2019- Irrigated	2018- Irrigated	2017- Irrigated	2016- Irrigated	2015- Irrigated	Max- Irrigated
BALDWIN KENNETH L & JOELLA J TRUSTEES- Section 13	37.4	-	37.4	37.4	37.4	37.4	37.4
BECKNELL DEVELOPMENT LLC- Section 7	119.1	119.1	119.1	119.1	119.1	119.1	119.1
BLACK MOUNTAIN FARMS LLC- Section 1	28.4	-	28.4	28.4	-	-	28.4
BLM- Section 19S	99.2	99.2	99.2	99.2	99.2	99.2	99.2
DL18 LLC- Section 27	2.1	2.1	2.1	2.1	2.1	-	2.1
GREEN ACRES MOHAVE II LLC- Section 3	92.0	92.0	92.0	92.0	92.0	92.0	92.0
GREEN ACRES MOHAVE LLC- Section 3	197.0	197.0	197.0	197.0	197.0	197.0	197.0
GREEN ACRES MOHAVE LLC- Section 31	207.2	177.6	177.6	177.6	177.6	177.6	177.6
JEREMIAH PERKINS- Section 25	3.2	3.2	3.2	3.2	3.2	3.2	3.2
JIHONG KAI LLC- Section 27	175.7	51.3	135.3	114.0	114.0	114.0	135.3
JOHN KAI & JIHONG TRUSTEES- Section 23	125.6	-	-	-	-	-	-
KAI HERBERT- Section 13	134.5	134.5	-	-	-	134.5	134.5
KAI HERBERT- Section 9	215.3	198.4	-	215.3	215.3	215.3	215.3
MARK KELLEY & BEVERLY KELLEY TRUSTEES- Section 9	31.3	3.8	12.0	12.0	3.8	12.0	12.0
MAVERICK FARMS INC- Section 25	7.3	7.3	7.3	7.3	-	-	7.3
MOHAVE COUNTY- Section 27	14.0	14.0	14.0	14.0	14.0	14.0	14.0
MOHAVE VALLEY SCHOOL DIST #16	7.8	-	7.8	7.8	7.8	7.8	7.8
RICHARD PARK-Section 35	6.1	5.4	5.4	5.4	5.4	5.4	5.4
SHERRILL CHARLES B JR- Section 11	32.4	32.4	32.4	32.4	32.4	32.4	32.4
SHERRILL CHARLES B JR/MAVERICK- Section 35	4.8	-	4.8	4.8	-	-	4.8
SHERRILL CHARLES B JR/MAVERICK- Section 35	4.5	4.5	4.5	4.5	4.5	4.5	4.5
SHERRILL VENTURES LIMITED PARTNERSHIP - Section 3	287.9	287.9	287.9	287.9	287.9	287.9	287.9
SHERRILL VENTURES LIMITED PARTNERSHIP- Section 11	138.4	138.4	138.4	138.4	138.4	138.4	138.4
SHERRILL VENTURES LIMITED PARTNERSHIP- Section 31	42.6	42.6	42.6	42.6	-	-	42.6
SHERRILL VENTURES LIMITED PARTNERSHIP- Section 1	43.6	-	43.6	43.6	-	-	43.6
SMK LIMITED PARTNERSHIP- Section 27	2.9	2.9	2.9	2.9	2.9	2.9	2.9
SUZANNE EVANS- Section 9	5.6	1.6	-	2.6	2.4	2.5	2.6
TROPICANA RANCH LLC- Section 7	152.6	152.6	152.6	152.6	133.8	86.8	152.6
VACKAR ANTHONY & CHERIE TRUSTEES- Section 27	22.3	22.3	22.3	22.3	22.3	7.8	22.3
VANDERSJICE NANCY & JOHN CLAY CO-TRUSTEE- Section 13	108.0	36.6	108.0	108.0	108.0	108.0	108.0
WPI HULET FARM AZ LLC- Section 23	105.3	105.3	105.3	105.3	105.3	105.3	105.3
WPI II-COL FARM AZ LLC- Section 13	213.5	184.6	213.5	152.1	155.5	213.5	213.5
WPI II-COL FARM AZ LLC- Section 33/34	58.0	58.0	58.0	58.0	58.0	58.0	58.0
WPI-919 FARM AZ LLC- Section 19	316.6	316.6	316.6	316.6	316.6	316.6	316.6
WPI-919 FARM AZ LLC- Section 25	253.8	253.8	253.8	253.8	253.8	253.8	253.8
WPI-919 FARM AZ LLC- Section 30	276.9	276.9	276.9	276.9	276.9	276.9	276.9
WPI-919 FARM AZ LLC- Section 31	108.1	108.1	108.1	108.1	-	-	108.1
WPI-CAD FARM AZ LLC- Section 1	193.6	148.0	193.6	193.6	-	-	193.6
WPI-HANCOCK FARMS AZ LLC- Section 7	138.4	138.4	138.4	138.4	138.4	138.4	138.4
WPI-JEROME FARM AZ LLC- Section 13N	146.1	146.1	146.1	139.2	-	-	146.1
WPI-R3 FARM AZ LLC- Section 11	310.4	310.4	310.4	310.4	310.4	310.4	310.4
WPI-TAC FARM AZ LLC- Section 27	110.2	110.2	110.2	110.2	89.2	64.9	110.2
Sum	4,579.8	3,983.4	4,008.8	4,132.3	3,524.7	3,634.6	4,361.2

Acreage limitation is calculated by determining the highest planted acreage in MVIDD by farm unit in the last five years (2015-2019)

Fields of Interest

2,986.1

EXHIBIT C

1. In the event the option is exercised in Section 5.10 of the SCIA, this Exhibit C will be a copy of MVIDD's Calendar Year 2022 Plan.