Case No. _____

IN THE SUPREME COURT OF THE STATE OF NEVADA

STATE OF NEVADA, on relation to its Division of Water Resources; DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES; ADAM SULLIVAN, Nevada State Engineer,
Petitioner,

v.

The Eighth Judicial District Court of the State of Nevada, in and for the County of Clark and the Honorable Mark R. Denton,
Respondent,

and

COYOTE SPRINGS INVESTMENT, LLC, COYOTE SPRINGS NEVADA, LLC, and COYOTE SPRINGS NURSERY, LLC,
Real Parties in Interest.

APPENDIX VOLUME 2

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APPENDIX - VOLUME 2

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I.	Complaint for Damages and Demand for Jury Trial, filed August 28, 2020	AG0107 – AG0136
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VI.	Order Denying Motions to Dismiss, Granting Temporary Stay and Directing Supplement, and Scheduling, filed August 29, 2022	AG0922 – AG0930
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VI.	Order Granting Stay, filed October 3, 2022	AG0931 – AG0934
I.	Petition for Judicial Review of Nevada State Engineer Order 13096, filed July 9, 2020	AG0001 – AG0104

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II.	Plaintiffs' First Amended Complaint for Damages and Demand for Jury Trial, filed October 7, 2021	AG0137 – AG0277
III.	Plaintiffs' Second Amended Complaint for Damages and Demand for Jury Trial, filed November 12, 2021	AG0278 – AG0453
VI.	Plaintiffs' [Proposed] Third Amended Complaint for Damages and Demand for Jury Trial, filed August 21, 2023	AG0961 – AG1007
VI.	Southern Nevada Water Authority's Notice of Appeal, filed May 19, 2022	AG0795 – AG0851
VII.	Stipulation and Order to Extend Discovery Deadlines [Third Request], filed September 20, 2023	AG1037 – AG1048
V.	The Center for Biological Diversity's Notice of Appeal, filed May 16, 2022	AG0557 – AG0794

DATED this 27th day of September, 2023.

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CERTIFICATE OF SERVICE

I hereby certify that I electronically filed the foregoing in accordance with this Court's electronic filing system and consistent with NEFCR 9 on September 27, 2023.

Participants in the case who are registered with this Court's electronic filing system will receive notice that the document has been filed and is available on the court's electronic filing system.

I further certify that any of the participants in the case that are not registered as electronic users will be mailed the foregoing document by First-Class Mail, postage prepaid.

/s/ *Jeny M. Beesley*
Jeny M. Beesley, an employee of
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DISTRICT COURT

CLARK COUNTY NEVADA

COYOTE SPRINGS INVESTMENT, LLC, a Nevada Limited Liability Company, COYOTE SPRINGS NEVADA, LLC, a Nevada limited liability company, and COYOTE SPRINGS NURSERY, LLC, a Nevada limited liability company, Plaintiffs, vs. STATE OF NEVADA, on relation to its Division of Water Resources, Department of Conservation and Natural Resources, Tim Wilson, Nevada State Engineer; and Does I through X. Defendants.	Case No.: A-20-820384-B Dept.: 13 **PLAINTIFFS' FIRST AMENDED COMPLAINT FOR DAMAGES AND DEMAND FOR JURY TRIAL**

COME NOW Plaintiffs COYOTE SPRINGS INVESTMENT LLC, a Nevada limited liability company, COYOTE SPRINGS NEVADA LLC, a Nevada limited liability company, and COYOTE SPRINGS NURSERY LLC, a Nevada limited liability company (collectively the "CS-Entities" and or "Plaintiffs"), by and through their counsel, William L. Coulthard Esq., of Coulthard Law PLLC, and hereby complain and allege against Defendants STATE OF NEVADA, on relation to its Division of Water Resources, Department of Conservation and Natural Resources, Tim Wilson, Nevada State Engineer; and DOES I through X, as follows:

/ / /

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I.

PARTIES AND JURISDICTION

1. Plaintiffs COYOTE SPRINGS INVESTMENT LLC, a Nevada limited liability company ("CSI"), and COYOTE SPRINGS NEVADA LLC, a Nevada limited liability company ("CS-Nevada"), and COYOTE SPRINGS NURSERY LLC, a Nevada limited liability company ("CS-Nursery") and when referred to together, CSI, CS-Nevada and CS-Nursery shall be referred to as the "CS-Entities"; each of which such entities were formed under the laws of the State of Nevada and collectively are the owners of all of Coyote Springs, a Master Planned development measuring roughly 42,100 acres located in both Clark and Lincoln County, Nevada. A portion of Coyote Springs land measuring approximately 6,881 acres has been planned, designed, mapped, approved and partially constructed as a Major Project in Clark County, Nevada, along with an additional 6,219 acres managed by CSI, of designated conservation land subject to a lease from Bureau of Land Management. Coyote Springs is located approximately 50 miles north of Las Vegas, Nevada. As a critical and necessary part of its Master Planned development and approved Major Project, the CS-Entities also own certain acre feet annually ("afa") of certificated and permitted Nevada ground water rights in the Coyote Spring Valley.

2. Plaintiffs are informed and believe and thereupon allege that Defendant STATE OF NEVADA, on relation to its Division of Water Resources, Department of Conservation and Natural Resources, and Tim Wilson its State Engineer (hereinafter the "State" and/or the "State Engineer") has taken actions, as will be more particularly described herein, in contravention of CS-Entities' Master Planned Major Project development rights and its existing permitted and certificated Nevada water rights at Coyote Springs, Nevada

3. Plaintiffs are informed and believe and thereupon allege that the State's actions, as will be more particularly described herein, rise to the level of an unconstitutional taking of CS-Entities' permitted and certificated water rights as detailed herein, and that the taking of such water rights by the State has left the CS-Entities with no economical beneficial use of its real estate and its master planned development property in Coyote Springs, Nevada.

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4. The true names and capacities, whether individual, corporate, associates or otherwise, of Defendants herein designated as DOES I through X inclusive are unknown to the Plaintiffs CS-Entities at this time, who therefor sue said Defendants by such fictitious names. Plaintiffs are informed and believe and thereon allege that each of said DOES Defendants may have conspired with the State and/or participated in the wrongful events and happenings and proximately caused the injuries and damages herein alleged. Plaintiffs may, as allowed under NRCP 15, seek leave to amend this Complaint to allege their true names and capacities as they are ascertained.

5. This lawsuit was initially filed in the Eighth Judicial District Court, Clark County, Nevada, where venue was proper, as the Coyote Springs Development, and its approved Clark County Major Project under Clark County Code Title 30, is located in Clark County, Nevada. Moreover, many of the claims and the underlying facts arose, and the causes of action plead herein, relate to certain of the CS-Entities' real property rights, including but not limited to its approved Clark County Major Project Development rights, and the prohibited and wrongful delay and blocking of CS-Entities' use and enjoyment of its Clark County real property, including but not limited to, its certificated and permitted water rights in Clark County, Nevada. Finally, many of the witnesses in this case reside in Clark County, Nevada. On October 1, 2020, Defendants removed this case to United States District Court for the District of Nevada. ECF No.

In support of Removal, the Defendants' asserted basis for federal jurisdiction was 28 USC§1331 and §1367. Plaintiffs dispute that federal jurisdiction exists in this First Amended Complaint, as the claims asserted herein are entirely state based claims. Plaintiffs intend to seek removal of this action to State Court wherein jurisdiction is present and venue is appropriate.

II.

STATEMENT OF FACTS

A. CS-Entities' Coyote Springs Master Plan Development.

6. Coyote Springs, Nevada is a master-planned community being developed by Plaintiff CS-Entities in Clark County and Lincoln County, Nevada. The Coyote Springs

property, in its entirety, consists of roughly 42,100 acres, or 65 square miles, located approximately 50 miles north of Las Vegas. It is bordered by the Delamar Mountains to the north, the Meadow Valley Mountains to the east, State Route 168 to the south and U.S. 93 to the west. Approximately one-third of the CS-Entities lands (13,100 acres) lie within Clark County, Nevada and the remaining two-thirds of the lands (29,000 acres) are located in Lincoln County, Nevada.

7. For the past 15 years, CS-Entities have completed, submitted, and processed land use entitlements and zoning applications, permits and approvals for its Coyote Springs' master planned community. CS-Entities have submitted and obtained multiple government and regulatory approvals for infrastructure, maps and plans, including tentative maps, submitted and recorded large parcel maps, parent final maps for purpose of subsequent residential subdivision maps and related property development and sales, all in furtherance of its planned development of the Coyote Springs master planned community (the "Coyote Springs Master Planned Community"). These zoning, land use and construction applications and permits have been submitted to numerous Federal, State and County agencies including the State, the State Engineer, the Clark County – Coyote Springs Water Resources General Improvement District ("CS-GID"), the Las Vegas Valley Water District ("LVVWC"), Clark County Water Reclamation District ("CCWRD"), and Clark County, Nevada. These CS-Entities' submittals, approvals, subsequent design, construction and construction approvals consistent with such land use entitlements and approvals were all done in reliance on and in furtherance of, and in support of the CS-Entities' Coyote Springs Master Planned Community development and investment backed expectations and their efforts to design, develop, construct, sell and operate the Coyote Springs Master Planned Community.

B. Clark County Approves Coyote Springs as a Clark County Title 30 Major Project and Enters Into A Comprehensive Development Agreement with the CS-Entities.

8. As part of its ongoing efforts to develop the Coyote Springs Master Planned Community, the CS-Entities submitted and obtained Clark County's approval of Coyote Springs

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as a Major Project, pursuant to Clark County ("CC") Code 30.20.30, and further submitted and obtained Clark County's approval of the following Major Project development submittals:

a. Coyote Springs Concept Plan (MP-1424-01) approved on February 6, 2002.

b. Coyote Springs' Public Facilities Needs Assessment (PFNA) area (MP-0540-02) approved on May 22, 2002.

c. Coyote Springs Specific Plan (MP-0853-02) was first approved on August 7, 2002, and then later amended on August 2, 2006, and then again amended and approved on September 17, 2008 (MP-0760-08).

d. CS-GID created by Ordinance by the Clark County Board of County Commissioners in October 2006, subject of Clark County Board of Commissioners Ordinance # 3456, Bill # 10-17-06-2, along with the initiating Service Plan and operating agreement among developers and LVVWD and the Clark County Water Reclamation District, all for purposes of operating and providing water and wastewater services in the Coyote Springs Project.

e. Coyote Springs' zone change request (ZC-1401-02) which included master development agreement (DA-1400-02) for the Coyote Springs Master Planned Community was approved on December 18, 2002 pursuant to Development Agreement Ordinance #2844 that was effective January 1, 2003, and later amended by that certain First Amendment and Restatement to Development Agreement dated August 4, 2004 and recorded September 16, 2004 in Clark County Official Records as Book 20040916-0004436.

f. In 2003, a use permit, UC-1493-03, was approved for a water pumping station, power substation, and other related ancillary structures, and another use permit, UC-0335-04 was approved for power transmission lines on April 8, 2004.

g. Approved 125-acre Tourist Commercial zoning that includes a 40-acre Gaming Enterprise District approved on December 17, 2008 (ZC-0947-08), and the

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conditions therein extended until December 2024, pursuant to ET 0184-16 which was approved on February 8, 2017.

h. Many other zoning and land use plan approvals have been similarly pursued and approved for the Coyote Springs Master Planned Community by Clark County.

All of the above, when taken together with all other CS-Entities' approvals and entitlements, will be referred to herein as the "CS-Entities' Approved Major Project".

9. CS-Entities' Approved Major Project status, confirmed by County Ordinances, authorizes the CS-Entities' development and completion of its Approved Major Project. CS-Entities' Approved Major Project has likewise been designed and pursued in furtherance of the CS-Entities' investment backed development expectations when it acquired the Coyote Springs property and its Coyote Springs' ground water rights in the late 1990's. CS-Entities assert and allege that their Approved Major Project status further vests certain additional Major Project development rights for the Coyote Springs Development.

C. CS-Entities Spend Years and Hundreds of Millions of Dollars Developing Coyote Spring Master Planned Community In Furtherance of Their Reasonable Investment Backed Expectations and In Reliance Upon Government Approvals.

10. In furtherance of its investment backed expectations and its Approved Major Project, CS-Entities have further been preparing and processing permits and construction plans and have obtained numerous approvals for community infrastructure, construction maps and plans, including recorded large parcel, parent final maps for purpose of subsequent residential subdivision maps, for development of the Coyote Springs Development with numerous agencies, including the State, and its State Engineer, LVVWD, CCWRD, Clark County Water Reclamation District ("CCWRD"), CS-GID, and Clark County. Multiple permits, applications, improvements, maps and plans have been approved and the CS-Entities have designed, developed, and constructed significant infrastructure improvements to support the Coyote Springs Master Planned Community and its investment backed expectations. Specifically, CS-Entities constructed and are operating a $40,000,000 Jack Nicklaus Signature designed golf

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course open to the public since May 2008, a 325 acre flood control detention basin, which is the subject of a dam permit issued by the Defendant State and its State Engineer, a groundwater treatment plant, including two 1,000,000 gallon water storage tanks designed and constructed to culinary water standards, a wastewater treatment plant and initial package treatment plant, all of which have been considered and approved by the Defendant State and its Nevada Department of Water Resources, and associated electrical power facilities, including a three megawatt electrical substation and appurtenant equipment. CS-Entities have also constructed four groundwater production wells (Well 1, Well 2, Well 3, and Well 4), two of which, Well 1 and Well 4, are in full operational use at the present time and were constructed to culinary municipal well standards as required by the LVVWD on behalf of the CS-GID, all approved by the State and its State Engineer in 2013, with significant enhancements to make them compliant with municipal well standards at a cost in excess of $20,000,000. Moreover, and with the approvals of the various government agencies, including the State and subdivisions of the State, CS-Entities developed, permitted, and constructed miles of roads and streets and installed miles of associated underground utilities, including water, treated water / wastewater, fiber-optic, electric lines and a 3 megawatt substation, in the Coyote Springs Development. The total cost of construction and acquisitions for these improvements and associated processing is well over $200,000,000. This development, and its associated development costs, have all been incurred based upon the CS-Entities' reasonable investment backed expectations, in compliance with all submitted and approved plans, done in furtherance of its Approved Major Project and Development Agreement related thereto, done in furtherance of its real property rights, and with assurance and reliance upon the State and the State Engineer's approval of the use and enjoyment of its certificated and permitted water rights the CS-Entities acquired in the Coyote Spring Valley in support of the Coyote Springs planned development and Approved Major Project.

11. When CS-Entities acquired the Coyote Springs real property, and its certificated and permitted water rights to be used in its Master Planned Development, it had reasonable investment backed expectations that it would be able to develop, construct, market and sell its

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Master Planned Community and their Approved Major Project. Moreover, CS-Entities have relied upon and taken extensive action at the Coyote Springs Development based in large part upon the approvals of the agencies listed above, but most particularly those of the State and its State Engineer, to proceed with its Master Planned Development and construction projects. CSI, in particular has relied on the approvals of the State, and its State Engineer, recognizing that CSI could use its certificated and permitted water rights in the Coyote Springs Development in order to support operation of the golf course, all of its construction efforts, and ultimately to support the approved residential and commercial development planned for the Coyote Springs Master Planned Development and Approved Major Project.

D. CSI's Permitted and Certificated Water Rights.

12. In furtherance of its investment backed expectations, and as a necessary component of the Coyote Springs Master Planned Development, CSI acquired rights to 4600 acre feet annually ("afa") of permitted Nevada water rights in the Coyote Spring Valley. Specifically, CSI holds and perfected 1500 afa under Permit 70429 (Certificate 17035) of which 1250 afa were conveyed to the CS-GID to be used for the Coyote Springs Development, with the remaining 250 afa still owned by CSI. CSI also holds 1000 afa under Permit 74094 of which 750 afa were conveyed to the CS-GID to be used for the Coyote Springs Development, with the remaining 250 afa still owned by CSI. CSI also holds 1140 afa under Permit 70430. CSI, in reliance upon moving forward with the Coyote Springs Development, relinquished 460 afa of Permit 70430, under Permit 70430 RO1, back to the STATE in care of the State Engineer in accord with the US Fish and Wildlife Service as mitigation for any potential Muddy River instream water level flow decreases potentially associated with the CS-Entities' Approved Major Project for the purpose of furthering the survival and recovery of the endangered Moapa dace fish. CSI also holds 500 afa under Permit 74095. In the event that CS-GID is unable or unwilling to supply any of these Water Rights to CS-Entities' Approved Major Project and approve and sign-off on large lot and subdivision maps, and proceed with permits, approvals, inspections, and certificates of occupancy, which is the case following the State actions described herein, all 2000 afa of the Water Rights previously transferred by CSI, to CS-GID,

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revert back to CSI pursuant to that certain Amended and Restated Coyote Springs Water and Wastewater Multi-Party Agreement dated July 7, 2015.

13. CS-Entities are informed and believe and thereupon assert that as of the date hereof the total amount of certificated and permitted Nevada groundwater rights owned by CSI is 2140 afa; the total amount owned by CS-GID is 2000 afa; and, 460 afa has been relinquished for the purpose of furthering the survival and recovery of the Moapa dace (collectively all 4600 afa are referred to herein as, "CS-Entities' Water Rights"). Importantly, the 460 afa of CS-Entities' permitted and certificated water rights previously relinquished by CSI to the State in care of the State Engineer, and in accord with the US Fish and Wildlife Service, was done in furtherance of the survival and recovery of the Moapa dace, an endangered fish that lives within the headwater springs of the Muddy River, pursuant to agreement among the State, the State Engineer, LVVWD and SNWA and others, in order to mitigate potential harms to the Moapa dace that may arise in connection with the CS-Entities' use of ground water at its planned Coyote Springs Master Planned Development. CS-Entities assert that the State, though its State Engineer's actions of unlawful regulation and restriction of CS-Entities use of its Water Rights allegedly to help protect Muddy River water flow levels for the benefit of the Moapa dace fish are an unlawful and unconstitutional exaction by the State. The CS-Entities have previously relinquished 460 afa of its Water Rights, as mitigation for its development of Coyote Springs. The State's recent actions as described herein place an unreasonable and unfair burden on the CS-Entities for protection of the Moapa dace that should more appropriately be borne by the public as a whole and not the CS-Entities individually.

14. CS-Entities are informed and believe and thereupon allege that the State, through its State Engineer's most recent decisions, orders, and actions described herein, and most recently memorialized in the State Engineer's Order 1309 dated June 15, 2020, has wrongfully taken at least 3640 afa, and possibly all 4140 afa of, the CS-Entities' Water Rights; and if the CS-Entities are not allowed to develop the Coyote Springs Master Planned Community, then the 460 afa relinquished for the survival and protection of the Moapa dace is a further wrongful and unconstitutional take from the CS-Entities. This wrongful "take" of CSI's Water Rights has, as

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the State Engineer is well aware, further effectuated a wrongful and illicit "take" of all of the CS-Entities' economical beneficial use of its property and of the ability to develop its Approved Major Project and the Coyote Springs Master Planned Development.

E. History of Wrongful State Actions Related to CS-Entities' Water Rights.

15. After CSI acquired the Water Rights described above, CSI and others applied for additional water rights in the Coyote Springs Valley. In response to CSI's new applications and the applications of others, in 2002, the State, through then State Engineer, Hugh Ricci, issued Order 1169 which held in abeyance these pending applications. Order 1169 determined that there was insufficient information and data concerning the deep carbonate aquifer from which the water would be extracted for the State Engineer to make a decision on new water rights applications, including CS-Entities' then pending applications. The State Engineer further ordered a hydrological study of the basins. In doing so, the State Engineer recognized that certain parties, including CS-Entities, already had an interest in water rights permitted from the carbonate aquifer system, thereby acknowledging the existence and validity of CS-Entities' Water Rights. The State Engineer ordered a study of the carbonate aquifer over a five-year period during which 50% of the water rights currently permitted in the Coyote Spring Valley Basin were to be pumped for at least two consecutive years. The applicants, which included CS-Entities, were to pay for the studies and were to file a report with the State Engineer within 180 days of the end of the fifth consecutive year.

16. Following the issuance of Order 1169, and in furtherance of its ongoing Coyote Springs development plans, CS-Entities along with other applicants engaged in pump tests of the wells in the Coyote Spring Valley basin from 2010 to 2012 and filed their reports in 2013. In January 2014, the State Engineer issued Ruling 6255 which found that the new applications to appropriate groundwater in the Coyote Spring Valley basin could cause a decrease in flows at existing springs and could impact prior appropriated existing water rights. The State Engineer further determined that this potential conflict with existing rights was not in the public interest and that allowing appropriation of additional groundwater resources could impair protection of springs and the habitat of the Moapa dace, an endangered species that lives in the headwaters of

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the Muddy River. In Ruling 6255, the State Engineer then denied the pending applications for new water rights based on the lack of unappropriated groundwater at the source of supply, that the proposed use would conflict with existing water rights in the Order 1169 basins, and the proposed use would threaten and prove detrimental to the public interest. Importantly, Ruling 6255 worked to protect existing water rights, including CS-Entities' Water Rights, from any new appropriations by denying the pending applications on the basis that existing water rights, such as CS-Entities' rights, must be protected.

17. Consistent with its reasonable investment backed expectations to develop its Master Planned Community, and in further reliance on the State and its State Engineer's aforementioned Ruling 6255 protecting its certificated and permitted water rights, CS-Entities have pumped for beneficial use, and continued to pump between 1400 and 2000 acre feet annually from its wells in the Coyote Spring Valley Basin. Currently, approximately 1100 afa are pumped to support the existing and operational golf course, and the rest of the water is pumped to support its planned Master Plan construction activities.

18. CS-Entities have adopted, and Clark County has approved via its Major Plan Approval and Development Agreement, an aggressive water conservation plan for Coyote Springs. This plan includes significant reuse of water that is pumped from the groundwater, including use of recycled water on its golf courses, common areas, and public parks. CS-Entities' water conservation goals are aimed at a limitation on the use of water for each developed lot in its development to 0.36 acre feet per year. It is the intent that the effluent from the Coyote Springs Development's wastewater treatment plant will be recycled within the development and any portion not reused for irrigation will be allowed to be re-injected and recharge the aquifer. To effectuate these plans, an affiliate to CS-Entities was formed to hold the rights to the re-use water from the wastewater treatment facility and that entity, Coyote Springs Reuse Water Company LLC holds permits 77340, 77340-S01 and 77340-S02, which are specifically reuse water permits, for treated wastewater to be used within the Coyote Springs community.

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19. With the CS-Entities' Water Rights and all of their Approved Major Project entitlements contemplated and as were approved, CS-Entities intended to support thousands of residential units within its Master Planned Community subdivisions, plus related resort, commercial and industrial development. Return flows from the proposed subdivision and effluent from its treatment plants owned by Coyote Springs Reuse Water Company LLC were to be returned to the aquifer or recycled for use at Coyote Springs. Unfortunately, and as alleged herein, in violation of CS-Entities' historic reasonable investment backed development expectations, the State, has taken oppressive and wrongful actions to wrongfully delay and preclude CS-Entities from moving forward with their design, development and construction of the Coyote Springs Master Planned Development.

F. The State, Commences Efforts to Wrongfully Interfere With CS-Entities' Water Rights and Development Efforts at Coyote Springs.

20. The CS-Entities are informed and believe, and thereupon alleges that LVVWD purportedly acting as the manager of the CS-GID, sent an unsolicited letter dated November 16, 2017 to the State, and its State Engineer, which sought "to solicit [the State Engineer's] opinion whether Coyote Spring Valley groundwater can sustainably supply water for the Coyote Springs Master Plan project." Through its response to this letter, the State commenced its efforts to wrongfully interfere with CS-Entities' use and enjoyment of its certificated and permitted water rights and CS-Entities' continuing efforts to develop and construct its Coyote Springs Master Planned and Approved Major Project.

21. Despite the fact that LVVWD's November 16, 2017, letter acknowledged that State Engineer's Ruling 6255 "did not invalidate any existing water rights, including those held by [Coyote Springs Water Resource General Improvement District] GID and [CSI] Developers" at Coyote Springs, LVVWD asserted that "we [LVVWD] are not convinced that Coyote Spring Valley groundwater can sustainably support the CSI Approved Major Project given endangered species issues in the Muddy River and impacts to senior water rights." *Id.* Finally, the LVVWD November 16, 2017 letter sought an opinion from the State Engineer as to whether the State Engineer's "office would be willing to execute subdivision maps for the [Coyote Springs]

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Project if such maps were predicated on the use of groundwater owned by the GID or [CSI] Developers in Coyote Spring Valley". *Id.*

22. The State received and took action to respond to LVVWD's November 16, 2017 letter despite the fact that no person or entity had asserted an alleged conflict or impairment regarding pumping and use of the CS-GID or CS-Entities' water rights in Coyote Springs.

23. CS-Entities are informed and believe, and thereupon allege that the State accepting and acting upon LVVWD's November 16, 2017 letter:

(1) wrongfully interfered with CS-Entities' use and enjoyment of their Water Rights and continuing Master Planned and Approved Major Project development rights at Coyote Springs;

(2) was wrongfully aimed at delaying and/or stopping CS-Entities' ongoing development of its Coyote Springs Project and use of their certificated, permitted and previously unchallenged Water Rights; and,

(3) was wrongfully aimed at precluding CS-Entities' use of its Water Rights in the Coyote Spring Valley thus preventing development of the Coyote Springs Project, and according to the State's newly formulated theory of homogeneity of the hydrographic basins (which is contested by the CS-Entities) comprising the Lower White River Flow System identifying these basins incorrectly as a "single bathtub" arguably resulting in increased water flows in the Muddy River and flowing to Lake Mead thereby increasing SNWA's claim for return flow credits and/or intentionally created surplus, which is then available for use by LVVWD and SNWA in the Las Vegas Valley.

24. CS-Entities are informed and believe and thereupon allege that the aforementioned actions done by the State, were aimed at delaying and/or halting CS-Entities planned use of its certificated and permitted Water Rights to develop the Coyote Springs Project with an end game of asserting that unused CS-Entities' Water Rights flow underground into the Muddy River watershed and eventually into Lake Mead. While contested by CS-Entities, the State and others will likely assert that these unused CS-Entities' Water Rights will flow through the LWRFS into the Muddy River Springs Area and the Muddy River, and will eventually flow

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downstream into Lake Mead, thereby providing LVVWD and its affiliate SNWA, with additional water that can be used and/or banked for use by these political entities in Southern Nevada as described in SNWA's reports and certifications to the U.S. Bureau of Reclamation, in the LVVWD / SNWA Integrated Resource Plan(s) and annual Water Resource Plan(s), among others. The CS-Entities assert that these recent State's actions are driven in part by SNWA's recent 2020 abandonment of its long-planned pipeline for the pumping of groundwater from central Nevada into southern Nevada.

G. The State's Response to LVVWD November 16, 2017 Letter.

25. On May 16, 2018, and in response to LVVWD's November 16, 2017 letter, the State, through its State Engineer, sent a letter to LVVWD regarding Coyote Spring Valley Basin Water Supply, with a copy to CS-Entities' Representatives. A true and correct copy of the State Engineer's May 16, 2018 Letter is attached hereto as Exhibit "1". In this correspondence, the State asserted that the Order 1169 pump tests indicate that pumping at the level during the two year pump test caused declines in groundwater levels and noted that monitoring of pumpage and water levels has continued since completion of the pumping tests on December 31, 2012 and that the additional data shows that groundwater levels and spring flows have remained relatively flat while precipitation has been nearly average and the five basin carbonate pumping has ranged between 9090 and 14766 acre feet annually during the years 2007 to 2017. *See* Interim Order 1303, Section IV final "whereas" clause, page 9.

26. The State Engineer's May 16, 2018 letter, the State Engineer publicly announced that the amount of groundwater pumping that will be allowed in the five basin area (also known as the "superbasin") will be limited to the amount that will not conflict with the Muddy River Springs or the Muddy River as they are the most senior rights in the five basin area. The State, through its State Engineer, then further publicly announced that "carbonate pumping will have to be limited to a fraction of the 40,300-acre feet already appropriated in the five basin area". *Id.* The State Engineer further stated:

> Therefore, specific to the question raised in your November 16, 2017, letter, considering current pumping quantities as the estimated sustainable carbonate pumping limit, **pursuant to the provisions found in Nevada Revised Statutes Chapter 278, 533 and 534, the State Engineer cannot justify approval of any subdivision development maps based on the junior priority groundwater**

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> **rights currently owned by CWSRGID (sic)[Coyote Springs Water Resources General Improvement District] or CSI unless other water sources are identified for development.** (emphasis in original.)

These State actions effectively denied the CS-Entities the use and access to their Water Rights and commenced a taking by the State of these Water Rights and associated Master Planned development rights.

27. CS-Entities are informed and believe and thereupon asserts that the State Engineer's May 16, 2018 letter commenced a "take of CS-Entities' property rights, worked as a public announcement of the States' intent to condemn and/or wrongfully take CS-Entities' Water Rights, and further worked to unreasonably delay CS-Entities' continued development of its Approved Major Project development. CS-Entities further contend that it was inappropriate, unreasonable, and oppressive for the State, and it's State Engineer, in response to an unsolicited inquiry by LVVWD, with no claim of conflict or impairment of its water rights against the CS-Entities, to publicly announce its decision and intent to manage groundwater resources "across the five-basin area" and that "pumping will have to be limited to a fraction of the 40,300 acre-feet already appropriated in the five-basin area". *Id.*

28. Following the State and its State Engineer's May 16, 2018 public announcement of its intent to condemn and/or take the CS-Entities' Water Rights and effectively freeze CS-Entities' development rights, in communications by email between CS-Entities Representatives and the State Engineer, on May 17, 2018, the State further announced that it "would not sign off on CSI's subdivision maps to allow their approval if they were based on the water rights CS-Entities owned or those previously dedicated to the Coyote Springs General Improvement District CS-GID." CSI asserts that such State action was unreasonable, oppressive and unlawful.

29. On May 18, 2018, in conversation with CS-Entities Representatives, the State Engineer advised CS-Entities "not to spend one dollar more on the Coyote Springs Development Project and that processing of CSI's maps had stopped". This further evidences the State's intent and decision to wrongfully take CSI's existing and certificated water rights and to further unreasonably delay and eventually wrongfully take CS-Entities' development

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rights at its Master Planned Community. The State announced that it would prepare a new draft order that would supersede or dramatically modify Order 1169 and Ruling 6255. The State, again through its State Engineer, admitted that this is "unchartered territory and his [State Engineer] office has never granted rights and then just taken them away". These statements of the State Engineer further confirm the State's taking of CS-Entities' Water Rights.

30. On May 18, 2018, CS-Entities Representatives further inquired of the State Engineer if anyone had filed an impairment claim or any type of grievance with regards to CSI's and CS-GID's water rights and/or the pumping CS-Entities had performed over the last 12 years at its Coyote Springs Master Planned Development. On May 21, 2018, the State Engineer responded that no one has asserted a conflict or impairment regarding CSI's pumping of the CS-GID and CS-Entities' Water Rights.

31. In an effort to best protect its water and development rights and its investment backed expectations, on June 8, 2018, CSI filed a Petition for Judicial Review of the State Engineer's May 16, 2018 letter in this Court, challenging the decision by the State Engineer to place a moratorium on the processing of CSI's subdivision maps. After a court-ordered settlement conference the State Engineer rescinded his May 16, 2018 letter and agreed to "process in good faith any and all maps or other issue submittals as requested by CSI, and/or its agents or affiliates in accordance with the State Engineers' ordinary course of business."

32. Recognizing its May 16, 2018 letter decision was unlawful and now rescinded, the State Engineer began a public workshop process to review the water available for pumping in the Lower White River Flow System ("LWRFS") which includes the Coyote Spring Valley basin. On July 24, 2018, the State Engineer held a Public Workshop on the LWRFS and on August, 23, 2018, the State Engineer facilitated a meeting of the Hydrologic Review Team ("HRT"), a team established under a 2006 Memorandum of Agreement ("MOA") among some of the same parties.

33. On September 7, 2018, the Office of the State Engineer issued two conditional approvals of subdivision maps submitted for review by CSI. The first conditional approval was for the Large Lot Coyote Springs—Village A, consisting of eight lots, common area, and rights

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of way totaling approximately 643 acres in Clark County and requiring the statutory 2.0 afa per lot, for a total of 16 afa. The second conditional approval was for the Coyote Springs—Village A subdivision map, consisting of 575 lots, common areas and rights of way for approximately 142.71 acres in Clark County and requiring an estimate demand of 408.25 afa of water annually based on .71 afa per residential unit. The two subdivision maps were conditionally approved by the State Engineer subject only to a will serve letter from CS-GID and a final mylar map; the State Engineer confirmed that sufficient water existed to supply to these subdivisions without affecting senior water rights in the Muddy River and the Muddy River Springs.[1]

34. On September 19, 2018, the State Engineer held an additional Public Workshop on the LWRFS and issued a Draft Order at the workshop for comment (the "Draft Order"). A true and correct copy of the September 19, 2018 Draft Order is attached as Exhibit "2". The Draft Order contained a preliminary determination that there were 9,318 afa of water rights with a priority date of March 31, 1983, or earlier, that could be safely pumped from the LWRFS basins without affecting the flows in the Muddy River and without affecting the endangered Moapa dace fish. The Draft Order also contained provisions that would place a moratorium on processing of all subdivision maps unless there was a demonstration that there was a showing to the State Engineer's satisfaction that an adequate supply of water was available "in perpetuity" for the subdivision. CS-Entities are informed and believe and thereupon allege that the "in perpetuity" restriction was arbitrary, capricious, and unreasonable and not supported by law or State precedent.

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[1] Conditional approval letter for Tentative Subdivision Review No. 13217-T Permit None for Coyote Springs – Village A; dated September 7, 2018, and signed by Mark Sivazlian, PE, Section Chief, Water Rights for the Division of Water Resources, and specifically stating on page 4 thereof: "*Because there exist numerous mechanisms that may supply water to support **Coyote Springs – Village A**…there exists justification to conditionally approved **Coyote Springs Village – A**, as submitted*." And also see Conditional approval letter for Tentative Subdivision Review No. 13216-T Permit None for Large Lot Coyote Springs – Village A; dated September 7, 2018, and signed by Mark Sivazlian, PE, Section Chief, Water Rights for the Division of Water Resources, and specifically stating on page 4 thereof: "*Because there exist numerous mechanisms that may supply water to support **Large Lot Coyote Springs – Village A**…there exists justification to conditionally approved **Large Lot Coyote Springs – Village A**, as submitted*."

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35. On October 5, 2018, CSI-Entities sent a series of comment letters regarding the Draft Order. CS-Entities commented upon the total lack of technical information that was necessary to perform a comprehensive review of the State Engineer's conclusions in the Draft Order. CS-Entities also pointed out to the State Engineer that his use of the 9,318 afa limit for pumping in the basin was not supported by substantial evidence and that the State Engineer's own data supported a figure of at least 11,400 afa that could be pumped without any effect on the flows in the Muddy River or any effects on the Moapa dace. CS-Entities' technical expert, Mr. Steve Reich, a qualified hydrogeologist from Stetson Engineering, after criticizing the State Engineer's use of only three years of data, provided the following technical comments on the State Engineer's Draft Order:

> a. The observed data does not substantiate a direct relationship between the recent three years of pumping and "relatively flat" groundwater levels and spring discharge that support groundwater pumping of 9,318 acre-feet per year for the 6-Basin area.
>
> b. An extended 14-year dry period, including two wetter than normal years, occurred from 2000 through 2012.
>
> c. Climate and climatic cycles play a significant role in assessing available water supply.
>
> d. Discharge at the Pederson Spring Complex is affected by local and regional recharge as shown by response to 1-year and multi-year climatic conditions.
>
> e. The relationship between local carbonate pumping and groundwater levels in the [Muddy River Springs Area] MSRA [sic] is affected by recharge and long-term climate. The impact to water levels from pumping in other basins is not defined.
>
> f. The effect of pumping in CSV [Coyote Spring Valley] on carbonate groundwater levels in MSRA [sic] may be affected by groundwater barriers and geologic structure.
>
> g. Groundwater levels were declining in the MSRA at the early part of this century when there was no pumping in the CSV.
>
> h. Rainfall intensity and temporal distribution affect recharge and subsequent groundwater levels in the 6-Basin area.

36. On October 23, 2018, CS-Entities provided additional comments on the Draft Order noting again that the State Engineer's own data supported a determination that the correct amount of pumping that could be sustained in the LWRFS was at least 11,400 afa and not 9,318

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afa. However, even assuming that 9,318 afa was the correct number, this would mean, based on CS-Entities' Water Right priority date of March 31, 1983, that CS-Entities should be permitted to pump at least 1,880 afa of water for its Approved Major Project subdivisions. Importantly, and as further evidence of its unreasonable and oppressive conduct, the State, and its State Engineer have refused to acknowledge that the 1,880 afa was more than sufficient to support CSI's current proposed subdivision developments that were conditionally approved by the Office of the State Engineer on September 7, 2018. The State Engineer continued to unreasonably delay[2] the final approval as to CS-Entities' two conditionally approval maps despite the fact the State Engineer's own analysis in the September 19, 2018 Draft Order determined that CSI could pump at least 1,880 afa of water from the Coyote Spring Valley Basin in priority and would be within the 9,318 afa of water that the State Engineer believed could be safely pumped. After CS-Entities incurred extensive time, energy, and expenses related to responding to and addressing the State's proposed Draft Order, the State Engineer abandoned the Draft Order outright and failed to process same as a final order. CS-Entities assert that such actions were unfair, unreasonable, and designed to further delay and frustrate CS-Entities' efforts to continue its Master Planned Development.

37. On January 11, 2019, the State Engineer issued Interim Order 1303 (the "Interim Order"). A true and correct copy of the January 11, 2019 Interim Order 1303 is attached as Exhibit "3". In the Interim Order, the State Engineer again declared, consistent with its prior, now withdrawn May 18, 2018 letter, that Coyote Spring Valley, Muddy River Springs Area, Hidden Valley, Garnet Valley, California Wash, and the northwestern part of the Black Mountains Area are designated as a joint administrative unit for purposes of administration of water rights, known as the Lower White River Flow System or the Six-Basin Area. Interim Order 1303 also declared a temporary moratorium on approvals regarding any final subdivision or other submissions concerning development and construction submitted to the State Engineer

[2] CS-Entities' representatives inquired as to the status of the maps submitted for processing several times, via telephone and electronic-mail between August 15, 2019 and early January 2020, to no avail, and the State Engineer would not meet or discuss any outstanding questions or concerns of their office regarding the submittal.

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for review. According to Interim Order 1303, any such submissions shall be held in abeyance pending the conclusion of the public process to determine the total quantity of groundwater that may be developed within the Lower White River Flow System. Interim Order 1303 does provide, however, that the State Engineer may review and grant approval of a subdivision or other submission if a showing can be made of an adequate and sustainable supply of water to meet the anticipated "life of the subdivision." Unfortunately, the State Engineer continued its unreasonable and oppressive delay practice as to CS-Entities pending subdivision map submittals, the State Engineer again failed to address any of the technical and legal issues raised by CS-Entities in its comments and failed to recognize that even under the State Engineer's own analysis, there was more than sufficient water in the Six-Basin Area to support CS-Entities current pending subdivision plans. These continuing delays were unreasonable and oppressive actions that have and continue to effectuate an unlawful taking of CS-Entities use and enjoyment of its Water Rights and Master Planned Development rights.

H. The State Failed to Finally Approve CSI's Conditionally Approved Subdivision Maps Despite Available Water for Such Development Under the State Engineer's Own Water Availability Analysis.

38. CS-Entities have submitted, and attempted to fully process, certain Coyote Springs Village A Development Maps required to move their Approved Major Project and Master Planned Development forward. Specifically, CS-Entities have submitted and obtained Conditional Approval to the following Village A development maps:

A. Village A – Large Lot Tentative Map (TM-18-500081) (8 Lots)

   a. Submitted : May 14, 2018
   b. CC Planning Commission Final Approval: July 3, 2018
   c. Expires July 3, 2022
   d. LVVWD Response Letter dated August 20, 2018
   e. State of Nevada- Division of Water Resources on Sept. 7, 2018 – Conditionally Approved subject to a will serve letter, and then as set forth in Order 1303 a verifiable water source condition.
   f. CSI satisfies verifiable water source condition on June 13, 2019, upon submittal of Technical Report 053119.0 dated May 31, 2019 issued by Stetson Engineering, Inc., to the State Engineer.

/ / /

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B. Village A – Large Lot Final Map (8 Lots)

a. Final Mylar Submitted to Division of Water Resources: June 13, 2019 -- No Response
b. Paper Map Reviews through Clark County with County Approval "OK to Submit Final Mylar Map"
c. Paper Final Map submitted to LVVWD – Response Letter dated September 12, 2018.

C. Village A – Parcels A-D Tentative Map (575 Residential Lots)

a. Submitted : June 11, 2018
b. Board of County Commissioners Approval: Aug. 8, 2018
c. Expires: July 3, 2020
d. LVVWD Response Letter date August 20, 2018
e. State of Nevada- Division of Water Resources on Sept. 7, 2018 – Conditionally Approved subject to a will serve letter, and then as set forth in Order 1303 a verifiable water source condition.
f. CSI satisfies verifiable water source condition on June 13, 2019, upon submittal of Technical Report 053119.0 dated May 31, 2019 issued by Stetson Engineering, Inc., to the State Engineer.

D. Village A – Parcel A-B Unit 1 Final Map (30 Lots) - Only Department of Water Resources submittal

a. Paper Final Map only to DWRS: Dec. 4, 2018 - No Response from Department of Water Resources.
b.

(Collectively the "Conditionally Approved Maps").

39. On September 12, 2018, LVVWD sent the State Engineer correspondence advising that LLVWD "in its capacity as manager of the Coyote Springs Water Resources General Improvement District (GID), has reviewed the subject [Coyote Springs Village A] subdivision map" and that based upon "the facts described in the Sate Engineer's letter dated May 16, 2018, concerning the viability of groundwater rights previously dedicated to the GID by the developer [CS-Entities], the uncertain resolution of the Lower White River Flow System ("LWRFS") workshop process initiated by the Division of Water Resources . . , and the [LVVWD] District's assessment of aquifer dynamics, potential conflicts with senior rights, and potential adverse impacts to endangered species, the District is unable to confirm the availability of water resources sufficient to support recordation of this map at this time".

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40. The State failed to issue final approval of these Conditionally Approved Village A Maps, despite the fact that the State Engineer's own Draft Order and Interim Order 1303 allow development to proceed if conditions were met by the CS-Entities. Those conditions were met on June 11, 2019, upon submittal of Technical Report 053119.0 issued by Stetson Engineering, Inc. to the State Engineer, providing the necessary analysis that sufficient available water is present to support this proposed Coyote Springs Village A development. CS-Entities asserts that the State's failure to finally approved the Conditionally Approved Maps was wrongful, unreasonable and oppressive and have effectuated precondemnation damages, inverse condemnation damages, and a wrongful taking of CSI's property rights, including CSI's Water Rights and its development rights as to the Coyote Springs Master Planned Development and Approved Major Project, in the Coyote Springs Valley.

I. The State Engineer Issues Order 1309 Which Effectuates A Take of CS-Entities' Water Rights and Its Master Planned Development Rights, and Has Destroyed All Viable Economic Use of CS-Entities' Property.

41. On June 15, 2020, the State, through its State Engineer, issued Order 1309. Pursuant to its Order 1309, the State Engineer ordered, in relevant part:

> 1. The Lower White River Flow System consisting of the Kane Springs Valley, Coyote Spring Valley, Muddy River Springs Area, California Wash, Hidden Valley, Garnet Valley, and the Norwest potion of the Black Mountains Area as described in this Order, is herby delineated as a single hydrographic basin.
>
> 2. The maximum quantity of groundwater that may be pumped from the Lower White River Flow System Hydrographic Basin on an average annual basis without causing further declines in Warm Springs area spring flow and flow into the Muddy River cannot exceed 8,000 afa and may be less.
>
> 3. The maximum quantity of water that may be pumped from the Lower White Rive Flow System Hydrographic Basin may be reduced if it is determined that pumping will adversely impact the endangered Moapa dace.
>
> 4. All applications for the movement of existing groundwater rights among sub-basins of the Lower White River Flow System Hydrographic Basin will be processed in accordance with NRS 533.370.
>
> 5. The temporary moratorium on the submission of final subdivision or other submission concerning development and construction submitted to the State Engineer for review established under Interim Order 1303 is hereby terminated.

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6. All other matters set forth in Interim Order 1303 that are not specifically addressed herein are hereby rescinded.

See State Engineer's Order 1309 a true and correct copy of which is attached hereto as Exhibit "4".

42. The State Engineer's Order 1309, in creating a new single super basin now known as the Lower White River System Hydrological Basin ("LWRFS") for these seven previously stand-alone hydrological basins, with its limitation of the maximum quantity of groundwater that may be pumped from the LWRFS on an average annual basis that "cannot exceed 8,000 afa and may be less" effectuates a "take" of the CS-Entities Water Rights and its Master Planned Approved Major Project development rights. Multiple legal challenges have been filed by impacted parties, including CSI, to the State Engineer's Order 1309. Order 1309 has and continues to effectuate an unlawful and unconstitutional take of CS-Entities' property for which just compensation is due. Even with a judicial set aside of State Engineer's Order 1309, the State has occasioned a wrongful precondemnation delay and temporary unconstitutional regulatory taking and other violations as claimed below, on CS-Entities for which compensation is now due and owing CSI.

43. Immediately following its issuance of Order 1309, the State, through its State Engineer, sent correspondence dated June 17, 2020 to CS-Entities regarding its "Final Subdivision Review No. 13217-F" as to CS-Entities' conditionally approved Coyote Springs Village A subdivision maps, which provided for "eight large parcels intended for further subdivision". The State Engineer, relying upon the LWRFS as a single hydrological basin, stated in part:

> General: Coyote Springs Investment, LLC groundwater permits have priority dates which may exceed the threshold of allowable pumping within the definition of this order.

The State Engineer then took the following action:

> Action: The Division of Water Resources recommends disapproval concerning water quantity as required by statute for Coyote Springs Village A subdivision based on water service by Coyote Springs Water Resources General Improvement District.

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A true and correct copy of the State Engineer's June 17, 2020 letter is attached hereto as Exhibit "5".

44. CS-Entities assert and thereupon allege that the State's actions, and its application of Order 1309 as to CS-Entities' water rights and pending Coyote Springs Village A Maps, effectively deprives the CS-Entities of all economically viable beneficial use of its property and precludes and prevents the continued development of the Coyote Springs Master Planned Community and Approved Major Project. The State's action of joining multiple groundwater basins into the single Lower White River Flow System ("LWRFS") hydrographic basin and reducing the "maximum quantity of groundwater that may be pumped from the LWRFS" is a wrongful and unconstitutional "take" of CS-Entities' Water Rights and Master Planned Community and Major Project development rights for which just compensation for such take is due the CS-Entities. The United State Supreme Court stated in *Lucas v. South Carolina Coastal Council*, 112 S.Ct. 2886, 120 L.Ed.2d 796, 505 U.S. 1003 (1992) that "when the owner of real property has been called upon to sacrifice all economically beneficial uses in the name of the common good, that is, to leave his property economically idle, he has suffered a taking." CS-Entities asserts that they have suffered such a taking and that just compensation for such taking of its property rights is now due.

45. CSI has previously relinquished 460 afa of its certificated and permitted water rights for protection of the Moapa dace endangered fish species and has committed to dedicate 5% of all additional water CSI acquires above 4600 afa and used to support its development. Such water right mitigation contribution was aimed at mitigating the potential decrease in in-stream water flows along the Muddy River to best protect the Moapa dace potentially caused by the ground water pumping needed for the continued development of the Coyote Springs Master Planned Development and Approved Major Project. To take the balance of CSI's Water Rights to further protect the Moapa dace, is an unfair and unreasonable burden placed upon CS-Entities which should be more appropriately born by the public as a whole rather than on the CS-Entities individually. "[W]hen the owner of real property has been called upon to sacrifice all

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economically beneficial uses in the name of the common good, that is to leave his property economically idle, he has suffered a taking". *Lucas v. South Carolina Coastal Council,* 505 U.S. 1003 (1982). In this matter, CS-Entities have been called upon, though State Order 1309, to sacrifice all economically beneficial uses of its Water Rights and real property development rights allegedly in the name of the common good, the protection of the Moapa dace, which is a taking for which just compensation is required.

46. CS-Entities asserts that the aforementioned acts of the State, and its issuance and application of Order 1309 by the State Engineer, effectuated a total regulatory taking of all of CS-Entities' economically viable use of the entirety of its Coyote Springs property for which it is entitled to an award of just compensation.

III.

FIRST CLAIM FOR RELIEF

(Inverse Condemnation Under Nevada Constitution – Lucas Regulatory Taking)

47. CS-Entities incorporate the preceding paragraphs as if fully set for the herein.

48. The Nevada Supreme Court has previously recognized that the first right established in the Nevada Constitution's declaration of rights is the protection of a landowner's inalienable rights to acquire, possess and protect private property. The Nevada Supreme Court further recognized "the Nevada Constitution contemplates expansive property rights in the context of takings claims through eminent domain" and that "our State enjoys a rich history of protecting private property owners against government taking." *McCarren Intern. Airport v. Sisolak,* 122 Nev. 645, 669, (2006). Similar to the protections in the Takings Clause of the United States Constitution, the Nevada Constitution provides that "[p]rivate property shall not be taken for public use without just compensation having been first made." Nev. Const. art. 1, § 8. "When a governmental entity takes property without just compensation, or initiating an eminent domain action, an aggrieved party may file a complaint for inverse condemnation." *Fritz v. Washoe County*, 132 Nev. 580, 583-84 (2016). The Nevada Supreme Court has generally adopted the United States Supreme Court's standards for inverse condemnation claims and has "recognized that government regulation of private property may, in some instances, be

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so onerous that its effect is tantamount to a direct appropriation or ouster – and that such "regulatory takings" may be compensable." *Sisolak,* 122 Nev. at 662. Further, "the Supreme Court has defined "two categories of regulatory action that generally will be deemed *per se* takings." Id. One such *per se* regulatory taking occurs when a government regulation "completely deprives an owner of all economical beneficial use of her property." Id. CSI-Entities asserts and alleges that the State's Orders, concluding in Order 1309, effectuates a *per se* regulatory taking and deprives CS-Entities of all economical beneficial use of its property in Coyote Springs. *See City of North Las Vegas v. 5th Centennial, LLC,* 2014 WL 1226443 (Nev. March 21, 2014) (applying federal law standards to per se takings claims brought under the Nevada Constitution).

49. The State Engineer's May 18, 2018 Letter, its purported "draft order" issued only for delay, its 1303 Interim Order, its Order 1309, and its most recent June 17, 2020 "disapproval concerning water quantity . . . for Coyote Springs Village A subdivision", all have effectuated a regulatory taking of CS-Entities' Water Rights, its property, and its development rights which requires compensation to CS-Entities (the "State Engineer's Orders"). The State Engineer's Orders have had a massive, devasting and continuing economic impact on the CS-Entities and their Coyote Springs Master Planned Development, blocked and interfered with CS-Entities' reasonable and approved investment-backed expectations to design, develop, construct and sell Coyote Springs Master Planned Development, and unfairly signaled out CSI to bear the burden of protecting the Moapa dace that should more appropriately be borne by the public as a whole. The Defendants' actions have left CS-Entities' property economically idle and the CS-Entities have suffered an unconstitutional taking for which just compensation is now due.

50. CS-Entities are informed and believe and thereupon alleges that the State, and its State Engineer's actions as described herein, were wrongful, oppressive and unreasonable and have resulted in a taking of CS-Entities' Water Rights, its property, and its Master Planned and Approved Major Project development rights, and any viable economic use of its property. The State's actions rise to the level of an unconstitutional *per se* regulatory taking for which just compensation is due to the CS-Entities.

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51. The State's taking of CS-Entities' property by the public constitutes a taking by inverse condemnation which require compensation under Article I, Section 8 of the Nevada Constitution, requiring the State to pay full and just compensation to Plaintiff CS-Entities.

52. As a result of the State's wrongful conduct and actions as described herein, the CS-Entities have been damaged far in excess of $75,000.

53. As a further result of Defendants' wrongful conduct, Plaintiffs have been required to retain legal counsel to prosecute this action and therefor Plaintiff CS-Entities are entitled to recover their reasonable attorneys' fees and costs of suit incurred in this action.

SECOND CLAIM FOR RELIEF

(Inverse Condemnation Under Nevada Constitution – Penn Central Regulatory Taking)

54. CS-Entities incorporate the preceding paragraphs as if fully set forth the herein.

55. Partial regulatory taking challenges are governed by the standard set forth in *Penn Central Transportation Co. vs New York City*, 438 U.S. 104, 98 S.Ct. 2646, 57 L.Ed.2d 631(1978). In determining whether a Penn Central-type regulatory taking has occurred a Court should consider (1) the regulation's economic impact on the property owner, (2) the regulations interference with investment-backed expectations, and, (3) the character of the government action. *Sisolak*, 122 Nev. at 663. The Nevada Supreme Court applies the federal *Penn Central* standards to partial regulatory takings claims arising from the Nevada Constitution. Id.

56. The State Engineer's May 18, 2018 Letter, its 1303 Interim Order, its Order 1309, along with the June 17, 2020 "disapproval" of Coyote Springs Village A subdivision maps based on water service" all have effectuated a *Penn Central* regulatory taking of the CS-Entities' property and development rights which requires compensation to the CS-Entities (the "State Engineer's Orders"). The State Engineer's Orders have had a massive and devastating economic impact on the CS-Entities and their Coyote Springs Master Planned Development, blocked, interfered with, and ultimately destroyed the CS-Entities' investment-backed expectations to design, develop, construct and sell Coyote Springs Master Planned Development, and unfairly signaled out the CS-Entities to bear a public burden, protecting the Moapa dace, that should be borne by the public as a whole rather than by the CS-Entities. This

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is particularly true when the CS-Entities, as the Master Planned Community and Approved Major Project owner and developer, has previously transferred and conveyed 460 afa of their water rights in Coyote Springs Valley, to mitigate for any potential damage the Coyote Springs development and its water use may cause to water flows and the Moapa dace. CS-Entities' investment backed expectations have been destroyed and wrongfully taken by the State for which just compensation is now due.

57. Defendants taking of the CS-Entities' property by the public constitutes a taking by inverse condemnation which requires full and just compensation under Article I, Section 8 of the Nevada Constitution.

58. As a result of Defendants' wrongful conduct and actions, the CS-Entities have been damaged far in excess of $75,000.

59. As a further result of Defendants' wrongful conduct, the CS-Entities have been required to retain legal counsel to prosecute this action and therefor are entitled to recover their reasonable attorneys' fees and costs of suit incurred in this matter.

THIRD CLAIM FOR RELIEF

(Pre-Condemnation Damages)

60. Plaintiff repeats and realleges all prior paragraphs as though fully set forth herein.

61. The State's acts and/or omissions have resulted in Plaintiff CS-Entities suffering pre-condemnation damages in an amount to be determined at trial, due to the massive delays in processing Plaintiffs' pending, and conditionally approved, subdivision maps thereby freezing continuing development of the Coyote Springs Master Planned Development.

62. The pre-condemnation taking of Plaintiff's property by the public mandates compensation under Article I, Section 8 of the Nevada Constitution, requiring the State to pay full and just compensation to Plaintiffs CS-Entities in an amount to be determined.

63. As a further result of Defendants' wrongful conduct, the CS-Entities have been required to retain legal counsel to prosecute this action. Plaintiffs are therefore entitled to recover their reasonable attorney's fees and costs of suit incurred in this action.

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FOURTH CLAIM FOR RELIEF

(Equal Protection Violations Under Nevada Constitution)

64. Plaintiffs repeat and reallege all prior paragraphs as though fully set forth herein.

65. Article 4, Section 21 of the Nevada Constitution requires that all laws be general and of uniform operation throughout the State. This means the State cannot deprive the CS-Entities of the equal protection of the law. "The standard for testing the validity of legislation under the equal protection clause of the state constitution is the same as the federal standard." *In re Candelaria*, 125 Nev. 408, 416-17 (2010). Under the federal standards applied to the State Constitution's Equal Protection Clause, CS-Entities must not be subjected to discrimination by the State and its State Engineer's decisions that result in standardless and inconsistent administration. *See* U.S. Const. amend. XIV § 1. The State Engineer has violated Plaintiff CSI's rights to equal protection under the Nevada Constitution as its May 16, 2018 letter, its Draft Order, and its Interim 1303 Order, all singled out the CS-Entities as to the map moratorium contained therein. By failing to timely process and fairly adjudicate CS-Entities' pending maps and applications, including its Conditionally Approved Maps, the State has treated CS-Entities in a different, standardless and inconsistent position than others similarly situated.

66. The State, intentionally and without rational basis, treated CS-Entities differently than others, including the Moapa Valley Water District ("MVWD"), which holds water rights junior to the CS-Entities water rights. CS-Entities are informed and believe MVWD has been allowed to use its water rights and conduct its business as a water utility using water rights junior to CS-Entities', including, without limitation, for new hookups and processing tentative or subdivision maps during the Orders 1303 and 1309 subdivision map moratoriums. Moreover, the Defendants have not sought to curtail MVWD's use of any of its water rights which are junior to CS-Entities water rights, while at the same time precluding CS-Entities from use and enjoyment of its water rights and denying CS-Entities subdivision maps. CS-Entities were treated differently from MVWD and potentially others subject to Orders 1303 and 1309, when Defendants refused to approve CS-Entities' Master Planned Development submitted

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subdivision maps and Conditionally Approved Maps as described herein. The State and its State Engineer, have unfairly and in bad faith, targeted the CS-Entities.

67. The State and its State Engineer, without rational basis, treated the CS-Entities differently from other similarly situated, and accordingly violated the equal protection clause of the Nevada Constitution. *N. Pacifica LLC vs. City of Pacifica*, 526 F.3d 478,486 (9th Cir. 2008).

68. Plaintiff CS-Entities are entitled to damages for these Equal Protection violations.

69. Defendant's conduct has required Plaintiffs to incur attorneys' fees and costs of suit to bring this action, and Plaintiffs are entitled to an award of attorneys' fees and costs incurred in this action.

FIFTH CLAIM FOR RELIEF

(Claim of Attorneys' Fees Incurred Herein)

70. Plaintiffs repeats and realleges all prior paragraphs as though fully set forth herein.

71. CS-Entities asserts that the State's conduct has required Plaintiffs to incur attorneys' fees to bring this action and that Nevada Revised Statutes and State Common Law provide for an award of attorneys' fees to prevailing parties in inverse condemnation actions. CS-Entities hereby provide notice to these Defendants that it intends to pursue its attorneys' fees incurred in this action as allowed by Nevada law. Accordingly, the CS-Entities reserve all rights to pursue an award of their Attorney Fees incurred in this matter as allowed by law.

IV.

PRAYER FOR RELIEF

WHEREFORE, Plaintiffs pray for the following relief:

1. For payment of full and just compensation as provided by law for the taking of property, water rights, and development rights of the CS-Entities.
2. For Pre-Condemnation damages in an amount to be proven at trial;
3. For compensatory and special damages as set forth herein;

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4. For pre-judgment and post-judgment interest, as allowed by law;

5. For all of the CS-Entities' incurred attorneys' fees and costs of suit as provided by law;

6. For all other remedies and relief that the Court deems just and appropriate.

V.

DEMAND FOR JURY TRIAL

Plaintiffs CS-Entities, hereby demand a jury trial for all issues so triable.

DATED this 7th day of October, 2021.

COULTHARD LAW, PLLC
/s/ William L. Coulthard_____
William L. Coulthard, Esq. (#3927)
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INDEX OF EXHIBITS

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CERTIFICATE OF SERVICE

I hereby certify that on the 7th day of October, 2021 the foregoing **PLAINTIFFS' FIRST AMENDED COMPLAINT FOR DAMAGES AND DEMAND FOR JURY TRIAL** was served via electronic service and/or US Mail pursuant to NRCP 5, NEFCR 9 and EDCR 8.05 as follows:

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Steve Shevorski
Akke Levin
Kiel B. Ireland
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/s/ Tami J. Reilly
Tami J. Reilly,
a representative of
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840 South Rancho Drive #4-627
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EXHIBIT 1

MAY 16, 2018 STATE ENGINEER LETTER TO LAS VEGAS VALLEY WATER DISTRICT

EXHIBIT 1

BRIAN SANDOVAL
Governor

STATE OF NEVADA

BRADLEY CROWELL
Director

JASON KING, P.E
State Engineer

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF WATER RESOURCES
901 South Stewart Street, Suite 2002
Carson City, Nevada 89701-5250
(775) 684-2800 • Fax (775) 684-2811
http://water.nv.gov

May 16, 2018

Gregory Walch, Esq.
General Counsel
Las Vegas Valley Water District
1001 South Valley Blvd.
Las Vegas, NV 89153

Re: Coyote Spring Valley Water Supply

Dear Mr. Walch:

The Nevada Division of Water Resources (NDWR) is in receipt of your letter dated November 16, 2017, on behalf of the Las Vegas Valley Water District (LVVWD). In that letter, you provided background on groundwater supply in the Coyote Spring Valley based on existing water rights and related hydrologic data from the NDWR, including Order 1169 pumping test results and the subsequent issuance of Ruling 6255. Your letter concluded by asking the State Engineer, as Administrator of the NDWR, for an opinion regarding the extent to which subdivision maps for the Coyote Springs Development Project (Project) "predicated on the use of groundwater owned by the Coyote Springs Water Resources General Improvement District (CSWRGID) or developers in Coyote Spring Valley" would be executed by the NDWR.[1]

As you are aware, the development of groundwater resources in Coyote Spring Valley, Muddy River Springs Area, California Wash, Hidden Valley and Garnet Valley (*five-basin area*), are inextricably connected and can influence the flows in the Muddy River Springs and the Muddy River. Although your question is specific to the use of existing water rights

[1] Your letter identified the developers as Coyote Springs Land Development Corporation (CSLD), Coyote Springs Investment LLC (CSI), and Coyote Springs Nevada LLC (CSN), whom are developing the Coyote Springs development project.

held by the CSWRGID or the Project developers, it is necessary to address your inquiry within the broader context of appropriately managing and developing groundwater resources within the larger *five-basin area*.

1169 Pumping Test Background

During the Order 1169 pumping test conducted from November 2010 through December 2012, approximately 8,500 acre-feet per year of water was pumped from the carbonate aquifer, and 3,700 acre-feet per year was pumped from the alluvial aquifer within the larger *five-basin area*. Almost all of the alluvial pumping came from the Muddy River Springs Area. Results of the 2-year test clearly indicate that pumping at that level from the carbonate aquifer caused unprecedented declines in groundwater levels and flows in the high-altitude springs. These springs have a direct connection to the fully appropriated Muddy River and are part of the source of water for the endangered Moapa Dace, a fish federally listed as an endangered species since 1967, and the decreed senior rights of the Muddy River.

Post 1169 Pumping Test Considerations

Monitoring of pumpage and water levels has continued since the completion of the pumping test on December 31, 2012. This additional data provides NDWR a better understanding of the amount of groundwater pumping that may be sustainable in the *five basin area* carbonate aquifer. Since completion of the pumping test, groundwater levels and spring flows have remained relatively flat while precipitation has been nearly average and the five-basin carbonate pumping has been about 6,000 afa.

Adding to the consideration as to how much groundwater can be sustainably pumped from the *five-basin area* is the Memorandum of Agreement (MOA) that was entered into on April 20, 2006, between the Southern Nevada Water Authority, the United States Fish and Wildlife Service, Coyote Springs Investment, the Moapa Band of Paiute Indians, and the Moapa Valley Water District. The purpose of the MOA was "to make measurable progress toward protection and recovery of the Moapa dace and its habitat concurrent with the operation and development of water projects for human use." Analysis of the Order 1169 pumping test and the observed correlation between pumping and spring flow indicates that MOA-required curtailment thresholds could be rapidly triggered should carbonate pumping exceed its current rate.

Future Groundwater Development

Ultimately, the amount of groundwater pumping that will be allowed in the *five-basin area* will be limited to the amount that will not conflict with the Muddy River Springs or the Muddy River as they are the most senior rights in the *five-basin area* and, by law must be protected. Moving forward, in order to not conflict with the senior decreed rights and

negatively impact the Moapa Dace, carbonate pumping will have to be limited to a fraction of the 40,300 acre-feet already appropriated in the *five-basin area* as demonstrated by the hydrologic data and analysis from Order 1169 and Ruling 6255.

Therefore, specific to the question raised in your November 16, 2017, letter, considering current pumping quantities as the estimated sustainable carbonate pumping limit, **pursuant to the provisions found in Nevada Revised Statutes Chapter 278, 533 and 534, the State Engineer cannot justify approval of any subdivision development maps based on the junior priority groundwater rights currently owned by CWSRGID or CSI unless other water sources are identified for development.**

In closing, as outlined in this letter, the matter you're inquiring about is part of a much broader need to appropriately manage groundwater resources across the *five-basin area*. As such, it is incumbent upon the NDWR to work with all the water right holders on a conjunctive management plan for the *five-basin area*.

Sincerely,

P.E.

Jason King, P.E.
State Engineer

cc: Albert Seeno III, Coyote Springs Investments, LLC

EXHIBIT 2

DRAFT ORDER DATED SEPTEMBER 19, 2018

EXHIBIT 2

IN THE OFFICE OF THE STATE ENGINEER
OF THE STATE OF NEVADA

DRAFT ORDER #DRAFT

DESIGNATING THE ADMINISTRATION OF ALL WATER RIGHTS WITHIN COYOTE SPRING VALLEY HYDROGRAPHIC BASIN (210), BLACK MOUNTAINS AREA (BASIN 215), GARNET VALLEY (BASIN 216), HIDDEN VALLEY (BASIN 217), CALIFORNIA WASH (BASIN 218), AND MUDDY RIVER SPRINGS AREA (A.K.A. UPPER MOAPA VALLEY) (BASIN 219) AS A SINGLE HYDROGRAPHIC BASIN, LIMITING GROUNDWATER PUMPING, AND HOLDING IN ABEYANCE REVIEW OF FINAL SUBDIVISION MAPS

I. BASIN DESIGNATIONS PURSUANT TO NRS § 534.030

WHEREAS, the Coyote Spring Valley Hydrographic Basin was designated pursuant to Nevada Revised Statute (NRS) § 534.030 by Order 905 dated August 21, 1985, which also declared municipal, power, industrial and domestic uses as preferred uses of the groundwater resource pursuant to NRS § 534.120.

WHEREAS, the Black Mountains Area Hydrographic Basin was designated pursuant to NRS § 534.030 by Order 1018 dated November 22, 1989, which also declared municipal, industrial, commercial and power generation purposes is to be considered preferred uses of the groundwater resource pursuant to NRS § 534.120, declared irrigation of land using groundwater to be a non-preferred use, and ordered that applications to appropriate groundwater for irrigation will be denied.

WHEREAS, the Garnet Valley Hydrographic Basin was designated pursuant to NRS § 534.030 by Order 1025 dated April 24, 1990, which also declared municipal, quasi-municipal, industrial, commercial, mining, stockwater and wildlife purposes as preferred uses pursuant to NRS § 534.120, and declared irrigation of land using groundwater to be a non-preferred use, and ordered that applications to appropriate groundwater for irrigation will be denied.

WHEREAS, the California Wash Hydrographic Basin was designated pursuant to NRS § 534.030 by Order 1026 dated April 24, 1990, which also declared

municipal, quasi-municipal, industrial, commercial, mining, stockwater and wildlife purposes as preferred uses pursuant to NRS § 534.120, and declared irrigation of land using groundwater to be a non-preferred use, and ordered that applications to appropriate groundwater for irrigation will be denied.

WHEREAS, the Hidden Valley Hydrographic Basin was designated pursuant to NRS § 534.030 by Order 1024 dated April 24, 1990, which also declared municipal, quasi-municipal, industrial, commercial, mining, stockwater and wildlife purposes as preferred uses pursuant to NRS § 534.120, and declared irrigation of land using groundwater to be a non-preferred use, and ordered that applications to appropriate groundwater for irrigation will be denied.

WHEREAS, the Muddy River Springs Area (a.k.a., the Upper Moapa Valley) was partially designated pursuant to NRS § 534.030 by Order 392 dated July 14, 1971 and was fully designated by Order 1023 dated April 24, 1990, which also declared municipal, quasi-municipal, industrial, commercial, mining, stockwater and wildlife purposes as preferred uses pursuant to NRS § 534.120, declared irrigation of land using groundwater to be a non-preferred use, and ordered that applications to appropriate groundwater for irrigation will be denied.

II. ORDERS 1169 AND 1169A

WHEREAS, on March 8, 2002, the State Engineer issued Order 1169 holding in abeyance carbonate-rock aquifer system groundwater applications pending or to be filed in Coyote Spring Valley (Basin 210), Black Mountains Area (Basin 215), Garnet Valley (Basin 216), Hidden Valley (Basin 217), Muddy River Springs Area (a.k.a. Upper Moapa Valley) (Basin 219), Lower Moapa Valley (Basin 220), and ordered an aquifer test of the carbonate-rock aquifer system, which was not well understood, to determine whether additional appropriations could be developed from the carbonate-rock aquifer system.

WHEREAS, on April 18, 2002, the State Engineer in Ruling 5115, added the California Wash (Basin 218) to the Order 1169 aquifer pumping test basins.

WHEREAS, on November 15, 2010, the Order 1169 aquifer test began whereby the study participants began reporting to the State Engineer on a quarterly basis, the amounts of water being pumped from wells in the carbonate and alluvial aquifer during the aquifer test.

WHEREAS, on December 21, 2012, the State Engineer issued Order 1169A declaring the completion of the aquifer test directed in Order 1169 on December 31, 2012, after a period of 25½ months, and providing the study participants until June 28, 2013, the opportunity to file reports with the State Engineer addressing the information gained from the aquifer test and the water available to applications in the aquifer test basins.

WHEREAS, during the Order 1169 aquifer test, an average of 5,290 acre-feet per year was pumped from carbonate wells in Coyote Spring Valley, and a cumulative total of approximately 10,180 acre-feet per year of water was pumped from the carbonate aquifer throughout the study basins. An additional 3,700 acre-feet per year was pumped from the Muddy River Springs Area alluvial aquifer.

WHEREAS, results of the 2-year test demonstrate that pumping 5,290 acre-feet annually from the carbonate aquifer in Coyote Spring Valley, in addition to the non-study carbonate pumping, caused unprecedented declines in groundwater levels and flows in the Petersen and Peterson East springs, two high-altitude springs, which are considered to be the "canary in the coal mine" springs for the overall condition of the Muddy River. These springs are at the headwaters of the decreed and fully appropriated Muddy River and are the predominate source of water that supplies the habitat of the endangered Moapa Dace, a fish federally listed as an endangered species since 1967.

WHEREAS, based upon the findings of the aquifer test, the carbonate aquifer underlying Coyote Spring Valley, Garnet Valley, Hidden Valley, Upper Moapa

Valley, California Wash and the northwest part of the Black Mountains Area[1] ("Lower White River Flow System" or "LWRFS") was acknowledged to have a unique hydrologic connection and share virtually the same supply of water (see attached map).[2]

III. RULINGS 6254, 6255, 6256, 6257, 6258, 6259, 6260, AND 6261

WHEREAS, on January 29, 2014, the State Engineer issued Rulings 6254 and 6255 on pending applications in the Coyote Spring Valley, Ruling 6256 on pending applications in the Garnet Valley, Ruling 6257 on pending applications in the Hidden Valley, Ruling 6259 on pending applications in the Muddy River Springs Area, Ruling 6260 on pending applications in the Black Mountains Area, and Ruling 6258 on pending applications in the California Wash, upholding in part the protests to said applications and denying them on the grounds that there is no unappropriated groundwater at the source of supply, the proposed use would conflict with existing rights, and the proposed use of the water would threaten to prove detrimental to the public interest because it would threaten the water resources upon which the endangered Moapa dace are dependent.

IV. LOWER WHITE RIVER FLOW SYSTEM

WHEREAS, the total water supply to the LWRFS, from subsurface groundwater inflow and local precipitation recharge, is not more than 50,000 acre-feet annually.[3]

WHEREAS, the Muddy River, a fully appropriated surface water source, has its headwaters in the Muddy River Springs Area, or Upper Moapa Valley and has the most senior rights in the LWRFS. Spring discharge in the Muddy River Springs Area

[1] The area of the Black Mountain Area lying within the Lower White River Flow System is defined as those portions of Sections 29, 30, 31, 32, 33, T.18S., R.64E.: portions of Sections 1, 11, 12, 14, and all of Section 13, T.19S., R.63E.: and portions of Sections 4, 6, 9, 10, 15 and all of Sections 5, 7, 8, 16, 17, 18, T.19S., R.64E., M.D.B.&M.
[2] *See, e.g.* State Engineer Ruling 6254, p. 24, official records in the Office of the State Engineer.
[3] *Id.*

is produced from the regional carbonate aquifer. Prior to groundwater development, the Muddy River flows at the Moapa gage were approximately 34,000 acre-feet annually.[4]

WHEREAS, the alluvial aquifer surrounding the Muddy River ultimately derives virtually all of its water supply from the carbonates, either through spring discharge that infiltrates into the alluvium or through subsurface hydraulic connectivity between the carbonate rocks and the alluvium.[5]

WHEREAS, the State Engineer has determined that pumping of groundwater within the LWRFS has a direct interrelationship with the flow of the decreed and fully appropriated Muddy River, which has the most senior rights.[6]

WHEREAS, since the conclusion of the Order 1169 aquifer test, the State Engineer has jointly managed the water rights within LWRFS.

WHEREAS, the State Engineer, under the joint management of the LWRFS, has not distinguished pumping from wells in the Muddy River Springs Area alluvium from pumping carbonate wells within the LWRFS, although the Muddy River Springs Area basin has consistently been considered among the jointly managed basins.

V. PUMPAGE INVENTORIES AND GROUNDWATER LEVELS

WHEREAS, the State Engineer performs annual groundwater pumpage inventories in the Coyote Spring Valley, and in calendar years 2007 through 2010, prior to the aquifer test, and 2013 through 2017, after completion of said test, the

[4] *See, e.g.*, United States Geological Survey Surface-Water Annual Statistics for the Nation, USGS 09416000 MUDDY RV NR MOAPA, NV, accessed at https://waterdata.usgs.gov/nwis/annual/?search_site_no=09416000&agency_cd=USGS&referred_module=sw&format=sites_selection_links.
[5] *See, e.g.* State Engineer Ruling 6254, pp. 24, official records in the Office of the State Engineer.
[6] *Id.*

annual pumping ranged from approximately 1,800 acre-feet to approximately 3,000 acre-feet, with an average of approximately 2,300 acre-feet annually.[7]

WHEREAS, the State Engineer performs annual groundwater pumpage inventories in the Black Mountains Area, and in calendar years 2007 through 2010, prior to the aquifer test, and 2013 through 2017, after completion of said test, the annual pumping for the entire basin ranged from approximately 1,000 acre-feet to approximately 2,000 acre-feet, with an average of approximately 1,600 acre-feet annually.[8]

WHEREAS, the State Engineer performs annual groundwater pumpage inventories in the Garnet Valley, and in calendar years 2007 through 2010, prior to the aquifer test, and 2013 through 2017, after completion of said test, the annual pumping ranged from approximately 1,000 acre-feet to approximately 2,000 acre-feet, with an average of 1,600 acre-feet annually.[9]

WHEREAS, the State Engineer performs annual groundwater pumpage inventories in the California Wash, and in calendar years 2007 through 2010, prior to the aquifer test, and 2013 through 2017, after completion of said test, the annual pumping ranged from approximately 100 acre-feet to approximately 300 acre-feet, with an average of approximately 200 acre-feet annually.[10]

WHEREAS, the State Engineer performs annual groundwater pumpage inventories in the Muddy River Springs Area (a.k.a. Upper Moapa Valley), and received reported pumpage data from water right holders, Muddy Valley Water District and Nevada Energy, and in calendar years 2007 through 2010, prior to the aquifer test, and 2013 through 2017, after completion of said test, the annual

[7] *See, e.g. Nevada Division of Water Resources, Coyote Spring Valley Hydrographic Basin 13-210 Groundwater Pumpage Inventory*, 2017.
[8] *See*, e.g., *Nevada Division of Water Resources, Black Mountains Area Hydrographic Basin 13-215 Groundwater Pumpage Inventory*, 2017.
[9] *See*, e.g., *Nevada Division of Water Resources, Garnet Valley Hydrographic Basin 13-216 Groundwater Pumpage Inventory*, 2017.
[10] *See*, e.g., *Nevada Division of Water Resources, California Wash Hydrographic Basin 13-218 Groundwater Pumpage Inventory*, 2017.

pumping ranged from approximately 3,000 acre-feet to about 7,000 acre-feet, with an average of approximately 5,700 acre-feet annually.[11]

WHEREAS, total groundwater pumpage in Coyote Spring Valley, Muddy River Springs Area, California Wash, Hidden Valley, Garnet Valley, and the Black Mountains Area in calendar years 2007 through 2010, prior to the aquifer test, and 2013 through 2017, after completion of said test, ranged from approximately 9,000 to 14,000, and averaged approximately 11,400 acre-feet annually.

WHEREAS, during the Order 1169 aquifer test, total pumpage increased to approximately 14,000 acre-feet annually and the resulting water-level decline encompassed 1,100 square miles and extended from northern Coyote Spring Valley through the Muddy River Springs Area, Hidden Valley, Garnet Valley, California Wash, and the northwestern part of the Black Mountains Area.[12] The water-level decline was estimated to be 1 to 1.6 feet in this area with minor drawdowns of 0.5 feet or less in the northern part of Coyote Spring Valley north of the Kane Springs Wash fault zone.

WHEREAS, during the Order 1169 pump test, the high-altitude (Petersen and Petersen East) springs showed an unprecedented decrease in flow, with the Pedersen spring flow decreasing from 0.22 cubic feet per second (cfs) to 0.08 cfs, and Petersen East spring flow decreasing from 0.12 cfs to 0.08 cfs. Additional springs, the Baldwin and Jones Springs, declined approximately 4% during the test.[13]

[11] *See*, e.g., *Nevada Division of Water Resources, Muddy River Springs Area (A.K.A. Upper Moapa Valley) Hydrographic Basin 13-219 Groundwater Pumpage Inventory*, 2017.

[12] *See, e.g.*, Ruling 6254. *See also* U.S. Fish and Wildlife Service, U.S. Bureau of Land Management and U.S. National Park Service Order 1169A Report, *Test Impacts and Availability of Water Pursuant to Applications Pending Under Order 1169*, June 28, 2013, official records in the Office of the State Engineer.

[13] U.S. Fish and Wildlife Service, U.S. Bureau of Land Management and U.S. National Park Service Order 1169A Report, *Test Impacts and Availability of Water Pursuant to Applications Pending Under Order 1169*, pp. 43-46, 50-51, June 28, 2013, official records in the Office of the State Engineer. *See also* http://waterdata.usgs.gov/nv/nwis/.

WHEREAS, based upon the analysis of the carbonate aquifer test, it was asserted that pumping at the Order 1169 rate at well MX-5 in Coyote Spring Valley could result in both of the high-altitude springs going dry in 3 years or less.[14]

WHEREAS, in the five years since completion of the aquifer test, ongoing data monitoring shows that groundwater levels and spring flows have remained relatively flat and precipitation has been about average.[15] Groundwater pumping in the LWRFS over the last 3 years has averaged 9,318 acre-feet annually.[16]

WHEREAS, within the LWRFS, there exists more than 40,000 acre-feet of groundwater appropriations.

WHEREAS, NRS 533.024(c) directs the State Engineer "to consider the best available science in rendering decisions concerning the availability of surface and underground sources of water in Nevada."

WHEREAS, NRS 533.024(e) was amended in 2017 to declare the policy of the State to "manage conjunctively the appropriation, use and administration of all waters of this State regardless of the source of the water."

WHEREAS, given that the State Engineer must use the best available science and manage conjunctively the water resources in the LWRFS, consideration of any development of long-term uses that could ultimately be curtailed due to water availability will be examined with great caution.

WHEREAS, assurances regarding the extent of any additional development of the existing appropriations of groundwater within the LWRFS that can occur

[14] *See, e.g.*, Ruling 6254. *See also* U.S. Fish and Wildlife Service, U.S. Bureau of Land Management and U.S. National Park Service Order 1169A Report, *Test Impacts and Availability of Water Pursuant to Applications Pending Under Order 1169*, p. 85, June 28, 2013, official records in the Office of the State Engineer.

[15] *See Standardized Precipitation Index*, Nevada Climate Division 4, http://wrcc.dri.edu.

[16] *See, e.g. Nevada Division of Water Resources, Groundwater Pumpage Inventories* for the LWRFS subject basins for the years 2012 through 2017, official records of the Office of the State Engineer.

without adversely affecting the senior rights on the fully decreed Muddy River cannot be made based solely upon the results of the Order 1169 aquifer test.

WHEREAS, based upon the review of the data available to the State Engineer in the years since the conclusion of the aquifer test, it is believed that only a very small portion of the existing rights within the LWRFS may be pumped without adversely impacting the senior rights on the Muddy River or the habitat of the Moapa Dace.

VI. AUTHORITY AND NECESSITY

WHEREAS, as demonstrated by the results of the aquifer test, Coyote Spring Valley, Muddy River Springs Area, Hidden Valley, Garnet Valley, California Wash, and the northwestern part of the Black Mountains Area have a direct hydraulic connection and interact as a single groundwater basin, and as a result must be administered as a single hydrographic basin, including the administration of all water rights based upon the date of priority of such rights in relation to the priority of rights in the other basins.

WHEREAS, pumping approximately 14,000 acre-feet per year, including 5,290 acre-feet per year from Coyote Spring Valley and a total of 10,120 acre-feet from the carbonate aquifer during the pumping test yielded groundwater declines of a foot or more, resulting in an unacceptable loss in spring flow and aquifer storage. In order to not conflict with the senior decreed rights of the Muddy River and negatively affect the Moapa Dace and its habitat, the State Engineer finds that it is necessary to limit pumping to a small percentage of the more than 40,000 acre-feet of appropriated groundwater rights in the LWRFS.

WHEREAS, on the basis that only a small percentage of the total quantity of the appropriated groundwater rights within the LWRFS may be developed, the State Engineer, with the following exception, finds that it is necessary to hold in abeyance the review and any decisions relating to any final subdivision or other submission concerning development and construction to the Division of Water Resources seeking a finding that adequate water is available to support the proposed development. The

State Engineer may review and grant approval of a subdivision or other submission if a showing of an adequate supply of water in perpetuity can be made to the State Engineer's satisfaction.

WHEREAS, through the public workshop process, which the State Engineer is engaged in at the time of the issuance of this Order, coupled with the continued monitoring of the LWRFS, is intended to develop a more precise understanding of the amount of sustainable groundwater pumpage that may occur within the LWRFS over the long-term without adverse impacts to the Muddy River and the springs that serve as the headwaters of the Muddy River. Moreover, if groundwater cannot be developed in the LWRFS without conflicts to the senior, decreed Muddy River rights and springs, the State Engineer, through the public workshop process, desires to establish a conjunctive management plan for the LWRFS.

WHEREAS, through continued monitoring of the LWRFS during the pendency of the public workshop process, while maintaining groundwater pumping in an amount not to exceed the current pumping rate of 9,318 acre-feet annually, a more precise understanding of the amount of sustainable groundwater pumpage will be determined.

WHEREAS, the State Engineer is empowered to make such reasonable rules and regulations as may be necessary for the proper and orderly execution of the powers conferred by law.[17]

WHEREAS, within an area that has been designated by the State Engineer, as provided for in NRS Chapter 534, where, in the judgment of the State Engineer, the groundwater basin is being depleted, the State Engineer in his or her administrative capacity may make such rules, regulations and orders as are deemed essential for the welfare of the area involved.[18]

WHEREAS, the State Engineer finds that additional data relating to the impacts of groundwater pumping from the LWRFS coupled with the public workshop

[17] NRS § 532.120.
[18] NRS § 534.120.

process will allow his office to make a determination as to the appropriate long-term management of groundwater pumping that may occur in the LWRFS by existing holders of water rights without adversely affecting existing senior decreed rights and the endangered Moapa Dace.

VII. ORDER

NOW THEREFORE, the State Engineer orders:

1. The Coyote Spring Valley, Muddy River Springs Area, California Wash, Hidden Valley, Garnet Valley, and the portion of the Black Mountains Area as described in this Order, is herewith designated as a single groundwater basin for purposes of administration of water rights. All water rights within the Lower White River Flow System will be administered based upon their respective date of priorities in relation to other rights within the regional groundwater basin.
2. The total allowable groundwater pumping in the Lower White River Flow System shall not exceed 9,318 acre-feet annually.
3. The date of priority at the limit of 9,318 acre-feet of water rights appropriated within the five-basin carbonate aquifer is within a portion of the water rights bearing a priority date of March 31, 1983.
4. Pumping by water right holders junior to the portion from March 31, 1983, within the 9,318 acre-foot limit, which is in effect as of September 1, 2018, will not be curtailed unless and until unused senior water right pumping exceeds 9,318 acre-feet annually in the Lower White River Flow System.
5. That any final subdivision or other submission concerning development and construction submitted to the State Engineer for review shall be held in abeyance pending the conclusion of the public process to determine the total quantity of groundwater that may be developed within the Lower White River Flow System. The State Engineer may review and grant approval of a subdivision or other submission if a showing of an adequate supply of water in perpetuity can be made to the State Engineer's satisfaction.

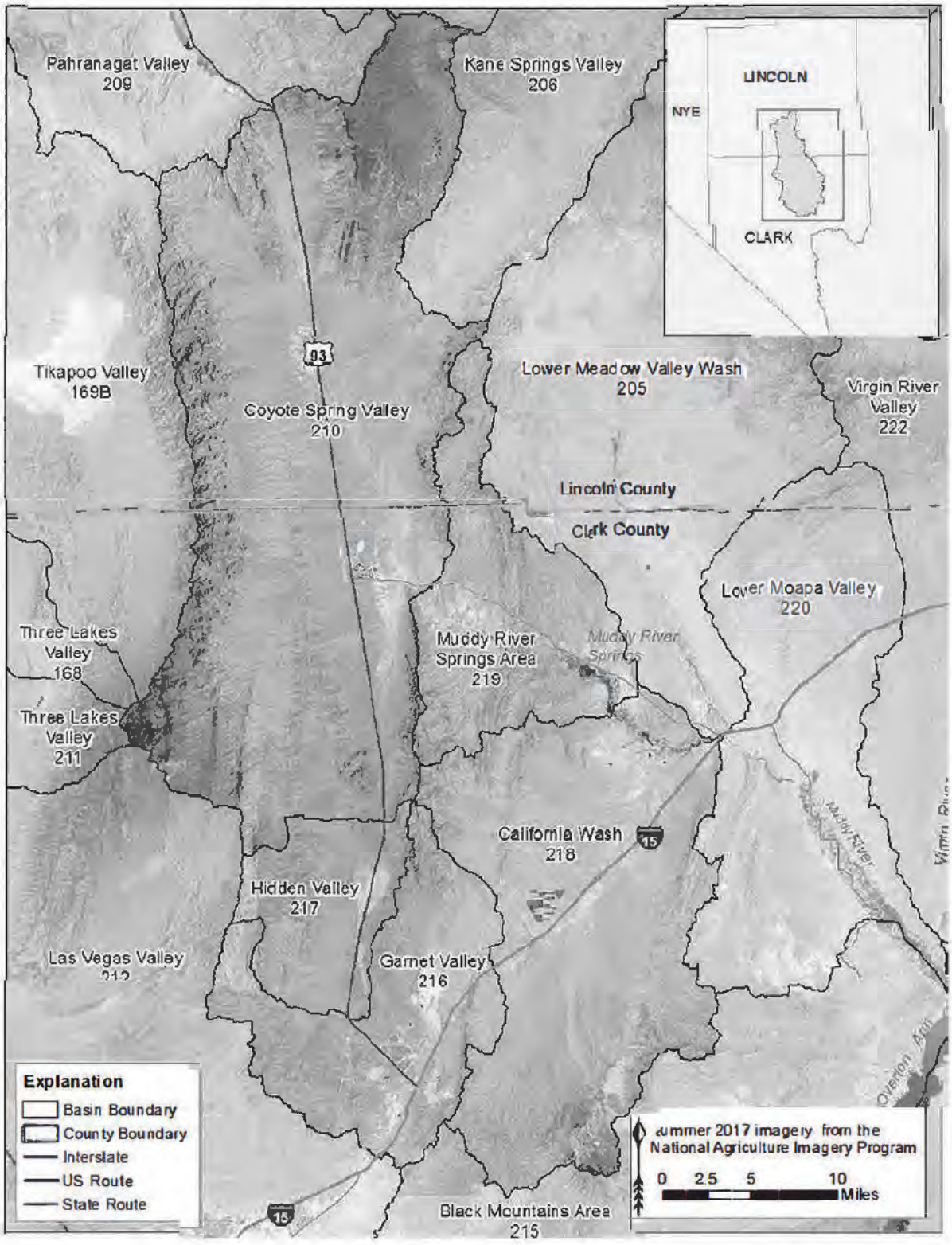
6. The State Engineer may consider: (1) a Groundwater Management Plan developed by the water right holders within the Lower White River Flow System as an alternative to any prohibition of out of priority junior groundwater pumping; or (2) allowing additional groundwater pumping over the 9,318 acre-foot limit if it can be demonstrated to the satisfaction of the State Engineer that an alternative source of water will be substituted in a timely manner to replace the additional groundwater pumping unless such additional pumping causes a conflict with existing rights.
7. This Order will be considered when examining applications to change the point of diversion from alluvial wells to carbonate wells in the Lower White River Flow System and will be subject to heightened scrutiny for determination of conflict with existing rights.
8. This Order will be considered when examining applications to change the point of diversion, place of use, or manner of use of an existing water right and in examining requests for extension of time for filing Proofs of Completion of Work or Proofs of Application of Water to Beneficial Use and Extensions of Time to Prevent the Working of a Forfeiture filed within the Lower White River Flow System.

DRAFT

JASON KING, P.E.
State Engineer

Dated at Carson City, Nevada this

_____ day of _____, _____.


Pahranagat Valley
209
Kane Springs Valley
206
LINCOLN
NYE
CLARK
93
Tikapoo Valley
169B
Coyote Spring Valley
210
Lower Meadow Valley Wash
205
Virgin River
Valley
222
Lincoln County
Clark County
Lower Moapa Valley
220
Three Lakes
Valley
168
Three Lakes
Valley
211
Muddy River
Springs Area
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Muddy River
Springs
California Wash
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Hidden Valley
217
Las Vegas Valley
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Explanation
Basin Boundary
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Interstate
US Route
State Route
Summer 2017 imagery from the
National Agriculture Imagery Program
0 2.5 5 10
Miles
Black Mountains Area
215
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EXHIBIT 3

INTERIM ORDER 1303

EXHIBIT 3

IN THE OFFICE OF THE STATE ENGINEER
OF THE STATE OF NEVADA

INTERIM ORDER **#1303**

DESIGNATING THE ADMINISTRATION OF ALL WATER RIGHTS WITHIN COYOTE SPRING VALLEY HYDROGRAPHIC BASIN (210), A PORTION OF BLACK MOUNTAINS AREA BASIN (215), GARNET VALLEY BASIN (216), HIDDEN VALLEY BASIN (217), CALIFORNIA WASH BASIN (218), AND MUDDY RIVER SPRINGS AREA (AKA UPPER MOAPA VALLEY) BASIN (219) AS A JOINT ADMINISTRATIVE UNIT, HOLDING IN ABEYANCE APPLICATIONS TO CHANGE EXISTING GROUNDWATER RIGHTS, AND ESTABLISHING A TEMPORARY MORATORIUM ON THE REVIEW OF FINAL SUBDIVISION MAPS

I. PURPOSE

WHEREAS, the purpose of this Interim Order is to designate a multi-basin area known to share a close hydrologic connection as a joint administrative unit, which shall be known as the Lower White River Flow System (LWRFS).

WHEREAS, an adequate and predictable supply of groundwater within the LWRFS supports the health, safety and welfare of the area, and this Interim Order aims to protect existing senior rights and the public interest in an endangered species, recognize existing beneficial use, and limit development actions that are dependent on a supply of water that may not be available in the future.

WHEREAS, during the interim period that this Order is in effect, holders of existing rights and other interested parties are encouraged to submit reports to the Nevada Division of Water Resources (NDWR) analyzing the data available regarding sustainable groundwater development in the LWRFS, the geographic extent of the LWRFS, and considerations relating to groundwater pumping within the LWRFS and its effects on the fully decreed Muddy River. This collected and analyzed data is an essential step to optimize the beneficial use of the available water supply in the LWRFS.

WHEREAS, concurrent with this interim order, holders of existing rights and other interested parties are encouraged to participate in the public process to develop a conjunctive management plan.

I. BASIN DESIGNATIONS PURSUANT TO NRS § 534.030

WHEREAS, the Coyote Spring Valley Hydrographic Basin was designated pursuant to Nevada Revised Statute (NRS) § 534.030 by Order 905 dated August 21, 1985, which also declared municipal, power, industrial and domestic uses as preferred uses of the groundwater resource pursuant to NRS § 534.120.

WHEREAS, the Black Mountains Area Hydrographic Basin was designated pursuant to NRS § 534.030 by Order 1018 dated November 22, 1989, which also declared municipal, industrial, commercial and power generation purposes as preferred uses of the groundwater resource pursuant to NRS § 534.120, declared irrigation of land using groundwater to be a non-preferred use, and ordered that applications to appropriate groundwater for irrigation purposes would be denied.

WHEREAS, the Garnet Valley Hydrographic Basin was designated pursuant to NRS § 534.030 by Order 1025 dated April 24, 1990, which also declared municipal, quasi-municipal, industrial, commercial, mining, stockwater and wildlife purposes as preferred uses pursuant to NRS § 534.120, and declared irrigation of land using groundwater to be a non-preferred use, and ordered that applications to appropriate groundwater for irrigation purposes would be denied.

WHEREAS, the California Wash Hydrographic Basin was designated pursuant to NRS § 534.030 by Order 1026 dated April 24, 1990, which also declared municipal, quasi-municipal, industrial, commercial, mining, stockwater and wildlife purposes as preferred uses pursuant to NRS § 534.120, and declared irrigation of land using groundwater to be a non-preferred use, and ordered that applications to appropriate groundwater for irrigation purposes would be denied.

WHEREAS, the Hidden Valley Hydrographic Basin was designated pursuant to NRS § 534.030 by Order 1024 dated April 24, 1990, which also declared municipal, quasi-municipal, industrial, commercial, mining, stockwater and wildlife purposes as preferred uses pursuant to NRS § 534.120, and declared irrigation of land using groundwater to be a non-preferred use, and ordered that applications to appropriate groundwater for irrigation purposes would be denied.

WHEREAS, the Muddy River Springs Area was partially designated pursuant to NRS § 534.030 by Order 392 dated July 14, 1971, and was fully designated by Order 1023 dated April 24, 1990, which also declared municipal, quasi-municipal, industrial, commercial, mining, stockwater and wildlife purposes as preferred uses pursuant to NRS § 534.120, and declared irrigation of land using groundwater to be a non-preferred use, and ordered that applications to appropriate groundwater for irrigation purposes would be denied.

II. ORDERS 1169 AND 1169A

WHEREAS, on March 8, 2002, the State Engineer issued Order 1169 holding in abeyance carbonate-rock aquifer system groundwater applications either pending or to be filed in Coyote Spring Valley (Basin 210), Black Mountains Area (Basin 215), Garnet Valley (Basin 216), Hidden Valley (Basin 217), Muddy River Springs Area (Basin 219), and Lower Moapa Valley (Basin 220) and ordering an aquifer test of the carbonate-rock aquifer system, which was not well understood, to determine whether additional appropriations could be developed from the carbonate-rock aquifer system. The Order required that at least 50%, or 8,050 acre-feet annually (afa), of the water rights then currently permitted in Coyote Spring Valley be pumped for at least two consecutive years.

WHEREAS, on April 18, 2002, in Ruling 5115, the State Engineer added the California Wash (Basin 218) to the Order 1169 aquifer test basins.

WHEREAS, prior to the Order 1169 aquifer test beginning, there were significant concerns that pumping 8,050 afa from the Coyote Spring Valley as part of the aquifer test would adversely impact the water resources at the Muddy River Springs, and consequently the Muddy River. Ultimately, the Order 1169 study participants agreed that even if the minimum 8,050 afa was not pumped, sufficient information would be obtained to inform future decisions relating to the study basins.

WHEREAS, on November 15, 2010, the Order 1169 aquifer test began, whereby the study participants began reporting to NDWR on a quarterly basis the amounts of water being pumped from wells in the carbonate and alluvial aquifer during the pendency of the aquifer test.

WHEREAS, on December 21, 2012, the State Engineer issued Order 1169A declaring the completion of the aquifer test to be December 31, 2012, after a period of 25½ months. The

State Engineer provided the study participants the opportunity to file reports with NDWR until June 28, 2013, addressing the information gained from the aquifer test and the water available to support applications in the aquifer test basins.

WHEREAS, during the Order 1169 aquifer test, an average of 5,290 acre-feet per year was pumped from carbonate wells in Coyote Spring Valley, and a cumulative total of approximately 14,535 acre-feet per year of water was pumped throughout the LWRFS. Of this total, approximately 3,840 acre-feet per year was pumped from the Muddy River Springs Area alluvial aquifer.[1]

WHEREAS, during the aquifer test, pumpage was measured and reported from 30 other wells in the Muddy River Springs Area, Garnet Valley, California Wash, Black Mountains Area, and Lower Meadow Valley Wash. Stream diversions from the Muddy River were reported, and measurements of the natural discharge of the Muddy River and several of the Muddy River's headwater springs were collected daily. Water-level data were collected from a total of 79 monitoring and pumping wells within the LWRFS. All of the data collected during the aquifer test was made available to each of the study participants and the public.

WHEREAS, during the Order 1169 aquifer test, the resulting water-level decline encompassed 1,100 square miles and extended from northern Coyote Spring Valley through the Muddy River Springs Area, Hidden Valley, Garnet Valley, California Wash, and the northwestern part of the Black Mountains Area.[2,3] The water-level decline was estimated to be 1 to 1.6 feet in this area with minor drawdowns of 0.5 feet or less in the northern part of Coyote Spring Valley north of the Kane Springs Wash fault zone.

WHEREAS, results of the two-year test demonstrated that pumping 5,290 acre-feet annually from the carbonate aquifer in Coyote Spring Valley, in addition to the other carbonate pumping in Garnet Valley, Muddy River Springs Area, California Wash and the northwest part

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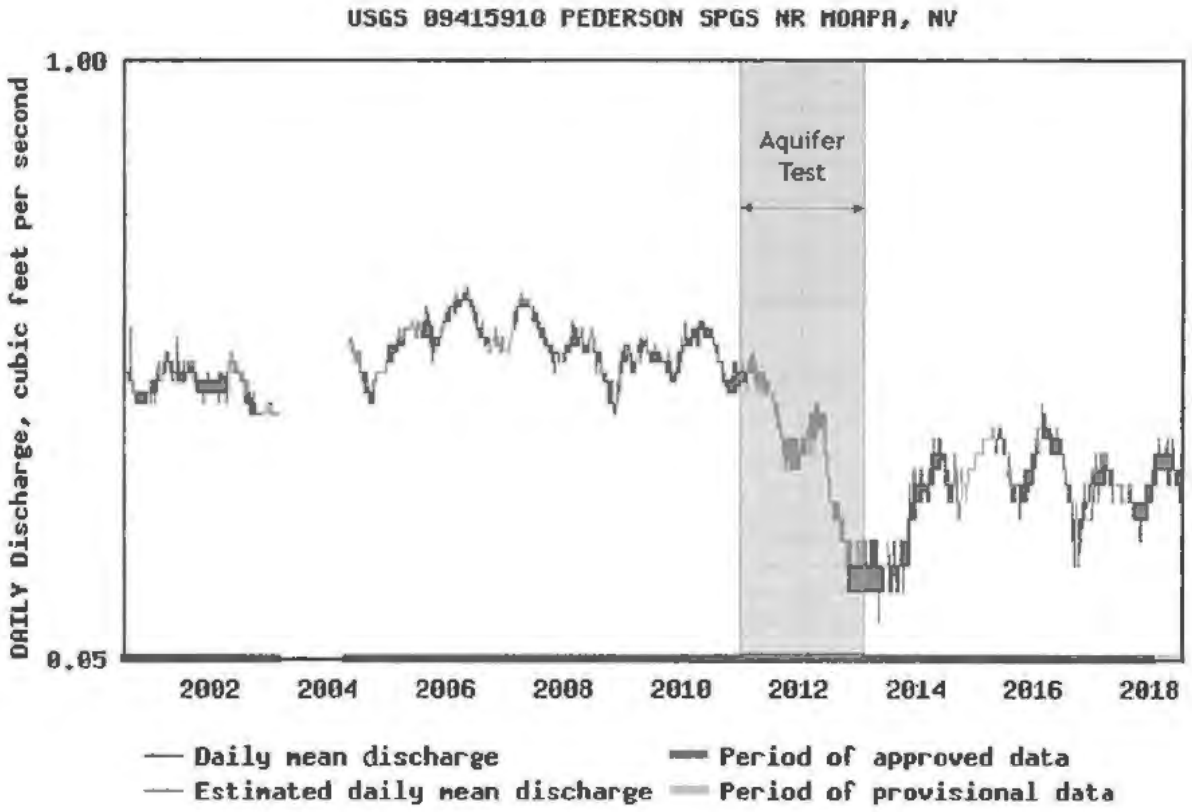
[1] *See, e.g.*, Ruling 6254, p. 17; Appendix B.

[2] *See, e.g.*, Ruling 6254. *See also* U.S. Fish and Wildlife Service, U.S. Bureau of Land Management and U.S. National Park Service Order 1169A Report, *Test Impacts and Availability of Water Pursuant to Applications Pending Under Order 1169*, June 28, 2013, official records in the Office of the State Engineer.

[3] There was no groundwater pumping in Hidden Valley but effects were still observed in the Hidden Valley monitor well.

of the Black Mountains Area, caused sharp declines in groundwater levels and flows in the Pederson and Pederson East springs. These two springs are considered to be sentinel springs for the overall condition of the Muddy River because they are at a higher altitude than other Muddy River source springs, and therefore are proportionally more affected by a decline in groundwater level in the carbonate aquifer.[4] The Pederson spring flow decreased from 0.22 cubic feet per second (cfs) to 0.08 cfs and the Pederson East spring flow decreased from 0.12 cfs to 0.08 cfs. The following hydrograph at Pederson spring illustrates the decline in discharge during the aquifer test and also demonstrates that in the five years since the end of the aquifer test, spring flow has not recovered to pre-test flow rates.



[4] *See* the 2006 Memorandum of Agreement among the Southern Nevada Water Authority, United States Fish and Wildlife Service, Coyote Springs Investments, Moapa Band of Paiutes, and the Moapa Valley Water District.

Additional headwater springs at lower altitude, the Baldwin and Jones springs, declined approximately 4% during the test.[5] All of the headwater springs contribute to the decreed and fully appropriated Muddy River and are the predominant source of water that supplies the habitat of the endangered Moapa dace, a fish federally listed as an endangered species since 1967.

WHEREAS, based upon the analysis of the carbonate aquifer test, it was asserted that pumping at the Order 1169 rate at well MX-5 in Coyote Spring Valley could result in both of the high-altitude Pederson and Pederson East springs going dry in 3 years or less.[6]

WHEREAS, based upon the findings of the aquifer test, the carbonate aquifer underlying Coyote Spring Valley, Garnet Valley, Hidden Valley, Muddy River Springs Area, California Wash and the northwest part of the Black Mountains Area[7] (the LWRFS as depicted in Appendix A) was acknowledged to have a unique hydrologic connection and share the same supply of water.[8]

III. RULINGS 6254, 6255, 6256, 6257, 6258, 6259, 6260, AND 6261

WHEREAS, on January 29, 2014, the State Engineer issued Ruling 6254 on pending applications of the Las Vegas Valley Water District (LVVWD) and Coyote Springs Investment, LLC (CSI) in the Coyote Spring Valley; Ruling 6255 on pending applications of Dry Lake Water, LLC (Dry Lake), and CSI in Coyote Spring Valley; Ruling 6256 on pending applications of Bonneville Nevada Corporation, Nevada Power Company (Nevada Power), Dry Lake, and the Southern Nevada Water Authority (SNWA) in the Garnet Valley; Ruling 6257 on pending applications of Nevada Power, Dry Lake, and SNWA in the Hidden Valley; Ruling 6258 on

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[5] U.S. Fish and Wildlife Service, U.S. Bureau of Land Management and U.S. National Park Service Order 1169A Report, *Test Impacts and Availability of Water Pursuant to Applications Pending Under Order 1169*, pp. 43-46, 50-51, June 28, 2013, official records in the Office of the State Engineer. *See also*, http://waterdata.usgs.gov/nv/nwis/.

[6] *See, e.g.*, Ruling 6254. *See also* U.S. Fish and Wildlife Service, U.S. Bureau of Land Management and U.S. National Park Service Order 1169A Report, *Test Impacts and Availability of Water Pursuant to Applications Pending Under Order 1169*, p. 85, June 28, 2013, official records in the Office of the State Engineer.

[7] That portion of the Black Mountains Area lying within the Lower White River Flow System is defined as those portions of Sections 29, 30, 31, 32, and 33, T.18S., R.64E., M.D.B.&M.; Section 13 and those portions of Sections 1, 11, 12, and 14, T.19S., R.63E., M.D.B.&M.; Sections 5, 7, 8, 16, 17, and 18 and those portions of Sections 4, 6, 9, 10, and 15, T.19S., R.64E., M.D.B.&M.

[8] *See, e.g.*, State Engineer Ruling 6254, p. 24, official records in the Office of the State Engineer.

pending applications by LVVWD, Nevada Power, Dry Lake, and the Moapa Band of Paiute Indians in the California Wash; Ruling 6259 on pending applications by the Moapa Valley Water District in the Muddy River Springs Area; and Ruling 6260 on pending applications by Nevada Cogeneration Associates #1, Nevada Cogeneration Associates #2, and Dry Lake, in the Black Mountains Area, upholding in part the protests to said applications and denying the applications on the grounds that there was no unappropriated groundwater at the source of supply, the proposed use would conflict with existing rights, and the proposed use of the water would threaten to prove detrimental to the public interest because it would threaten the water resources upon which the endangered Moapa dace are dependent.

IV. LOWER WHITE RIVER FLOW SYSTEM

WHEREAS, the total long-term average water supply to the LWRFS, from subsurface groundwater inflow and local precipitation recharge, is not more than 50,000 acre-feet annually.[9]

WHEREAS, the Muddy River, a fully appropriated surface water source, has its headwaters in the Muddy River Springs Area and has the most senior rights in the LWRFS. Spring discharge in the Muddy River Springs Area is produced from the regional carbonate aquifer. Prior to groundwater development, the Muddy River flows at the Moapa gage were approximately 34,000 acre-feet annually.[10]

WHEREAS, the alluvial aquifer surrounding the Muddy River ultimately derives virtually all of its water supply from the carbonates, either through spring discharge that infiltrates into the alluvium or through subsurface hydraulic connectivity between the carbonate rocks and the alluvium.[11]

WHEREAS, the State Engineer has determined that pumping of groundwater within the LWRFS has a direct interrelationship with the flow of the decreed and fully appropriated Muddy River, which has the most-senior rights.[12]

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[9] *Id.*
[10] United States Geological Survey Surface-Water Annual Statistics for the Nation, USGS 09416000 MUDDY RV NR MOAPA, NV, accessed at https://waterdata.usgs.gov/nwis/annual/?search_site_no=09416000&agency_cd=USGS&referred_module=sw&format=sites_selection_links.
[11] *See, e.g.*, State Engineer Ruling 6254, p. 24, official records in the Office of the State Engineer.
[12] *Id.*

WHEREAS, since the conclusion of the Order 1169 aquifer test, the State Engineer has jointly managed the groundwater rights within LWRFS.

WHEREAS, the State Engineer, under the joint management of the LWRFS, has not distinguished pumping from wells in the Muddy River Springs Area alluvium from pumping carbonate wells within the LWRFS.

WHEREAS, within the LWRFS, there exist more than 38,000 acre-feet of groundwater appropriations. Groundwater pumping from 2007 forward is included in Appendix B and is significantly less than the total appropriations.

WHEREAS, groundwater levels within the LWRFS have been relatively flat in the five years since the end of the Order 1169 aquifer test, but groundwater levels have not recovered to pre-test levels.[13]

IV. PUMPAGE INVENTORIES

WHEREAS, annual groundwater pumpage inventories in the Coyote Spring Valley have been published by the State Engineer since 2005. In the years 2005 through 2017 pumping has ranged from 665 acre-feet to 5,606 acre-feet, averaging 2,605 acre-feet. The average pumping in Coyote Spring Valley, excluding the years 2011 and 2012 when the aquifer test was being conducted, is 2,068 acre-feet.[14]

WHEREAS, annual groundwater pumpage inventories in the Black Mountains Area have been published by the State Engineer since 2001. In the years 2001 through 2017 pumping in the northwest portion of the basin has ranged from 1,137 acre-feet to 1,591 acre-feet, with an average of 1,476 acre-feet.[15]

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[13] *See, e.g., USGS water level data for Site 364650114432001 219 S13 E65 28BDBA1 USGS CSV-2.* waterdata.usgs.gov/nwis.

[14] *See, e.g., Nevada Division of Water Resources, Coyote Spring Valley Hydrographic Basin 13-210 Groundwater Pumpage Inventory*, 2017.

[15] *See, e.g., Nevada Division of Water Resources, Black Mountains Area Hydrographic Basin 13-215 Groundwater Pumpage Inventory*, 2017.

WHEREAS, annual groundwater pumpage inventories in the Garnet Valley have been published by the State Engineer since 2001. In the years 2001 through 2017 pumping has ranged from 797 acre-feet to 2,181 acre-feet, averaging 1,358 acre-feet.[16]

WHEREAS, the State Engineer does not conduct annual groundwater pumpage inventories in the Hidden Valley basin because there is no groundwater pumping in the basin.

WHEREAS, annual groundwater pumpage inventories in the California Wash have been published by the State Engineer since 2016. In the years 2016 and 2017 pumping has ranged from 88 acre-feet to 252 acre-feet, averaging 170 acre-feet.[17] Groundwater pumpage data have been reported by water right holders since 2009.

WHEREAS, annual groundwater pumpage inventories in the Muddy River Springs Area have been published by the State Engineer since 2016. In the years 2016 and 2017 pumping has ranged from 3,553 acre-feet to 4,048 acre-feet, with an average of 3,801 acre-feet.[18] Groundwater pumpage data have been reported by water right holders since 1976.

WHEREAS, total groundwater pumpage in Coyote Spring Valley, Muddy River Springs Area (MRSA), California Wash, Hidden Valley, Garnet Valley, and the northwest portion of the Black Mountains Area in calendar years 2007 through 2017, ranged from 9,090 acre-feet to 14,766 acre-feet. Pumpage in years 2011-2012 during the aquifer test averaged 14,535 afa. Pumpage in years 2015 through 2017, when alluvial pumping in the MRSA was greatly reduced because of the Reid Gardner Generating Station closure, ranged from 9,090 afa to 9,637 afa.

V. AUTHORITY AND NECESSITY

WHEREAS, NRS § 533.024(1)(c) directs the State Engineer "to consider the best available science in rendering decisions concerning the availability of surface and underground sources of water in Nevada."

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[16] *See, e.g., Nevada Division of Water Resources, Garnet Valley Hydrographic Basin 13-216 Groundwater Pumpage Inventory*, 2017.
[17] *See, e.g., Nevada Division of Water Resources, California Wash Hydrographic Basin 13-218 Groundwater Pumpage Inventory*, 2017.
[18] *See, e.g., Nevada Division of Water Resources, Muddy River Springs Area (AKA Upper Moapa Valley) Hydrographic Basin 13-219 Groundwater Pumpage Inventory*, 2017.

WHEREAS, NRS § 533.024(1)(e) was added in 2017 to declare the policy of the State to "manage conjunctively the appropriation, use and administration of all waters of this State regardless of the source of the water."

WHEREAS, given that the State Engineer must use the best available science and manage conjunctively the water resources in the LWRFS, consideration of any development of long-term, permanent, uses that could ultimately be curtailed due to water availability will be examined with great caution.

WHEREAS, as demonstrated by the results of the aquifer test, Coyote Spring Valley, Muddy River Springs Area, Hidden Valley, Garnet Valley, California Wash, and the northwestern part of the Black Mountains Area have a direct hydraulic connection, and as a result must be administered as a joint administrative unit, including the administration of all water rights based upon the date of priority of such rights in relation to the priority of rights in the other basins.[19]

WHEREAS, the pre-development discharge of 34,000 acre-feet of the Muddy River system, which is fully appropriated, plus the more than 38,000 acre-feet of groundwater appropriations within the LWRFS greatly exceed the total water budget within the flow system.

WHEREAS, the results from the aquifer test, the data from groundwater level recovery and spring flow, and climate data indicate to the State Engineer that the quantity of water that may be pumped within the LWRFS without conflicting with senior rights on the Muddy River or adversely affecting the habitat of the Moapa dace is less than the quantity pumped during the aquifer test.

WHEREAS, the current amount of pumping corresponds to a period of time in which spring flows have remained relatively stable and have not demonstrated a continuing decline.

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[19] *See, e.g.,* Southern Nevada Water Authority, *Nevada State Engineer Order 1169 and 1169A Study Report*, June 2013; Tom Meyers, Ph.D., *Technical Memorandum Comments on Carbonate Order 1169 Pump Test Data and Groundwater Flow System in Coyote Springs and Muddy River Springs Valley, Nevada*, June 25, 2013; U.S. Fish and Wildlife Service, U.S. Bureau of Land Management and U.S. National Park Service Order 1169A Report, *Test Impacts and Availability of Water Pursuant to Applications Pending Under Order 1169*, June 28, 2013; Johnson and Mifflin, *Summary of Order 1169 Testing Impacts, per Order 1169A*, June 28, 2013; Tetra Tech, *Comparison of Simulated and Observed Effects of Pumping from MX-5 Using Data Collected to the End of the Order 1169 Test, and Prediction of Recovery from the Test*, June 10, 2013, official records in the Office of the State Engineer.

WHEREAS, the precise extent of the development of existing appropriations of groundwater within the LWRFS that may occur without conflicting with the senior rights of the fully decreed Muddy River has not been determined.

WHEREAS, recognizing that there exists a need for further analysis of the historic and ongoing groundwater pumping data, the relationship of groundwater pumping within the LWRFS to spring discharge and flow of the fully decreed Muddy River, the extent of impact of climate conditions on groundwater levels and spring discharge, and the ultimate determination of the sustainable yield of the LWRFS, the State Engineer finds that input by means of reports by the stakeholders in the interpretation of the data from the aquifer test and from the years since the conclusion of the aquifer test is important to fully inform the State Engineer prior to setting a limit on the quantity of groundwater that may be developed in the LWRFS or to developing a long-term Conjunctive Management Plan for the LWRFS and Muddy River.

WHEREAS, the State Engineer finds that it is necessary to carefully monitor the effects of groundwater development within the LWRFS under current conditions, toward the goal of collaboratively (with stakeholders) evaluating the amount of groundwater that may ultimately be developed within the LWRFS without conflicting with senior decreed rights on the Muddy River or adversely affecting the public interest in maintaining the habitat of the endangered Moapa dace. The evaluation process will include public meetings, meetings of a stakeholder representative working group, and coordination with the Hydrologic Review Team (HRT) developed under the 2006 Memorandum of Agreement among the Southern Nevada Water Authority, United States Fish and Wildlife Service, Coyote Springs Investments, Moapa Band of Paiutes, and the Moapa Valley Water District. The process will provide the opportunity for the stakeholders to engage in the development of a conjunctive management plan that will be informed by the determination of the total quantity of groundwater that may be developed within the LWRFS and that will facilitate the continued use of groundwater by junior priority groundwater rights holders whom have perfected their water rights while protecting the senior decreed rights on the Muddy River.

WHEREAS, recognizing that an amount less than the full quantity of the appropriated groundwater rights within the LWRFS may be developed in a manner that will provide for a reasonably certain supply of water for future permanent uses without jeopardizing the economies of the communities reliant on the water supply within the LWRFS, the health and safety of those

whom are either presently reliant the water, existing public interests, or those who may in the future become reliant on a reliable and sustainable source of supply, the State Engineer, with the following exception, finds that it is necessary to issue a temporary moratorium on the review and decision by the Division of Water Resources regarding any final subdivision map or other construction or development submission requiring a finding that adequate water is available to support the proposed development. During the pendency of this Interim Order, the State Engineer may review and grant approval of a subdivision or other submission if a showing of an adequate and sustainable supply of water to meet the anticipated life of the subdivision, other construction or development can be made to the State Engineer's satisfaction.

WHEREAS, through continued monitoring of the LWRFS during the effective period of this Interim Order, the State Engineer seeks to maintain recent groundwater pumping amounts, while providing time for the submission of additional scientific data and analysis regarding the total quantity of water that may be sustainably withdrawn from the LWRFS over the long-term without conflicting with senior Muddy River decreed rights or jeopardizing the communities, water users, or public interests identified above.

WHEREAS, the State Engineer is empowered to make such reasonable rules and regulations as may be necessary for the proper and orderly execution of the powers conferred by law.[20]

WHEREAS, within an area that has been designated by the State Engineer, as provided for in NRS Chapter 534, where, in the judgment of the State Engineer, the groundwater basin is being depleted, the State Engineer in his or her administrative capacity may make such rules, regulations and orders as are deemed essential for the welfare of the area involved.[21]

WHEREAS, the State Engineer finds that additional data relating to the impacts of groundwater pumping from the LWRFS coupled with the public process will allow his office to make a determination as to the appropriate long-term management of groundwater pumping that may occur in the LWRFS by existing holders of water rights without conflicting with existing senior decreed rights or adversely affecting the endangered Moapa dace.

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[20] NRS § 532.120.
[21] *Id.*

VI. ORDER

NOW THEREFORE, the State Engineer orders:

1. The Lower White River Flow System consisting of the Coyote Spring Valley, Muddy River Springs Area, Califomia Wash, Hidden Valley, Garnet Valley, and the portion of the Black Mountains Area as described in this Order, is herewith designated as a joint administrative unit for purposes of administration of water rights. All water rights within the Lower White River Flow System will be administered based upon their respective date of priorities in relation to other rights within the regional groundwater unit.

2. Any stakeholder with interests that may be affected by water right development within the Lower White River Flow System may file a report in the Office of the State Engineer in Carson City, Nevada, no later than the close of business on Monday, June 3, 2019.[22] Reports filed with the Office of the State Engineer should address the following matters:

    a. The geographic boundary of the hydrologically connected groundwater and surface water systems comprising the Lower White River Flow System;
    b. The information obtained from the Order 1169 aquifer test and subsequent to the aquifer test and Muddy River headwater spring flow as it relates to aquifer recovery since the completion of the aquifer test;
    c. The long-term annual quantity of groundwater that may be pumped from the Lower White River Flow System, including the relationships between the location of pumping on discharge to the Muddy River Springs, and the capture of Muddy River flow;

[22] For any stakeholder affected by the shut-down of the United States government beginning in December 2018, upon a request and showing of good cause to the satisfaction of the State Engineer, an extension of time may be granted to those affected parties.

d. The effects of movement of water rights between alluvial wells and carbonate wells on deliveries of senior decreed rights to the Muddy River; and,

e. Any other matter believed to be relevant to the State Engineer's analysis.

3. Any stakeholder with interests that may be affected by water right development within the Lower White River Flow System may file with the Office of the State Engineer no later than the close of business on Thursday July 18, 2019, a rebuttal to the Reports filed on June 3, 2019.

4. The State Engineer will schedule an administrative hearing within the month of September 2019 to take comment on the submitted reports.

5. During the pendency of this Interim Order:

   a. Permanent applications to change existing groundwater rights shall be held in abeyance pending the submission of the reports as required by Paragraph 2 of this Order and as authorized by NRS §§ 532.165(1), 533.368 and 533.370(4)(d). Temporary applications to change existing groundwater rights will be processed pursuant to NRS § 533.345.

   b. A temporary moratorium is issued regarding any final subdivision or other submission concerning development and construction submitted to the State Engineer for review, and such submissions shall be held in abeyance pending the conclusion of the public process to determine the total quantity of groundwater that may be developed within the Lower White River Flow System. The State Engineer may review and grant approval of a subdivision or other submission if a showing of an adequate and sustainable supply of water to meet the anticipated life of the subdivision, other construction or development can be made to the State Engineer's satisfaction.

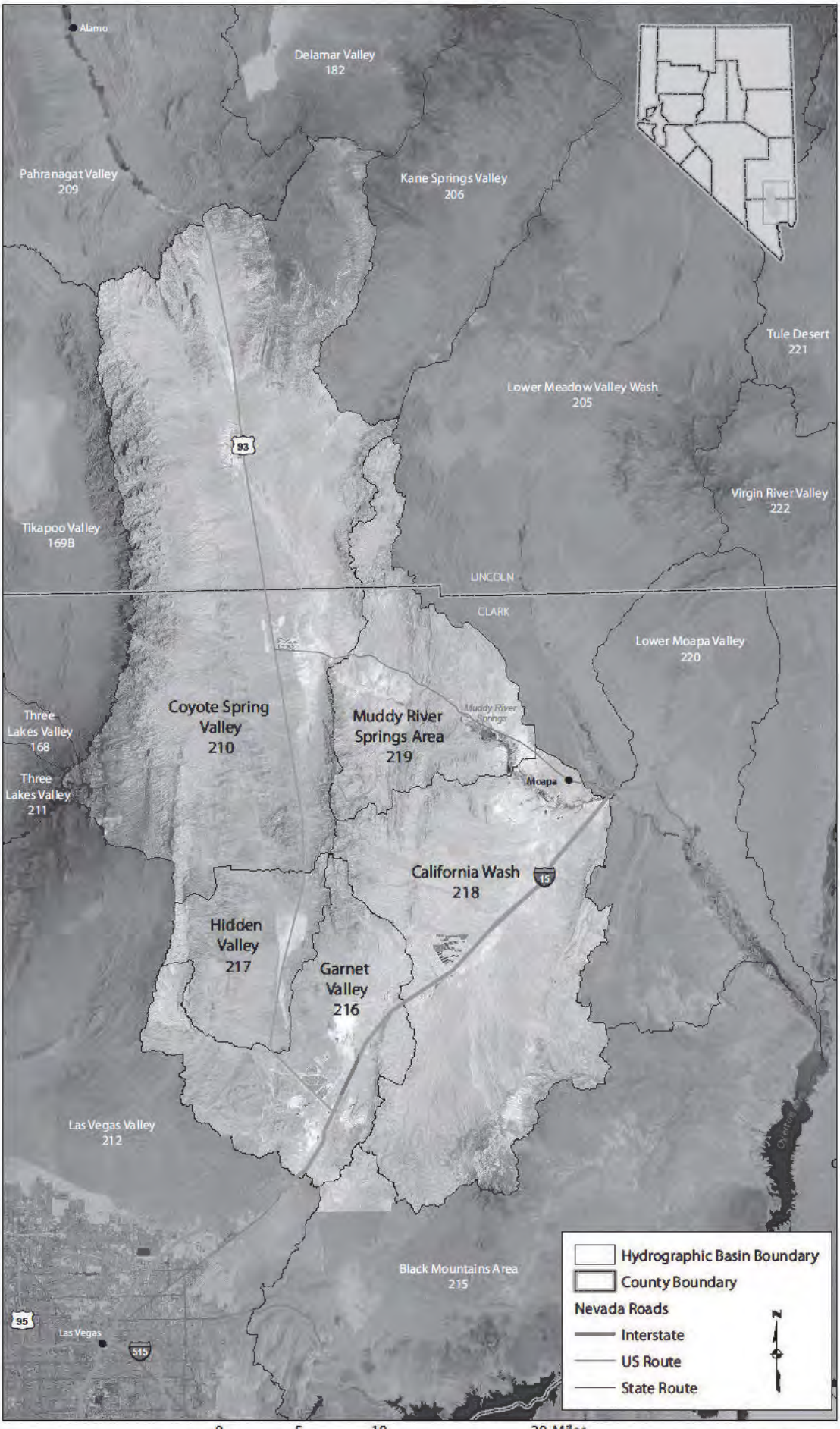
c. Holders of water rights who maintain their water rights in good standing by filing all required applications for extension of time in conformity with the requirements of NRS §§ 533.390, 533.395 and 533.410 may cite this order in support of their applications for extension of time.

d. Holders of water rights who file all required applications for extension of time in conformity with the requirements of NRS § 534.090 may cite this order in support of their applications for extension of time to prevent the working of a forfeiture.

JASON KING, P.E.
State Engineer

Dated at Carson City, Nevada this
11TH day of JANUARY, 2019.

Coyote Spring Valley, Muddy River Springs Area, Hidden Valley, Garnet Valley, California Wash, and a portion of Black Mountains Area



Summer 2017 imagery from the National Agriculture Imagery Program

Nevada Division of Water Resources
Office of the State Engineer
Jason King, P.E.
State Engineer

Order 1303, APPENDIX B: Groundwater Pumping in the Lower White River Flow System, 2007–2017

Basin No.	219				215		210	216	218	217	Total pumping in the LWRFS
Basin Name	Muddy River Springs Area				Black Mountains Area		Coyote Spring Valley	Garnet Valley	California Wash	Hidden Valley	
Year	Carbonate pumping (reported by MVWD)	Alluvial pumping (reported by NV Energy)	All other Alluvial Pumping[1]	Total Pumping in Basin 219[1]	Carbonate pumping in the Northwest Portion of Basin 215	Total Pumping in Basin 215					
2007	2,079	4,744	253	7,076	1,585	1,732	3,147	1,412	27[2]	0	**13,247**
2008	2,272	4,286	253	6,811	1,591	1,759	2,000	1,552	27[2]	0	**11,981**
2009	2,034	4,092	253	6,379	1,137	1,159	1,792	1,427	21[3]	0	**10,756**
2010	1,826	4,088	253	6,167	1,561	1,572	2,923	1,373	26[3]	0	**12,050**
2011	1,837	4,212	253	6,302	1,398	1,409	5,606	1,427	33[3]	0	**14,766**
2012	2,638	2,961	253	5,852	1,556	1,564	5,516	1,351	28[3]	0	**14,303**
2013	2,496	3,963	253	6,712	1,585	1,776	3,407	1,484	66[3]	0	**13,254**
2014	1,442	4,825	253	6,520	1,429	1,624	2,258	1,568	241[3]	0	**12,016**
2015	2,396	1,249	253	3,898	1,448	1,708	2,064	1,520	460	0	**9,390**
2016	2,795	941	312	4,048	1,434	1,641	1,722	2,181	252	0	**9,637**
2017	2,824	535	194	3,553	1,507	1,634	1,961	1,981	88	0	**9,090**

The LWRFS includes basins 210, 216, 217, 218, 219 and the northwest portion of 215.

All values in this table are from State Engineer basin pumpage inventory reports except as noted in the footnotes below:

1. Alluvial Pumping not reported by NV Energy for years 2007–2015 estimated as the average of inventoried years 2016–2017.
2. Estimated as the average of groundwater pumping in years 2009–2012.
3. Reported to the State Engineer but not published in a basin inventory report.

EXHIBIT 4

ORDER 1309
DATED JUNE 15, 2020

EXHIBIT 4

IN THE OFFICE OF THE STATE ENGINEER
OF THE STATE OF NEVADA

#1309

ORDER

DELINEATING THE LOWER WHITE RIVER FLOW SYSTEM HYDROGRAPHIC BASIN WITH THE KANE SPRINGS VALLEY BASIN (206), COYOTE SPRING VALLEY BASIN (210), A PORTION OF BLACK MOUNTAINS AREA BASIN (215), GARNET VALLEY BASIN (216), HIDDEN VALLEY BASIN (217), CALIFORNIA WASH BASIN (218), AND MUDDY RIVER SPRINGS AREA (AKA UPPER MOAPA VALLEY) BASIN (219) ESTABLISHED AS SUB-BASINS, ESTABLISHING A MAXIMUM ALLOWABLE PUMPING IN THE LOWER WHITE RIVER FLOW SYSTEM WITHIN CLARK AND LINCOLN COUNTIES, NEVADA, AND RESCINDING INTERIM ORDER 1303

Table of Contents

I. BACKGROUND OF THE ADMINISTRATION OF THE LOWER WHITE RIVER FLOW SYSTEM BASINS

WHEREAS, the State Engineer has actively managed and regulated the Coyote Spring Valley Hydrographic Basin (Coyote Spring Valley), Basin 210, since August 21, 1985; the Black Mountains Area Hydrographic Basin (Black Mountains Area), Basin 215, since November 22, 1989; the Garnet Valley Hydrographic Basin (Garnet Valley), Basin 216, since April 24, 1990; the Hidden Valley Hydrographic Basin (Hidden Valley), Basin 217, since April 24, 1990; the California Wash Hydrographic Basin (California Wash), Basin 218, since April 24, 1990; and the

Muddy River Springs Area Hydrographic Basin (Muddy River Springs Area), Basin 219, since July 14, 1971.[1]

WHEREAS, in 1984, the United States Department of Interior, Geological Survey (USGS), Water Services Division, proposed a ten-year investigation into carbonate-rock aquifers that underlay approximately 50,000 square miles of eastern and southern Nevada.[2] In 1985, a program for the study and testing of the carbonate-rock aquifer system of eastern and southern Nevada was authorized by the Nevada Legislature. In 1989, a report was published by the USGS summarizing the first phase of the study.[3] Included in the summary was a determination that:

> Large-scale development (sustained withdrawals) of water from the carbonate-rock aquifers would result in water-level declines and cause the depletion of large quantities of stored water. Ultimately, these declines would cause reductions in the flow of warm-water springs that discharge from the regional aquifers. Storage in other nearby aquifers also might be depleted, and water levels in those other aquifers could decline. In contrast, isolated smaller ground-water developments, or developments that withdraw ground water for only a short time, may result in water-level declines and springflow reductions of manageable or acceptable magnitude.
>
> Confidence in predictions of the effects of development, however, is low; and it will remain low until observations of the initial hydrologic results of development are analyzed. A strategy of staging developments gradually and adequately monitoring the resulting hydrologic conditions would provide information that eventually could be used to improve confidence in the predictions.[4]

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[1] *See* NSE Ex. 9, *Order 905*, Hearing on Interim Order 1303, official records of the Division of Water Resources. *See* NSE Ex. 8, *Order 1018*, Hearing on Interim Order 1303, official records of the Division of Water Resources. *See* NSE Ex. 5, *Order 1025*, Hearing on Interim Order 1303, official records of the Division of Water Resources. *See* NSE Ex. 6, *Order 1024*, Hearing on Interim Order 1303, official records of the Division of Water Resources. *See* NSE Ex. 4, *Order 1026*, Hearing on Interim Order 1303, official records of the Division of Water Resources. *See* NSE Ex. 7, *Order 1023*, Hearing on Interim Order 1303, official records of the Division of Water Resources; NSE Ex. 11, *Order 392*, Hearing on Interim Order 1303, official records of the Division of Water Resources.

[2] Memorandum dated August 3, 1984, from Terry Katzer, Nevada Office Chief, Water Resources Division, United States Department of Interior Geologic Survey, Carson City, Nevada to Members of the Carbonate Terrane Study.

[3] Michael D. Dettinger, *Distribution of Carbonate-Rock Aquifers in Southern Nevada and the Potential for their Development, Summary of Findings, 1985-1988*, Summary Report No. 1, U.S. Geological Survey, Department of Interior and Desert Research Institute, University of Nevada System, 1989, p. Forward. *See also* NSE Ex. 3, *Order 1169*, Hearing on Interim Order 1303, official records of the Division of Water Resources.

[4] *Id.*, p. 2.

WHEREAS, beginning in 1989 and through the early 2000s, numerous groundwater applications were filed in Coyote Spring Valley, Black Mountains Area, Garnet Valley, Hidden Valley, California Wash, and Muddy River Springs Area Hydrographic Basins seeking to appropriate more than 300,000 acre-feet annually (afa) of groundwater from the carbonate-rock aquifer underlying these basins.[5] The State Engineer held a hearing on July 12-20, 23-24, and August 31, 2001, for pending Applications 54055–54059, filed by Las Vegas Valley Water District (LVVWD) to appropriate 27,510 afa of water in Coyote Spring Valley.[6] The State Engineer conducted a hearing on Coyote Springs Investments LLC (CSI) Applications 63272–63276 on August 20-24, 27-28, 2001.[7]

WHEREAS, following the conclusions of these hearings, the State Engineer issued Order 1169 on March 8, 2002, requiring all pending applications in Coyote Spring Valley, Black Mountains Area, Garnet Valley, Hidden Valley, Muddy River Springs Area, and Lower Moapa Valley Hydrographic Basin (Basin 220), be held in abeyance pending an aquifer test of the carbonate-rock aquifer system to better determine whether the pending applications and future appropriations could be developed from the carbonate-rock aquifer.[8]

WHEREAS, in Order 1169, the State Engineer found that he did not believe that it was prudent to issue additional water rights to be pumped from the carbonate-rock aquifer until a significant portion of the then existing water rights were pumped for a substantial period of time to determine whether the pumping of those water rights would have a detrimental impact on existing water rights or the environment.[9]

WHEREAS, Order 1169 required that at least 50%, or 8,050 afa, of the water rights then currently permitted in Coyote Spring Valley be pumped for at least two consecutive years.[10] On April 18, 2002, the State Engineer added the California Wash to the Order 1169 aquifer test basins.[11]

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[5] *See* NSE Exs. 14–20, *Ruling 6254–Ruling 6260*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[6] *See* NSE Ex. 14.
[7] *Id.*
[8] *See* NSE Ex. 3.
[9] *Id.*
[10] *Id.*
[11] *See* State Engineer's Ruling 5115, dated April 18, 2002, official records of the Division of Water Resources.

WHEREAS, subsequent to the issuance of Order 1169, the United States Fish and Wildlife Service (USFWS) expressed concern that current groundwater pumping coupled with additional groundwater withdrawals in Coyote Spring Valley and California Wash may cause reduction of spring flow to the Warm Springs area, tributary thermal springs in the upper Muddy River, which serves as critical habitat to the Moapa dace (*Moapa corciacea*), an endemic fish species federally listed as endangered in 1967.[12] Due to these concerns, on April 20, 2006, the Southern Nevada Water Authority (SNWA), USFWS, CSI, the Moapa Band of Paiute Indians (MBOP) and the Moapa Valley Water District (MVWD) entered into a Memorandum of Agreement (MOA).[13]

WHEREAS, the MOA stated that all the parties shared "a common interest in the conservation and recovery of the Moapa dace and its habitat." The MOA established certain protections to the Moapa dace, including protocols relating to pumping from the regional carbonate-rock aquifer that may adversely impact spring flow to the dace habitat in the Warm Springs area. Specifically, the MOA identified conservation measures, which included protections for minimum instream flows in the Warm Springs area with trigger levels set at 3.2 cubic feet per second (cfs) at the Warm Springs West gage requiring initial action by the MOA parties, and the most stringent action required at a flow rate of 2.7 cfs.[14]

WHEREAS, the MBOP raised concerns that pumping 8,050 afa from the Coyote Spring Valley as part of the aquifer test would adversely impact the water resources at the Warm Springs area, and consequently the Moapa dace, and that the impacts would persist such that protective measures established in the MOA would be inadequate to protect the dace.[15] As a result, the Order 1169 study participants, which included the LVVWD, SNWA, CSI, Nevada Power Company,[16] MVWD, Dry Lake Water Company, LLC, Republic Environmental Technologies, Inc. (Republic),

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[12] USFWS, *Fish and Aquatic Conservation - Moapa dace*, https://bit.ly/moapadace (last accessed June 3, 2020). *See also* SNWA Ex. 8, p. 1-1.

[13] *See* NSE Ex. 236, *2006 Memorandum of Agreement between the Southern Nevada Water Authority, United States Fish and Wildlife Service, Coyote Springs Investment LLC, Moapa Band of Paiute Indians and Moapa Valley Water District*, Hearing on Interim Order 1303, official records of the Division of Water Resources.

[14] *Id.*

[15] *See* May 26, 2010, letter from Darren Daboda, Chairperson, Moapa Band of Paiutes, to Jason King, Nevada State Engineer, official records of the Division of Water Resources.

[16] Nevada Power Company, following the merger with Sierra Pacific Power Company and Sierra Pacific Resources subsequently began doing business as NV Energy. *See, e.g.*, NV Energy, *Company History*, https://bit.ly/NVEhistory (last accessed April 20, 2020).

Chemical Lime Company, Nevada Cogeneration Associates, and the MBOP, or their successors, agreed that even if the minimum 8,050 afa was not pumped, sufficient information would be obtained to inform future decisions relating to the study basins.[17]

WHEREAS, on November 15, 2010, the Order 1169 aquifer test began, whereby the study participants began reporting to the Nevada Division of Water Resources (Division) on a quarterly basis the amounts of water pumped from wells in the carbonate-rock and alluvial aquifers during the pendency of the aquifer test.

WHEREAS, on December 21, 2012, the State Engineer issued Order 1169A declaring the completion of the Order 1169 aquifer test to be December 31, 2012, after a period of 25½ months. The State Engineer provided the study participants the opportunity to file reports with the Division until June 28, 2013, to present information gained from the aquifer test in order to estimate water to support applications in the Order 1169 study basins.[18]

WHEREAS, during the Order 1169 aquifer test, an average of 5,290 acre-feet per year (afy) was pumped from carbonate-rock aquifer wells in Coyote Spring Valley, and a cumulative reported total of 14,535 afy of water was pumped throughout the Order 1169 study basins. Of this total, approximately 3,840 afy was pumped from the Muddy River Springs Area alluvial aquifer with the balance pumped from the carbonate-rock aquifer.[19]

WHEREAS, during the aquifer test, pumpage was measured and reported from 30 other wells in the Coyote Spring Valley, Muddy River Springs Area, Garnet Valley, California Wash, Black Mountains Area, and Lower Meadow Valley Wash Hydrographic Basin (Lower Meadow Valley Wash). Stream diversions from the Muddy River were reported, and measurements of the natural discharge of the Muddy River and from the Warm Springs area springs were collected daily. Water-level data were collected from a total of 79 monitoring and pumping wells within the Order 1169 study basins. All of the data collected during the aquifer test were made available to each of the study participants and the public.[20]

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[17] *See* July 1, 2010, letter from Jason King, Nevada State Engineer, to Order 1169 Study Participants, official records of the Division of Water Resources.
[18] *See* NSE Ex. 2, *Order 1169A*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[19] *See, e.g.*, NSE Ex. 1, Appendix B.
[20] *See* Division, *Water Use and Availability – Order 1169*, https://bit.ly/Order1169

WHEREAS, during the Order 1169 aquifer test, the resulting water-level decline encompassed 1,100 square miles and extended from southern Kane Springs Valley, northern Coyote Spring Valley through the Muddy River Springs Area, Hidden Valley, Garnet Valley, California Wash, and the northwestern portion of the Black Mountains Area.[21] The water-level decline was estimated to be 1 to 1.6 feet throughout this area with minor drawdowns of 0.5 foot or less in the northern portion of Coyote Spring Valley north of the Kane Springs Wash fault zone.[22]

WHEREAS, results of the two-year aquifer test demonstrated that pumping 5,290 afa from the carbonate-rock aquifer in Coyote Spring Valley, in addition to the other carbonate-rock aquifer pumping in Garnet Valley, Muddy River Springs Area, California Wash and the northwest portion of the Black Mountains Area, caused sharp declines in groundwater levels and flows in the Pederson and Pederson East springs, two springs considered to be sentinel springs for the overall condition of the Muddy River due to being higher in altitude than other Muddy River source springs, and therefore are proportionally more affected by a decline in groundwater level in the carbonate-rock aquifer.[23] The Pederson spring flow decreased from 0.22 cfs to 0.08 cfs and the Pederson East spring flow decreased from 0.12 cfs to 0.08 cfs. Additional headwater springs at lower altitude, the Baldwin and Jones springs, declined approximately 4% in spring flow during the test.[24] All of the headwater springs contribute to the decreed and fully-appropriated Muddy River and are the predominant source of water that supplies the habitat of the endangered Moapa dace.

WHEREAS, Order 1169A provided the study participants an opportunity to submit reports addressing three specific questions presented by the State Engineer: (1) what information was obtained from the study/pumping test; (2) what were the impacts of pumping under the pumping test; and, (3) what is the availability of additional water resources to support the pending applications. SNWA, USFWS, National Park Service (NPS) and Bureau of Land Management

[21] USFWS Ex. 5, *Report in Response to Order 1303*, Hearing on Interim Order 1303, official records of the Division of Water Resources, pp. 21, 67. *See, e.g.*, NSE Ex. 14. *See also* NSE Ex. 256, *Federal Bureaus Order 1169A Report*, Hearing on Interim Order 1303, official records of the Division of Water Resources. There was no groundwater pumping in Hidden Valley, but effects were still observed in the Hidden Valley monitor well.
[22] *See, e.g.*, NSE Ex. 14. *See also* NSE Ex. 256.
[23] *See* NSE Ex. No. 236.
[24] NSE Ex. 256, pp. 43–46, 50–51. *See also*, USGS, *Water Data for Nevada*, https://bit.ly/nvwater.

(BLM), MBOP, MVWD, CSI, Great Basin Water Network (GBWN) and Center for Biological Diversity (CBD) submitted either reports or letters.

WHEREAS, in its report, SNWA addressed water levels throughout the Order 1169 basins. SNWA acknowledged that hydrologic connectivity supported the potential need for redistribution of existing pumping, and indirectly acknowledged the limitation on availability of water to satisfy the pending applications.[25] SNWA further acknowledged declines to spring flow in the Pederson and Pederson East springs as a result of the aquifer test, but characterized the decline in spring flow at the Warm Springs West location as minimal. SNWA further correlated the declining trends as associated with climate but opined that Muddy River flow did not decline as a result of the aquifer test and carbonate-rock aquifer pumping; rather, impact to Muddy River flows were due to alluvial aquifer pumping.[26]

WHEREAS, CSI, through a letter, agreed with SNWA's report and asserted that additional water resources could be developed within the Coyote Spring Valley north of the Kane Springs Fault, which supported granting new appropriations of water.[27]

WHEREAS, the United States Department of Interior Bureaus (USFWS, NPS and BLM) concluded that the aquifer test provided sufficient data to determine the effects of the aquifer drawdown as well as identify drawdown throughout the region and was sufficient to project future pumping effects on spring flow. Based upon their analysis, the Department of Interior Bureaus concluded that water-level declines due to the aquifer test encompassed 1,100 square miles throughout the Order 1169 study basins. Additionally, the Department of Interior Bureaus' analysis found a direct correlation between the aquifer test pumping and flow declines at Pederson, Plummer and Apcar units and Baldwin Spring, all springs critical to the Moapa dace habitat, and asserted that pumping at the Order 1169 rate at well MX-5 in Coyote Spring Valley could result in both of the high-altitude Pederson and Pederson East springs going dry in 3 years or less.[28]

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[25] *See* NSE Ex. 245, *Southern Nevada Water Authority Order 1169 Report*, Hearing on Interim Order 1303, official records of the Division of Water Resources, pp. 23–25.
[26] *Id.*
[27] NSE Ex. 247, *Coyote Springs Investments, LLC Order 1169 Report*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[28] *See, e.g.*, NSE Ex. 14, pp.15–18. *See also* NSE Ex. 256.

WHEREAS, the Department of Interior Bureaus further found that the groundwater withdrawals that occurred in Coyote Spring Valley during the Order 1169 aquifer test represented approximately one-third of the then existing water rights within Coyote Spring Valley, concluding that even one-third of the existing water rights could not be developed without adversely impacting spring flow to the headwaters of the Muddy River and habitat for the Moapa dace.[29] Ultimately, the Department of Interior Bureaus concluded that there was insufficient water available for the pending applications, and that the area that was subject to the Order 1169 aquifer test behaved as one connected aquifer and pumping in one basin would have similar effects on the whole aquifer.[30]

WHEREAS, MBOP's report disagreed with the magnitude of drawdown resulting from the Order 1169 aquifer test, but ultimately concluded carbonate-rock aquifer pumping in Coyote Spring Valley and the Muddy River Springs Area would have a one-to-one impact on Muddy River flows.[31] MBOP opined to the existence of a southern flow field, which included California Wash, Hidden Valley, Garnet Valley, and the northwest portion of the Black Mountains Area, that could be developed without depleting spring flows. MBOP also argued that changes in the groundwater levels were directly tied to water level declines in Lake Mead.[32]

WHEREAS, MVWD's report was limited to water levels and flows within the Muddy River Springs Area. In its report, MVWD acknowledged the groundwater level declines resulting from the aquifer test, including decreased spring flow at the Pederson springs, Warm Springs West gage and Baldwin Spring, but not at Jones Spring or Muddy Spring.[33] Ultimately, MVWD concluded that additional water was available in the Lower Moapa Valley, as that aquifer did not appear hydrologically connected to the regional carbonate-rock aquifer.

WHEREAS, GBWN presented a report that recognized the decline in the groundwater levels in Coyote Spring Valley and discharge to the Muddy River Springs Area resulting from the

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[29] *Id.*
[30] *Id.*
[31] *See* NSE Ex. 252, *Moapa Band of Paiute Indians Order 1169 Report*, Hearing on Interim Order 1303, official records of the Division of Water Resources, p. 25.
[32] *Id.*
[33] NSE Ex. 250, *Moapa Valley Water District Basin 220 Well Site Analysis*, Hearing on Interim Order 1303, official records of the Division of Water Resources; NSE Ex. 251, *Moapa Valley Water District Evaluation of MX-5 Pumping Test on Springs and Wells in the Muddy Springs Area*, dated June 24, 2013, Hearing on Interim Order 1303, official records of the Division of Water Resources.

aquifer test.[34] However, GBWN believed that the aquifer test failed to provide sufficient data to determine water availability throughout the other study basins. GBWN did assert that pumping of existing rights within all of the study basins would unacceptably decrease spring discharge.[35]

WHEREAS, CBD, relying on GBWN's technical report, opined that pumping existing water rights within the Order 1169 study basins would result in unacceptable decline in spring flow, ultimately threatening the Moapa dace and the habitat necessary for the species survival.[36]

WHEREAS, based upon the findings of the Order 1169 aquifer test, in denying the pending applications the State Engineer found: (1) that the information obtained from the Order 1169 aquifer test was sufficient to document the effects of pumping from the carbonate-rock aquifer on groundwater levels and spring flow and that the information could assist in forming opinions regarding future impacts of groundwater pumping and availability of groundwater in the study basins; (2) that the impacts of aquifer test pumping in Coyote Spring Valley was widespread throughout the Order 1169 aquifer test study basins and that the additional pumping in Coyote Spring Valley was a significant contributor to the decline in the springs that serve as the headwaters of the Muddy River and habitat for the Moapa dace; and, (3) that additional pumping from the then pending applications would result in significant regional water-level decline, and decreases in spring and Muddy River flows.[37]

WHEREAS, the basins that were included in the Order 1169 aquifer test were acknowledged to have a unique hydrologic connection and share the same supply of water.[38] The State Engineer further went on to find that the total annual supply to the basins could not be more than 50,000 acre-feet, that the perennial yield is much less than that because the Muddy River and the springs in the Warm Springs area utilize the same supply, and that the quantity and location of

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[34] NSE Ex. 246, *Great Basin Water Network Order 1169 Report*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[35] *Id.*
[36] NSE Ex. 248, *Center for Biological Diversity Order 1169 Report*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[37] NSE Exs. 14–21. The study basins include Coyote Spring Valley, Garnet Valley, Hidden Valley, Muddy River Springs Area, California Wash, and that portion of the Black Mountains Area lying within the LWRFS was defined as those portions of Sections 29, 30, 31, 32, and 33, T.18S., R.64E., M.D.B.&M.; Section 13 and those portions of Sections 1, 11, 12, and 14, T.19S., R.63E., M.D.B.&M.; Sections 5, 7, 8, 16, 17, and 18 and those portions of Sections 4, 6, 9, 10, and 15, T.19S., R.64E., M.D.B.&M.
[38] *See, e.g.,* NSE Ex. 14, p. 24.

any groundwater that could be developed without conflicting with senior rights on the Muddy River and the springs was uncertain.[39]

II. INTERIM ORDER 1303

WHEREAS, on January 11, 2019, the State Engineer issued Interim Order 1303 designating the Lower White River Flow System (LWRFS), a multi-basin area known to share a close hydrologic connection, as a joint administrative unit for purposes of administration of water rights. The Interim Order defined the LWRFS to consist of the Coyote Spring Valley, Muddy River Springs Area, California Wash, Hidden Valley, Garnet Valley, and the portion of the Black Mountains Area Hydrographic Basins as described in the Interim Order.[40] Pursuant to Interim Order 1303, all water rights within the LWRFS were to be administered based upon their respective dates of priority in relation to other rights within the regional groundwater unit.

WHEREAS Interim Order 1303 recognized the need for further analysis of the LWRFS because the pre-development discharge of 34,000 acre-feet of the Muddy River system plus the more than 38,000 acre-feet of existing groundwater appropriations within the LWRFS greatly exceed the total water budget, which was determined to be less than 50,000 acre-feet.[41] Stakeholders with interests in water right development within the LWRFS were invited to file a report with the Office of the State Engineer addressing four specific matters, generally summarized as: 1) The geographic boundary of the LWRFS, 2) aquifer recovery subsequent to the Order 1169 aquifer test, 3) the long-term annual quantity and location of groundwater that may be pumped from the LWRFS, and 4) the effect of movement of water rights between alluvial and carbonate wells within the LWRFS. Stakeholders were also invited to address any other matter believed to be relevant to the State Engineer's analysis.

WHEREAS, on May 13, 2019, the State Engineer amended Interim Order 1303 modifying the deadlines for the submission of reports and rebuttal reports by interested stakeholders. Reports

[39] *Id.*
[40] *See* NSE Ex. 1, *Order 1303 and Addendum to Interim Order 1303*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[41] *Id.*, p. 7.

submitted by interested stakeholders were intended to aid in the fact-finding goals of the Division.[42]

WHEREAS, a public hearing was held in Carson City, Nevada between, September 23, 2019, and October 4, 2019. The purposes of this hearing were to afford stakeholder participants who submitted reports pursuant to the solicitation in Interim Order 1303 an opportunity to provide testimony on the scientific data analysis regarding the five topics within the Interim Order and to test the conclusions offered by other stakeholder participants.

WHEREAS, during the Interim Order 1303 hearing, testimony was provided by expert witnesses for the participants CSI, USFWS, NPS, MBOP, SNWA and LVVWD[43], MVWD, Lincoln County Water District and Vidler Water Company (LC-V), City of North Las Vegas (CNLV), CBD, Georgia Pacific Corporation (Georgia Pacific) and Republic, Nevada Cogeneration Associates Nos. 1 and 2 (collectively "NCA"), Muddy Valley Irrigation Company (MVIC), Western Elite Environmental, Inc. and Bedroc Limited, LLC (collectively "Bedroc"), and NV Energy.

WHEREAS, following the conclusion of the Interim Order 1303 hearing, stakeholder participants were permitted to submit written closing statements no later than December 3, 2019. The specific area evaluated, data analyzed, and methodology used varied by participant. Generally, participants relied on spring and streamflow discharge, groundwater level measurements, geologic and geophysical information, pumping data, climate data, and interpretations of aquifer hydraulics. Methodologies applied ranged from conceptual observations to statistical analysis to numerical and analytical models; the level of complexity and uncertainty differing for each.

WHEREAS, each of the participants' conclusions with respect to the topics set forth in Interim Order 1303 are summarized as follows:

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[42] *Id.*, pp. 16–17.

[43] SNWA is a regional water authority with seven water and wastewater agencies, one of which is LVVWD. References to SNWA include its member agency, LVVWD, which too retains water rights and interests within the LWRFS.

Center for Biological Diversity

The primary concern of the CBD was to ensure adequate habitat for the survival and recovery of the Moapa dace. CBD felt "that the Endangered Species Act is the primary limiting factor on the overall quantity of allowable pumping within the [LWRFS] and thus [...] geared [the] analysis toward that goal of protecting the dace." The Moapa dace primarily resides in the springs and pools of the Muddy River; protecting those areas of habitat are of the utmost importance to CBD's goal and have the collateral benefit of protecting the Muddy River decreed rights. Furthermore, CBD "believe[d] that withdrawals from the carbonate aquifer that cause a reduction in habitat quantity for the dace are a take under the Endangered Species Act and thus prohibited."[44]

CBD urges that Kane Springs Valley Hydrographic Basin (Kane Springs Valley) be included and managed as part of the LWRFS; otherwise CBD did not dispute the boundary as presented in Interim Order 1303. The inclusion of Kane Springs Valley was based on a shallow hydraulic gradient between Coyote Spring Valley and Kane Springs Valley; propagation of water level decline into Kane Springs Valley during the Order 1169 aquifer test; and a finding that the carbonate-rock aquifer extends into Kane Springs Valley. In CBD's opinion, adequate management of the LWRFS does not require that the administrative boundary include the White River Flow System north of Coyote Spring Valley.[45]

CBD identified a long-term, declining trend commencing in the 1990s in carbonate-rock aquifer water levels within the Muddy River Springs Area, which was accelerated by the Order 1169 aquifer test. Although CBD observed a partial, immediate recovery in the carbonate-rock aquifer water levels and spring flows, CBD finds that full recovery to pre-Order 1169 aquifer test conditions were never realized. Concurring with multiple other participants, CBD identified higher water levels in response to wet years despite the continued decline in the overall trend in the hydrographs. However, with regards to long-term drought, in their review of the Climate Division Data for southern Nevada, CBD saw no indication of a 20-year drought and disagreed with the conclusions and analysis presented by MBOP. Decreased spring flows in conjunction with

[44] *See* CBD Ex. 3, *CBD Order 1303 Report by Dr. Tom Myers; 27 pp.*, Hearing on Interim Order 1303, official records of the Division of Water Resources, p. 1; Transcript 1504–1505.
[45] *See* CBD Ex. 3, pp. 1, 2, 12, 17, 19; *See* CBD Ex. 4, *CBD Order 1303 Rebuttal in Response to Stakeholder Reports by Dr. Tom Myers; 30 pp.*, Hearing on Interim Order 1303, official records of the Division of Water Resources, pp. 17–21; Tr. 1516; 1520–1521; 1526–1527; 1538–1539; CSI Ex. 2, p. 38; LC-V Ex. 2, pp. 11–14.

increased carbonate-rock aquifer pumping, led the CBD to infer the dependency of spring flows on carbonate-rock aquifer water supply.[46]

Again, with emphasis on protecting spring flows, and thus the Moapa dace habitat, CBD did not support any pumping of the carbonate-rock aquifer. CBD's desired outcome would be to avoid decreases in spring flow in the Warm Springs area attributed to continued carbonate-rock aquifer pumping. CBD postulated that surface water rights on the Muddy River will be protected by limiting carbonate-rock aquifer pumping.

Alternatively, CBD speculated that some alluvial aquifer pumping, within the Muddy River Springs Area and Coyote Spring Valley, could be sustained without significantly impacting the Warm Springs area. A preliminary estimate of 4,000 afa of sustainable alluvial aquifer pumping was proposed, based on the existing pumping within the Muddy River Springs Area and considering pumping in the 1990s near 5,000 afa when alluvial aquifer water levels were stable.[47]

Church of Jesus Christ of Latter-day Saints

The Church of Jesus Christ of Latter-day Saints (the Church) chose not to directly participate in the hearing but joined the evidentiary submissions of CNLV.[48] In response to the directives set forth in Interim Order 1303 and considering the testimony provided, the Church requests the continued administration and management of the LWRFS as identified in Interim Order 1303, and to allow for change applications throughout the LWRFS basins that move pumping of groundwater further away from the Muddy River Springs Area and from the alluvial aquifer to the carbonate-rock aquifer. The Church further requests that the testimony and recommendation of Dwight Smith, PE, PG on behalf of CNLV be considered and adopted.[49]

[46] *See* CBD Ex. 3, pp. 1, 24; *See* CBD Ex. 4, p. 8–10, 21–25; Tr. 1508–1525; LC-V Ex. 2, p. 12, GP-REP Ex. 2, p. 3; CBD's expert suggest that the Palmer Drought Severity Index is more robust to evaluate for drought rather than using precipitation.
[47] *See* CBD Ex. 3, pp. 20–26; *See* CBD Ex. 4, p. 28–29; Tr. 1525-1528.
[48] *See* Letter from the Church, received August 15, 2019, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[49] *See Closing Brief of the Church of Jesus Christ of Latter-Day Saints* (Church closing), Hearing on Interim Order 1303, official records of the Division of Water Resources.

City of North Las Vegas

In CNLV's report submissions and closing statement it addressed four questions set forth in Interim Order 1303.[50] CNLV generally urges for more analysis and study of the LWRFS before administrative decisions are made due to lack of agreement on fundamental interpretations of the water availability and basin connectivity. It was agreed to by CNLV that most of Garnet Valley and a small portion of the Black Mountains area were within the larger carbonate-rock aquifer underlying the LWRFS basins, but that there is uncertainty in the boundaries of Garnet Valley with California Wash and Las Vegas Valley Hydrographic Basin (Las Vegas Valley).[51] With respect to the recovery of the groundwater aquifer following the Order 1169 aquifer test, CNLV concluded that the record and evidence demonstrates a long-term declining trend in the groundwater level since the late 1990s and that pumping responses can propagate relatively quickly through the carbonate-rock aquifer and drawdown is directly related to the pumping.[52]

While CNLV did consider the long-term quantity of groundwater that may be developed without adversely impacting discharge to the Warm Springs area, its opinions were limited to the sustainability of pumping within Garnet Valley.[53] CNLV concluded that the safe yield concept should be applied to the management of pumping within the LWRFS and that pumping between 1,500 afa to 2,000 afa does not appear to be causing regional drawdown within the LWRFS carbonate-rock aquifer and that pumping this quantity of water may be sustainable within the APEX Industrial Park area of Garnet Valley.[54] Finally, CNLV asserted that movement of alluvial water rights from the Muddy River Springs Area along the Muddy River would reduce the capture

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[50] *See* CNLV Ex. 5, *City of North Las Vegas Utilities Department: Interim Order 1303 Report Submittal from the City of North Las Vegas – July 2, 2019*, Hearing on Interim Order 1303, official records of the Division of Water Resources. *See* CNLV Ex. 6, *Rebuttal Document submitted on behalf of the City of North Las Vegas, to Interim Order 1303 Report Submittals of July 3, 2019 – Prepared by Interflow Hydrology – August 2019*, Hearing on Interim Order 1303, official records of the Division of Water Resources. *See* Tr. 1416–66, and *City of North Las Vegas' Closing Statement* (CNLV Closing), Hearing on Interim Order 1303, official records of the Division of Water Resources.

[51] *See* CNLV Ex. 5, pp. 2–3. *See also* CNLV Ex. 3, *Garnet Valley Groundwater Pumping Review for APEX Industrial Complex, City of North Las Vegas, Clark County, Nevada- Prepared by Interflow Hydrology, Inc.- July 2019*, pp. 7–8, 38.

[52] *Id.*, p. 3, Technical Memo, pp. 14–16.

[53] *Id.*, pp. 3–4.

[54] *Id.*, p. 4., Technical Memo, p. 45.

of Muddy River flow, move more senior water rights into Garnet Valley to support a secure water supply for the municipal uses within the APEX area, and would support overall objectives relating to the management of the LWRFS.[55] CNLV advocated that transferring water rights between alluvial aquifer and carbonate-rock aquifer should be considered on a case-by-case basis with consideration given as to location, duration, and magnitude of pumping.[56]

CNLV disagreed with certain conclusions of the NPS relating to the inclusion of the entirety of the Black Mountains Area within the LWRFS boundaries and had concerns relating to the reliability of the Tetra Tech model for future water resource management within the LWRFS.[57] CNLV further disagreed with stakeholder conclusions that movement of groundwater withdrawals from the alluvial aquifer along the Muddy River to the carbonate-rock aquifer in Garnet Valley will not alleviate the conflicts to Muddy River flow, rather concluding that there may be benefits for overall management of the LWRFS.[58] Further, CNLV disagreed with certain findings regarding water flow through the carbonate-rock aquifer, finding that it is likely that some groundwater can be pumped within Garnet Valley without capturing groundwater that would otherwise discharge to the Warm Springs area and the Muddy River.[59] Finally, in its rebuttal the CNLV joined other stakeholders in supporting the conclusion that there is a quantity of water that may be sustainably developed within the LWRFS and that use of carbonate-rock aquifer groundwater in Garnet Valley is critical to the short-term and long-term management and development of the APEX Industrial Complex.[60]

Coyote Springs Investments

In presenting its opinions and conclusions CSI's focus was primarily on climate as the foundation for groundwater elevation declines after the Order 1169 aquifer test, and additional geophysical research that provided evidence of a structural block isolating the west side of Coyote Spring Valley.

[55] *Id.*, Technical Memo, p. 48–49.
[56] *Id.*
[57] *See* CNLV Ex. 6, pp. 1–2.
[58] *Id.*, p. 2.
[59] *Id.*, pp. 2–3.
[60] *Id.*, p. 3.

CSI did a statistical analysis of climate data, and determined from the results that 1998, 2004, 2005, and 2010 were wetter than normal, with a drying trend from 2006 to 2017.[61] The Order 1169 aquifer test took place toward the end of an extended dry period when all water resources throughout the LWRFS were negatively affected.[62] Additionally, annual cyclical patterns of groundwater pumping should not be confused with long-term climate variability.[63]

CSI challenged the basic assumption that the LWRFS, as proposed in Interim Order 1303, is a homogenous unit.[64] CSI could not duplicate the results of the SeriesSEE, and its own Theis solution modeling concluded that a greater impact occurred from pumping at a well closer in proximity to Pederson Spring than pumping from a well further away, or the combined effect of both wells.[65] CSI also acknowledged that due to the fragmented nature of the LWRFS, the Theis solution is of limited utility.[66]

CSI presented geologic and geophysical information in support of the idea that the LWRFS administrative unit is a geophysically and hydrogeologically heterogenous area, characterized by multiple flow paths defined by faults and structural elements that control the occurrence and movement of regional and local groundwater along the western side of Coyote Spring Valley, the eastern side of Coyote Spring Valley, and from Lower Meadow Valley Wash into the LWRFS.[67] CSI stated that the LWRFS does not include Kane Springs Valley.[68]

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[61] CSI Ex. 1, *CSI July 3, 2019 Order 1303 Report*, Hearing on Interim Order 1303, official records of the Division of Water Resources, pp. 4–5; Tr. 53.
[62] CSI Ex. 1, p. 5.
[63] CSI Ex. 2, *CSI August 16, 2019 Rebuttal Report*, Hearing on Interim Order 1303, official records of the Division of Water Resources, pp. 2, 7.
[64] CSI Ex. 1, p. 7.
[65] CSI Ex. 1, p. 7; Tr. 131–132.
[66] Tr. 154.
[67] CSI Ex. 2, p. 2; *CSI Closing Statement* (CSI Closing), Hearing on Interim Order 1303, official records of the Division of Water Resources; CSI recommended including Lower Meadow Valley Wash in its Rebuttal report. See CSI Ex. 2, p. 12; Mr. Herrema said Lower Moapa Valley, but the report said Lower Meadow Valley 10:10.
[68] CSI Ex. 1, p. 15; the outflow from Kane Springs Valley is included in the water budget, but due to isolating geologic features, groundwater elevations in Kane Springs Valley are not impacted by pumping in the LWRFS, Tr. 135:7–137:3, 160:2–12.

CSI engaged a geophysicist to conduct a CSAMT survey at multiple points in the valley.[69] CSI's CSAMT study showed evidence of a prominent carbonate block bounded on either side by normal faults.[70] CIS asserts that the carbonate block isolates recharge from the zone west of the block, such that it eliminates or limits contribution of local recharge to the Warm Springs area.[71] Faulting has created a preferred path for groundwater flow "from the east side Coyote Spring Valley to the Muddy River Springs Area".[72]

CSI relied on a water budget as the best method to determine available water in the LWRFS, accounting for recharge and subsurface flow as well as climatic variations.[73] Comparing several models of recharge, CSI estimated recharge at 5,280 afy from the Sheep Range to the western side of Coyote Spring Valley.[74] CSI stated that 30,630 afa can be pumped from the LWRFS, but there would be impacts from pumping the water, and that the Coyote Spring Valley can sustain 5,280 afa of pumping from the western side without impact to the Warm Springs area or the Muddy River.[75]

As asserted by CSI, groundwater pumping from the carbonate-rock aquifer in the Muddy River Springs Area affects flow in the carbonate-rock aquifer to the alluvial aquifer, which then affects flow from the alluvial aquifer to the Muddy River.[76] CSI argues that effects are dependent on well location, geologic formations, hydraulic gradients, and elevation.[77] Transfers between carbonate and alluvial pumping should be made on a case-by-case basis, analyzing place of use, points of diversion, and quantity of groundwater.[78] Movement of water rights between alluvial wells and carbonate-rock aquifer wells will only serve to shift the timing and location of impacts and not the amount of the impact.[79]

[69] CSI Ex. 1, p. 25
[70] CSI Ex. 1, p. 25.
[71] CSI Ex. 1, p. 29; evidence of impermeability, Tr. 181.
[72] CSI Ex. 1, p. 29.
[73] CSI Closing.
[74] CSI Ex. 1, pp. 31–40.
[75] Tr. 221–223; CSI Closing, pp. 8–9.
[76] CSI Closing.
[77] CSI Closing, p. 19.
[78] CSI Closing.
[79] CSI Ex. 1, p. 58.

As a consequence of the heterogenous nature of the LWRFS, CSI recommended sustainable management of the LWRFS through the creation of "Management Areas" that recognize flow paths and their relative contributions to spring flow, surface flow, evapotranspiration, and sub-surface outflow.[80] For example, though pumping in the Muddy River Springs Area near the Warm Springs area would have a direct impact on available surface water resources, structural blocks and faults isolate the effect of groundwater pumping in other areas of the LWRFS.[81] Thus CSI does not recommend a blanket ban on carbonate-rock aquifer pumping, or a decrease in carbonate-rock aquifer pumping in exchange for alluvial aquifer pumping.

Georgia Pacific and Republic

Dry Lake Water, LLC, Georgia Pacific and Republic submitted initial and rebuttal responses to Interim Order 1303 and offered testimony during the hearing.[82] In their response, Georgia Pacific and Republic acknowledged impacts to groundwater elevations throughout the LWRFS, including wells in the Black Mountains Area and Garnet Valley, which does demonstrate a degree of hydraulic connectivity throughout the carbonate-rock aquifer. However, Georgia Pacific and Republic called for collection of more scientific evidence to further understand the LWRFS and its boundaries. Further, it was their opinion that climate, seasonal fluxes and pumping within Garnet Valley and the Black Mountains Area resulted in the groundwater declines observed during the Order 1169 aquifer test.[83] Ultimately, Georgia Pacific and Republic do not believe sufficient information exists to draw distinct conclusions as to the cause of the groundwater declines during the Order 1169 aquifer test and whether carbonate-rock aquifer pumping within

[80] CSI Closing.
[81] CSI Ex. 2, p. 17.
[82] The initial response was submitted on behalf of Dry Lake Water, LLC, Georgia Pacific, and Republic. *See* GP-REP Ex. 1, *Broadbent July 2, 2019 Initial Report*, Hearing on Interim Order 1303, official records of the Division of Water Resources. The rebuttal response was submitted on behalf of Dry Lake Water, LLC, Georgia Pacific Gypsum LLC, and Republic. *See* GP-REP Ex. 2, *Broadbent August 16, 2019 Rebuttal Report*, Hearing on Interim Order 1303, official records of the Division of Water Resources. However, the expert only appeared at the Hearing on Interim Order 1303 on behalf of Georgia Pacific and Republic. *See* Tr. 1588-91.
[83] *See* GP-REP Ex. 01, GP-REP Ex. 02, and *Closing Argument of Georgia Pacific Corporation and Republic Environmental Technologies, Inc.* (Closing GP-REP), Hearing on Interim Order 1303, official records of the Division of Water Resources.

the Garnet Valley and the Black Mountains Area has a measurable impact to spring flow in the Warm Springs area.[84]

Great Basin Water Network

GBWN elected to pose procedural suggestions relating to public involvement, availability of documents and data, transparency, and decision making, and did not submit a report with an independent analysis addressing the questions in Interim Order 1303.[85] GBWN advocates for sustainable management of the entirety of the White River Flow System as one unit based on the interconnected nature of all of the hydrologically connected basins, although no analysis to support which areas this would include was provided. GBWN relies on conclusory statements to establish the interconnected nature of the system as support for its position. Later, GBWN chose not to participate in the hearing nor submit a rebuttal report, closing arguments, or public comment.

Lincoln County Water District and Vidler Water Company

LC-V's participation in the LWRFS hearing was driven by their existing and pending groundwater rights in Kane Springs Valley, and an interest in excluding Kane Springs Valley from the LWRFS management area.[86] They disputed that Kane Springs Valley should be included within the LWRFS boundary based on their assertion of: prior decisions of the State Engineer that acknowledged the separate nature of the basin from the rest of the LWRFS, groundwater elevation comparisons, precipitation and recharge data, groundwater chemistry, and geophysical study results. In general, Kane Springs Valley should be managed based on its perennial yield, recognizing that there is groundwater flow to the LWRFS as there are from other basins into the LWRFS, but where they are excluded from the proposed management area.[87]

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[84] *See* Closing GP-REP.

[85] *GBWN Report on Order 1303*, (GBWN Report), Hearing on Interim Order 1303, official records of the Division of Water Resources.

[86] LC-V Ex. 1, *Lower White River Flow System Interim Order #1303 Report Focused on the Northern Boundary of the Proposed Administrative Unit, prepared by Lincoln County Water District and Vidler Water Company in Association with Zonge International Inc., dated July 3, 2019*, Hearing on Interim Order 1303, official records of the Division of Water Resources, p. 2-1.

[87] LC-V Ex. 2, *Rebuttal Submittal to Reports Submitted in Response to Interim Order #1303, dated August 16, 2019 and Attachments A, B, C, D and E containing the reports or technical memorandums of Greg Bushner, Peter Mock, Thomas Butler, Todd Umstot and Norman Carlson.*, Hearing on Interim Order 1303, official records of the Division of Water Resources, pp. 7, 14–15.

Various rulings of the State Engineer have previously addressed whether appropriation of groundwater from Kane Springs Valley would affect the Muddy River Springs Area.[88] LC-V states that these findings have not been challenged by any of the Order 1169 participants.[89] However, to the extent that SNWA relied on multiple linear regression models to establish groundwater flow from Kane Springs Valley to the LWRFS, LC-V do not agree.[90]

LC-V identified a distinct "break," or local increase, in water levels in the regional hydraulic gradient between wells drilled in the LWRFS versus wells drilled in Kane Springs Valley and northern Coyote Spring Valley.[91] It attributed the break to geologic structures located throughout the carbonate-rock aquifer. Although wells within the LWRFS exhibit very consistent groundwater levels, indicative of high transmissivity values across the area, the gradient between well KPW-1 and down-basin wells is much steeper, implying an impediment to groundwater flow near the mouth of Kane Springs Valley.[92]

In a 2006 hearing for protested water rights applications, LC-V presented an analysis of the regional geochemistry data including stable isotopes, temperature, and carbon-14 data.[93] That analysis found that the groundwater pumped from Kane Springs Valley could not be identified in the source water for the Big Muddy Spring, nor other springs farther south and outside the boundaries of the LWRFS.[94] LC-V concluded that groundwater pumped from production well KPW-1 is on a different groundwater flow path from the springs, consistent with the differences in hydraulic gradients, groundwater levels, and geophysical data.[95] CSVM-4, a well located in Coyote Spring Valley, and KPW-1, in Kane Springs Valley, have similar temperatures compared to the other wells in the basin, and a lower percentage difference on other markers tracked throughout groundwater in the basin.[96] LC-V argues that the water from these wells is chemically

[88] LC-V Ex. 1, pp. 2-2 through 2-3, citing State Engineer's Rulings 5712, 6254, 5712.
[89] LC-V Ex. 1, p. 2-3.
[90] Testimony generally at Tr. 1311–1318. "... simply having correlation is not proof of causation. Causation is neither proved nor evaluated in a regression analysis." Tr. 1303.
[91] LC-V Ex. 1, p. 3-1.
[92] LC-V Ex. 1, pp. 1-1, 3-1 through 3-4. LC-V went on to conclude that local groundwater recharge occurs in Kane Springs Valley that does not flow to the LWRFS, and therefore there is available unappropriated water in the basin. LC-V Ex. 1, p. 3-5.
[93] LC-V Ex. 1, Appendix C, pp. 111–153.
[94] *Id.*, pp. 124–125.
[95] "Gradient alone does not mean flow." Thomas Butler, witness on behalf of LC-V, Tr. 1281.
[96] Tr. 1281–1282; LC-V Ex. 1, pp. 3-7 through 3-11.

unique and does not appear in any other wells in the LWRFS.[97] LC-V concludes carbon isotope data also confirmed that the water from Kane Springs Valley does not appear in the Muddy River Springs area.[98]

LC-V engaged a geophysical company to perform a CSAMT survey across the boundary line between Kane Springs Valley and Coyote Spring Valley, and identified significant geologic structures in southern Kane Springs Valley and northern Coyote Spring Valley.[99] Several transect lines were conducted perpendicular to the axis of the Kane Springs Valley, and one was also conducted along the axis of the southern part of the basin.[100] Additional transects were run in Coyote Spring Valley.[101] The results of the geophysical data validated concealed faulting indicated on existing maps, and was ground-truthed with observations in the field.[102] Results indicated a previously unmapped fault at the mouth of Kane Springs Valley, which LC-V named the Northern Boundary LWRFS fault, with a potentially 2,500-foot offset of materials with different resistivities.[103] LC-V argues that the extensive faulting that occurs in southern Kane Springs Valley and northern Coyote Spring Valley form the basis for the exclusion of Kane Springs Valley from the LWRFS.[104]

LC-V gave no opinion on the long-term annual quantity of groundwater that could be pumped from the LWRFS.[105] LC-V attributes all reduction in flows of the Muddy River and its associated springs to carbonate-rock aquifer pumping within the Muddy River Springs Area, and finds no discernable effect from carbonate-rock aquifer pumping occurring in Coyote Springs

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[97] Tr. 1284.
[98] Tr. 1286.
[99] LC-V Ex. 1, pp. 1-1, 4-1 through 4-10.
[100] LC-V Ex. 1, p. 4-3.
[101] LC-V Ex. 1, p. 4-3.
[102] LC-V Ex. 1, p. 4-8, Tr. 1322.
[103] Tr. 1271–1272; LC-V Ex. 1, p. 4-9.
[104] LC-V Ex. 1, p. 7-1 through 7-2; Tr. 1408. Questions from the National Park Service and the State Engineer inquired whether the areas of high resistivity in the CSAMT necessarily implied low transmissivity, low permeability of the rock. LC-V conceded that the resistivity information alone does not provide data about the hydraulic properties of either side of the resistive area, but when considered with all available information, LC-V concluded that the fault is likely an impediment to groundwater flow. Tr. 1327–1328, 1363–1364.
[105] LC-V Ex. 1, p. 5-2.

Valley.[106] As a result, LC-V finds that the efforts to protect the Warm Springs area must focus on groundwater pumping within the Muddy River Springs Area itself.[107]

Moapa Band of Paiutes

The MBOP participated in the administrative hearing due to their interest in the outcome of the proceedings and how it may affect their pending water right applications within California Wash. A regional approach, spanning a large aerial expanse, was taken by MBOP; the analysis and modeling efforts extended into central Nevada and Utah. MBOP stands apart from other participants with their interpretation of the data.[108] MBOP opposed management of the LWRFS as one basin and argues the scientific consensus is lacking amongst participants.[109] Regarding the interpretation of other participants, MBOP disagreed with the methodology and application of the 2013 USFWS SeriesSEE analysis and SNWA's multiple linear regression and requests repudiation of both.[110]

While not agreeing with the proposed boundaries of the LWRFS, MBOP did not provide a clear suggestion for which basins or portions therein should be included or excluded. MBOP suggested that pumping in California Wash has little to no impact on the Warm Springs area.[111] MBOP further suggested there are two capture zones, separated by a hydrodynamic and hydrochemical divide, which transects the Moapa River Indian Reservation area and results in south-flowing groundwater into the Las Vegas Valley through the LWRFS, bypassing the Muddy

[106] LC-V Ex. 1, p. 5-3.
[107] LC-V Ex. 1, p. 5-3.
[108] Tr. 772–773; 839.
[109] *See Closing Statement by the Moapa Band of Paiute Indians for Order 1303 Hearing* (MBOP Closing), Hearing on Interim Order 1303, official records of the Division of Water Resources, pp. 1–2, 6.
[110] *Id.*, pp. 7–12, 15–16; *See* MBOP Ex. 3, *Johnson, C., and Mifflin, M. Rebuttal Report of the Moapa Band of Paiutes in Response to Stakeholder Technical Reports Filed under Order #1303: unpublished report and appendices, August 16, 2019. 27 p.*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[111] *See* MBOP Ex. 2, *Johnson, C., and Mifflin, M. Water Level Decline in the LWRFS: Managing for Sustainable Groundwater Development. Initial Report of the Moapa Band of Paiutes in Response to Order #1303: unpublished report and appendices, July 3, 2019. 84 p.*, Hearing on Interim Order 1303, official records of the Division of Water Resources, pp. 2, 4, 14, 35; Tr. 819.

River Springs Area.[112] This hydrodynamic divide theory was not shared by SNWA, CBD, CSI, and NPS.[113]

Several participants agree that climate impacts were observed in the hydrographs, e.g., periods of wet and dry; however, MBOP interpreted the existing data to show that climate-driven decline, specifically drought, as the primary response observed in the long-term declining groundwater levels.[114] Thus, MBOP concluded that no reduction in pumping will restore high-elevation spring flows.[115] MBOP did not agree with other participants that decreasing groundwater levels and spring flows were attributed to increased carbonate-rock aquifer pumping beginning in the early 1990s.[116]

A quantity available for sustainable pumping was not proposed, but MBOP presumed more water is available in California Wash than previously thought.[117] A flux of approximately 40,000 afy of south-flowing groundwater into the Las Vegas Valley, bypassing the Muddy River Springs Area, was postulated in the initial report as possible with the hydrodynamic divide; however, during the hearing this quantity was given a range of plus or minus an order of magnitude based on assumptions for calculations.[118]

MBOP acknowledged that the Muddy River is connected to the alluvial aquifer and thus pumping from the alluvial and carbonate-rock aquifers in the Muddy River Springs Area impact the Muddy River flows.[119] Therefore, to mitigate impacts to the Muddy River, MBOP proposed that alluvial aquifer pumping, specifically between Arrow Canyon and White Narrows, can be moved to the carbonate-rock aquifer in basins to the south, such as California Wash, with minimal anticipated impacts to the Muddy River flows, rather than moving alluvial aquifer pumping from the Muddy River Springs Area to the carbonate-rock aquifer in connected areas, where impacts

[112] *See* MBOP Ex. 2, pp. 2, 4, 12, 14, 20, 35, 55; Tr. 812; 845.
[113] SNWA Ex. 9, pp. 12–13; CBD Ex. 4, p. 15; CSI Ex. 2, p. 23; NPS Ex. 3, *National Park Service's Response to July 2019 Interim Order 1303 Reports, Waddell, August 16, 2019*, Hearing on Interim Order 1303, official records of the Division of Water Resources, p. 4.
[114] *See* MBOP Ex. 2, pp. 3, 26–32, 35; Tr. 764–771; 805.
[115] *See* MBOP Ex. 2, pp. 3, 35; Tr. 821–826.
[116] *See* MBOP Ex. 2, p. 29; Tr. 775, 838–840; 848.
[117] *See* MBOP Ex. 2, pp. 2, 20, 35.
[118] *See* MBOP Ex. 2, pp. 6, 19, 35; Tr. 850–851.
[119] *See* MBOP Ex. 2, pp. 23–24, 35; Tr. 836.

proportional to pumping may be expected.[120] Thus, MBOP proposed favoring temporary over permanent uses and transferring of rights between the carbonate-rock and alluvial aquifers on a case-by-case basis.[121]

Moapa Valley Water District

MVWD was created by the Nevada legislature in 1983, pursuant to NRS Chapter 477, to provide water service "vital to the economy and well-being of Moapa Valley."[122] MVWD provides municipal water service to approximately 8,500 people with 3,250 metered service connections, including service to the MBOP.[123]

MVWD supported the inclusion of Kane Springs Valley within the LWRFS boundary.[124] Data indicated a direct connection between Kane Springs Valley and Coyote Spring Valley. This data included observations that the water level in KMW-1/KSM-1 decreased 0.5 foot over the duration of the Order 1169 aquifer test.[125] State Engineer's rulings have concluded that geochemical evidence and groundwater gradient data indicate that groundwater flows from the Kane Springs Valley into Coyote Spring Valley, and MVWD supports LVVWD's 2001 calculation of that quantity of water at approximately 6,000 afy.[126] MVWD performed its own calculations of the groundwater gradients from Kane Springs Valley at KMW-1 to EH-4, and concluded that the gradient was "an uninterrupted, continuous, exceptionally flat gradient," unlike gradients commonly seen in the western U.S., especially in highly fractured areas.[127] MVWD also

[120] *See* MBOP Ex. 2, pp. 23, 35.
[121] *See* MBOP Closing.
[122] Tr. 1172.
[123] MVWD Ex. 3, *District July 1, 2019 Report in response to Interim Order 1303*, p.5, Hearing on Interim Order 1303, official records of the Division of Water Resources; MVWD Ex. 4, *District August 16, 2019 Rebuttal Report*, p, 1, Hearing on Interim Order 1303, official records of the Division of Water Resources. MVWD has 3,147 afa of water rights in Arrow Canyon. Tr. 1169–1170.
[124] MVWD Ex. 3, p. 1; Tr. 1175.
[125] MVWD Ex. 3, p. 1; MVWD Ex. 4, p. 2.
[126] MVWD Ex. 3, pp. 1–2, referring to State Engineer's Ruling 5712 (*see*, NSE Ex. 12, *Ruling 5712*, Hearing on Interim Order 1303, official records of the Division of Water Resources) and MVWD Ex. 8, *Las Vegas Valley Water District, Water Resources and Ground-Water Modeling in the White River and Meadow Valley Flow Systems, Clark, Lincoln, Nye, and White Pine Counties, Nevada (2001)*, Hearing on Interim Order 1303, official records of the Division of Water Resources, p. 6-3.
[127] Tr. 1177–1178.

introduced evidence of a stipulation between LC-V and the USFWS that bases a reduction in pumping in Kane Springs Valley on a lowering of spring discharges in the Warm Springs area, and introduced a letter from SNWA to the State Engineer, as additional support that the participants to the Interim Order 1303 hearing have previously recognized Kane Springs Valley is part of the LWRFS.[128]

MVWD disagreed that a hydrologic barrier exists between Coyote Springs Valley and Kane Springs Valley.[129] Relying on a 2006 report prepared by another consultant, MVWD said the evidence indicated that the fault at the mouth of Kane Springs Valley was not an impediment to flow, and that there was no evidence of having encountered hydraulic barriers to groundwater flow during a seven-day aquifer test.[130] Additionally, the "highly transmissive fault zone" is continuous across the basin boundary between Kane Springs Valley and Coyote Spring Valley.[131] MVWD found further support for its position from evidence that KMW-1 showed drawdown during both the seven-day aquifer test on KPW-1, as well as from the Order 1169 aquifer test pumping that occurred from MX-5.[132] MVWD considered the water level data collected before, during and after the Order 1169 aquifer test, and Warm Springs area spring discharge to support its finding that the fault is not interrupting groundwater flow.[133] MVWD found it "questionable" that the first suggestion of a fault that impedes southward groundwater flow would be prepared by LC-V for this hearing.[134]

Although water levels and spring discharge did not recover to the levels measured before the Order 1169 aquifer test, MVWD believed that the LWRFS is at or near steady-state conditions

[128] Tr. 1195–1197.
[129] Tr. 1176–1177.
[130] Tr. 1181–1182. MVWD also quoted from the report that "the fracturing was so extensive that the fractured aquifer system really behaved as an equivalent porous media." *Id.* MVWD later agreed that this would behave like a sandy aquifer. Tr. 1224.
[131] Tr. 1185.
[132] Tr. 1250.
[133] Tr. 1219.
[134] *Post-Hearing Brief of Moapa Valley Water District* (MVWD Closing), Hearing on Interim Order 1303, official records of the Division of Water Resources, p. 5.

regarding aquifer recovery.[135] MVWD viewed this as being consistent with the State Engineer's statements in Interim Order 1303.[136]

Finally, MVWD did not provide a specific quantity of available water but did acknowledge that the "actual safe pumpage" is less than current pumping rates, and recognized a direct relationship between pumping from the carbonate-rock aquifer, spring and Muddy River flows, and alluvial aquifer pumping.[137] The timing and magnitude of carbonate-rock aquifer pumping effects on spring discharge is dependent on the volume of water pumped and the proximity of a pumping center to the springs; however, all cumulative carbonate-rock aquifer pumping in the seven interconnected basins will eventually cause depletions on the Warm Springs area springs.[138] Further, if carbonate rights are transferred to the alluvial aquifer there will be depletions to Muddy River flows and impacts to senior Muddy River water right owners.[139]

MVWD raised additional matters that they believed relevant to the analysis under Interim Order 1303. First, they stressed the importance of municipal water rights, and the necessity for a reasonably certain supply of water for future permanent uses without jeopardizing the economies of the communities that depend on the water supply, and to protect the health and safety of those who rely on the water supply.[140] To that end, MVWD requested that the State Engineer consider designating municipal use as the most protected and highest use of water, and to give MVWD the perpetual right to divert 6,791 afa of permitted and certificated rights from its carbonate-rock aquifer wells.[141] Second, MVWD stated that it had already satisfied its obligation to protect Moapa dace habitat and senior water rights when it dedicated 1cfs/724 afa, or approximately 25% of the MVWD current diversions, from its most senior water right, to the enhancement of the Moapa dace habitat.[142]

[135] Tr. 1198, MVWD Ex. 3, p. 4.
[136] Tr. 1199.
[137] Tr. 1199–1200; MVWD Closing, pp. 9–10.
[138] MVWD Ex. 3, p. 5.
[139] *Id.*
[140] MVWD Ex. 3, p. 5.
[141] MVWD Ex. 3, p. 6; Tr. 1203–1204; 6,791 afa constitutes an increase in the carbonate-rock aquifer pumping for MVWD. Tr. 1228.
[142] MVWD Ex. 3, pp. 6–7; Tr. 1202–1203.

Muddy Valley Irrigation Company

The MVIC is a non-profit Nevada corporation with the senior decreed water rights to the Muddy River, who provided testimony that SNWA is a majority shareholder while other participants such as CSI, LC-V, and MVWD are minority shareholders of the decreed rights.[143] MVIC concurred with SNWA's conclusions regarding aquifer recovery, long-term quantity of groundwater, and movement of water between the alluvial and the carbonate-rock aquifers.[144] Specifically, that any groundwater pumping, from both alluvial or carbonate-rock aquifers, within the Muddy River Springs Area impacts Muddy River flows, thus violating the Muddy River Decree.[145] MVIC did not dispute the geographic boundaries as identified in Interim Order 1303.[146] MVIC argued that the Muddy River and all of its sources are fully appropriated and emphasized the decreed seniority to groundwater rights, and further asserts that these surface water rights are protected by the Muddy River Decree and the prior appropriation doctrine.[147]

United States Department of the Interior, National Park Service

NPS submitted both an initial and rebuttal report in response to the Interim Order 1303 solicitation and presented testimony during the hearing.[148] Based upon NPS's evaluation of the evidence relating to the Order 1169 aquifer test, the use of an updated numerical groundwater flow model previously developed to predict conditions within the LWRFS, data compiled since the conclusion of the Order 1169 aquifer test, and review of other available data, NPS came to multiple conclusions relating to the delineation and management of the LWRFS. NPS advocates for the

[143] Tr. 1693–1696, 1705.
[144] MVIC Ex. 1, *MVIC Rebuttal Report dated August 15, 2019*, Hearing on Interim Order 1303, official records of the Division of Water Resources. MVIC identified sections from the SNWA report, but the references do not correspond with sections in SNWA's report. The State Engineer assumes that these section numbers correspond to page numbers of the SNWA report; *See also*, SNWA Ex. 7, *Burns, A., Drici, W., Collins, C., and Watrus, J., 2019, Assessment of Lower White River Flow System water resource conditions and aquifer response, Presentation to the Office of the Nevada State Engineer: Southern Nevada Water Authority, Las Vegas, Nevada*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[145] MVIC Ex. 1, p. 5; Tr. 1698.
[146] *See* MVIC Ex. 1, p. 3; Tr. 1697–1968.
[147] *Muddy Valley Irrigation Company Post Hearing Closing Statement* (MVIC Closing), Hearing on Interim Order 1303, official records of the Division of Water Resources; Tr. 1967, 1700–1708. *See also*, NSE Ex. 333, *Muddy River Decree*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[148] *See* NPS Ex. 2, *Prediction of the Effects of Changing the Spatial Distribution of Pumping in the Lower White River Flow System, Waddell, July 3, 2019*; Tr. 494–597.

inclusion of the entirety of the Black Mountains Area within the geographic boundary of the LWRFS based upon its review of geologic conditions that facilitate flow from the southern portion of the LWRFS through the Muddy Mountains thrust sheet and discharging in Rogers Spring and Blue Point Spring.[149] Further supporting this opinion, NPS cites to spring chemistry and isotopic composition of the water discharging from Rogers Spring and Blue Point Spring and the hydraulic head conditions that NPS believes supports the flow of groundwater beneath the Muddy Mountains from the carbonate-rock aquifer to those springs.[150] NPS acknowledge that there is a weak hydraulic connection between Rogers Spring and Blue Point Spring to the LWRFS based upon the geologic conditions within the Muddy Mountains, but argues that the entirety of the Black Mountains Area should be included to allow for management of the regional carbonate-aquifer to protect against diminished discharge to those springs.[151]

In addition to advocating for the inclusion of the entirety of the Black Mountains Area, the NPS provided evidence and analysis to support its conclusion that Kane Springs Valley too should be included within the geographic boundary of the LWRFS.[152] Based upon a review of the hydrologic data, geology of the Kane Springs Valley and basin boundaries, Coyote Spring Valley, and data from the Order 1169 aquifer test, NPS concludes that there is a clearly established hydrological connection between Kane Springs Valley and the other LWRFS basins, including discharge to the Warm Springs area.[153] While NPS advocates for the inclusion of the entire Black Mountains Area and Kane Springs Valley, it did not find any evidence to support the inclusion of the Las Vegas Valley within the LWRFS based upon a similar review of the geology and hydrological data.[154]

In interpreting data since the conclusion of the Order 1169 aquifer test, NPS reviewed the available data, concluding that the decades long decline of groundwater levels is not attributable to climate, but rather that the groundwater pumping within the LWRFS is the contributing

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[149] *See* NPS Ex. 2, p. 22. *See also*, Tr. 569–70; NPS, *Closing Statements Interim Order 1303 Hearing Testimony* (NPS Closing), Hearing on Interim Order 1303, official records of the Division of Water Resources, p. 2.
[150] NPS Ex. 2, p. 22; NPS Closing, pp. 2–4.
[151] *Id.*
[152] NPS Ex. 2, p. 22; NPS Ex. 3, pp. 5–11; Tr. 550–551; NPS Closing, pp. 4–5.
[153] NPS Ex. 2, p. 22; NPS Ex. 3, pp. 5–11; Tr. 550–551; NPS Closing, pp. 5–6.
[154] NPS Ex. 2, p. 22; Tr. 552–554.

factor.[155] NPS opined that if recent pumping withdrawals continued, the current declining trend would be accelerated, adversely impacting spring discharge in the Warm Springs area and Muddy River flow.[156] Further, NPS's review of the data lead to its conclusion that it will take many years, if not decades for the LWRFS carbonate-rock aquifer to reach equilibrium, particularly at the current groundwater pumping withdrawals and even longer if pumping withdrawals occurred at Order 1169 aquifer test levels.[157] However, NPS did not provide an opinion as what rate of groundwater withdrawals would be sustainable within the LWRFS.

Finally, NPS concluded that the movement of groundwater withdrawals from the alluvial aquifer within the Muddy River Springs Area to the carbonate-rock aquifer within the LWRFS would ultimately have little impact on capture of Muddy River flow. Specifically, NPS found that while there may be near-term benefits to the Warm Springs area and Muddy River flow, those benefits would eventually disappear, as the impact would only be delayed and not eliminated.[158]

Nevada Cogeneration Associates

NCA submitted a Rebuttal Report Pertaining to Interim Order 1303 and provided testimony at the Interim Order 1303 hearing.[159] NCA objected to the inclusion of certain non-profit organizations on the basis that those organizations were not stakeholders and did not have an interest to protect as the non-governmental organizations did not have water rights within the LWRFS basins effected by the proceedings.[160]

With respect to the geographic boundary of the LWRFS, in its Rebuttal Report, NCA is of the opinion that the northwestern portion of the Black Mountains Area, as identified by the State Engineer, should be within the LWRFS basins, but expressed its disagreement with other opinions advocating for the inclusion of the entire Black Mountains Area based upon NCA's analysis of the geology and groundwater elevations.[161] During the Interim Order 1303 hearing and in its Post-Hearing Brief, NCA's opinion shifted to advocate for the boundary of the LWRFS to be adjusted

[155] NPS Ex. 2, pp. 7, 22–23. *See also* NPS Closing, pp. 5–6.
[156] *Id.*
[157] *Id.*
[158] NPS Ex. 2, p. 23. *See also* NPS Closing, p. 6, and Tr. 593–594.
[159] NCA Ex. 1, *NCA Rebuttal Report Pertaining to Interim Order 1303 August 16, 2019*, Hearing on Interim Order 1303, official records of the Division of Water Resources; Tr. 1602–50.
[160] NCA Ex. 1, pp. 1, 23.
[161] *Id.*, pp. 2, 23.

to exclude its production wells in the Black Mountains Area; however, NCA did not alter its opinion regarding the remaining portion of the Black Mountains Area staying within the LWRFS.[162]

NCA further expressed that the Lower Meadow Valley Wash should not be included in the LWRFS boundaries based upon the fact that observed groundwater levels do not indicate a hydrologic response to carbonate-rock aquifer pumping and that insufficient data supports a finding of continuity between water level trends to support its inclusion in the LWRFS.[163] However, NCA advocated for the inclusion of the Kane Springs Valley within the LWRFS based upon its opinion that the groundwater data demonstrated hydrologic connectivity between Coyote Spring Valley and Kane Springs Valley, acknowledging that the data is slightly attenuated resulting from the Kane Springs fault.[164] Ultimately, NCA concluded that Kane Springs Valley is tributary to the Coyote Spring Valley and the other LWRFS basins, which justify its inclusion within the boundary of the LWRFS.[165]

Similarly, based upon the groundwater data from the northern portion of Coyote Spring Valley demonstrating similar water level responses as other wells throughout the LWRFS and pumping data demonstrating high hydrologic connectivity across all the LWRFS basins, NCA concluded that there was no basis to exclude the northern portion of Coyote Spring Valley.[166] Finally, NCA rejected a suggestion that the entirety of the White River Flow system, which extends into northeastern Nevada, be included within the management area.[167] Specifically, NCA concluded that the Pahranagat Shear Zone creates a significant barrier to the northwestern portion of the LWRFS and that review of groundwater levels does not support a finding that groundwater level declines propagate into the northern reaches of the White River Flow System.[168] NCA concluded, advocating that proper management of the LWRFS is appropriate and sufficient for the

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[162] *Post-hearing brief of Nevada Cogeneration Associates Nos. 1 and 2 pertaining to Amended Notice of Hearing Interim Order #1303 following the hearing conducted September 23, 2019, through October 4, 2019, before the Nevada State Engineer* (NCA Closing), Hearing on Interim Order 1303, official records of the Division of Water Resources, pp. 2–10. *See also* Tr. 1619–22.
[163] NCA Ex. 1 pp. 3–7, 23. *See also* NCA Closing, pp. 15–16.
[164] NCA Ex. 1, pp. 8–17, 23. *See also* NCA Closing, pp. 10–14, and Tr. 1629–44.
[165] NCA Ex. 1, pp. 11–16.
[166] *Id.*, pp. 17–18, 23.
[167] *Id.*, pp. 19, 24.
[168] *Id.*

purpose of managing discharge of groundwater to the Warm Springs area to support habitat for the Moapa dace and serve senior Muddy River decreed rights.[169]

In addressing the annual amount of groundwater that could be developed within the LWRFS without adversely impacting senior decreed rights on the Muddy River or Warm Springs area discharge supporting the habitat for the Moapa dace, NCA supported a target of 9,318 afa, a recent three-year average of annual pumping within the LWRFS,[170] as it did not believe there to be sufficient data to support either an increase or decrease from this amount.[171] However, in its post-hearing brief, NCA opined that if their production wells located within the northwestern portion of the Black Mountains Area were excluded from the LWRFS boundary, then the annual amount of water that could be sustainably developed was less than the 9,318 afa.[172]

Finally, NCA did not support movement of water rights from the Muddy River Springs Area alluvial aquifer to the carbonate-rock aquifer, as it was of the opinion that the movement of those rights would not mitigate impact to the Warm Springs area.[173] Rather, NCA concluded that movement of those rights would compound the impact of pumping from the carbonate-rock aquifer.[174] However, NCA did express some support for movement of senior alluvial water rights as a management tool to offset existing junior carbonate-rock aquifer pumping within the LWRFS.[175]

NV Energy

NV Energy submitted a rebuttal report outlining its responses to the five matters the State Engineer solicited in Interim Order 1303 and presented its opinions and conclusions during the Interim Order 1303 hearing.[176] In its rebuttal report, NV Energy opined that the geographic boundary of the LWRFS should be as established in Interim Order 1303.[177] NV Energy further

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[169] *Id.*
[170] NCA Ex. 1, p. 19. *See, e.g.* Draft order of the State Engineer distributed to LWRFS stakeholders at the LWRFS Working Group meeting, September 19, 2018, official records of the Division of Water Resources.
[171] *Id.*, pp. 18, 24.
[172] NCA Closing, pp. 14–15.
[173] NCA Ex. 1, pp. 19–23, 24.
[174] *Id.*
[175] *Id.*
[176] NVE Ex. 1, *NV Energy Rebuttal Report to State Engineer's Order 1303 Initial Reports by Respondents*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[177] *Id.*, pp. 1–2.

opined that the existence of subsurface outflow from Kane Springs Valley into the LWRFS basins was insufficient to support its inclusion.[178]

NV Energy, in its rebuttal report, disagreed with MBOP's conclusion that the groundwater level declines observed during and after the Order 1169 aquifer test were primarily caused by drought. Rather, NV Energy agreed with SNWA's and MVWD's conclusions that the groundwater recovery occurred between 2–3 years following the conclusion of the aquifer test, but that continued pumping within the carbonate-rock aquifer has inhibited recovery to pre-Order 1169 aquifer test groundwater levels, and that at the current rate of carbonate-rock aquifer pumping the aquifer has nearly reached steady-state conditions and discharge to the Warm Springs area has reached equilibrium.[179]

NV Energy further agreed in its rebuttal report with MBOP's and CNLV's conclusions that some groundwater flowing within the carbonate-rock aquifer bypassed the Muddy River Springs Area, and ultimately the Muddy River. NV Energy also agreed that groundwater development within the southern boundary of the LWRFS would likely have less of an effect on discharge to the Warm Springs area and the river. NV Energy did not opine as to the quantity of water that bypassed the springs, but inferred that the current 7,000–8,000 afy of carbonate-rock aquifer pumping appeared to support the conclusion that steady-state conditions had been reached.[180] NV Energy also opined that movement of senior certificated alluvial water rights in the Muddy River Springs Area to carbonate-rock aquifer wells located in the southern portion of the LWRFS may be considered acceptable as Nevada law allows for the reasonable lowering of the groundwater table, and such movement would not necessarily result in a conflict to existing rights.[181] NV Energy further concluded that, contrary to the conclusions of MBOP, drought was not a significant cause for the groundwater level declines observed.[182] Finally, NV Energy concluded with suggestions that the State Engineer either: (1) combine the LWRFS basins into a single hydrographic basin and declare the new basin to be a Critical Management Area pursuant to NRS 534.037 and 534.110; or, (2) for the State Engineer to, under his authority in NRS 534.020 and

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[178] *Id.*
[179] *Id.*, pp. 2–7.
[180] NVE Ex. 1, p. 8.
[181] *Id.*, pp. 8–9; *Nevada Energy's Closing Statements* (NV Energy Closing), Hearing on Interim Order 1303, official records of the Division of Water Resources, pp. 4–5.
[182] *Id.*, pp. 9–12.

534.120, require the water right holders within the LWRFS to develop a conjunctive management plan.[183]

After considering all of the evidence and testimony presented at the Interim Order 1303 hearing, NV Energy ultimately altered its opinion and found compelling arguments to both support the inclusion of Kane Springs Valley in the LWRFS as well as its exclusion.[184] Ultimately, NV Energy changed its opinion with respect to the geographic boundary of the LWRFS and in its closing statement expressed support for the inclusion of Kane Springs Valley within the LWRFS boundary due to the connection with Coyote Spring Valley and thus the potential for impacts to LWRFS from pumping within Kane Springs Valley.[185] NV Energy proposes that the current pumping regime of 7,000 to 8,000 afy be maintained to evaluate the potential for steady-state conditions and the continued monitoring of the Warm Springs West gage and agrees that moving pumping further south may reduce impact to the Muddy River and springs. With regards to moving water between the alluvial and carbonate-rock aquifers, similar to others, NV Energy agrees with the evaluation of change applications on a case-by-case basis with demonstration that impacts are reduced or unchanged by the proposed point of diversion compared to the existing point of diversion. NV Energy supports an agreement that would include all water users within the LWRFS for the purposes of not exceeding stresses within system and protecting the Moapa dace.[186]

Southern Nevada Water Authority and Las Vegas Valley Water District

The SNWA and LVVWD submitted multiple reports in response to the Interim Order 1303 solicitation.[187] SNWA and LVVWD supported the boundary of the LWRFS as identified in Interim Order 1303, and argued that there was a general consensus of the participants regarding the

[183] *Id.*, p. 12.
[184] Tr. 1761–1762.
[185] NV Energy Closing, pp. 2–3.
[186] *Id.*, pp. 3–6.
[187] SNWA Ex. 7; SNWA Ex. 8, *Marshall, Z.L., and Williams, R.D., 2019, Assessment of Moapa dace and other groundwater- dependent special status species in the Lower White River Flow System, Presentation to the Office of the Nevada State Engineer: Southern Nevada Water Authority, Las Vegas, Nevada*, Hearing on Interim Order 1303, official records of the Division of Water Resources; SNWA Ex. 9, *Burns, A., Drici, W., and Marshall Z.L., 2019, Response to stakeholder reports submitted to the Nevada State Engineer with regards to Interim Order 1303, Presentation to the Office of the Nevada State Engineer: Southern Nevada Water Authority, Las Vegas, Nevada*, Hearing on Interim Order 1303, official records of the Division of Water Resources.

boundaries based upon the hydraulic connectivity within the identified basins.[188] Further, SNWA and LVVWD argued against the exclusion of the northern and western portions of Coyote Spring Valley, that management of adjoining basins should be done in a manner recognizing an impact on pumping from those basins on water availability in the LWRFS basins, and that the Las Vegas Valley should be excluded from the LWRFS.[189]

With respect to the evaluation of the carbonate-rock aquifer recovery since the conclusion of the Order 1169 aquifer test, SNWA and LVVWD concluded that the aquifer has not returned to pre-Order 1169 levels, and that the evidence demonstrates a continued declining trend within the carbonate-rock aquifer as a result of continued groundwater pumping.[190] SNWA and LVVWD concluded that the current pumping continues to capture groundwater storage and that based upon the current rate of groundwater withdrawals, water levels within the carbonate-rock aquifer will continue to decline for the foreseeable future.[191] Further, SNWA and LVVWD rejected the premise that climate was a significant factor over groundwater withdrawals for the observed groundwater level decline.[192]

Based upon a review of the evidence, SNWA and LVVWD concluded that current rate of groundwater withdrawals were not sustainable without adversely impacting senior Muddy River water rights and Moapa dace habitat.[193] Based upon the analysis performed by SNWA and LVVWD, examining the discharge from the Muddy River Springs Area and groundwater production within the carbonate-rock aquifer within the LWRFS, SNWA and LVVWD concluded that any groundwater development within the carbonate-rock aquifer resulted in a one-to-one (1:1) ratio of capture of Muddy River flow, and that regardless of where that pumping occurred, it still resulted in a 1:1 ratio of capture, only that the period of time that the capture was realized was longer.[194] Ultimately, SNWA and LVVWD concluded that while any amount of pumping results

[188] SNWA Ex. 7, pp. 5-1 through 5-18, 8-1. *See also*, Tr. 953.
[189] *Closing Brief of Southern Nevada Water Authority and Las Vegas Valley Water District* (SNWA Closing), pp. 4–9, Hearing on Interim Order 1303, official records of the Division of Water Resources. *See also* SNWA Ex. 9 at sections 6, 7 and 12.
[190] SNWA Closing, pp. 9–12. *See also* SNWA Ex. 7, pp. 5-1 through 5-18, and SNWA Ex. 9, pp. 15–20.
[191] SNWA Closing, pp. 11–12. *See also* Tr. 932.
[192] SNWA Closing, pp. 12–14. *See also* SNWA Ex. 9, pp. 15–17.
[193] SNWA Ex. 7, pp. 6-3 through 6-4, 8-2 through 8-4.
[194] *Id.*, pp. 6-4 through 6-11, 8-2 through 8-4; SNWA Ex. 9, pp. 22–27.

in a conflict with senior decreed Muddy River rights, approximately 4,000 to 6,000 afa could be sustainably pumped from the aquifer.[195] In conjunction with SNWA and LVVWD's evaluation of the quantity of water that may be sustainably developed within the LWRFS, SNWA and LVVWD reviewed the interrelationship between discharge from the carbonate-rock aquifer underlying the LWRFS, groundwater pumping and the impact on the habitat and recovery of the Moapa dace.[196] SNWA and LVVWD ultimately concluded that the flow required to sustain the Moapa dace from adverse effects, including habitat loss and fish population declines was a minimum 3.2 cfs at the Warm Springs West gage.[197]

Finally, it was SNWA and LVVWD's opinion that movement of water rights from the Muddy River Springs Area alluvial aquifer to the carbonate-rock aquifer within the LWRFS may delay the capture of water serving senior decreed rights on the Muddy River, but that movement of water from the alluvial aquifer to the carbonate-rock aquifer would adversely impact the habitat of the Moapa dace.[198] Thus, SNWA and LVVWD concluded transfer of water rights from the Muddy River Springs Area alluvial aquifer to the LWRFS carbonate-rock aquifer would result in further depletion of flow to the Warm Springs area.[199]

Technichrome

Technichrome submitted a response and additional response to the Interim Order in July 2019 but did not participate in the hearing.[200] Technichrome stated that it had no objection to a "joint administrative basin" consisting of Coyote Spring Valley, Black Mountain Area, Garnet Valley, Hidden Valley, Muddy River Springs Area, and Lower Moapa Valley, expressed no comment regarding the inclusion of Kane Springs Valley, but questioned whether the entirety of the White River Flow System should be included in the State Engineer's analysis.[201] However,

[195] Tr. 921–22. *See also* SNWA Ex. 7, pp. 8-1 through 8-5; SNWA Ex. 9, p. 27.
[196] *See* SNWA Ex. 8.
[197] *Id.*, pp. 8-1 through 8-2. *See also* SNWA Closing, pp. 17–19.
[198] *See* SNWA Closing, pp. 19–20. *See also* SNWA Ex. 7, pp. 6-3 through 6-11, 8-4; SNWA Ex. 9, pp. 21–22.
[199] SNWA Closing, p. 20. *See also* Tr. 904–05.
[200] *Response to Interim Order #1303 Submitted [sic] by Technichrome* (Technichrome Response), Hearing on Interim Order 1303, official records of the Division of Water Resources, and *Additional Comments from Technichrome* (Technichrome Addendum), Hearing on Interim Order 1303, official records of the Division of Water Resources.
[201] Technichrome Response, pp. 1–3.

Technichrome did note that it believed that combining all water rights into a single management structure reduced the State Engineer's ability to control groundwater withdrawals. Technichrome stated that it believed that the State Engineer should have the ability to control withdrawals in small areas to best manage the discharge to the Warm Springs area, and that more targeted control over the groundwater withdrawals would be more effective in managing the discharge.[202] Technichrome supported this opinion with some analysis of the results of the Order 1169 aquifer test and its opinion that pumping farther from the Warm Springs area had little to no impact on discharge to Pederson Spring.[203]

In Technichrome's additional comments, Technichrome addressed concerns regarding the injury that would result from a system-wide reduction of groundwater rights throughout the LWRFS.[204] Finally, Technichrome addressed concerns regarding reliance on the priority system, as utilization of the prior appropriation system would benefit senior irrigation uses over the junior industrial uses, and that removal of basin boundaries would remove limitations on movement of water rights between the existing hydrographic basins, which would disrupt junior uses in areas where senior rights may be moved.[205]

U.S. Fish and Wildlife Service

USFWS holds several water rights within the LWRFS and its mission is consistent with the scientific and management aspects of the LWRFS and the management area as established in Interim Order 1303.[206] USFWS opted to participate in the proceeding by submitting initial and rebuttal reports and providing testimony during the administrative hearing.[207] The approach of

[202] *Id.*
[203] *Id.*, and Technichrome Addendum.
[204] Technichrome Addendum.
[205] *Id.*
[206] The USFWS' mission is to work with others to conserve, protect and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people. *See also*, USFWS, *About the U.S. Fish and Wildlife Service*, https://bit.ly/aboutusfws (last accessed June 4, 2020).
[207] USFWS Ex. 5, *Report in Response to Order 1303*, Hearing on Interim Order 1303, official records of the Division of Water Resources; USFWS Ex. 7, *Rebuttal to: Water Level Decline in the LWRFS: Managing for Sustainable Groundwater Development by Cady Johnson and Martin Mifflin* [sic], *Mifflin & Associates, Inc., submitted by the Moapa Band of Paiutes in accordance with Order 1303*, Hearing on Interim Order 1303, official records of the Division of Water Resources.

USFWS was to review available data, develop a hydrogeologic conceptual model, and answer the specific questions posed in Interim Order 1303.

USFWS proposed that the boundary be based on geologic breaks rather than the surface drainage areas. The boundary would then encompass all Muddy River Springs Area, Hidden Valley, Garnet Valley, most of Coyote Spring Valley, most of California Wash, the northwest portion of the Black Mountains area, Kane Springs Valley, and most of Lower Meadow Valley Wash. The extent to which Kane Springs Valley and Lower Meadow Valley Wash are included would depend on the data from an aquifer test that has not yet been performed.[208]

Although, USFWS did not directly opine their view on recovery, their report discusses a conceptual model with insight into lag times and hydraulic connections, and how current conditions relate to sustainable pumping. An "undiminished state of decline" in water levels and spring flows indicated that the system was not in equilibrium at the end of the Order 1169 aquifer test. USFWS postulated there was generally good connectivity within the aquifer system with areas of higher and lower transmittivity. Trends in water levels and spring flows allude to the connection between high elevation springs and carbonate-rock aquifer pumping, with a time lag observed in the recovery of carbonate-rock aquifer water levels and spring flows following the cessation of the Order 1169 aquifer test. The exception is Big Muddy Spring where surface water level trends appeared to be unrelated to the carbonate-rock aquifer water levels.[209]

USFWS determined that the optimum method currently available to estimate the maximum allowable rate of pumping in the LWRFS is the average annual rate of pumping from 2015–2017.[210] USFWS considered the period from 2015 to 2017 because it found that the groundwater withdrawals, the discharge of the Muddy River Springs, and the flow of the Muddy River were all relatively constant; flow rates from Plummer, Pederson, Jones and Baldwin springs, though generally lower than before the Order 1169 aquifer test, were reasonably stable compared to earlier

[208] *See* USFWS Ex. 5, pp. 2, 28–36.
[209] USFWS Ex. 5, pp. 3, 32–33, 35, 37–45; Tr. 266–270, 273–281, 299-301, 433-435.
[210] USFWS Ex. 5, p. 3.

periods.[211] Using the pumpage inventories for this time period, USFWS estimated the sustainable groundwater withdrawals to be 9,318 afa. [212]

Even if total carbonate-rock and alluvial aquifer pumping is maintained at a "sustainable" overall level, USFWS did not support increased carbonated-rock aquifer pumping in exchange for reductions in alluvial aquifer pumping, nor did USFWS support increased alluvial aquifer pumping in exchange for reductions in carbonate-rock aquifer pumping. USFWS suggested that carbonate-rock aquifer pumping should not be moved closer to the springs or the river. Similarly, USFWS suggests that alluvial aquifer pumping in the vicinity of the river should not be moved closer to the river. USFWS opines that any movement of water nearer to the springs or the river is anticipated to decrease the lag time for observing responses from pumping and shorten the time to respond to unfavorable impacts.[213]

Moving forward with management of the LWRFS, USFWS supported the use of the triggers at the Warm Springs West gage, as established under the 2006 MOA. Continuing to use these Warm Springs West flows as a trigger for management will protect and provide habitat for the Moapa dace; a reduction in the flow translates to a reduction in habitat.[214]

USFWS did not deny that water levels were independent of a climate response signal. Using observed data for Nevada Climate Divisions, USFWS visually inspected hydrographs for climate signals. USFWS opined that response to wet periods are observed for wells in both the carbonate-rock and alluvial aquifers and springs that discharge from the carbonate-rock aquifer but stated that response to dry periods cannot be separated from the impacts of pumping. USFWS did not observe these same climate signals in the hydrographs for Jones and Baldwin Springs or the Big Muddy Spring. USFWS disagreed with the conclusion of the MBOP regarding long-term, regional drought, as well as the analytical methods.[215]

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[211] USFWS Ex. 5, pp. 3, 37; Tr. 269–270, 433–435.
[212] USFWS Ex. 5, pp. 3, 36–38; Tr. 268–270.
[213] *See* USFWS Ex. 5, pp. 3–4, 38–39; Tr. 272–273.
[214] *See* USFWS Ex. 5, pp. 4, 39–45; Tr. 273–282; *See also*, NSE Ex. 256; NSE Ex. 244, *2006 Memorandum of Agreement Trigger Levels agreed to by the Southern Nevada Water Authority, Moapa Valley Water District, Coyotes Springs Investments LLC and Moapa Band of Paiute Indians*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[215] *See* USFWS Ex. 5, pp. 24–28, 34–35; *See* USFWS Ex. 7, pp. 2–16; Tr. 258–260, 299–322, 429–432.

Western Elite Environmental/Bedroc

Bedroc is the land holding and water-right holding entity for Western Elite Environmental, Inc., a provider of construction and recyclable waste collection and disposal in Southern Nevada.[216] Bedroc submitted an undated rebuttal report signed by Derek Muaina, General Counsel, and a closing statement.[217] Bedroc presented Jay Dixon as its expert to give a presentation and to discuss the rebuttal report.[218] Mr. Dixon stated that he contributed to the report, and that he agreed with it, but he did not sign the report because he was working for another participant in the hearing (NCA).[219] Mr. Dixon did provide testimony consistent with the report, and adopted the findings of that report, and both the testimony and the report will be considered in this Order.[220]

Bedroc presented testimony and evidence that its source of groundwater is hydraulically disconnected from the regional carbonate aquifer of the LWRFS and that additional groundwater may be available for pumping in their part of Coyote Spring Valley. Bedroc also argued that its basin fill alluvial groundwater pumping should be managed outside of the proposed LWRFS joint administrative unit.[221]

To show the hydraulic disconnect, Bedroc presented geologic information demonstrating its unique location.[222] Bedroc showed that a confining shelf of sedimentary rock was noticeably absent in the vicinity of the Bedroc site where recharge from the Sheep Range rises toward the surface between two faults, which results in shallow groundwater that is subject to ET and capture from shallow groundwater wells at the Bedroc site.[223] Recharge from the Sheep Range was estimated to be 750 afy, an average of the high and low estimates of the maximum recharge

[216] Bedroc Ex. 2, *Interim Order 1303- Rebuttal Report- Prepared by Bedroc and Dixon Hydrologic, PLLC- August 2019*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[217] Bedroc Ex. 2; *Western Elite Environmental Inc.'s and Bedroc Limited, LLC's Closing Statement* (Bedroc Closing), Hearing on Interim Order 1303, official records of the Division of Water Resources.
[218] *See* Tr. 1718–1719.
[219] Tr. 1719, 1741.
[220] Tr. 1718–1757, 1749–1750.
[221] Bedroc Closing, pp. 13–14. Bedroc offered summary responses to the first four questions posed by Order 1303 but did no independent analysis. *See* Bedroc Closing, p. 12.
[222] Bedroc Closing, p. 2.
[223] *Id*; Tr. 1726–1733.

available.[224] SNWA challenged this calculation, pointing out that the estimated recharge could be as low as 130 acre-feet.[225]

Bedroc believes that it is capturing the recharge that would otherwise be lost to evapotranspiration.[226] Groundwater conditions at Bedroc's site show a rise in water levels between 2003 and 2006.[227] Bedroc attributed this rise in part to the installation of an unlined storage pond upgradient from the well, but also to the 2005 recharge event that was discussed by many participants to the proceeding.[228] Between 2006 and 2011, Bedroc showed that groundwater levels had been relatively stable even though pumping by Bedroc was fairly constant.[229] Bedroc showed photo evidence of evapotranspiration occurring around the Bedroc site, pointing to areas of white surface soils and green occurring in the photo as evidence of salt residue and phreatophytes, both occurring as a result of shallow groundwater evaporation.[230] The area is estimated to be about 2,200 acres, and the ET range is estimated to be 0.2 to 0.3 feet per year.[231] This results in an estimate of 400 to 600 afa of groundwater that potentially could be captured every year without pulling groundwater from storage.[232] If pumping in this area exceeded ET, water levels to the east of Bedroc would be dropping.[233]

Bedroc considered the alluvial system at its location to be a separate aquifer from the carbonate-rock aquifer in the LWRFS.[234] CBD in its report also supports this conclusion, suggesting that some groundwater can be withdrawn from the Coyote Spring Valley alluvial aquifer system because that system is disconnected from and not responsible for substantial recharge to the carbonate-rock aquifer.[235] SNWA testified similarly during the hearing.[236]

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[224] Tr. 1724–1725, 1755.
[225] Tr. 1755.
[226] Bedroc Closing, pp. 5–9.
[227] Tr. 1735.
[228] *Id.*
[229] Tr. 1735–1736.
[230] Tr. 1734, 1738.
[231] Tr. 1739.
[232] Tr. 1739.
[233] Tr. 1739. *See also* Bedroc Closing, p. 8.
[234] Tr. 1746.
[235] Bedroc Ex. 2, p. 5.
[236] Tr. 1024.

Relying on a lack of connection between pumping at Bedroc and the carbonate-rock aquifer, Bedroc asserted that there is no likely impact to the Warm Springs area caused by Bedroc.[237] Bedroc compared groundwater elevations over time in two alluvial wells, CSV-3009M and CSVM-7, and showed an upward trend in groundwater elevations.[238] But, when comparing groundwater elevations of two monitoring wells in different sources, CSVM-7 in the alluvium and CSVM-4 in the carbonate-rock aquifers, the carbonate-rock aquifer well elevations showed a decline during the Order 1169 aquifer test, but the alluvial well elevation rose during the same period and leveled off after the conclusion of the test.[239] Bedroc concluded that these data illustrate 1) the hydraulic disconnect between the local alluvial aquifer and carbonate-rock aquifer and 2) if historical alluvial pumping at Bedroc has not impacted water levels in nearby alluvial wells, then there is likely no impact to spring or streamflow in the Muddy River Springs Area.

Finally, Bedroc stated that managing all users in the region under the same system would arbitrarily impact users whose water neither comes from the regional carbonate-rock aquifer system nor impacts the springs of concern downstream.[240] It urged caution in allowing transfer of water rights between alluvial and carbonate-rock aquifers due to potential impacts on senior users that are using local recharge that may not sustain pumping from additional users.[241] Transfers of senior alluvial rights from the Muddy River Springs Area to the area near Bedroc should be considered on a case-by-case basis to protect Bedroc's senior water rights.[242]

III. PUBLIC COMMENT

WHEREAS, following the conclusion of the Interim Order 1303 hearing, opportunity for public comment was offered, including the opportunity to submit written public comment, which was due to be submitted to the Division no later than December 3, 2019. Lincoln County Board of

[237] Bedroc Closing, p.11. *See also* SNWA testimony of Andrew Burns that pumping at Bedroc wells is not likely to impact the carbonate system or the Muddy River. Tr. 1024–1025.
[238] Bedroc Closing, p. 12. *See also* Tr. 1736–1737, 1752.
[239] Tr. 1737–1738.
[240] Bedroc Ex. 2, pp. 2–4.
[241] *Id.*, p. 6.
[242] Tr. 1740.

County Commissioners submitted written public comment in addition to the closing argument submitted by LC-V.[243]

IV. AUTHORITY AND NECESSITY

WHEREAS, NRS 533.024(1)(c) directs the State Engineer "to consider the best available science in rendering decisions concerning the availability of surface and underground sources of water in Nevada."

WHEREAS, in 2017 the Nevada Legislature added NRS 533.024(1)(e), declaring the policy of the State to "manage conjunctively the appropriation, use and administration of all waters of this State regardless of the source of the water."

WHEREAS, NRS 534.020 provides that all waters of the State belong to the public and are subject to all existing rights.

WHEREAS, as demonstrated by the results of the Order 1169 aquifer test and in the data collected in the years since the conclusion of the aquifer test, the LWRFS exhibits a direct hydraulic connection that demonstrates that conjunctive management and joint administration of these groundwater basins is necessary and supported by the best available science.[244]

WHEREAS, the pre-development discharge of 34,000 acre-feet of the fully appropriated Muddy River system plus the more than 38,000 acre-feet of groundwater appropriations within the LWRFS greatly exceed the total water budget that may be developed without impairment of senior existing rights or proving detrimental to the public interest.

WHEREAS, the available groundwater supply within the LWRFS that can be continually pumped over the long-term is limited to the amount that may be developed without impairing existing senior rights, rights on the Muddy River or adversely affecting the public interest in

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[243] *See* Board of County Commissioners, Lincoln County, Nevada, *Public Comment to Interim Order #1303 Hearing, Reports, and Evidence on the Lower White River Flow System,* Hearing on Interim Order 1303, official records of the Division of Water Resources.

[244] *See, e.g.*, NSE Ex. 245; NSE Ex. 248; NSE Ex. 256; NSE Ex. 252; NSE Ex. 282, *Federal Bureaus Order 1169 Report Selected References: Comparison of Simulated and Observed Effects of Pumping from MX-5 Using Data Collected to the Endo of the Order 1169 Test, and Prediction of the Rates of Recovery from the Test, TetraTech, 2013*, Hearing on Interim Order 1303, official records of the Division of Water Resources. *See also, e.g.*, CBD Ex. 3; MVWD Exs. 3– 4; MVIC Ex. 1; NCA Ex. 1, SNWA Exs. 7–9; USFWS Exs. 5–6; NPS Exs. 2–3.

protection of the endangered Moapa dace and the habitat necessary to support the management and recovery of the Moapa dace.

WHEREAS, pursuant to NRS 532.120, the State Engineer is empowered to make such reasonable rules and regulations as may be necessary for the proper and orderly execution of the powers conferred by law.

WHEREAS, pursuant to NRS 534.110(6) the State Engineer is directed to conduct investigations in groundwater basins where it appears that the average annual replenishment of the groundwater is insufficient to meet the needs of all water right holders, and if there is such a finding, the State Engineer may restrict withdrawals to conform to priority rights.

WHEREAS, within an area that has been designated by the State Engineer, as provided for in NRS Chapter 534, and specifically, NRS 534.120, where, in the judgment of the State Engineer, the groundwater basin is being depleted, the State Engineer in his or her administrative capacity may make such rules, regulations and orders as are deemed essential for the welfare of the area involved.[245]

WHEREAS, the State Engineer has the authority to hold a hearing to take evidence and the interpretation of the evidence with respect to its responsibility to manage Nevada's water resources and to allow willing participants to present evidence and testimony regarding the conclusions relating to the questions presented in Interim Order 1303. The State Engineer recognizes that the MBOP is a federally recognized tribe, and that its participation in the hearing was to facilitate the understanding of the interpretation of data with respect to the Interim Order 1303 solicitation.

V. ENDANGERED SPECIES ACT

WHEREAS, the Endangered Species Act (ESA), 16 U.S.C. §1531 et seq. is a federal law designed to serve the purpose of identifying, conserving and ultimately recovering species declining toward extinction.[246] Specifically, while the ESA is primarily a conservation program, a critical element of the conservation component seeks to encourage cooperation and coordination

[245] *See also* NRS 534.030, NRS 534.110.
[246] 16 U.S.C. § 1531(a)–(b).

with state and local agencies.[247] The responsibility of enforcement and management under the ESA rests predominately with the federal government; however, the ultimate responsibility is shared.[248]

WHEREAS, the ESA makes it unlawful for any person to "take" an endangered species – or to attempt to commit, solicit another to commit, or cause to be committed, a taking.[249] The term "person" is broadly defined to include the State and its instrumentalities.[250] "Take" encompasses actions that "harass, harm" or otherwise disturb listed species, including indirect actions that result in a take.[251] For example, a state regulator is not exempted from the ESA for takings that occur as a result of a licensee's regulated activity. States have been faced with the impediment of their administrative management actions being subservient to the ESA. For example, the Massachusetts Division of Marine Fisheries was subject to an injunction prohibiting it from issuing commercial fishing licenses because doing so would likely lead to the taking of an endangered species.[252] In *Strahan v. Coxe*, the court's decision relied on reading two provisions of the ESA— the definition of the prohibited activity of a "taking" and the causation by a third party of a taking— "to apply to acts by third parties that allow or authorize acts that exact a taking and that, but for the permitting process, could not take place."[253] Although Massachusetts was not the one directly causing the harm to the endangered species, the court upheld the injunction because "a governmental third party pursuant to whose authority an actor directly exacts a taking of an endangered species may be deemed to have violated the provisions of the ESA."[254] At least three other circuits have held similarly.[255] In each case, "the regulatory entity purports to make lawful an activity that allegedly violates the ESA."[256] Thus the action of granting the permit for the regulated activity has been considered an indirect cause of a prohibited taking under the ESA.

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[247] 16 U.S.C. § 1531(c); 16 U.S.C. § 1536.
[248] 16 U.S.C.A. § 1536.
[249] 16 U.S.C.A. § 1538(g).
[250] 16 U.S.C.A. § 1532(13).
[251] 16 U.S.C.A. § 1532(19). The term "harm" is defined by regulation, 50 C.F.R. § 17.3 (1999).
[252] *Strahan v. Coxe*, 127 F.3d 155 (1st.Cir.1997), *cert denied* 525 U.S. 830 (1998).
[253] *Id.*, p. 163.
[254] *Id.*
[255] *See Sierra Club v. Yeutter*, 926 F.2d 429 (5th Cir.1991); *Defenders of Wildlife v. EPA*, 882 F.2d 1294 (8th Cir. 1989); *Loggerhead Turtle v. County Council*, 148 F.3d 1231 (11th Cir.1998); *Palila v. Hawaii Dept. of Land & Natural Resources*, 852 F.2d 1106 (9th Cir.1988).
[256] *Loggerhead Turtle*, 148 F.3d at 1251.

WHEREAS, the use of water in Nevada is a regulated activity.[257] It is the responsibility of the State to manage the appropriation, use and administration of all waters of the state.[258] Based on *Strahan* and similar decisions, the act of issuing a permit to withdraw groundwater that reduces the flow of the springs that form the habitat of the Moapa dace and were to result in harm to the Moapa dace exposes the Division, the State Engineer and the State of Nevada to liability under the ESA.

WHEREAS, a USFWS biological opinion for the MOA found that the reduction in spring flow from the warm springs could impact the dace population in multiple ways. First, the USFWS found that declines in groundwater levels will reduce the flow to the Warm Springs area and allow for cooler groundwater seepage into streams. With reduced spring flow, Moapa dace habitat is reduced.[259] Additionally, USFWS determined that the reduced flows of warm water from the springs will also result in cooler water available throughout the dace habitat, reducing spawning habitat and resulting in a population decline.[260]

WHEREAS, based upon the testimony and evidence offered in response to Interim Order 1303, it is clear that it is necessary for spring flow measured at the Warm Springs West gage to flow at a minimum rate of 3.2 cfs in order to maintain habitat for the Moapa dace.[261] A reduction of flow below this rate may result in a decline in the dace population. This minimum flow rate is not necessarily sufficient to support the rehabilitation of the Moapa dace.[262]

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[257] NRS 533.030; 533.325; 534.020.
[258] NRS 533.325; 533.024(1)(e); 534.020.
[259] USFWS Ex. 5, pp. 50–52.
[260] SNWA Ex. 8, pp. 6-2 through 6-3; SNWA Ex. 40, *Hatten, J.R., Batt, T.R., Scoppettone, G.G., and Dixon, C.J., 2013, An ecohydraulic model to identify and monitor Moapa dace habitat. PLoS ONE 8(2):e55551, doi:10.1371/journal.pone.0055551.*, Hearing on Interim Order 1303, official records of the Division of Water Resources; SNWA Ex. 41, *U.S. Fish and Wildlife Service, 2006a, Intra-service programmatic biological opinion for the proposed Muddy River Memorandum of Agreement regarding the groundwater withdrawal of 16,100 acre-feet per year from the regional carbonate aquifer in Coyote Spring Valley and California Wash basins, and establish conservation measures for the Moapa Dace, Clark County, Nevada. File No. 1-5-05 FW-536, January 30, 2006.*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[261] Tr. 1127–1128.
[262] Tr. 401–402, 1147, 1157–1158.

WHEREAS, the ESA prohibits any loss of Moapa dace resulting from actions that would impair habitat necessary for its survival. Some groundwater users are signatories to an MOA that authorizes incidental take of the Moapa dace; however, the State Engineer and many other groundwater users are not covered by the terms of the MOA.[263] Not only would liability under the ESA for a "take" extend to groundwater users within the LWRFS, but would so extend to the State of Nevada through the Division as the government agency responsible for permitting water use.

WHEREAS, the State Engineer concludes that it is against the public interest to allow groundwater pumping from the LWRFS that will reduce spring flow in the Warm Springs area to a level that would impair habitat necessary for the survival of the Moapa dace and could result in take of the endangered species.

VI. GEOGRAPHIC BOUNDARY OF THE LWRFS

WHEREAS, the geographic boundary of the hydrologically connected groundwater and surface water systems comprising the LWRFS, as presented in Interim Order 1303, encompasses the area that includes Coyote Spring Valley, Muddy River Springs Area, California Wash, Hidden Valley, Garnet Valley and the northwest portion of the Black Mountains Area.[264] The rationale for incorporating these areas into a single administrative unit included the presence of a distinct regional carbonate-rock aquifer that underlies and uniquely connects these areas; the remarkably flat potentiometric surface observed within the area; the diagnostic groundwater level hydrographic pattern exhibited by monitoring wells distributed across the area; and the area-wide diagnostic water level response to pumping during the Order 1169 aquifer test. Each of these characteristics were previously identified and examined in the hydrological studies and subsequent hearing that followed the completion of the Order 1169 aquifer test. Indeed, these characteristics were the foundational basis for the State Engineer's determination in Rulings 6254–6261 that the

[263] NSE Ex. 236; SNWA Ex. 8, pp. 5-1 through 5-8.
[264] *See* NSE Ex. 1, p. 6.

close hydrologic connection[265] and shared source and supply of water in the LWRFS required joint management.[266]

WHEREAS, evidence and testimony presented during the Interim Order 1303 hearing indicated a majority consensus among stakeholder participants that this originally defined area is appropriately combined into a single unit.[267] Evidence and testimony was also presented on whether to add adjacent basins, or parts of basins to the administrative unit; to modify boundaries within the existing administrative unit; or to eliminate the common administrative unit boundaries. The State Engineer has considered this evidence and testimony on the basis of a common set of criteria that are consistent with the original characteristics considered critical in demonstrating a close hydrologic connection requiring joint management in Rulings 6254–6261 and more specifically, include the following:

1) Water level observations whose spatial distribution indicates a relatively uniform or flat potentiometric surface are consistent with a close hydrologic connection.

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[265] The State Engineer notes that the terminology "***hydrologic*** connection" and "***hydraulic*** connection" have been used by different parties sometimes interchangeably, and commonly with nearly the same meaning. The State Engineer considers a hydraulic connection to be intrinsically tied to the behavior and movement of water. With regard to aquifers, it may be thought of as the natural or induced movement of water through permeable geologic material. The degree of hydraulic connection can be considered a measure of the interconnection between locations as defined by a cause and effect change in potentiometric surface or a change in groundwater inflow or outflow that reflects characteristics of both the aquifer material and geometry, and groundwater behavior. It is commonly characterized by a response that is transmitted through the aquifer via changes in hydraulic head, ie., groundwater levels. Hydrologic connections may include hydraulic connections but can also represent more complex system interactions that can encompass all parts of the water cycle, and in some cases may focus on flow paths, water budgets, geochemical interactions, etc. The State Engineer's use of the term "***close*** hydrological connection" is intended to encompass and include a direct hydraulic connection that is reflected in changes in groundwater levels in response to pumping or other fluxes into or out of the aquifer system within a matter of days, months, or years. The closeness, strength, or directness of the response is indicated by timing, with more distinct and more immediate responses being more "close".

[266] *See* NSE Ex. 14, p. 12, 24.

[267] *See* Participant testimony from SNWA (Tr. 875–876), CNLV (Tr. 1418), and CSI (Tr. 95–96). Several other participants agreed, too, that the State Engineer's delineation of the LWRS as defined in Interim Order 1303 was acceptable. *See also* Bedroc Closing, p. 12, Church Closing, p. 1; Technichrome Response, p. 1. Other participants recommended larger areas be included within the LWRFS boundary. *See* Tr. 261–266 (USFWS), 1571–1572 (CBD), 1697–1698 (MVIC). *See also* NV Energy Closing, pp. 2–3; NPS Closing pp. 2–5.

2) Water level hydrographs that, in well-to-well comparisons, demonstrate a similar temporal pattern, irrespective of whether the pattern is caused by climate, pumping, or other dynamic is consistent with a close hydrologic connection.

3) Water level hydrographs that demonstrate an observable increase in drawdown that corresponds to an increase in pumping and an observable decrease in drawdown, or a recovery, that corresponds to a decrease in pumping, are consistent with a direct hydraulic connection and close hydrologic connection to the pumping location(s).

4) Water level observations that demonstrate a relatively steep hydraulic gradient are consistent with a poor hydraulic connection and a potential boundary.

5) Geological structures that have caused a juxtaposition of the carbonate-rock aquifer with low permeability bedrock are consistent with a boundary.

6) When hydrogeologic information indicate a close hydraulic connection (based on criteria 1-5), but limited, poor quality, or low resolution water level data obfuscate a determination of the extent of that connection, a boundary should be established such that it extends out to the nearest mapped feature that juxtaposes the carbonate-rock aquifer with low-permeability bedrock, or in the absence of that, to the basin boundary.

WHEREAS, some testimony was presented advocating to include additional areas to the LWRFS based principally on water budget considerations and/or common groundwater flow pathways.[268] Indeed, some participants advocate to include the entire White River Flow System, or other basins whose water may ultimately flow into or flow out of the system.[269] Other participants used, but did not rely on, water budget and groundwater flow path considerations to support their analysis. Like those participants, the State Engineer agrees that while water budget and groundwater flow path analysis are useful to demonstrate a hydrologic connection, additional information is required to demonstrate the relative strength of that connection. Thus, the State

[268] *See e.g.,* CNLV Ex. 3, p. 33, Tr. 1430; NPS Closing, p. 2. *See also* Tr. 253–257; Sue Braumiller, *Interpretations of available Geologic and Hydrologic Data Leading to Responses to Questions Posed by the State Engineer in Order 1303 regarding Conjunctive Management of the Lower White River Flow System* (USFWS Braumiller presentation), slide 11, Item 6., bullet 1, official records of the Division of Water Resources; MBOP Ex. 2, p. 11.
[269] *See e.g.*, GBWN Report, pp. 1–2.

Engineer recognizes that while any hydrologic connection, weak or strong, needs to be considered in any management approach, many of the connections advocated based principally on a water budget or flow path analysis, including those between nearby basins like Las Vegas Valley and Lower Meadow Valley Wash, are not demonstrated to provide for the uniquely close hydraulic connection that require joint management.

WHEREAS, in their closing statement, NPS proposes that all adjacent hydrographic areas to the original Interim Order 1303 administrative unit where a hydraulic interconnection exists, whether weak or strong, be included in the LWRFS.[270] It does so to alleviate the need for developing new management schemes for the excluded remnants and to provide for appropriate management approaches based on new information and improved understanding of differing degrees of hydraulic interconnection in various sub-basins. The State Engineer agrees with this logic, up to a point, and has applied these concepts to the extent practical as demonstrated in his criteria for determining the extent of the LWRFS. However, the State Engineer also finds that there must be reasonable and technically defensible limits to the geographic boundary. Otherwise, if management were to be based on the entire spectrum of weak to strong hydraulic interconnection, then exclusion of an area from the LWRFS would require absolute isolation from the LWRFS; every sub-basin would have its own management scheme based on some measure of its degree of connectedness; and proper joint management would be intractable.

WHEREAS, evidence and testimony was also presented by the NPS regarding the specific inclusion of the entirety of the Black Mountains Area in the LWRFS.[271] The State Engineer recognizes that there may be a hydrologic connection between the Black Mountains Area and upgradient basins that are sources of inflow, and that outflow from the LWRFS carbonate-rock aquifer may contribute to discharge from Rogers and Blue Point Springs. However, the State Engineer does not find that this supports inclusion of the entirety of the Black Mountains Area. This determination is made based on the lack of contiguity of the carbonate-rock aquifer into this

[270] NPS Closing, pp. 3–5.

[271] NPS Closing pp. 3–4. *See also* Tr.534, 555–569; Richard K. Waddell, Jr., *Testimony of Richard K. Waddell on behalf of the National Park Service*, presentation during hearing for Interim Order 1303 (NPS Presentation), slides 32–46, official records of the Division of Water Resources.

area,[272] the difference in observed water level elevations compared to those in adjacent carbonate-rock aquifer wells to the north and west,[273] and the absence of observed diagnostic hydrographic patterns and responses that define the uniquely close hydraulic connection that characterizes the LWRFS.[274]

WHEREAS, evidence and testimony presented by USFWS relied principally on SeriesSEE analysis of water level responses submitted by the Department of Interior Bureaus following the Order 1169 aquifer test to establish the general extent of the LWRFS. This was supported by the application of hydrogeology and principles of groundwater flow to define specific boundary limits to the LWRFS. It proposed that most of the Lower Meadow Valley Wash be considered for inclusion in the LWRFS based on the potential geologic continuity between carbonate rocks underlying the Lower Meadow Valley Wash and the carbonate-rock aquifer underlying Coyote Spring Valley, the Muddy River Springs Area, and California Wash.[275] Additionally, it asserted that the alluvial aquifer system in Lower Meadow Valley Wash contributes to and is connected to both the Muddy River and the alluvial aquifer system in California Wash. The State Engineer finds that while carbonate rocks may underlie the Lower Meadow Valley Wash and be contiguous with carbonate rocks to the south and west, data are lacking to characterize the potential hydraulic connection that may exist. Regarding the hydraulic connection between the Lower Meadow Valley Wash alluvial aquifer and the LWRFS, the State Engineer agrees with USFWS that a connection exists, but finds that any impacts related to water development in the Lower Meadow Valley Wash alluvial aquifer are localized, and unrelated to the carbonate-rock aquifer, and can be appropriately managed outside the LWRFS joint management process.

WHEREAS, NCA advocated for the exclusion of the portion of the Black Mountains Area from the LWRFS that contains their individual production wells. NCA premise this primarily on testimony and analysis performed by SNWA with respect to the impact of pumping from this area

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[272] *See* CSI Ex. 14, Plate 2, Map and Plate 4, Cross section K–K', in Peter D. Rowley et. al., *Geology and Geophysics of White Pine and Lincoln Counties, Nevada and Adjacent Parts of Nevada and Utah: The Geologic Framework of Regional Groundwater Flow Systems*, Nevada Bureau of Mines and Geology Report 56.
[273] *See, e.g.*, USFWS Ex. 5, p. 30.
[274] *Id.*, p. 17.
[275] *Id.*, pp. 19–24.

on discharge to the Warm Springs area.[276] It also used hydrogeologic and water level response information to conclude that strike-slip faulting and a weak statistical correlation between water levels at NCA well EBM-3 and EH-4 in the Warm Springs area support a boundary to the north of the NCA production wells. While the State Engineer finds logic in NCA's position, other testimony describing flaws in the SNWA analysis make for a compelling argument against relying on SNWA's statistically-based results.[277] The substantial similarity in observed water level elevation and water level response at EBM-3 compared to EH-4[278] and limitations in relying on poor resolution water level measurements for statistical or comparative analysis[279] requires a more inclusive approach that places the boundary to the south of the NCA production wells to a geological location that coincides with the projection of the Muddy Mountain Thrust. This more closely coincides with the measurable drop in water levels recognized to occur south of the NCA wells, between EBM-3 and BM-ONCO-1 and 2, that is indicative of a hydraulic barrier or zone of lower permeability.[280] It also better honors the State Engineer's criteria by acknowledging the uncertainty in the data while reflecting a recognized physical boundary in the carbonate-rock aquifer. Specifically, this shall be defined to include that portion of the Black Mountains Area lying within portions of Sections 29, 30, 31, 32, and 33, T.18S., R.64E., M.D.B.&M.; portions of Sections 1, 11, 12, 14, 22, 23, 27, 28, 33, and 34 and all of Sections 13, 24, 25, 26, 35, and 36, T.19S., R.63E., M.D.B.&M.; portions of Sections 4, 6, 9, 10, and 15 and all of Sections 5, 7, 8, 16, 17, 18, 19, 20, 21, 29, 30, and 31, T.19S., R.64E., M.D.B.&M.[281]

WHEREAS, numerous participants advocated to include Kane Springs Valley in the LWRFS basins.[282] Other participants advocated to exclude Kane Springs Valley.[283] Several expert witnesses recommended the exclusion of Kane Springs Valley based on their characterization of water level elevation data, temporal hydrographic response patterns, geochemistry, and/or the

[276] *See,* Tr. 1622, 1624; NCA Closing.
[277] *See, e.g.*, Tr. 1467–1469 CNLV presentation, slides 21–23; Tr. 1784–1786; NV Energy presentation, slides 32–33.
[278] NCA Closing, p. 18, Figure 3.
[279] NCA Closing, p. 8.
[280] *See e.g.*, USFWS Ex. 5.
[281] See map of the LWRFS Hydrographic Basin as defined by this Order, Attachment A.
[282] *See, e.g.*, NV Energy Closing, p. 2; NCA Closing, p. 10–14; MVWD Closing, p. 2–8.
[283] *See e.g.*, *Written Closing Statement of Lincoln County Water District and Vidler Water Company, Inc.* (LC-V Closing), Hearing on Interim Order 1303, official records of the Division of Water Resources, p. 3–6; CSI Closing, p. 2.

geophysically-inferred presence of structures that may act as flow barriers. Others recommended inclusion based on the same or similar set of information. Water level elevations observed near the southern edge of Kane Springs Valley are approximately 60 feet higher than those observed in the majority of carbonate-rock aquifer wells within the LWRFS to the south; consistent with a zone of lower permeability.[284] Some experts suggested that the hydrographic response pattern exhibited in wells located in the southern edge of Kane Springs Valley is different compared to that exhibited in wells in the LWRFS, being muted, lagged, obscured by climate response, or compromised by low-resolution data.[285] In this regard, the State Engineer recognizes these differences. However, he finds that the evidence and testimony supporting a similarity in hydrographic patterns and response as provided by expert witnesses, like that of the NPS, to be persuasive.[286] Namely, that while attenuated, the general hydrographic pattern observed in southern Kane Springs Valley reflects a response to Order 1169 pumping, consistent with a close hydraulic connection with the LWRFS. The State Engineer also finds that occurrence of the carbonate-rock aquifer in the southern Kane Springs Valley indicates that there is no known geologic feature at or near the southern Kane Springs Valley border that serves to juxtapose the carbonate-rock aquifer within the LWRFS with low permeability rocks in Kane Springs Valley.[287] He also finds that while geologic mapping[288] indicates that the carbonate-rock aquifer does not extend across the northern portion of the Kane Springs Valley, there is insufficient information available to determine whether the non-carbonate bedrock interpreted to underlie the northern part of the Kane Springs Valley represents low-permeability bedrock that would define a hydraulic boundary to the carbonate-rock aquifer.[289] After weighing all of the testimony and evidence relative to his criteria

[284] LC-V Closing, p. 7.
[285] *See, e.g.*, LC-V Closing, pp. 5–6; LC-V Ex. 1, pp. 3-3–3-4; CSI Closing, pp. 5–6.
[286] *See* Tr. 524–55. *See, e.g.*, NPS presentation, slides 23–27.
[287] Pursuant to the criteria requiring joint management of hydrographic basins and the sixth criteria establishing that the boundary should extend to the nearest mapped feature that juxtaposes the carbonate-rock aquifer with low-permeability bedrock, or where a mapped feature cannot be adequately identified, to the basin boundary, the State Engineer includes the entirety of Kane Springs Valley.
[288] *See, e.g.*, NSE Ex. 12; Page, W.R., Dixon, G.L., Rowley, P.D., and Brickey, D.W., 2005, *Geologic Map of Parts of the Colorado, White River, and Death Valley Groundwater Flow Systems, Nevada, Utah, and Arizona*: Nevada Bureau of Mines and Geology Map 150, Plate plus text.
[289] *See, e.g.*, SNWA Ex. 7, pp. 2-4, 2-5, 2-10, 2-11, and 4-1, that describe volcanic rocks as important aquifers, and calderas as both flow paths and barriers depending on structural controls

for inclusion into the LWRFS, the State Engineer finds that the available information requires that Kane Springs Valley be included within the geographic boundary of the LWRFS.

WHEREAS, limited evidence and testimony were provided by participants advocating to either include or exclude the northern portion of Coyote Spring Valley. The State Engineer finds that while information such as that provided by Bedroc is convincing and supports a finding that local, potentially discrete aquifers may exist in parts of the northern Coyote Springs Valley, his criteria for defining the LWRFS calls for the inclusion of the entirety of the basin in the LWRFS. However, the State Engineer also acknowledges that there may be circumstances, like in the northern Coyote Spring Valley, where case-by-case considerations for proper management are warranted.

WHEREAS, evidence and testimony from Georgia-Pacific and Republic, and MBOP advocated against creating a single LWRFS administrative unit. Their arguments were principally based on concerns that there was insufficient consensus on defining the LWRFS geographic boundaries and that there were inherent policy implications to establishing an LWRFS administrative unit. MBOP recommended continuing to collect data and focusing on areas of scientific consensus. Georgia-Pacific and Republic asserted that boundaries are premature without additional data and without a legally defensible policy and management tools in place. They expressed concern that creating an administrative unit at this time inherently directs policy without providing for due process. The State Engineer has considered these concerns and agrees that additional data and improved understanding of the hydrologic system is critical to the process. He also believes that the data currently available provide enough information to delineate LWRFS boundaries, and that an effective management scheme will provide for the flexibility to adjust boundaries based on additional information, retain the ability to address unique management issues on a sub-basin scale, and maintain partnership with water users who may be affected by management actions throughout the LWRFS.

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to flow, citing Peter D. Rowley, and Dixon, G.L., 2011, *Geology and Geophysics of Spring, Cave, Dry Lake, and Delamar Valleys, White Pine and Lincoln Counties, and Adjacent Areas, Nevada and Utah: The Geologic Framework of Regional Flow Systems*,.

WHEREAS, evidence and testimony support the delineation of a single hydrographic basin as originally defined by the State Engineer in Interim Order 1303, with the adjustment of the Black Mountain Area boundary and the addition of Kane Springs Valley. The State Engineer acknowledges that special circumstances will exist with regard to both internal and external management. Water development both inside and outside of the perimeter of the LWRFS will continue to be evaluated on the best available data and may become subject to or excluded from the constraints or regulations of the LWRFS.

WHEREAS, the geographic extent of the LWRFS is intended to represent the area that shares both a unique and close hydrologic connection and virtually all of the same source and supply of water, and therefore will benefit from joint and conjunctive management. In that light, the State Engineer recognizes that different areas, jointly considered for inclusion into the LWRFS, have been advocated both to be included and to be excluded by the different hearing participants based on different perspectives, different data subsets, and different criteria. For the Muddy River Springs Area, California Wash, Garnet Valley, Hidden Valley, Coyote Spring Valley, and a portion of the Black Mountain Area, there is a persuasive case previously laid out in Rulings 6254-6261, and the consensus amongst the participants support their inclusion in the LWRFS. For other sub-basins such as Kane Springs Valley and the area around the NCA production wells in the Black Mountain Area, there is persuasive evidence to support their inclusion or exclusion; however, the State Engineer's criteria and available data mandate their inclusion. Their inclusion in the LWRFS provides the opportunity for conducting additional hydrologic studies in sub-basins such as these, to determine the degree to which water use would impact water resources in the LWRFS and to allow continued participation by holders of water rights in future management decisions. Thus, these sub-basins, and any other portions of the LWRFS that may benefit from additional hydrological study, can be managed more effectively and fairly within the LWRFS. For other basins whose inclusion was advocated, such as the northern portion of Las Vegas Valley and the Lower Meadow Valley Wash, the State Engineer finds that data do not exist to apply his criteria, and therefore they cannot be considered for inclusion into the LWRFS. These types of areas may require additional study and special consideration regarding the potential effects of water use in these areas on water resources within the LWRFS.

VII. AQUIFER RECOVERY SINCE COMPLETION OF THE ORDER 1169 AQUIFER TEST

WHEREAS, during the Order 1169 aquifer test an average of 5,290 afa were pumped from the carbonate-rock aquifer wells in Coyote Spring Valley and a cumulative total of 14,535 afa were pumped throughout the Order 1169 study basins. A portion of this total, approximately 3,840 acre-feet per year, was pumped from the alluvial aquifer in the Muddy River Springs Area.[290] In the years since completion of the Order 1169 aquifer test, pumping from wells in the LWRFS has gradually declined.[291] Pumping in 2013-2014 averaged 12,635 afa; pumping in 2015-2017 averaged 9,318 afa.[292] Pumpage inventories for 2018 that were published after the completion of the hearing report a total of 8,300 afa.[293] Pumping from alluvial aquifer wells in the Muddy River Spring Area has consistently declined since closure of the Reid Gardner power plant beginning in 2014, while pumping from the carbonate-rock aquifer since the completion of the aquifer test has consistently ranged between approximately 7,000 and 8,000 afa.

WHEREAS, the information obtained from the Order 1169 aquifer test and in the years since the conclusion of the test demonstrates that while, following conclusion of the aquifer test, there was a recovery of groundwater levels, the carbonate-rock aquifer has not recovered to pre-Order 1169 test levels.[294] Evidence and testimony submitted during the 2019 hearing does not refute the conclusions made by the State Engineer in Rulings 6254–6261 regarding interpretations of the Order 1169 aquifer test results, which were based on observations and analysis by multiple technical experts. Groundwater level recovery reached completion approximately two to three years after the Order 1169 aquifer test pumping ended.[295]

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[290] NSE Ex. 1, p. 4.
[291] *See, e.g.* NSE Ex. 50, *Pumpage Report Coyote Spring Valley 2017*; NSE Ex. 67, *Pumpage Report Black Mountains Area 2017*; NSE Ex. 84, *Pumpage Report Garnet Valley Area 2017*; NSE Ex. 86, *Pumpage Report California Wash Area 2017*; Ex. 88, *Pumpage Report Muddy River Springs Area 2017*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[292] *Id.*
[293] *Id.*
[294] *See, e.g.*, SNWA Ex. 7, pp. 5-17–5-18, 8-2; NPS Closing, p. 4; MVWD Closing, p. 8. *See also* Tr. 1807; NV Energy presentation, p. 11.
[295] SNWA Ex, 7, pp. 5-17–5-18; NVE Ex. 1, p. 2

WHEREAS, several participants testified about the effects of drought and climate on the recovery of groundwater levels and spring discharge after the Order 1169 aquifer test. Droughts, or periods of drier than normal conditions that last weeks, months, or years can lead to declines in groundwater levels.[296] The LWRFS is within National Oceanic and Atmospheric Administration's Nevada Climate Division 4 (Division 4). Precipitation records for Division 4 from 2006 to the 2019 season records indicate that 10 of those 14 seasons received lower than average precipitation.[297] Despite low precipitation, several participants submitted evidence that water levels continue to rise under current climate conditions in other areas with a relative lack of pumping that are tributary to the LWRFS, such as Dry Lake Valley, Delamar Valley, Garden Valley, Tule Desert, Dry Lake Valley, and other areas.[298] These rises have been attributed to efficient winter recharge that has occurred despite low cumulative precipitation.[299] Based on these observations, it was argued that the continued stress of pumping in the LWRFS carbonate-rock aquifer is limiting the recovery of water levels.[300] The State Engineer acknowledges that spring discharge is affected by both pumping and climate, and finds that groundwater levels remain a useful tool for monitoring the state of the aquifer system in the LWRFS regardless of the relative contribution of climate and drought to the measured groundwater levels. The State Engineer only has the authority to regulate pumping, not climate, in consideration of its potential to cause conflict or to be detrimental to the public interest and must do so regardless of the relative contributing effects of climate.

WHEREAS, evidence and testimony during the 2019 hearing was divided on whether water levels in the Warm Springs area and carbonate-rock aquifer indicate the system has reached or is approaching equilibrium,[301] or is still in a state of decline.[302] Hydrographs and evidence presented show that water levels at well EH-4 near the Warm Springs area have been relatively stable for several years following recovery from the Order 1169 aquifer test.[303] However, other

[296] *See* USGS, 1993, *Drought,* US Geological Survey Open File Report 93-642, accessible at https://bit.ly/93-642, (last accessed June 6, 2020).
[297] SNWA Ex. 7, pp. 4-1–4-4.
[298] Tr. 577, 304–307.
[299] NPS Ex. 3, Appendix A.
[300] *See, e.g.*, SNWA Closing, p. 11. NPS Closing, p. 4. *See also* Tr. 642, 644–45, 1545.
[301] MVWD Closing, pp. 8–9. *See also* NV Energy Closing, p. 3; CNLV Closing, pp. 5–7.
[302] SNWA Closing, pp. 11–12. NPS Closing, pp. 4–5.
[303] SNWA Ex. 7, pp. 5–7.

carbonate-rock aquifer wells located further away from the Warm Springs area such as CSVM-1, TH-2, GV-1, and BM-DL-2 appear to have reached peak recovery from the Order 1169 aquifer test in 2015-2016 and have exhibited downward trends for the past several years.[304] The State Engineer agrees that water levels in the Warm Springs area may be approaching steady state with current pumping conditions. However, the trend is of insufficient duration to make this determination with absolute assurance and continued monitoring is necessary to determine if this trend continues or if water levels are continuing to decline slowly.

VIII. LONG-TERM ANNUAL QUANTITY OF WATER THAT CAN BE PUMPED

WHEREAS, the evidence and testimony presented at the 2019 hearing did not result in a consensus among experts of the long-term annual quantity of groundwater that can be pumped. Recommendations range from zero to over 30,000 afa, though most experts agreed that the amount must be equal to or less than the current rate of pumping. There is a near consensus that the exact amount that can be continually pumped for the long-term cannot be absolutely determined with the data available and that to make that determination will require more monitoring of spring flows, water levels, and pumping amounts over time.

WHEREAS, evidence and testimony were presented arguing that the regional water budget demonstrates that far more groundwater is available for development within the LWRFS than is currently being pumped. CSI argues that the total amount of groundwater available for extraction from the LWRFS may be up to 30,630,[305] which is an estimate of the entirety of natural discharge from the system that occurs through groundwater evapotranspiration and subsurface groundwater outflow. Nearly all other experts disagreed that pumping to that extent could occur without causing harm to the Moapa dace or conflict with senior Muddy River decreed rights. The disagreement is not about the amount of the water budget, but rather the importance of the water budget in determining the amount of groundwater in the LWRFS that can continually be pumped,[306] not the amount of inflow and outflow to the system. In addition, availability of groundwater for pumping based on water budget should consider whether the same water is appropriated for use in upgradient and downgradient basins, and CSI did not account for this.

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[304] *Id.*
[305] CSI Closing, p. 2.
[306] *See e.g.*, SNWA Ex. 9, p. 24.; MVWD Ex. 3, p. 4; NPS Ex. 3, p. 23.

The State Engineer recognizes that the water budget is important to fully understand the hydrology of the regional flow system but also agrees with nearly all participants that the regional water budget is not the limiting measure to determine water available for development in the LWRFS. The potential for conflict with senior rights and impacts that are detrimental to the public interest in the LWRFS is controlled by aquifer hydraulics and the effect of pumping on discharge at the Warm Springs area rather than the regional water budget.

WHEREAS, evidence and testimony were presented arguing that the location of pumping within the LWRFS is an important variable in the determination of the amount that can be pumped. Participants representing groundwater users in Garnet Valley and the APEX area at the south end of the LWRFS testified that pumping within Garnet Valley does not have a discernable signal at wells near the Warm Springs area and that the hydraulic gradient from north-to-south within the LWRFS indicates that there is a component of groundwater flow in Garnet Valley that does not discharge to the Warm Springs area.[307] Several participants agreed that moving pumping to more distal locations within the LWRFS will lessen the effect of that pumping on spring flows. NV Energy testified that there would be a lesser effect because pumping areas around the periphery of the main carbonate-rock aquifer are less well-connected to the springs, and because of the likelihood that some amount of subsurface outflow occurs along and southern and southeastern boundary of the LWRFS and it is possible to capture some of that subsurface outflow without a drop-for-drop effect on discharge at the Warm Springs area[308] Others drew the same conclusion based on their review of the data and characterization of a heterogeneous system[309] or on weak connectivity between peripheral locations and the Warm Springs area.[310]

CSI argues that more groundwater development can occur in the LWRFS because subsurface fault structures create compartmentalization and barriers to groundwater flow that reduce the effects of pumping on discharge at the Warm Springs area.[311] They rebut the contention by others that spring flow is affected homogeneously by pumping within the LWRFS.[312] CSI used geophysical data to map a north-south trending subsurface feature that bisects Coyote Spring

[307] *See* CNLV Ex. 3, pp. 45–47; GP-REP Ex. 1, pp. 2–3.
[308] NVE Ex. 1, pp. 8–9.
[309] *See e.g.* MBOP Ex. 2, p. 23; GP-REP Ex. 2, pp. 4–5. *See also* Technichrome Response.
[310] *See e.g.* NCA Closing, pp. 2–10; LC-V Closing, pp. 4–6; Bedroc Closing, pp. 9–11.
[311] CSI Closing, pp. 2–5.
[312] CSI Ex. 2, pp. 40–41.

Valley. They hypothesize that this structure is an impermeable flow barrier that creates an isolated groundwater flow path on the west side of Coyote Spring Valley from which pumping would capture recharge from the Sheep Range without spring flow depletion at the Warm Springs area.[313] MBOP also contends that the system is far too complex to characterize it as a homogeneous "bathtub" and that preferential flow paths within the region mean that pumping stress will greatly differ within the LWRFS depending on where the pumping occurs.[314] Rebuttals to MBOP and CSI contend that an emphasis on complexities in geologic structure is a distraction from the question at hand, and that the hydraulic data collected during and after the Order 1169 aquifer test clearly demonstrate close connectivity and disproves CSI's hypothesis.[315]

The State Engineer finds that the data support the conclusion that pumping from locations within the LWRFS that are distal from the Warm Springs area can have a lesser impact on spring flow than pumping from locations more proximal to the springs. The LWRFS system has structural complexity and heterogeneity, and some areas have more immediate and more complete connection than others. For instance, the Order 1169 aquifer test demonstrated that pumping 5,290 afa from carbonate-rock aquifer wells in Coyote Spring Valley caused a sharp decline in discharge at the springs, but distributed pumping since the completion of the aquifer test in excess of 8,000 afa has correlated with a stabilization of spring discharge. The data collected during and after the Order 1169 aquifer test provide substantial evidence that groundwater levels throughout the LWRFS rise and fall in common response to the combined effects of climate and pumping stress, which controls discharge at the Warm Springs area.[316] The State Engineer finds that the best available data do not support the hypotheses that variable groundwater flow paths and heterogeneous subsurface geology are demonstrated to exist that create hydraulically isolated compartments or subareas within the LWRFS carbonate-rock aquifer from which pumping can occur without effect on the Warm Springs area. However, there remains some uncertainty as to the extent that distance and location relative to other capturable sources of discharge either delay, attenuate, or reduce capture from the springs.

[313] *Id. See also* CSI Ex. 1, pp. 31–40.
[314] MBOP Closing, p. 7.
[315] *See e.g.*, SNWA Ex. 9, pp. 23–24.
[316] NSE Exs. 15–21.

WHEREAS, evidence and testimony were presented to argue that no amount of groundwater can be pumped from the carbonate-rock aquifer or from the LWRFS without conflicting with the Muddy River decree or causing harm to the Moapa dace habitat. This argument is predicated on the interpretation that lowering of groundwater level anywhere within the LWRFS, whether caused by climate or pumping, eventually has an effect on spring discharge, and that any reduction in spring discharge caused by pumping conflicts with senior decreed rights or harms the Moapa dace or both.[317] MVIC and SNWA agree that capturing discharge from the Warm Springs area springs and the Muddy River are a conflict with the Muddy River decree, which appropriates "all of the flow of the said stream, its sources of supply, headwaters and tributaries."

The Muddy River Decree was finalized in 1920, decades before any significant amount of groundwater development within the Muddy River springs area or the LWRFS. The statement quoted above, or something similar to it, is a common conclusion in decrees to establish finality to the determination of relative priority of rights. By including this statement, the decreed right holders are afforded the assurance that no future claimants will interject a new priority right. However, it is also common on decreed systems for junior rights to be appropriated for floodwater or other excess flows, provided that no conflict occurs with the senior priorities. Similarly, groundwater development almost always exists in the tributary watersheds of decreed river systems, even though groundwater in a headwater or tributary basin is part of the same hydrologic system. There is no conflict as long as the senior water rights are served.

The State Engineer disagrees with SNWA and MVIC that the above quoted statement in the decree means that any amount of groundwater pumped within the headwaters that would reduce flow in the Muddy River conflicts with decreed rights. The State Engineer finds that capture or potential capture of the waters of a decreed system does not constitute a conflict with decreed right holders if the flow of the source is sufficient to serve decreed rights. Muddy River decreed rights were defined by acres irrigated and diversion rates for each user.[318] The sum of diversion rates greatly exceeds the full flow of the River, but all users are still served through a rotation schedule managed by the water master. The total amount of irrigated land in the decree is 5,614 acres.[319]

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[317] *See, e.g.*, CBD Ex. 3, p. 23; SNWA Ex. 7, p. 8-4; MVIC Ex. 1, p. 3.
[318] NSE Ex. 333.
[319] *Id.*

Flow in the Muddy River at the Moapa Gage has averaged approximately 30,600 afa since 2015,[320] which is less than the predevelopment baseflow of about 33,900.[321] If all decreed acres were planted with a high-water use crop like alfalfa, the net irrigation water requirement would be 28,300 afa, based on a consumptive use rate of 4.7 afa.[322] Conveyance loss due to infiltration is an additional consideration to serve all decreed users; however, this is limited in the Muddy River because the alluvial corridor is narrow and well defined so water stays within the shallow groundwater or discharges back to the river. The State Engineer finds that the current flow in the Muddy River is sufficient to serve all decreed rights in conformance with the Muddy River Decree, and that reductions in flow that have occurred because of groundwater pumping in the headwaters basins is not conflicting with Decreed rights.

WHEREAS, the majority of experts agree that there is an intermediate amount of pumping approximated by recent pumping rates that can continue to occur in the LWRFS and still protect the Moapa dace and not conflict with decreed rights. USFWS and NCA endorsed the use of average pumping over the years 2015-2017 (9,318 afa as reported by State Engineer pumpage inventories) as a supportable amount that can continue to be pumped, because the system appears to have somewhat stabilized.[323] CSI also endorsed this approach as an initial phase, though they suggested 11,400 afa, which was the average pumping reported by State Engineer inventories over the years 2010-2015 that included the period of the Order 1169 aquifer test.[324] CNLV makes a rough estimate that no more than 10,000 afa can be supported throughout the entire region, based on their professional judgment and review of the data.[325] NV Energy concludes that 7,000–8,000 afa can continue to be pumped, based on the amount of pumping in recent years from carbonate-rock aquifer wells and the observation that steady-state conditions in Warm Springs area spring

[320] NSE Ex. 211, *USGS 09416000 Muddy River Moapa 1914-2013*, Hearing on Interim Order 1303, official records of the Division of Water Resources.
[321] SNWA Ex. 7, p. 5-4.
[322] *See, e.g.*, Huntington, J.L. and R. Allen, (2010), *Evapotranspiration and Net Irrigation Water Requirements for Nevada*, Nevada State Engineer's Office Publication, accessible at https://bit.ly/etniwr, (last accessed June 7, 2020), official records of the Division of Water Resources.
[323] USFWS Ex. 5, p. 3; NCA Ex. 1, p. 19.
[324] CSI Closing, p. 2.
[325] CNLV Ex. 3, p. 2.

flow are being reached.[326] SNWA estimates that only 4,000–6,000 afa of carbonate-rock aquifer pumping can continually occur within the LWRFS.[327]

WHEREAS, the State Engineer finds that the evidence and testimony projecting continual future decline in spring flow at the current rate of pumping is compelling but not certain. Several participants pointed out rising trends in groundwater levels at many locations in Southern Nevada, outside of the LWRFS, that are distant from pumping[328] even though total precipitation has been below average and since 2006 has been described as a drought.[329] This suggests that climate and recharge efficiency may have actually buffered the full effect of pumping on discharge at the Warm Springs area, and that the system could not support the current amount of groundwater pumping during an extended dry period with lesser recharge. In addition, slight declining trends that are observed in Garnet Valley monitoring wells are not evident in wells close to the Warm Springs area.[330] If drawdown in Garnet Valley has not yet propagated to the Muddy Springs area, then the resilience of the apparent steady state of spring flow is in doubt. Projections of continued future decline in spring discharge suggests that the current amount of pumping in the LWRFS is a maximum amount that may need to be reduced in the future if the stabilizing trend in spring discharge does not continue.

WHEREAS, there is an almost unanimous agreement among experts that data collection is needed to further refine with certainty the extent of groundwater development that can be continually pumped over the long term. The State Engineer finds that the current data are adequate to establish an approximate limit on the amount of pumping that can occur within the system, but that continued monitoring of pumping, water levels, and spring flow is essential to refine and validate this limit.

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[326] NVE Ex. 1, p. 8.
[327] SNWA Ex. 7, p. 8-4.
[328] NPS Ex. 3, Appendix A. *See also* Tr. 304–307, 577.
[329] Tr. 1292–1300. *See, also* LC-V Ex. 11, *PowerPoint Presentation of Todd G. Umstot, entitled Drought and Groundwater*, Hearing on Interim Order 1303, official records of the Division of Water Resources, slides 3–10.
[330] CNLV Ex. 3, pp. 45–46.

WHEREAS, pumping from wells in the LWRFS has gradually declined since completion of the Order 1169 aquifer test and is approaching 8,000 afa. This coincides with the period of time when spring discharge may be approaching steady state. The State Engineer finds that the maximum amount of groundwater that can continue to be developed over the long term in the LWRFS is 8,000 afa. The best available data at this time indicate that continued groundwater pumping that consistently exceeds this amount will cause conditions that harm the Moapa dace and threaten to conflict with Muddy River decreed rights.

IX. MOVEMENT OF WATER RIGHTS

WHEREAS, the data and evidence are clear that location of pumping within the LWRFS relative to the Warm Springs area and the Muddy River can influence the relative impact to discharge to the Warm Springs area and/or senior decreed rights on the Muddy River. The transfer of groundwater pumping from the Muddy River Springs Area alluvial wells to carbonate-rock aquifer wells may change the timing of any impact to Muddy River flows and amplify the effect on discharge to the Warm Springs area, thus potentially adversely impacting habitat for the Moapa dace. And the transfer of groundwater withdrawals from the carbonate-rock aquifer into the Muddy River alluvial aquifer may reduce the impact to the Moapa dace habitat but increase the severity of impact to the senior decreed rights on the Muddy River. The State Engineer recognizes that the LWRFS is fundamentally defined by its uniquely close hydrologic interconnection and shared source and supply of water. However, the State Engineer also recognizes that there can be areas within the LWRFS that have a greater or lesser degree of hydraulic connection due to distance, local changes in aquifer properties, or proximity to other potential sources of capturable water.

WHEREAS, Rulings 6254–6261 acknowledge that one of the main goals of Order 1169 and the associated pumping test at well MX-5 was to observe the effects of increased pumping on groundwater levels and spring flows. Coyote Spring Valley carbonate-rock aquifer pumping during the Order 1169 aquifer test was the largest localized carbonate-rock aquifer pumping in the LWRFS. In addition, concurrent carbonate-rock aquifer and alluvial aquifer pumping in Garnet Valley, Muddy River Springs Area, California Wash, and the northwest portion of the Black Mountains Area occurred during the test period. Rulings 6254–6261 described the data and analysis used to determine that additional pumping at the MX-5 well contributed significantly to decreases in high elevation springs (Pederson Springs) and other springs that are the sources to the

Muddy River. Evidence and reports provided under Interim Order 1303 do not challenge the findings in Rulings 6254–6261 that pumping impacts were witnessed. There is a strong consensus among participants that pumping during the Order 1169 aquifer test along with concurrent pumping caused drawdowns of water levels throughout the LWRFS.[331] However, the effects of pumping from different locations within the LWRFS on discharge at the Warm Springs area is not homogeneous.[332] The State Engineer finds that movement of water rights that are relatively distal from the Warm Springs area into carbonate-rock aquifer wells that have a closer hydraulic connection to the Warm Springs area is not favorable.

WHEREAS, evidence and testimony provided by participants during the Interim Order 1303 hearing provides a strong consensus that alluvial aquifer pumping in the Muddy River Springs Area affects Muddy River discharge.[333] There is also strong evidence that carbonate-rock aquifer pumping throughout the LWRFS affects spring flow but can also be dependent on proximity of pumping to springs.[334] No participant is a proponent of moving additional water rights closer to the headwaters of the Muddy River within the Muddy River Springs Area, and most participants agree that carbonate-rock aquifer and alluvial aquifer pumping in the Muddy River Springs Area captures Muddy River flow. The State Engineer finds that any pumping within close proximity to the Muddy River could result in capture of the Muddy River. The State Engineer also finds that any movement of water rights into carbonate-rock aquifer and alluvial aquifer wells in the Muddy River Springs Area that may increase the impact to Muddy River decreed rights is disfavored.

WHEREAS, the Order 1169 aquifer test demonstrated that impacts from the test along with concurrent pumping was widespread within the LWRFS encompassing 1,100 square miles and supported the conclusion of a close hydrologic connection among the basins.[335] While the effects of movement of water rights between alluvial aquifer wells and carbonate-rock aquifer wells on deliveries of senior decreed rights to the Muddy River or impacts to the Moapa dace may not be uniform across the entirety of the LWRFS, the relative degree of hydrologic connectedness

[331] *See* SNWA Closing, pp. 10, 16; MVIC Closing, p. 6.
[332] *See, e.g.*, SNWA Closing, p. 10.
[333] CNLV Closing, p. 8; Tr. 1456–1457, 1458. *See also* SNWA Closing, p. 16; MVWD Closing, p. 11; MVIC Closing, p. 6.
[334] CNLV Closing, pp. 8–10; Tr. 1457, 1458; NV Energy Closing, p. 4; MVIC Closing, p. 6.
[335] NSE Ex. 256. *See also* NSE Ex. 14, pp. 20–21; NSE Ex. 17, p. 19; SNWA Closing pp. 2, 3.

in the LWRFS will be the principle factor in determining the impact of movement of water rights. The State Engineer recognizes that there may be discrete, local aquifers within the LWRFS with an uncertain hydrologic connection to the Warm Springs area. Determining the effect of moving water rights into these areas may require additional scientific data and analysis. Applications to move water rights under scenarios not addressed in this Order will be evaluated on their individual merits to determine potential impact to existing senior rights, potential impact to the Warm Springs area and Moapa dace habitat, and impacts to the Muddy River.

X. ORDER

NOW THEREFORE, the State Engineer orders:

1. The Lower White River Flow System consisting of the Kane Springs Valley, Coyote Spring Valley, Muddy River Springs Area, California Wash, Hidden Valley, Garnet Valley, and the northwest portion of the Black Mountains Area as described in this Order, is hereby delineated as a single hydrographic basin. The Kane Springs Valley, Coyote Spring Valley, Muddy River Springs Area, California Wash, Hidden Valley, Garnet Valley and the northwest portion of the Black Mountains Area are hereby established as sub-basins within the Lower White River Flow System Hydrographic Basin.

2. The maximum quantity of groundwater that may be pumped from the Lower White River Flow System Hydrographic Basin on an average annual basis without causing further declines in Warm Springs area spring flow and flow in the Muddy River cannot exceed 8,000 afa and may be less.

3. The maximum quantity of water that may be pumped from the Lower White River Flow System Hydrographic Basin may be reduced if it is determined that pumping will adversely impact the endangered Moapa dace.

4. All applications for the movement of existing groundwater rights among sub-basins of the Lower White River Flow System Hydrographic Basin will be processed in accordance with NRS 533.370.

5. The temporary moratorium on the submission of final subdivision or other submission concerning development and construction submitted to the State Engineer for review established under Interim Order 1303 is hereby terminated.

6. All other matters set forth in Interim Order 1303 that are not specifically addressed herein are hereby rescinded.

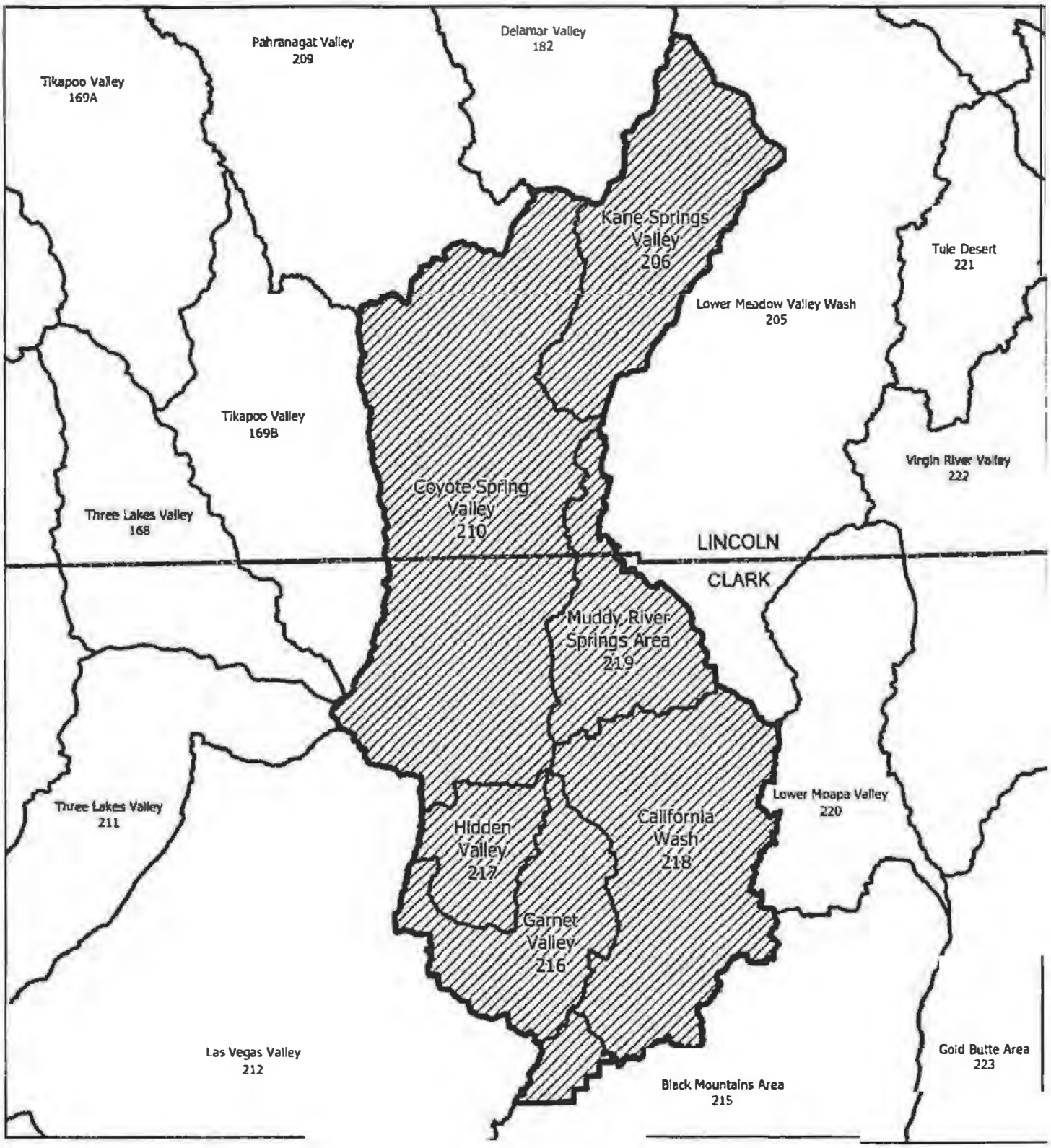
Tim Wilson, P.E.

TIM WILSON, P.E.
State Engineer

Dated at Carson City, Nevada this

15th day of June, 2020.

ATTACHMENT A



Location and Extent of LWRFS Hydrographic Basin, Clark and Lincoln Counties, Nevada

LWRFS Boundary
Hydrographic Basin Boundary
County Boundary

N
W
E
S

0 10 Miles

State of Nevada
Department of Conservation and
Natural Resources
Office of the State Engineer
Division of Water Resources

Tim Wilson P.E.
State Engineer

June 2020

EXHIBIT 5

JUNE 17, 2020 LETTER FROM STATE DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES TO COYOTE SPRINGS INVESTMENT LLC

EXHIBIT 5

From: Leann Ramirez
To: Emilia Cargill
Subject: Coyote Springs Village A
Date: Wednesday, June 17, 2020 10:02:17 AM
Attachments: image001.png
Coyote Srpings Village A.pdf

Good Morning,

Please see attached.

Thanks,

Leann Ramirez
Department of Conservation and Natural Resources
Division of Water Resources
Administrative Assistant III
901 S. Stewart St. Ste 2002
Carson City, NV 89701
775-684-2800

NEVADA DIVISION OF WATER RESOURCES | Nevada Department of CONSERVATION & NATURAL RESOURCES

STEVE SISOLAK
Governor

STATE OF NEVADA

BRADLEY CROWELL
Director

TIM WILSON, P.E.
State Engineer

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF WATER RESOURCES
901 South Stewart Street, Suite 2002
Carson City, Nevada 89701-5250
(775) 684-2800 • Fax (775) 684-2811
http://water.nv.gov

June 17, 2020

To: Emillia K. Cargill
Chief Operating Officer
Senior Vice President and General Counsil
Coyote Springs Investment, LLC
300 S 4th St Ste 1700
Las Vegas, NV 89101

Re: Final Subdivision Review No. 13217-F

Name: ***Coyote Springs Village A***

County: Clark County – Highway 93 and Highway 168

Location: A portions of Sections 15, 16, 21, 22 and 23, Township 13 South, Range 63, East, MDB&M.

Plat: Final: Eight large parcels intended for further subdivision.

Water Service Commitment Allocation: An estimated 2,000 acre-feet annually from Coyote Springs Investments, LLC permits.

Owner-Developer: Coyote Springs Nevada, LLC
1050 Indigo Drive, Suite 200
Las Vegas, NV 89415

Engineer: Stetson Engineers, Inc.
785 Grand Avenue, Suite 262
Carlsbad, CA 92008

Water Supply: Coyote Springs Water Resources General Improvement District

General: A final subdivision map was presented and reviewed by this office on June 13, 2019, as described on the ***Coyote Springs Village A*** map.

As described in the State Engineer's letter of September 7, 2018, tentative approval was granted.

On June 15, 2020, the State Engineer issued Order #1309 which defined the maximum groundwater which can be pumped from the Lower White River Flow System as being 8,000 acre-feet annually, or less.

Coyote Springs Investment, LLC groundwater permits have priority dates which may exceed the threshold of allowable pumping within the definition of this order.

As provided in Nevada Revised Statutes (NRS) 278.377, a copy of this certificate must be furnished to the subdivider who in turn shall provide a copy of the certificate to each purchaser of land before the time the sale is completed. Any statement of approval is not a warranty or representation in favor of any person as to the safety or quantity of such water.

Action: The Division of Water Resources recommends disapproval concerning water quantity as required by statute for ***Coyote Springs Village A*** subdivision based on water service by Coyote Springs Water Resources General Improvement District.

Best regards,

Steve Shell

Steve Shell
Water Resource Specialist II

SS/lr
cc: Division of Real Estate
Public Utilities Commission of Nevada
Southern Nevada Health District (Clark County)
Clark County Zoning Commision
Coyote Springs Water Resources General Improvement District
Coyote Springs Investments