

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

DRAFT ORDER

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**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 Area¹ (“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 _____, _____.

