

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

#1338

ORDER

**ESTABLISHING PROCEDURES FOR REVIEW OF APPLICATIONS TO
APPROPRIATE OR CHANGE EXISTING RIGHTS FOR GROUNDWATER
WITHIN THE AMARGOSA DESERT HYDROGRAPHIC BASIN (230), NYE
COUNTY, NEVADA**

To protect the public interest, including the interests of existing water right holders and domestic well users, enhance the understanding of the regional groundwater and surface water connectivity within the Death Valley regional flow system, and protect federally listed endangered wildlife species through the utilization of best available science, the Nevada Division of Water Resources has taken public comment under advisement for the implementation of this Order.

I. BACKGROUND

WHEREAS, it has long been recognized that the Amargosa Desert Hydrographic Basin and its neighboring groundwater basins form part of a larger regional groundwater flow system. Recharge is derived from precipitation primarily in the mountainous areas, while the subsurface geologic features facilitate the underground movement of groundwater between surface topographical boundaries.¹ This regional groundwater flow system is commonly described as the Death Valley hydrographic region or the Death Valley regional flow system.

WHEREAS, the combined perennial yield of Mercury Valley (Hydrographic Basin 225), Rock Valley (Hydrographic Basin 226), Fortymile Canyon-Jackass Flat Subarea (Hydrographic Basin 227A), Fortymile Canyon-Buckboard Mesa Subarea (Hydrographic Basin 227B), Oasis Valley (Hydrographic Basin 228), Crater Flat (Hydrographic Basin 229),

¹ George E. Walker, Thomas E. Eakin, 1963, *Ground-Water Resources – Reconnaissance Series Report 14, Geology and Ground Water of Amargosa Desert, Nevada-California*, U.S. Geological Survey, U.S. Department of the Interior, 15 p. 1963; F. Eugene Rush, *Water Resources – Reconnaissance Series Report 54, Regional Ground-Water Systems in the Nevada Test Site Area, Nye, Lincoln, and Clark Counties, Nevada*, U.S. Geological Survey and U.S. Department of the Interior, 7 p, 1970.

and Amargosa Desert Hydrographic Basin (230) is estimated to be 24,000 acre-feet annually,² while existing groundwater rights total more than 26,000 acre-feet annually.³

WHEREAS, water levels have been in steady decline within an area of centralized pumping in and around Amargosa Valley.⁴

WHEREAS, the Amargosa Desert Hydrographic Basin includes the Ash Meadows National Wildlife Refuge and the Devils Hole geothermal pool which is the sole natural habitat of the endangered Devils Hole Pupfish.⁵

WHEREAS, an administrative hearing was held on September 5–6, 2007,⁶ during which evidence and testimony were received concerning the potential effects of regional pumping on existing water rights, particularly the federally reserved water right at Devils Hole.⁷ This federally reserved right establishes a threshold water level at Devils Hole of 2.7 feet below a reference point marked by a copper washer.⁸ Information presented at the 2007 hearing indicated the water level in Devils Hole was only 0.6 to 0.7 feet above the threshold level, as mandated by the U.S. District Court.⁹ Data collected in 2024-2025 show water levels in Devils Hole ranging between approximately 1.5 to 2.1 feet above the threshold.¹⁰

² Nevada Division of Water Resources' Water Rights Database, Hydrographic Basin Summary, General Summary, Hydrographic Basins (225-230), last accessed May 6, 2025, official records in the Division of Water Resources, available on-line at:

<https://tools.water.nv.gov/UndergroundActive.aspx>

³ *Id.*

⁴ Nevada Division of Water Resources' Water Use and Availability Database, Water Level Database, Amargosa Desert Hydrographic Basin, last accessed May 6, 2025, official records in the Division of Water Resources, available on-line at:

<https://tools.water.nv.gov/WaterLevelData.aspx>

⁵ United States Fish and Wildlife Service, Devil's Hole Pupfish (last accessed May 6, 2025) available online at: <https://www.fws.gov/species/devils-hole-pupfish-cyprinodon-diabolis>

⁶ Transcript and Exhibits, public administrative hearing, in the matter of protested Applications 69836, et seq., September 5–6, 2007, official records in the Office of the State Engineer.

⁷ *Cappaert v. United States*, 426 U.S. 128 (1976).

⁸ *United States v. Cappaert*, 455 F. Supp. 81 (D. Nev. 1978).

⁹ The District Court's decision was upheld by the Court of Appeals and the Supreme Court of the United States. *See, United States v. Cappaert*, 375 F. Supp. 456 (D. Nev. 1974); *Cappaert v. United States*, 426 U.S. 128, 141 (1976); *United States v. Cappaert*, 455 F. Supp. 81 (D. Nev. 1978).

¹⁰ U.S. Geological Survey, 2025, National Water Information System data available on the World Wide Web (USGS Water Data for the Nation), accessed May 7, 2025, at URL <https://waterdata.usgs.gov/monitoring-location/362532116172701/#period=P7D&showMedian=true&dataTypeId=continuous-72019-1621838215>

WHEREAS, in 2020, the United States Geological Survey (USGS) published a numerical groundwater flow model of the Death Valley regional flow system, which includes Amargosa Desert, Devils Hole, and the surrounding area including tributary basins to Amargosa Desert Hydrographic Basin. This model incorporates available geologic and hydrologic data to provide the best available estimate of aquifer properties throughout the region. The model is peer reviewed and is publicly available from the United States Geological Survey.¹¹

II. PREVIOUS MEASURES

WHEREAS, on May 14, 1979, the State Engineer issued Order No. 724 designating the Amargosa Desert Hydrographic Basin pursuant to Nevada Revised Statute (NRS) § 534.030.

WHEREAS, on November 4, 2008, the State Engineer issued Order 1197 restricting the appropriation and movement of water rights within a 25 mile radius from Devils Hole within the Amargosa Desert Hydrographic Basin.

WHEREAS, on January 12, 2018, the State Engineer issued Order No. 1197A, vacating Order 1197 and further restricting the appropriation and movement of water rights within the Amargosa Desert Hydrographic Basin near Devils Hole, including a prohibition on any new points of diversion within 10 miles of Devils Hole.

WHEREAS, on January 13, 2022, the State Engineer issued Interim Order No. 1330 vacating Order 1197A and amending procedures for review of applications within the Amargosa Desert Hydrographic Basin to use the USGS groundwater flow model instead of a radius from Devils Hole. Interim Order No. 1330 also set a hearing for public comment.¹²

III. INTERIM ORDER 1330 PUBLIC COMMENT

WHEREAS, on May 25, 2022, a hearing was held to take public comment related to the continued use of the USGS Death Valley Regional Flow System numerical groundwater model. The hearing addressed the model's utility in evaluating water right applications within the Amargosa Desert Hydrographic Basin, potential use in other

¹¹ Halford, K.J., and Jackson, T.R., 2020, *Groundwater characterization and effects of pumping in the Death Valley regional groundwater flow system, Nevada and California, with special reference to Devils Hole*, U.S. Geological Survey Professional Paper 1863, 178 p., (December 2, 2021, 1:40 p.m.) <https://doi.org/10.3133/pp1863>

¹² State Engineer's Order No. 1330, dated January 13, 2022, official records in the Division of Water Resources.

hydrographic basins within the Death Valley regional flow system, and broader management considerations for the basin and the regional flow system.

WHEREAS, in addition to testimony presented at the hearing, written comments were received by the Nevada Division of Water Resources until October 2022 and are publicly available upon written request to the Division.

IV. AUTHORITY AND NECESSITY

WHEREAS, NRS 534.120 provides that, within an area that has been designated by the State Engineer, where, in the judgment of the State Engineer, the groundwater basin is being depleted, the State Engineer may make such rules, regulations and orders as are deemed essential for the welfare of the area involved.

WHEREAS, NRS 533.024 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.”¹³

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

WHEREAS, NRS 533.370(2) requires that the State Engineer consider, on review of applications to appropriate water or to change water already appropriated, whether there is unappropriated water in the source of supply, whether the proposed use or change conflicts with existing rights or protectable interests in existing domestic wells, and whether such use threatens to prove detrimental to the public interest.

ORDER

NOW THEREFORE, IT IS HEREBY ORDERED that interim Order No. 1330 is vacated.


IT IS FURTHER ORDERED that the USGS regional flow model is the best available science to evaluate potential impairment to existing water rights by groundwater pumping, including impacts to the Devils Hole geothermal pool. The State Engineer will continue to monitor developments of the model to support future management decisions.

IT IS FURTHER ORDERED that any applications to appropriate additional underground water within the Amargosa Desert Hydrographic Basin will be denied, and applications that seek to change existing underground rights within the Amargosa Desert

¹³ NRS 533.024(1)(c).

Hydrographic Basin will be processed subject to NRS Chapters 533 and 534 and evaluated using the USGS Death Valley Regional Flow System numerical groundwater model. The model will be used to evaluate impacts to existing water right holders and to determine if there will be no net increase in water level declines at Devils Hole over a subsequent fifty-year period. The State Engineer, in his discretion, may conduct additional analysis and require additional information to assure that groundwater development in the Death Valley regional flow system, including any application to change existing rights, does not result in an impairment of existing rights and does not result in an increased impact to the water level at Devils Hole.

IT IS FURTHER ORDERED, those applications filed for environmental permits pursuant to NRS 533.437 to 533.4377, and those applications filed for temporary use pursuant to NRS 533.436 or 533.504, are excluded from this Order.


ADAM SULLIVAN, P.E.
State Engineer

Dated at Carson City, Nevada this

16th day of May, 2025.