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

FILED
JAN 5 1994
STATE ENGINEER'S OFFICE

IN THE MATTER OF APPLICATION NUMBER 59369,
FILED BY Moapa Valley Water District,
ON November 5 19 93, TO APPROPRIATE THE
WATERS OF underground

PROTEST

Comes now U.S. Fish and Wildlife Service
Printed or typed name of protestant
whose post office address is 911 NE 11th Ave., Portland, Oregon 97232-4181
Street No. or P.O. Box, City, State and Zip Code
whose occupation is an agency of the federal government, and protests the granting
of Application Number 59369, filed on November 5, 19 93
by Moapa Valley Water District to appropriate the
Printed or typed name of applicant
waters of underground situated in Clark
Underground or name of stream, lake, spring or other source
County, State of Nevada, for the following reasons and on the following grounds, to wit:

Please see Attachment A

THEREFORE the protestant requests that the application be
(Denied, issued subject to prior rights, etc., as the case may be)
and that an order be entered for such relief as the State Engineer deems just and proper.

Signed Paul A. Rauch
Agent or protestant
Paul A. Rauch, Agent for US Fish and Wildlife Service
Printed or typed name, if agent
Address 911 NE 11th Ave.
Street No. or P.O. Box No.
Portland, Oregon 97232-4181
City, State and Zip Code No.

Subscribed and sworn to before me this 4th day of January 1994

Judith M. Grover
Notary Public
State of Oregon
County of Multnomah

OFFICIAL SEAL
JUDITH M. GROVER
NOTARY PUBLIC-OREGON
COMMISSION NO. 019130
MY COMMISSION EXPIRES OCT. 15, 1996

$10 FILING FEE MUST ACCOMPANY PROTEST. PROTEST MUST BE FILED IN DUPLICATE. ALL COPIES MUST CONTAIN ORIGINAL SIGNATURE.

ATTACHMENT A

The U.S. Fish and Wildlife Service (Service) protests water right Application No. 59369 (Attachment A-1) on the basis of possible detriment to the public interest and possible injury to a pending Service water right.

Application No. 59369 seeks to appropriate 7,240 acre-feet per year at a diversion rate of 10 cubic feet per second (cfs) from a well located approximately 6½ miles northwest of the Moapa National Wildlife Refuge (Refuge). The water is to be used for municipal purposes.

The Service is concerned that the proposed withdrawal from this well, as described in Application No. 59369, may not be in the public interest because it may adversely affect the resident and migratory fish and wildlife species and their habitats within the Moapa Valley, including the Muddy River, its headwater springs and their outflow channels, and the Refuge. The location of the proposed well, the Muddy River, and the Refuge are shown on Attachment A-2.

The Moapa National Wildlife Refuge was established in 1979 to secure habitat for the Moapa dace (Moapa coriacea), a minnow species endemic to the Muddy River and its headwater springs. The Moapa dace is listed as endangered under the Endangered Species Act of 1973 (87 Stat. 884), as amended. The 31-acre Refuge contains sixteen points of spring and seep emanation which, along with their respective outflow channels, provide habitat for Moapa dace. The Refuge's spring complex accounts for approximately 2 percent of remaining Moapa dace habitat (Service, 1990). Moapa dace are dependent upon the link between the Muddy River and its headwater springs. The river harbors the largest, longest-lived, and most fecund adults, while the springs are important for reproduction and as larvae and juvenile nursery areas (Scoppettone, et al., 1992). Historically, up to 20 Muddy River headwater springs, their associated outflow channels, and the Muddy River supported Moapa dace. In 1987, only six spring systems and the Muddy River maintained populations of Moapa dace (Scoppettone, et al. 1992). Any modification of remaining habitats may adversely affect the survival and recovery of this species.

The Muddy River and its headwater springs, including those on the Refuge, also provide habitat for the Moapa White River springfish, Crenichthys baileyi moapae; Moapa speckled dace, Rhinichthys osculus moapensis; Moapa roundtail chub, Gila robusta ssp.; Moapa pebblesnail, Fluminicola avernalis; grated tryonia, Tryonia clathrata; Moapa Warm Spring riffle beetle, Stenelmis calida moapa; and Amargosa naucorid, Plecoris shoshone, which are all candidates for Federal listing under the Endangered Species Act of 1973, as amended. These species are generally widespread in the Muddy River and its headwater springs, but habitat disturbance may result in declines in population status which may prompt the Service to list these species as threatened or endangered.

In addition, the Service is concerned that the withdrawal of ground water from the proposed well may injure a pending Service water right, Application No. 56668, which if granted, would be senior to Application No. 59369, requests appropriation of water from the Refuge springs and seeps for non-consumptive wildlife purposes.

The spring discharge area on the Refuge is a part of the Muddy River Springs discharge area for the carbonate-rock regional aquifer's White River flow system, as identified by Mifflin, 1968. A US Geological Survey (USGS) gaging station (Warm Springs West, Station No. 09415920) is located immediately downstream from the Refuge and measures most of the discharge from the Refuge springs. (A small portion of the spring outflow is diverted for domestic use.) USGS records for the period 1985-1990 show this station to have a mean daily discharge of 3.6 cfs (USGS, 1990).

A review and interpretation of published reports (Mifflin, 1968; Thomas and others, 1986; Harrill and others, 1988; Dettinger, 1989) indicates that ground-water flow through the local basin-fill and regional carbonate rock systems is in a generally southeasterly direction down the Moapa Valley. The proposed well is located in Dead Man Wash, approximately 6½ miles northwest of the Refuge and is up-gradient from the Refuge.

Based on interpretations made from the above-described literature, it is likely that the proposed well would be pumping water from an aquifer system which is hydraulically connected, through fractured or porous bedrock and/or through basin-fill materials, to the Refuge springs or to areas outside the Refuge which provide habitat to listed or candidate species.

If the aquifer supplying the proposed well is up-gradient and hydraulically connected to the springs on the Refuge or to certain aquatic habitats outside the Refuge, then the proposed ground-water withdrawal would most likely cause a decrease in river or spring discharge and an alteration of flow patterns. In addition, the proposed withdrawal could also impact the existing flow paths and mixing of the area's thermal and non-thermal water, possibly causing an alteration in surface-water thermal and chemical characteristics.

Decreases in discharge, alterations to discharge patterns, or alterations of the water quality of the Muddy River, its headwater springs, and the springs' outflow channels, would adversely affect listed or candidate species and their habitats, and thus not be in the public interest, and/or injure the pending Service water right. Therefore, the Service is submitting a protest to Application No. 59369.

References

Bedinger, M.S., and others, 1984, Maps showing Ground-Water Units and Withdrawal, Basin and Range Province, Nevada: U.S. Geological Survey Water-Resources Investigations Report 83-4119-A.

Dettinger, M.D., 1989, Distribution of Carbonate-Rock Aquifers in Southern Nevada and the Potential for their Development, Summary of Findings, 1985-88: U.S. Geological Survey and the Desert Research Institute, University of Nevada System Summary Report No. 1.

Harrill, J.R., and others, 1988, Major Ground-Water Flow Systems in the Great Basin Region of Nevada, Utah, and Adjacent States: U.S. Geological Survey Hydrologic Investigations Atlas HA-694-C.

Mifflin, M.D., 1968, Delineation of Ground-Water Flow Systems in Nevada: Desert Research Institute, University of Nevada System Publication No. 42004.

Plume, R.W. and Carlton, S.M., 1988, Hydrogeology of the Great Basin Region of Nevada, Utah, and Adjacent States: U.S. Geological Survey Hydrologic Investigations Atlas HA-694-A.

Pupacko, A, and others, 1990, Water Resources Data, Nevada, Water Year 1989: U.S. Geological Survey Water-Data Report NV-89-1.

Scoppettone, G.G., Burge, H.L., Tuttle, P.L., 1992, Life History, Abundance, and Distribution of Moapa dace (Moapa coriacea): Great Basin Naturalist 52(3): 216-225.

Thomas, J.M., and others, 1986, Ground-Water Levels in the Great Basin Region of Nevada, Utah, and Adjacent States: U.S. Geological Survey Hydrologic Investigations Atlas HA-694-B.

U.S. Fish and Wildlife Service, 1990, Annual Narrative Report for Desert National Wildlife Range, unpublished.