

September 4, 2001

Re: Response to comments on the final draft of the Salt Lake Valley Ground-Water Management Plan (April 9, 2001)

Dear water users and other interested parties:

The Division of Water Rights appreciates the time and effort afforded by numerous organizations in reviewing the April 9, 2001 draft of the Salt Lake Valley Ground-Water Management Plan (Plan). Below is a summary of the comments received from the various organizations along with the state engineer's response to these comments.

White City Water Improvement District

Comment: Regarding section 2.3 subparagraph 5, the 75% limitation on moving water rights from an over-appropriated management square to another, lesser over-appropriated management square is arbitrary and confusing considering there are not only two management squares to consider, but rather eight.

Response: The intent of allowing changes in points of diversion from one over-appropriated management square to another over-appropriated management square with a lesser potential diversion is to help better distribute withdrawals within a particular region. However, it is felt that unless the potential withdrawal of the hereafter management square is significantly less than that of the heretofore management square, the change might actually cause more problems than it alleviates (i.e. disruption of the current pumping conditions and interference with existing water users in the new management square), hence the 75% limitation. Keep in mind that applications that propose to exceed the 75% limitation will still be considered provided that the applicant can show that the criteria listed under section 2.3 (4) has or will be met. In determining which management square (and concurrent potential withdrawal) will be used in evaluating these types of change applications, we believe the maximum of the four management squares for the heretofore and hereafter point of diversion is an appropriate measure given that this corresponds to a worst case pumping scenario. We will amend the Plan to clarify this point.

Comment: Bonds are frequently used by municipalities to pay for water system infrastructure, should the state engineer limit withdrawals within a particular area, it could potentially affect the provider's ability to meet

its revenue bond payment schedule. Before implementation, a reputable bond counsel should review the Plan.

Response: We agree that a water provider's ability to meet its revenue bond payment schedule may be affected should the state engineer limit withdrawals within a particular area of the valley. Keep in mind that the possibility of limiting withdrawals according to the priority dates of respective water rights has always existed. In the Plan we have simply reaffirmed this possibility.

Comment: The Plan should not adversely impact the ability of municipal-type systems to protect the health and safety of their inhabitants; particularly their ability to provide adequate water to meet required fire flows. The health and safety needs of the people we serve must be an essential part of this or any other plan.

Response: The state engineer in no way desires to limit the ability of a water supplier to provide emergency water to its customers. However, we believe that it is ultimately the responsibility of the water supplier to plan and develop appropriate infrastructure and secure necessary water rights to ensure an adequate water supply during periods of drought or any potential emergency situation.

Comment: A sentence should be added to the Plan stating that change applications tying municipal systems together will continue to be considered and approved.

Response: Although change applications proposing to tie together water rights owned by municipal systems will still be considered, and where appropriate approved, we do not believe adding a statement as such would aid in accomplishing the overall objectives of the Plan.

Comment: The 12,000 acre-feet per management square limitation in the Eastern Region was developed to prevent poor quality water from the Western Region from migrating beneath the Jordan River into the Eastern Region where water quality is considerably better. Is this limitation appropriate when considering areas located some distance from the Jordan River to the east?

Response: Based on computer modeling, we believe that the 12,000 acre-feet per year management square limitation as it applies to change applications is a valid guideline throughout the Eastern Region. It is important to realize that this limitation is only a guideline and that certain areas within the Eastern Region may be capable of sustaining higher withdrawals. As such the Plan does allow these changes to be approved provided that certain criteria are met (see section 2.3 (4)).

Comment: Why do withdrawals in the Northern and Central Regions count towards the safe yield if withdrawals in these areas do not have an adverse impact on the rest of the valley?

Response: Excessive withdrawals in any region of the valley could potentially have an

adverse impact. Ground-water modeling has shown that the primary impact of excessive withdrawals in the eastern region would be a reduction in water quality while in the western region water level declines are the main concern. In the central and northern regions there is an upward gradient from the principal to the shallow aquifer. If too much water is withdrawn from the principal aquifer in those regions the gradient could reverse and cause poorer quality water from the shallow aquifer or the Jordan River to flow into the principal aquifer. Thus the amount of water available in the central and northern parts of the valley is limited by how much flow there is from the principal to the shallow aquifer and by how efficiently it can be captured by wells. The proposed pumping limits for these two regions reflects our best estimate of the amount of water that can safely be developed under current conditions. As ground water is developed over the years, the state engineer will continue to monitor conditions in the aquifer, and if it seems advisable sometime in the future, he will consider changing the withdrawal limits in order to better protect or allow for better utilization of the resource.

Comment: Aquifer storage and recovery (ASR) projects should be approved conditionally given that when equalizing withdrawals take place the previously injected water may no longer be within the recovery wells area of influence. The Plan should include a more direct statement stating what the conditions for approval will be. Additionally, a clear statement should be added to the Plan that injected water that may degrade the quality of water in the aquifer will not be allowed.

Response: ASR projects have been and will continue to be approved conditionally in order to prevent harmful impacts to the aquifer and nearby water rights. Because the characteristics of any ASR project are strongly influenced by local hydrologic conditions, we believe that each project needs to be evaluated on an individual basis. Therefore it may be unrealistic to integrate quantitative criteria used to evaluate ASR projects into the Plan. However, we will re-evaluate this section of the Plan to determine if more specific factors used to evaluate ASR's can be added. Additionally, the Department of Environmental Quality regulates the quality of injected water under section R317-7 of the Utah Administrative Code, thus we have not added any additional water quality criteria.

Salt Lake County

Comment: Salt Lake County is currently investigating potential interference between one of their wells and an adjacent well with a junior priority date. The proposed limits on ground-water withdrawals and over appropriation contained in the Plan should protect senior ground-water rights.

Response: We agree and as such have made every effort to ensure the protection of ground-water rights with senior priority dates. This will continue to be a

guiding principle within the Plan.

Taylorsville-Bennion Improvement District

Comment: Because the hydrologic (regional) boundaries presented within the Plan represent only approximations, section 2.3 should be amended so as to allow for drilling of replacement wells across regional boundaries.

Response: We agree that the proposed regional boundaries are approximate and will consider modifying the Plan to allow for the drilling of replacement wells short distances across regional boundaries provided that the effects on the ground-water flow system are comparable.

Comment: The calculation and intent of potential withdrawal should be clearly explained within the Plan.

Response: We will modify the Plan to include a detailed accounting of the assumptions used to calculate potential withdrawal and how potential withdrawal is used to determine restricted status for a given management square.

Utah Waters

Comment: What if the public, the largest group of end-users, or other interested parties have concerns and objections to the Plan? Are they to be ignored?

Response: We have made every effort to bring the current and past drafts of the Plan to the public's attention. Input by the public is an extremely important part of developing a management strategy for the ground-water resources of the valley.

Comment: There is little or no recognition in the Plan of the fact that ground-water must be managed to prevent damage to the natural environment above ground, including streams, wetlands, and other water features. The document needs to be rewritten to reflect the connection between the aquifers and valuable surface water features, as well as your office's obligation to protect these features.

Response: We acknowledge that the ground and surface water in Salt Lake Valley are interconnected and should be managed accordingly. We have incorporated this idea into the development of the Plan and believe that the Plan does implicitly provide protection to values associated with surface water. Modeled recharge to the principle aquifer is approximately 317,000 acre-feet per year (Lambert, 1995). Of that, the vast majority of discharge occurs through well withdrawals and seepage to the Jordan River and its tributaries (Lambert, 1995). We have proposed a safe yield of 165,000 acre-feet per year of well withdrawals. We believe that this will provide for adequate water in the Jordan River to satisfy downstream surface water rights and other values associated with surface water. In addition, we believe that the Plan complies with all statutory guidelines dealing with the

protection of Utah's lakes, rivers, streams, wetlands and other water features.

Comment: The state engineer is obligated under section 73-3-8 of the Utah code to evaluate how any water right or change in point of diversion will impact the natural stream environment, public recreation, or the general public welfare. The Plan makes no specific reference to this legal requirement, nor does the spirit of 73-3-8 emerge anywhere in the details.

Response: The Salt Lake Valley is currently closed to new appropriations from the principal aquifer, thus this Plan is intended to only manage those water rights that already exist. As such, section 73-3-8 would apply only to change applications on existing water rights. As stated in the Plan's introduction, "The intent of this plan is to provide specific management guidelines under the broader statutory provisions within Title 73 of the Utah Code." We have not included references to any specific section of the law but will consider modifying the plan to explicitly acknowledge section 73-3-8.

Comment: The word "may" should be replaced with "shall" in numerous places within the Plan. The word "may" gives your office discretion in choosing to limit harm to the aquifer, or not. We think law and good public policy compel your office to limit withdrawals when harm is threatened, and the language of the Plan should reflect that.

Response: We agree that the state engineer should try to limit harm to the aquifer where evidence exists to support withdrawal limitations. However, prior to instituting limitations it is important for the state engineer to be able to consider the potential for aquifer harm in the context of the public's overall best interest. As such, we believe that the state engineer should have some flexibility in order to ensure that the most appropriate course of action is taken.

Comment: The "ten feet in five years rule" should remain in the Plan to be used as a trigger mechanism for starting a hearing process.

Response: As noted in the cover letter accompanying the final draft of the Plan, the ten feet in five years rule is not applicable to all areas of the valley. Therefore we do not believe it is wise to initiate a hearing process when no evidence of harm to the aquifer system necessarily exists.

Magna Water Company

Comment: Not allowing changes in point of diversion into restricted management squares could jeopardize Magna Water Company's ability to provide water for future growth. The Plan should be flexible to allow change applications for small amounts of water into restricted management squares where the affect will be negligible.

Response: Section 2.3 (4) of the Plan does allow for changes into restricted

management squares provided that certain criteria can be met.

Comment: The boundary between the Northern and Western Regions appears to be arbitrary. A better boundary would be the line between Township 1 South and Township 2 South.

Response: The boundary between the Northern and Western Regions approximates the boundary between areas of ground-water recharge to the principle aquifer and discharge from the principle aquifer in the northwestern portion of the valley. The affect of withdrawals within the discharge area tends to lessen the amount of ground-water level decline as compared to an equivalent amount of pumping in the recharge area, thus from a management standpoint it is preferable to encourage withdrawals in discharge areas and hence the restriction on changing points of diversion from the Northern Region to the Western Region. We do not believe that the boundary between Townships 1 South and 2 South represents a better approximation of the recharge/discharge boundary or any other hydrologic boundary. However, we will consider allowing the drilling of replacement wells short distances across regional boundaries or allowing changes into different regions provided that certain conditions are met.

Jordan Valley Water Conservancy District

Comment: Even though maximum withdrawal limits have been removed from section 2.2.1, there should be some flexibility in allowing withdrawals to exceed the safe yields for each area particularly in times of drought.

Response: The state engineer's office is still in the process of determining how to distribute ground-water withdrawals by the priority dates of water rights. It is likely that there will be some flexibility in withdrawal limits in order to take into account conjunctive use of our surface and ground water supplies.

Comment: The 75% limitation on moving water rights from an over-appropriated management square to another lesser over-appropriated management square is may limit the flexibility of the Plan and be difficult to administer. The state engineer will need to decide which of the heretofore management squares, and which of the hereafter management squares, would become the measure for the 75% limitation.

Response: Please refer to the first comment from White City Water Improvement District and the associated response.

Great Salt Lake Audubon

Comment: The Plan appears to be too general, which makes it difficult to determine potential impacts upon the natural stream environment.

Response: We believe that a thorough review of the available technical data and computer model provide adequate information for determining the effects of this Plan on the natural stream environment. We have not attempted to

describe every possible effect in the management plan document, but we believe that the Plan will not promote or provide for degradation of the natural stream environment.

Comment: The Plan, as proposed, does not make explicit statements concerning the overall guiding principles your office is to be guided by in evaluating current or future applications for new water rights or change in existing water rights.

Response: The objectives of the Plan are outlined in section 1.0. These are the overall guiding principles on which the more specific parts of the Plan are based and hence any changes in existing water rights would thus be subject to these guidelines.

Comment: We are concerned that the document, as it currently stands, does not offer clear protection to Utah's lakes, rivers, and streams.

Response: Please refer to the second comment from Utah Waters and the associated response.

United States Fish and Wildlife Service

Comment: Language should be added to identify "environmental impacts" particularly as they relate to "natural stream environments" as an objective of the Plan.

Response: Our responsibility to protect against impacts to the natural stream environment is set forth in section 73-3-8 of the Utah Code. We will consider adding language to the Plan that specifically refers to this section of the code.

Comment: Obscure statements need to be defined and any references used to derive a number need to be cited within the document.

Response: "Obscure statements" and/or unquantified or undefined amounts within the Plan are in no way meant to be misleading. Many of these statements are undefined to allow discretion in particular circumstances. For instance, ground-water level changes that may be considered harmful to the aquifer in one area may be simply the result of natural fluctuation in another area. We will need to examine each particular situation in order to make these determinations.

Most of the data used to develop the Plan originated from Technical Publications No. 110A-D and the associated ground-water flow model developed during the study. Copies of Technical Publication 110 are available at the Department of Natural Resources Bookstore or on the internet from the Division of Water Rights homepage (<http://waterrights.utah.gov>). Additionally, several of the numbers proposed in the Plan were arrived at in cooperation with the public through the review process of this proposed management plan for the purpose of

establishing agreeable guidelines for managing the ground-water resource.

Comment: Section 2.2.3 needs to acknowledge the state engineer's duty to consider other potential impacts aside from those listed in this section.

Response: This section is not intended to define the criteria for evaluating new appropriations from the shallow aquifer. However, we will consider modifying the Plan to include such criteria.

Comment: Why are there not other restricted areas identified in the Plan?

Response: New restricted areas may be added to the Plan in the future. Designation of these restricted areas will require the assistance of other governmental agencies and input from the general public.

In addition to the comments and responses presented above, it has come to our attention that the guidelines proposed in section 2.1 may not be adequate for achieving the goals of the Plan. Therefore we are considering eliminating fixed-time applications in Salt Lake Valley.

Sincerely,

Robert L. Morgan, P.E.
State Engineer

References:

Lambert, P.M., 1995, Numerical simulation of ground-water flow in basin-fill material in Salt Lake Valley: Utah, State of Utah Department of Natural Resources Technical Publication No. 110-B., 47 p.