

ANALYSIS

Project Name: WEST EGIN LAKES

Sponsor(s):

Fremont-Madison Irrigation District

Project Description:

Expand existing managed recharge site that receives gravity flow from St. Anthony Union, Last Chance and Recharge Canals.

Phase 1: completed – existing recharge site has current capacity of 10,000 a-f/yr

Phase 2: engineering study to investigate capacity expansion to at least 30,000 a-f/yr

Phase 3: construct measurement, monitoring and system improvements based on results of Phase 2

Cost Estimates and Funding:

Phase 1: Completed - IDWR funding (\$8,500) and private contributions (cash, storage water and in-kind) approx. \$83,300 to date from contributors including Fremont Madison, IDWR and the EIWRC pool (Sugar City, the City of Rexburg and the City of Idaho Falls).

Phase 2: \$100,000 (\$60,000 applicant, \$40,000 ESPA CAMP funding) Applicant has pledged 15,000 for 2010 activities; \$1,300 contract with IWRRI already completed.

Phase 3: \$340,000 (\$204,000 applicant, \$136,000 ESPA CAMP)

Identified Sponsor funding sources: The sponsor proposes to provide \$15,000 and further seek out additional co-sponsors in order to provide up to 60% of total project costs. Currently, co-sponsors have pledged an additional \$10,000 for Phase 2. Private parties will seek funding assistance from state and federal grants.

Benefits:

Hydrologic – will support natural river flows late in the irrigation season and contribute to American Falls fill, as well as long-term aquifer storage. Recharge mound radiates in all directions including westward toward Water District 110 (see Mud Lake-area hydrographs, below).

Modeled steady state and transient analysis indicates 70% and 20% of recharged water will return to the Ashton-Rexburg and Heise –Shelley river reaches respectively, most of it within six to seven months. Modeled hydrographs of seven monitoring wells in the Mud Lake area indicate long-term rises as much as 0.35 ft. Measured monitoring wells in the vicinity of W Egin Lakes all show significant water level rise resulting from recharge.

Environmental – remote location, far from potable wells

Impacts :

Hydrologic - river flow reductions during recharge

Environmental – incremental increase in fish entrainment

Consistent with ESPA CAMP:

Yes.

Water Rights:

Recharge water will be supplied using the Board's Snake River recharge right.

Long-term O&M:

Minimal O&M requirements, normal to canal operations

Potential Issues:

Scheduling – Implementation of Phases 2 and 3

Time frame – Availability of water for the project

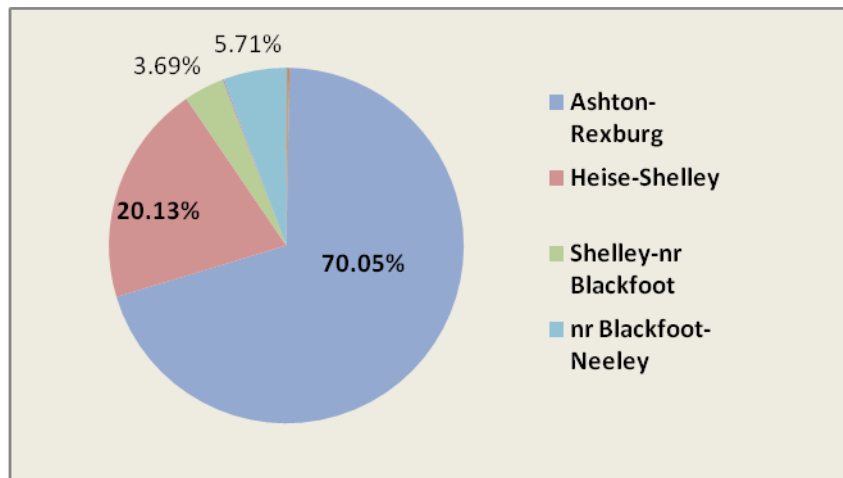
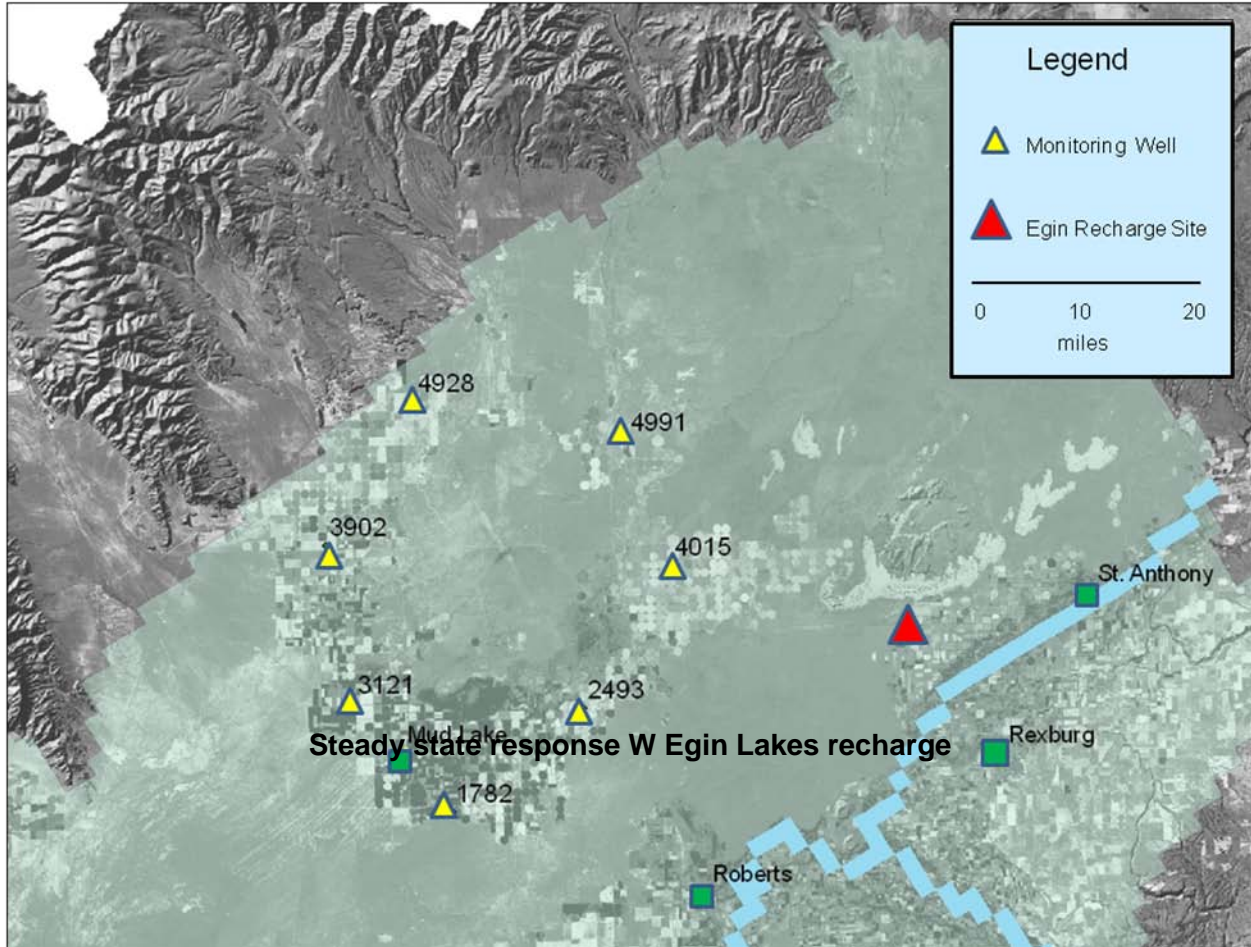
Security – plans need to be revised to stipulate that simple, “bolted down” facilities will be used to minimize theft and vandalism

Recommendation:

The Implementation Committee recommends that the Board consider funding the West Egin Lakes project for the simple reason that this is a proven, existing managed recharge site previously identified by CAMP as one that can be expanded to take additional recharge when water is available. The question to be explored is the extent to which this project site can be expanded.

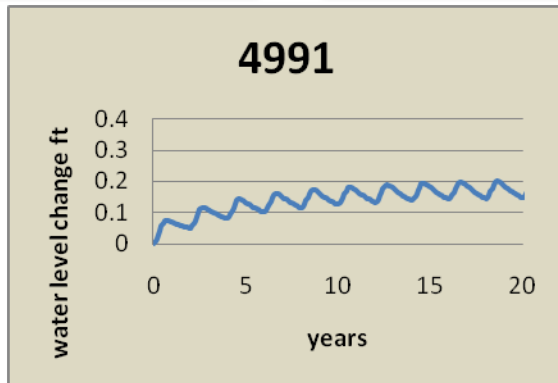
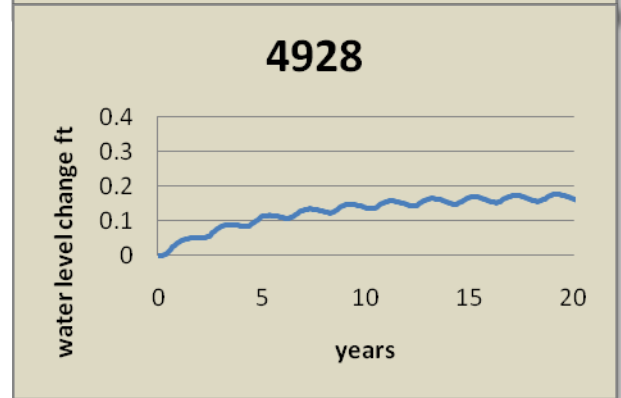
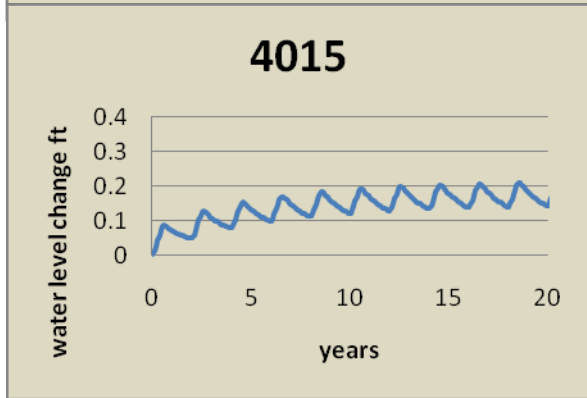
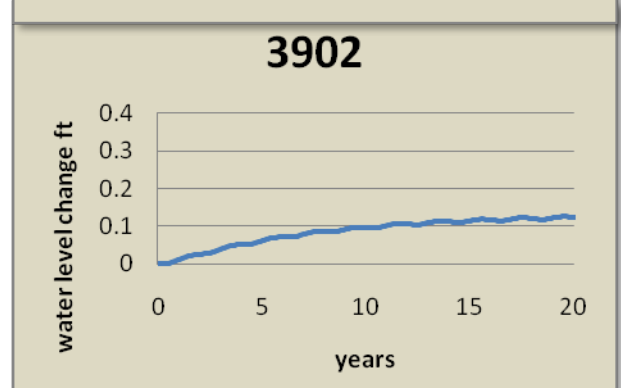
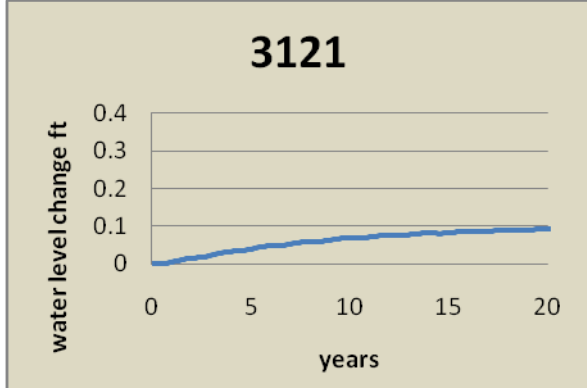
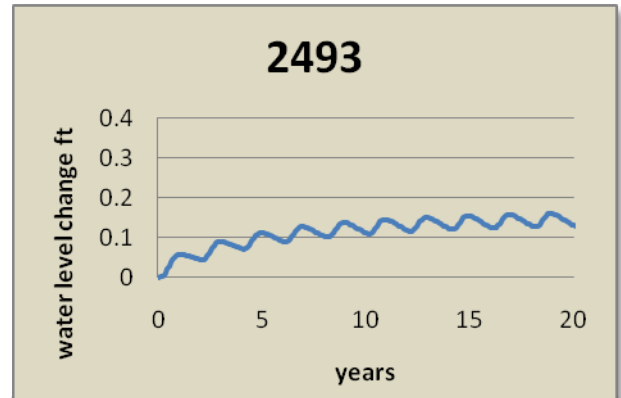
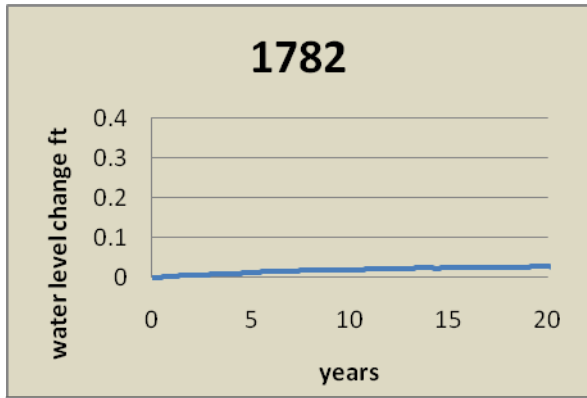
HYDROLOGIC ANALYSIS

WEST EGIN LAKES



Hydrographs

Water level response in selected monitoring wells to a 10,000 a-f/yr recharge event every other year for 20 years



Transient response to a W. Egin Lakes 10,000 a-f recharge event, every other year, over 20 years in the reaches with the greatest steady state response

