



# Adjusting Supply and Demand: Technical Analysis to Support the ESPA Management Plan

ESPA Comprehensive Aquifer Management  
Plan Advisory Committee Meeting

June 5, 2007



# Technical Study Tasks

At the first ESPA Advisory Committee Meeting we briefly described the technical study tasks to be done in support of ESPA management plan. They included both basic data analysis and evaluations of options to adjust the ESPA water budget.



# Options to Adjust ESPA Water Budget

All options to adjust the ESPA Water Budget fall into two main categories:

- 1) Increase water supplies
- 2) Reduce water demands/water use

This presentation will focus on the current status of our studies for increasing water supplies.





# Options to Increase Water Supplies on the Eastern Snake River Plain

- 1) Utilize excess natural flow passing past Milner Dam. Because this flow is variable, the water would need to be captured and stored to be used when and where needed, either with surface water storage or with aquifer recharge.
- 2) Increase precipitation through weather modification (cloud seeding)
- 3) Supply the downstream flow augmentation obligations of the Upper Snake Basin from other sources, freeing up the water now used for flow augmentation.



# Utilize Excess Natural Flow

Current status of these studies:

- Our hydrologists are preparing the numbers on the excess natural flow passing out of the Upper Snake Basin at Milner Dam. We will report the results to the Advisory Committee when they are complete.
- We are reviewing past studies and updating the costs of potential storage sites in the Upper Snake that could be used to store excess natural flow. We will report the results to the Advisory Committee when they are complete.



## Utilize Excess Natural Flow (Continued)

- **Aquifer Recharge:** We have determined that about 40,000 acre-feet of recharge annually is the maximum that can be done using the existing canal systems. To accomplish more, additional facilities will be needed. The Water Resource Board's W-Canal Recharge Project now under development will provide us with the costs to develop the additional capacity. We will report these costs to the Advisory Committee when they are better known.





# Weather Modification

Current Status: We are currently issuing a “Request for Proposals” to conduct a feasibility study to evaluate the costs and amounts of precipitation that could be generated from weather modification (cloud seeding). Other western states report a 8 – 10% increase in precipitation due to weather modification under certain conditions. We will present the results of the study to the Advisory Committee when the study is complete.



# Supply Downstream Flow Augmentation from Other Sources

The Upper Snake River Basin provides up to 200,000 Acre-Feet of water from reservoir storage every year for downstream flow augmentation. The actual amount is determined by a combination of reservoir carry-over from the prior year and the April 1<sup>st</sup> runoff forecast. If this obligation can be supplied from other sources, this water can be made available for other purposes.





# Supply Downstream Flow Augmentation from Other Sources

What other sources could be used?

- High-lift project water
- New storage in southwest Idaho
- Increased use of Payette Basin Rental Pool



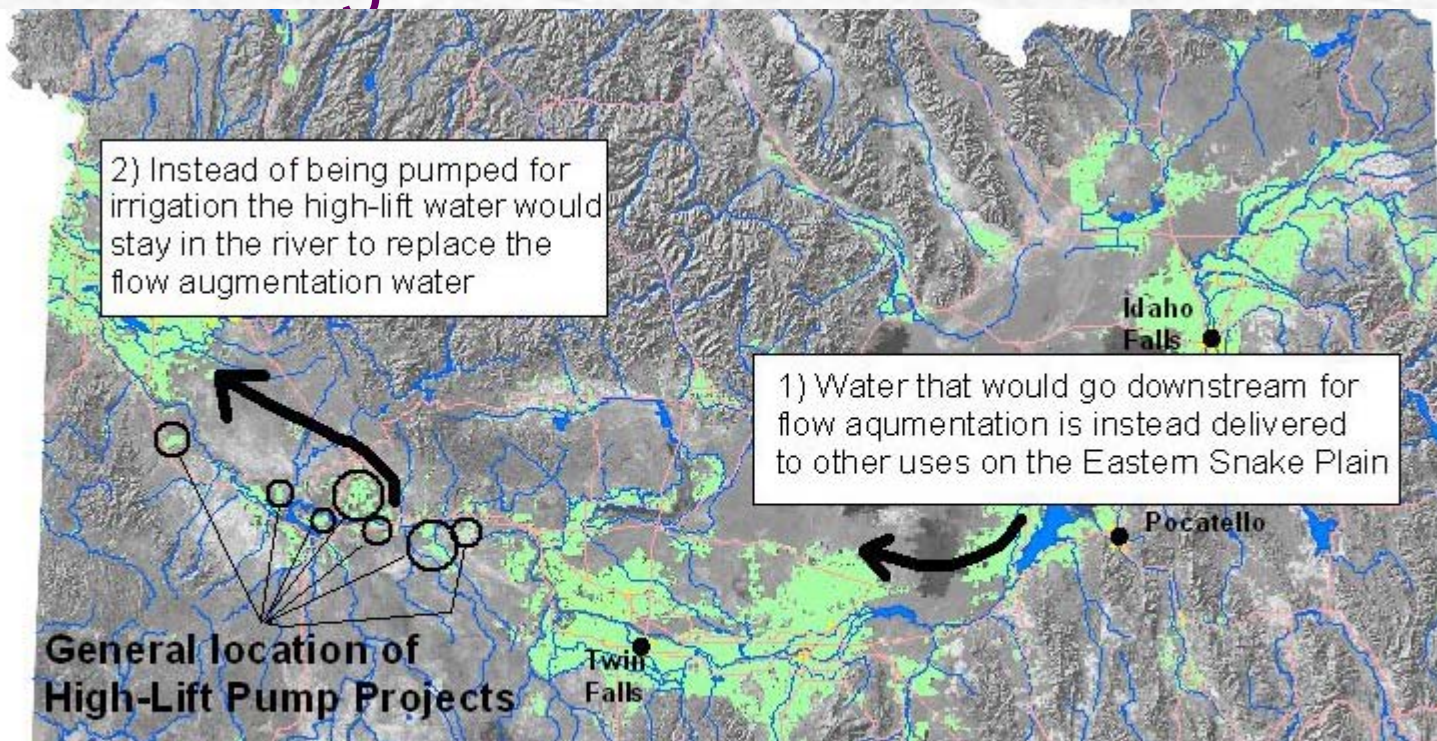
# What are High-Lift Projects?

- Generally located along the Snake River between Bliss and Marsing.
- They pump water from the Snake River several hundred feet up onto adjacent benches for irrigation use.
- Due to high pump lifts and associated power costs, project economics can be marginal and many of the owners have expressed interest in selling their water rights for other purposes.
- In 2005 the Idaho Water Resource Board purchased the water rights from the Bell Rapids high-lift project for about \$24 million for uses specified in the Snake River (Nez Perce) Water Rights Agreement.





# How Would a High-Lift Exchange for Flow Augmentation Water Work?



Other options to replace flow augmentation water, such as new storage in southwest Idaho or using Payette Rental Pool water, would work in a similar way.





# Supply Downstream Flow Augmentation from Other Sources

Current status of these studies:

- We are reviewing past proposals made by high-lift project owners to sell their water rights to the Water Resource Board and will follow up with them to determine current willingness to sell.
- We are currently reviewing past studies and updating the costs of potential storage sites in southwest Idaho.
- We are meeting with the Payette Basin Rental Pool Advisory Committee to determine their willingness to make water available for an exchange.
- We will present the results of these investigations when complete.



Questions ?