

**IDAHO**  
Water Resource Board



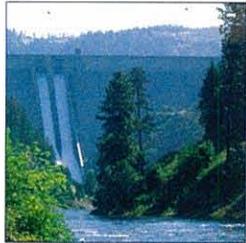
## Agricultural Water Enhancement Program (AWEP) – DR Work Group

October 20, 2009





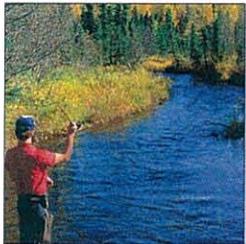
In the Proposal, the State of Idaho requests funding for five separate projects, each of which are described in the Project Action Plans sections. A brief description of each project follows:



**1) Aquifer Demand Reduction Incentives**

This project would utilize AWEP funds to encourage producers to reduce withdrawals from the ESPA. This program is intended to provide a flexible alternative to the Conservation Reserve Enhancement Program (CREP) for producers who want to reduce aquifer withdrawals on tracts that are not enrolled in the CREP program.

Funded in 2010 – 2013



**2) Conversion to Dry Land Farming**

This project would utilize AWEP funds to facilitate the conversion from surface irrigated to dry land farming or rangeland use in areas upstream of the ESPA in order to transfer of the surface water to ESPA water supply projects, such as recharge and conversion.

Funded in 2010– 2013



**3) Crop Mix Modification**

This project would utilize AWEP funds to pay producers to transition from crops with higher plant-water requirements (ex: potatoes) to crops with lower plant-water requirements (ex: small grains). These payments would be used as an incentive to encourage producers to switch to water conserving crops and would need to be designed to cover the difference in revenue.

Funded in 2010 – 2013

**4) Ground Water to Surface Water Conversions**

This project would utilize AWEP funds to convert ground water sources to surface water sources. Once potential projects are identified, funds will be used to create engineering reports, and to purchase and install appropriate hardware, including pipes, pumps and all other related infrastructure, including regulating ponds.

Funded in 2009 – 2013



**5) Water Right Enhancement Through Irrigation System Improvements**

This project will use AWEP funds to replace leaky canals and diversions structures with pipe or concrete, and to convert some producers to pressurized sprinkler systems in order to improve water deliveries to spring water users. All TSWUA lands are serviced by one or more spring sources which supply individual users and groups of users in organized irrigation ditch companies. Agriculture producers use this water for irrigation, livestock and fish culture.

Funded in 2009



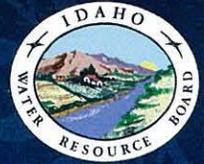
The funds that are expected to be contributed by individual producers over the next 5 years total \$2,680,000.

| Projects  | 2009             | 2010             | 2011             | 2012             | 2013             | Total              |
|---|------------------|------------------|------------------|------------------|------------------|--------------------|
| Aquifer Demand Reduction Incentives                             | \$0              | \$20,000         | \$40,000         | \$70,000         | \$70,000         | \$200,000          |
| Conversion to Dry Land Farming                                  | \$0              | \$20,000         | \$40,000         | \$70,000         | \$70,000         | \$200,000          |
| Crop Mix Modification   | \$0              | \$12,500         | \$25,000         | \$37,500         | \$50,000         | \$125,000          |
| Ground Water to Surface Water Conversions                       | \$85,000         | \$220,000        | \$325,000        | \$325,000        | \$325,000        | \$1,280,000        |
| Water Rights Enhancement Through Irrigation System Improvements | \$875,000        | \$0              | \$0              | \$0              | \$0              | \$875,000          |
| <b>Total individual producer funds</b>                          | <b>\$960,000</b> | <b>\$272,500</b> | <b>\$430,000</b> | <b>\$502,500</b> | <b>\$502,500</b> | <b>\$2,680,000</b> |

(k) Describe requested funding through AWEP.

The State of Idaho, through the Idaho Water Resource Board, is requesting \$15,260,000 in AWEP funding over the next 5 years.

| Projects  | 2009               | 2010               | 2011               | 2012               | 2013               | Total               |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|
| Aquifer Demand Reduction Incentives                             | \$0                | \$140,000          | \$280,000          | \$490,000          | \$490,000          | \$1,400,000         |
| Conversion to Dry Land Farming                                  | \$0                | \$140,000          | \$280,000          | \$490,000          | \$490,000          | \$1,400,000         |
| Crop Mix Modification   | \$0                | \$87,500           | \$175,000          | \$262,500          | \$350,000          | \$875,000           |
| Ground Water to Surface Water Conversions                       | \$595,000          | \$1,540,000        | \$2,275,000        | \$2,275,000        | \$2,275,000        | \$8,960,000         |
| Water Rights Enhancement Through Irrigation System Improvements | \$2,625,000        | \$0                | \$0                | \$0                | \$0                | \$2,625,000         |
| <b>Total AWEP Funds Requested</b>                               | <b>\$3,220,000</b> | <b>\$1,907,500</b> | <b>\$3,010,000</b> | <b>\$3,517,500</b> | <b>\$3,605,000</b> | <b>\$15,260,000</b> |



(I) Project Implementation Schedule

All five of the proposed projects will have a significant planning component, although the first three projects (Aquifer Demand, Conversion to Dry Land, and Crop Mix) will require such a significant amount of planning that implementation will not begin until 2010.

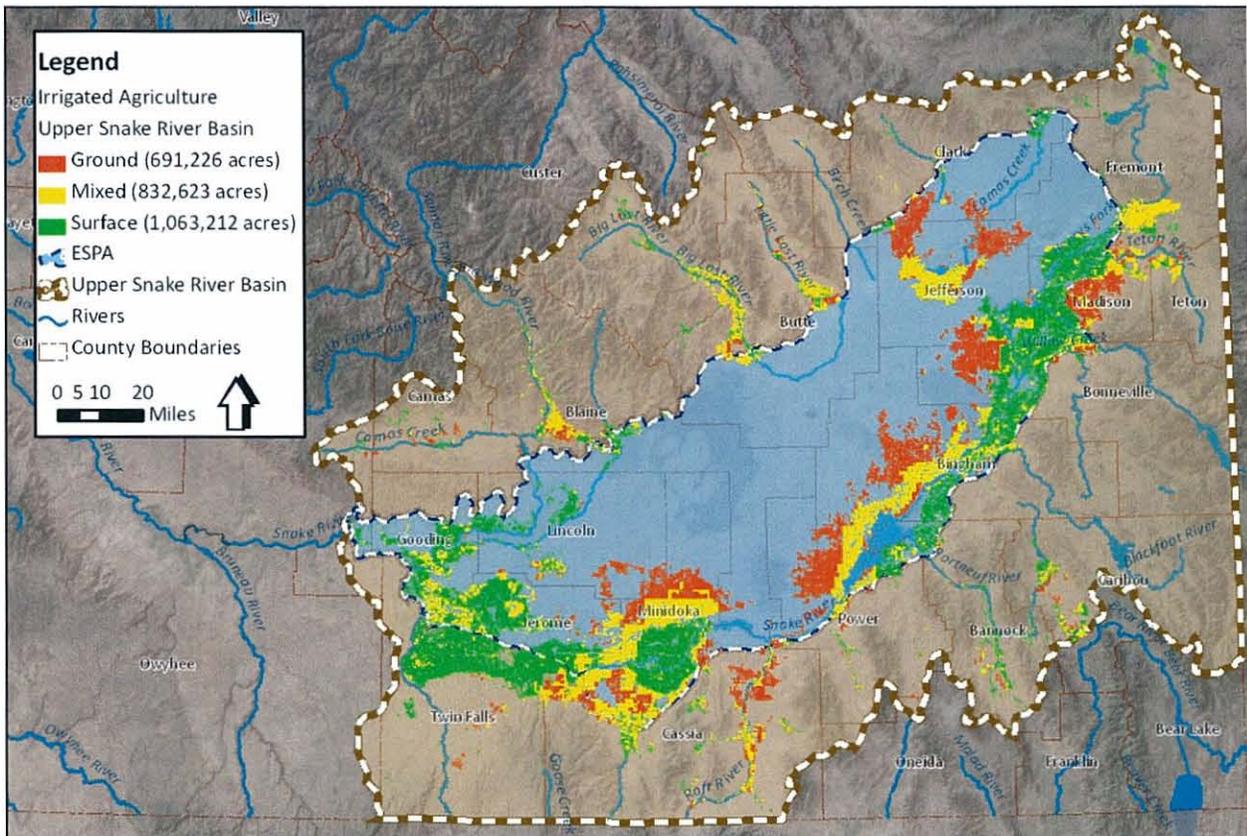
| Project   | 2009                        | 2010           | 2011                                  | 2012              | 2013                                  |
|---|-----------------------------|----------------|---------------------------------------|-------------------|---------------------------------------|
| Aquifer Demand Reduction Incentives                             | Planning                    | Implementation | Implementation                        | Implementation    | Implementation and Project Completion |
| Conversion to Dry Land Farming                                  | Planning                    | Implementation | Implementation                        | Implementation    | Implementation and Project Completion |
| Crop Mix Modification   | Planning                    | Implementation | Implementation                        | Implementation    | Implementation and Project Completion |
| Ground Water to Surface Water Conversions                       | Planning and Implementation | Implementation | Implementation                        | Implementation    | Implementation and Project Completion |
| Water Rights Enhancement Through Irrigation System Improvements | Planning and Implementation | Implementation | Implementation and Project Completion | Project Completed | Project Completed                     |

**Project Name: Aquifer Demand Reduction Incentives**

**Geographical area:**

Throughout the Eastern Snake Plain Aquifer (ESPA)

**Map:**



**Activity description:**

The goal of this project is to utilize AWEP funds to encourage producers to reduce withdrawals from the ESPA. This program is intended to provide a flexible alternative to the Conservation Reserve Enhancement Program (CREP) for producers who want to reduce aquifer withdrawals on tracts that are not enrolled in the CREP program.

AWEP funds would be used to fund technical assistance and certain practices for producers who reduce their aquifer withdrawals through verifiable measures included in an activity plan. AWEP would be used to create an activity plan and fund practices that are responsive to producer interest that may include but is not limited to: conservation cropping rotation, residue management, pasture planting, fencing, and upland wildlife management. The AWEP funding and technical assistance will likely be combined with funding provided through CAMP, private mitigation plans or other sources

This project will offer producers access to practices that would assist them in implementing a broader range of demand reduction options than is available through CREP. Some producers may seek to not irrigate tracts that are ineligible for CREP; others may seek to convert to irrigated pasture or shorter duration fallowing programs than are permissible under CREP. The purpose of this program is to offer practices that can be combined with other demand reduction incentives or individual producer needs based on producer interest.

**Water conservation issues to be addressed :**

- 1) **Water is a limited resource throughout the Upper Snake River Basin and the ESPA.** Voluntary demand reduction throughout the region will contribute to the goals of the CAMP, which include improving aquifer levels, increasing gains in some river reaches, and increasing water supply certainty for all users.
- 2) **Decreasing ground water levels increase pumping costs for producers.** Parts of the ESPA have experienced significant drawdowns, and increased pumping costs and the expense of deepening wells has a negative effect on producers.

**Agricultural water enhancement objectives to be achieved:**

- 1) **Reduce aquifer withdrawals by 10 kaf over five years.** The ESPA CAMP establishes a Phase 2 target of 250 - 350 kaf to be achieved through a mix of actions. If 5,000 acres of irrigated farmland were retired inside the ESPA, that would create an additional water supply of approximately 10 kaf.
- 2) **Assist producers to voluntarily participate in ESPA demand reduction programs.** AWEF funds would allow producers to shift to dry land farming and other demand reduction techniques in a way that enhances producer economic security and viability, and maintains appropriate soil conservation and land cover. This would allow a transition that benefits the producer, the local watershed, and the region as a whole.
- 3) **Keeps water rights in agriculture.** By encouraging producers to transfer water to State-approved uses, forfeiture is prevented and other producers benefit.

**Number of acres anticipated to need treatment:**

Estimated: 5,000 acres by Year 5  
 This estimate is based on scope needed to test producer interest in flexible incentives

**Number of agricultural producers that are likely to participate in the project:**

Estimated: 50 producers  
 This estimate is based on scope needed to test producer interest in flexible incentives

**Total number of agricultural producers in the project area**

Estimated: 2,200 farms  
 This estimate is based on the idea that there are approximately 1,100,000 acres in ground water irrigated agriculture in the project area, and that the average farm size in Idaho is about

Aquifer Demand Reduction

500 acres. 1,100,000 acres/ 500 average farm size = 2,200 farms

**Timeframe:**

Project Planning and Outreach: 2009

Initial Phase: 2010-2011

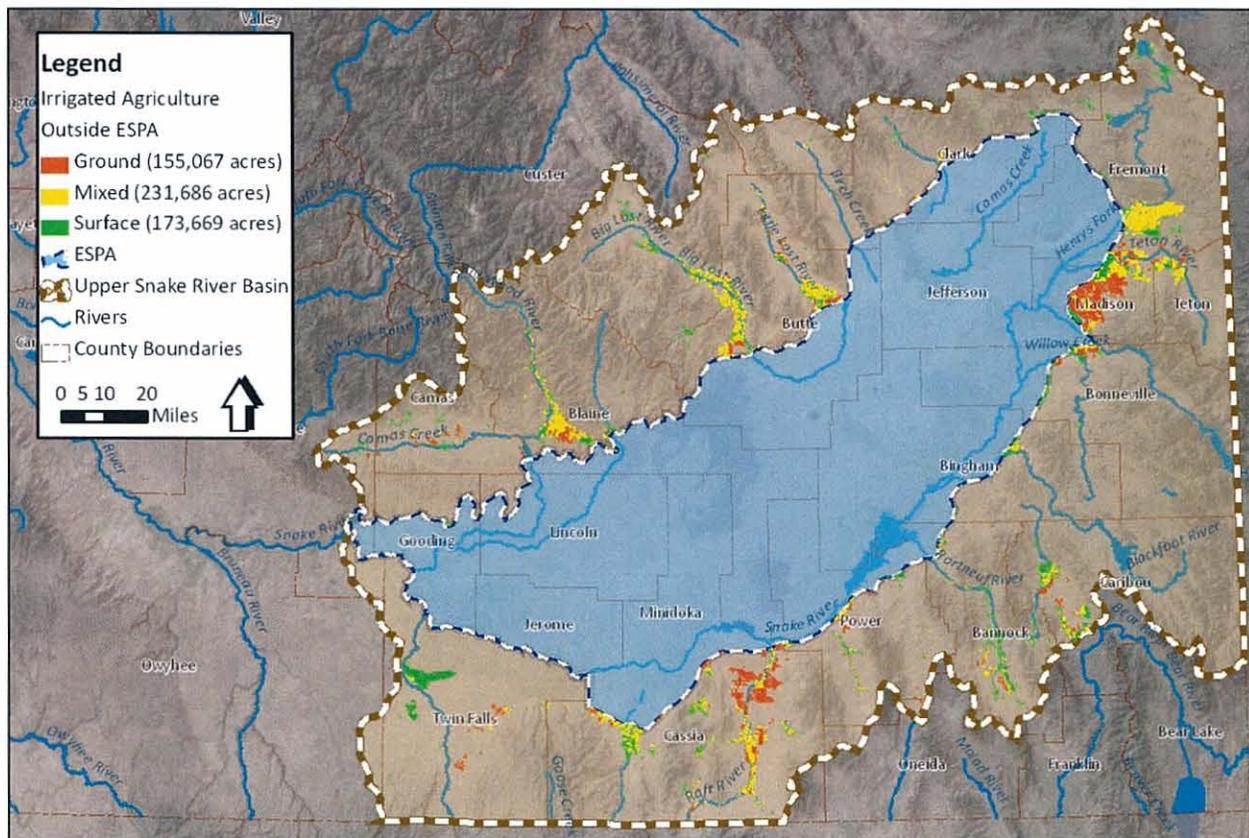
Full Implementation: 2012 – 2013

**Project Name: Conversion to Dryland Farming**

**Geographical area:**

The watershed of the Snake River, including hydrologically connected tributaries, above the Eastern Snake Plain Aquifer (ESPA) and tributaries of ESPA. The project would focus on individual producers using surface water diverted from streams, including but not limited to tributaries to Mud Lake, the Henry's Fork, South Fork of the Snake River, the Teton River, the Blackfoot River, Wood River, the Portneuf River, Big Lost River, Little Lost River, and Birch Creek.

**Map:**



**Activity description:**

The purpose of this project is to use AWEF funds to facilitate the conversion from surface irrigated to dry land farming or rangeland use in areas upstream of the ESPA in order to transfer of the surface water to ESPA water supply projects, such as recharge and conversion.

Many watersheds that are tributary to the ESPA receive enough precipitation to support dryland farming or rangeland use. In these regions, the potential exists (through State water management structures) for unused water to be moved downstream for ESPA management activities.

AWEP funds would be used to provide technical assistance and applicable payments to producers. Technical assistance includes, and is not limited to, the creation of Conservation Plans or Activity Plans. Payments would be made available to producers who implement applicable practices, including but not limited to conservation crop rotation. Participating partners would also be encouraged to implement practices to enhance wildlife habitat and water quality. Technical assistance and payments for AWEP practices may supplement water rental fees and other payments for transferring water to the ESPA to be supplied by the partners and funding sources identified in the Comprehensive Aquifer Management Plan (CAMP). The combination of AWEP funding and payments for transfer of water will combine to encourage the transition to dryland farming.

Producers eligible for funding would be required to have an approved transfer or rental of their water use to an ESPA CAMP approved recharge or conversion use in accordance with state law.

**Water conservation issues to be addressed :**

- 1) **Water is a limited resource throughout the Upper Snake River Basin and the ESPA.** Voluntary demand reduction in upstream areas can provide water supplies downstream for ground water recharge and ground to surface water conversions, while providing flow benefits on upstream, flow-limited streams.
- 2) **Water management actions on the ESPA will create a demand for surface water.** By assisting upstream producers with changing to dry land farming on all or portions of their land when they are willing to voluntarily lease, transfer or donate their water for downstream purposes, that water can be made more readily available for CAMP programs.
- 3) **Many streams in the Upper Snake River Basin and the ESPA experience very low flows during the irrigation season.** By transferring water from producers upstream to producers downstream, the water will benefit Instream flow. Increased Instream flows benefit water quality, fisheries, and recreation.

**Agricultural water enhancement objectives to be achieved:**

- 1) **Reduce consumptive water usage within the ESPA by 20 kaf over five years.** The ESPA CAMP establishes a Phase 1 target of 200 kaf to be achieved through “Ground Water to Surface Water Conversion” and “Managed Aquifer Recharge”. If 10,000 acres of irrigated farmland were retired outside of the ESPA, this would create an additional water supply of approximately 20 kaf that could be used for Conversions and Recharge.
- 2) **Assist producers in a voluntarily shift to dry land farming.** AWEP funds would allow producers to shift to dry land in a way that enhances producer economic security and viability, and maintains appropriate soil conservation and land cover. This would allow a transition that benefits the producer, the local watershed, and the region as a whole.
- 3) **Keep water rights in agriculture.** By encouraging producers in tributary watersheds to transfer water to State-approved uses, forfeiture is prevented, and agriculture continues to sustain Idaho’s economy.

**Number of acres anticipated to need treatment:**

Estimated: 10,000 acres

This estimate is based on participant knowledge and projections of potential transactions over the five-year period of the Action Plan.

**Number of agricultural producers that are likely to participate in the project:**

Estimated: 125 producers

This estimate is based on an average of 160 acres per participating producer. This recognizes that activity plans will cover operations of various sizes, including some that involve smaller field corners and marginally producing lands.

**Total number of agricultural producers in the project area**

Estimated: 1,000 farms

This estimate is based on the idea that there are approximately 300,000 acres in surface water irrigated agriculture in the project area, and that the average farm size in Idaho is about 500 acres.

**Timeframe:**

Begin sign ups: 2010

Full Implementation: 2011 – 2012

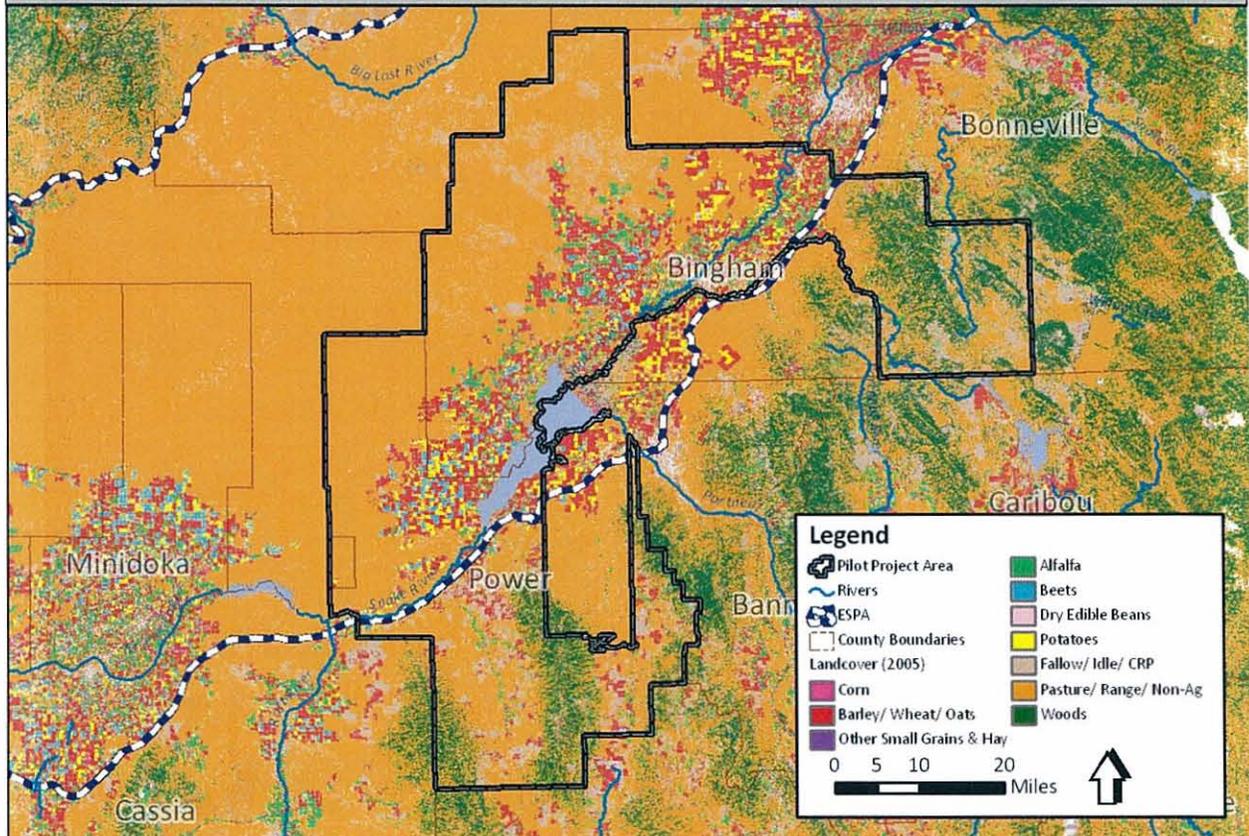
Final sign-ups: 2013

**Project Name: Crop Mix Modification**

**Geographical area:**

Pilot Project: Aberdeen – American Falls and Bingham Ground Water Districts in Bingham and Power Counties;  
 Full implementation: surface water and groundwater users throughout the ESPA

**Map:**



**Activity description:**

The goal of this project will be to utilize AWEP funds to pay producers to transition from crops with higher plant-water requirements (ex: potatoes) to crops with lower plant-water requirements (ex: small grains). These payments would be used as an incentive to encourage producers to switch to water conserving crops and would need to be designed to cover the difference in revenue. Since no fee schedule or practice for this idea exists within NRCS, this project would be reliant on NRCS making the necessary modifications. Other possible uses of AWEP funds could be technical assistance to producers – including but not limited to the creation of an “Activity Plan” - in order to facilitate a change in crop type. The Aberdeen – American Falls and Bingham Ground Water Districts are suggested as a pilot project area because district representatives have demonstrated interest in this idea.

**Water conservation issues to be addressed :**

- 1) **Water is a limited resource throughout the Upper Snake River Basin and the ESPA.** Voluntary demand reduction throughout the region will contribute to the goals of the CAMP, which include improving aquifer levels, increasing gains in some river reaches, and increasing water supply certainty for all users.
- 2) **Decreasing ground water levels increase pumping costs for producers.** Parts of the ESPA have experienced significant drawdowns, and increased pumping costs and the expense of deepening wells has a negative effect on producers.

**Agricultural water enhancement objectives to be achieved:**

- 1) **Reduce consumptive water usage by 5 kaf per year by year five.** The ESPA CAMP establishes a Phase 1 target of 5 kaf to be achieved through a crop mix modification. This would be possible if the consumptive use on 10,000 acres were reduced by 0.5 acre-foot/acre.
- 2) **Utilize economic incentives to encourage producers to voluntarily participate in ESPA demand reduction programs.** AWEP funds would allow producers to shift to dry land in a way that enhances producer economic security and viability, and maintains appropriate soil conservation and land cover. This would allow a transition that benefits the producer, the local watershed, and the region as a whole.
- 3) **Keeps water rights in agriculture.** By encouraging producers to transfer water to State-approved uses, forfeiture is prevented, and other producers benefit.

**Number of acres anticipated to need treatment:**

Project Estimate: 10,000 acres  
 This estimate is based on 2.5% of 404,000 acres (irrigated area of the Aberdeen – American Falls and Bingham Ground Water Districts )  
 Aberdeen – American Falls and Bingham Ground Water Districts

**Number of agricultural producers that are likely to participate in the project:**

Pilot Project Estimate: 20 producers

**Total number of agricultural producers in the project area**

Pilot Project Estimate: 808 producers  
 404,000 acres/ 500 average farm size = 808 producers

**Timeframe:**

Pilot Project: 2009 – 2013