

**From:** Roger Reynolds [mailto:rreynolds@summerseng.com]  
**Sent:** Monday, October 03, 2011 5:27 PM  
**To:** Jemaa, Fethi Ben; Alemi, Manucher  
**Subject:** SBX7-7 Conceptual Cost Estimating

Fethi:

At the Wednesday September 28 A1 Committee meeting comments were requested on what data is currently available and what would it take to obtain the data needed to prepare a cost estimate for implementing the other WUE Methodologies proposed.

Following are some preliminary comments:

Field Scale:

1. The tech oriented farmers may be able to tell you what the total crop water requirements were for their crops, but many would not have this data on file and would have to search for it.
2. They should have good water delivery records if this data is provided to them by their water suppliers.
3. Most will not have calculated any effective precipitation.
4. Most would probably not have detailed records on any agronomic beneficial uses.
5. Many fields do not have flow meters for private groundwater wells and many farmers would not want to provide any private groundwater pumping records.

I don't think it would be feasible to consider estimating what it would cost to develop an implementation plan for a Field Scale Methodology. The costs would vary depending on who volunteers to do it and which of the data they readily have available. The Field Scale Methodology provides site specific information for a given field but really does not give a good indication of what is the statewide or regional ag water use efficiency.

Water Supplier Scale:

6. Cropping information is often obtained by a water agency from their growers. This is usually a voluntary submittal of data and the accuracy may not be very good. Depending on the size of the water agency tabulating this data can take a lot of effort and time. Larger water agencies may have staff available to do this, but many of the smaller agencies would not have the time to do this in house and would have to hire additional staff to help. (Assume minimum of 2 weeks up to 1 month to at least prepare a reasonable estimate of the cropping data. The accuracy of the acreages provided is also a question.)
7. The larger water agencies would be able to estimate the different crop water requirements for the different crops being grown, but estimates are needed and again it takes time to put all the data together. (Assume 2 weeks minimum.)
8. They should have good water delivery records for surface supplies and groundwater wells of a water agency. These are or will be measured. Many groundwater wells supplying or supplementing the water supplies to the farmers are private wells and this data or this portion of the information will not be readily available to the water agencies. This data may not be available or even possible to get. This information would then have to be estimated.
9. Most water agencies do not calculate effective precipitation. For any given year it would probably take at least 1 to 2 weeks to go through the annual precipitation records and prepare an estimate of the effective precipitation. This can be done but it is a cumbersome work.
10. The water agency will have their total water supply deliveries but then estimates will still be needed to estimate seepage losses, operational spills, or evaporation losses occurring before the water is applied by the farmers on their fields.

All of the data required will be time consuming to put together and to check. It will not be a simple calculation and the costs will vary significantly from region to region. I would think the costs could approach \$15,000 to \$25,000 per water agency. The data requirements would be comparable for the Regional Scale, but getting the data from all of the different water suppliers or growers would be difficult.

**Roger L. Reynolds**  
**Summers Engineering, Inc.**  
(559) 582-9237  
Fax (559) 582-7632  
[rreynolds@summerseng.com](mailto:rreynolds@summerseng.com)