

ATTACHMENT D

Possible Metrics

Guided by the components in the spatial-scale-specific water balance, various unique metrics (“indicators”) could be derived and potentially useful in combination with other metrics to assess existing water management functions and benefits. Examples are listed below.

Some Working Examples of Metrics for Efficiency of Agricultural Water Use at Different Scales

Spatial Scale	Time Scale	Measured or Estimated Input (X)	Measured or Estimated Result (Y)	Possible Metric*	Purpose or Appropriate Use
Field	Single season, year, or years	Applied water, sw+gw (depth)	Crop ETAW (depth)	Consumptive Use Fraction $CUF=Y/X$	
	Single season, year, or years	Same as above	Crop ETAW + Add'l AW required for other agronomic uses (depth)	“Beneficial Use” Fraction = Y/X	
	Irrig. event, single season	Same as above	Avg. AW on low quarter of field (depth)	Distribution Uniformity = Y/X	
Water Supplier	Year or years	Total water diverted into supplier boundary sw+gw (volume)	Total crop ETAW (volume)	Supplier-level $CUF(?) = Y/X$	
	Year or years	Same as above	Total crop ETAW + add'l AW required for other agronomic uses (volume)	Supplier-level “beneficial use” fraction(?) = Y/X	
	Year or years	Same as above	Total crop ETAW + recoverable losses (GW recharge and surface return leaving boundary) (volume)	Y/X	
	Year or years	<i>All three of the above, but including riparian ETAW and other environmental uses in the Measured Result</i>			
	Year or years	Total water diverted into supplier boundary sw+gw (volume)	Total delivered to farm gates (volume)	Y/X^{**}	
Region	Year or years	Total water diverted into region boundary sw+gw (volume)	Total crop ETAW (volume)	Regional $CUF(?) = Y/X$	
	Year or years	Same as above	Total crop ETAW + recoverable losses	Y/X	
	Year or years	<i>Both of the above, but including riparian ETAW and other environmental uses in the Measured Result</i>			

*Metrics are all ratios in these examples, but other metrics are possible and desirable.

**With reuse, could be greater than 1.0