

San Luis Obispo County
Master Water Plan
Agricultural Water Needs - Current and Projected

Gross Irrigation Water Requirement

Method for estimating gross irrigation water requirement:

1. Calculate gross irrigation water requirement (GIWR) for each crop group and Water Planning Area (WPA) using the following modified formula:

$$\text{Annual GIWR (Ft)} = \frac{\text{Crop ET} - \text{Effective Rain}}{(1 - \text{Leaching Req.}) \times \text{Irr. Effic.}} + \text{Frost Protection Water}$$

2. Estimate crop acreage by crop group and WPA.
3. Multiply results from Step 1 and Step 2 to give Annual Gross Irrigation Water Requirement (AF) by WPA.

Advantage of using this method:

1. Able to account for several factors as they change from one area to another and from one crop to another within the County.
2. Accounts for weather variability in County which affects ET_o and Crop ET.
3. Considers rainfall variability throughout County which impacts effective rain.
4. Allows for consideration of special circumstances specific to individual regions and crops in County (i.e., frost protection, leaching).
5. Reflects various irrigation methods between crop groups which affects irrigation efficiency.

Components of estimating projected agricultural water use:

1. Fundamental method remains the same
2. Most of the components remain the same
3. Projected irrigation efficiencies change
4. Cropping acreage changes

Additional details and data on the development of agricultural water use can be found in the April 2, 1998 document.

Current Gross Irrigation Water Requirement

Water Planning Area	Annual Gross Irrigation Water Requirement (AFY)		
	Low	High	Average
1 North Coast	340	514	427
2 Cayucos	574	910	742
3 Morro Bay/Los Osos	5,659	8,104	6,882
4 SLO/Avila	3,982	5,955	4,969
5 Five Cities	12,391	16,529	14,460
6 Nipomo Mesa	24,434	32,737	28,585
7 Cuyama	16,597	20,517	18,887
8 Calif. Valley	180	221	200
9a Salinas	22,734	31,616	27,175
9b Creston	3,311	4,935	4,123
9c Shandon	18,063	22,638	20,361
10 Nacimiento	0	0	0
Total *	108,265	144,676	126,811

* Rounded figures used for totals

Projected Gross Irrigation Water Requirement

Water Planning Area	Projected Annual Gross Irrigation Water Requirement (AFY)		
	Low	High	Average
1 North Coast	362	537	450
2 Cayucos	527	821	674
3 Morro Bay/Los Osos	5,289	7,490	6,389
4 SLO/Avila	4,016	6,055	5,036
5 Five Cities	12,227	16,230	14,229
6 Nipomo Mesa	23,857	31,766	27,812
7 Cuyama	16,819	20,485	18,652
8 Calif. Valley	168	205	187
9a Salinas	22,738	31,824	27,281
9b Creston	3,814	5,747	4,781
9c Shandon	21,886	27,187	24,536
10 Nacimiento	0	0	0
Total *	111,703	148,347	130,027

* Rounded figures used for totals