

# Madera County GSAs for the Madera and Chowchilla Subbasins: Groundwater Allocation Scenarios

[DRAFT: for discussion purposes only]

		Scenario 1						Scenario 2						Scenario 3 (Madera)						Scenario 3 (Chowchilla)							
		Year 1		Year 10		Year 20		Year 1		Year 10		Year 20		Year 1		Year 10		Year 20		Year 1		Year 10		Year 20			
		NG	0.5	NG	0.5	NG	0.5	NG	0.5	NG	0.5	NG	0.5	NG	0.5	NG	0.5	NG	0.5	NG	0.5	NG	0.5	NG	0.5		
Farm A: Acres ETAW Total ETAW Irrig. Eff Applied water Total applied	<b>Almonds</b>	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres		
	ETAW	2.83	af/ac	1.7	af/ac	1.13	af/ac	0.5	af/ac	1.82	af/ac	1.19	af/ac	0.5	af/ac	1.07	af/ac	0.8	af/ac	0.5	af/ac	1.91	af/ac	1.24	af/ac	0.5	af/ac
	Total ETAW	283	af	170	af	113	af	50	af	182	af	119	af	50	af	107	af	80	af	50	af	191	af	124	af	50	af
	Irrig. Eff	80%		-113	short	-170	short	-233	short	-101	short	-164	short	-233	short	-176	short	-203	short	-233	short	-92	short	-159	short	-233	short
	Applied water	3.54	af/ac	213	af	141	af	63	af	227	af	149	af	63	af	134	af	100	af	63	af	239	af	155	af	63	af
	Total applied	354	af	-141	short	-212	short	-291	short	-126	short	-205	short	-291	short	-220	short	-254	short	-291	short	-115	short	-199	short	-291	short
	AW																										
Farm B: Acres ETAW Total ETAW Irrig. Eff Applied water Total applied	<b>Grapes</b>	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres		
	ETAW	1.65	af/ac	1.7	af/ac	1.13	af/ac	0.5	af/ac	1.27	af/ac	0.91	af/ac	0.5	af/ac	1.07	af/ac	0.8	af/ac	0.5	af/ac	1.91	af/ac	1.24	af/ac	0.5	af/ac
	Total ETAW	165	af	170	af	113	af	50	af	127	af	91	af	50	af	107	af	80	af	50	af	191	af	124	af	50	af
	Irrig. Eff	80%		5	extra	-52	short	-115	short	-38	short	-74	short	-115	short	-58	short	-85	short	-115	short	26	extra	-41	short	-115	short
	Applied water	2.06	af/ac	141	af	63	af	159	af	113	af	63	af	134	af	100	af	63	af	155	af	155	af	63	af	63	af
	Total applied	206	af	-65	short	-144	short	-47	short	-93	short	-144	short	-73	short	-106	short	-144	short	-51	short	-51	short	-144	short	-144	short
	AW																										
Farm C: Acres ETAW Total ETAW Irrig. Eff Applied water Total applied	<b>Native Grazing</b>	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres		
	ETAW	0	af/ac	0.5	af/ac	0.5	af/ac	0.5	af/ac	0.5	af/ac	0.5	af/ac	0.5	af/ac	0.5	af/ac	0.5	af/ac	0.5	af/ac	0.5	af/ac	0.5	af/ac	0.5	af/ac
	Total ETAW	0	af	50	af	50	af	50	af	50	af	50	af	50	af	50	af	50	af	50	af	50	af	50	af	50	af
	Irrig. Eff	100%		50	extra	50	extra	50	extra	50	extra	50	extra	50	extra	50	extra	50	extra	50	extra	50	extra	50	extra	50	extra
	Applied water	0	af/ac	50	extra	50	extra	50	extra	50	extra	50	extra	50	extra	50	extra	50	extra	50	extra	50	extra	50	extra	50	extra
	Total applied	0	af	50	extra	50	extra	50	extra	50	extra	50	extra	50	extra	50	extra	50	extra	50	extra	50	extra	50	extra	50	extra
	AW																										
Farm D: Acres ETAW Total ETAW Irrig. Eff Applied water Total applied	<b>Olives for Oil</b>	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres	100	acres		
	ETAW	0.85	af/ac	1.7	af/ac	1.13	af/ac	0.5	af/ac	0.85	af/ac	0.68	af/ac	0.5	af/ac	1.07	af/ac	0.8	af/ac	0.5	af/ac	1.91	af/ac	1.24	af/ac	0.5	af/ac
	Total ETAW	85	af	170	af	113	af	50	af	85	af	68	af	50	af	107	af	80	af	50	af	191	af	124	af	50	af
	Irrig. Eff	80%		50	extra	28	extra	-35	short	0		-17	short	-35	short	22	extra	-5	short	-35	short	50	extra	39	extra	-35	short
	Applied water	1.06	af/ac	106	af	63	af	106	af	85.5	af	63	af	106	af	100	af	63	af	106	af	63	af	63	af	63	af
	Total applied	106	af	-44	short	-21	short	-44	short	0		-21	short	-44	short	-6	short	-44	short	-44	short	-44	short	-44	short	-44	short
	AW																										

NG = "Native Groundwater" is the quantity of water determined to be pumped on average each year without causing overdraft. The volume was determined for both the Madera and Chowchilla subbasins, then equally proportioned to each GSA in those subbasins. The Madera County GSAs have further distributed this volume proportionally to all acres within the respective management areas for each County GSA in each subbasin.

ESW = "Existing Stored Groundwater" is the annual volume of provisional groundwater the Madera County GSAs intends to manage to transition from current over-pumping to sustainable pumping levels by 2040. Initially, the volume would equate to the difference between each GSA's native groundwater and the total volume pumped in that GSA's management area (based upon 2015 cropping). The volume would decrease annually until it reaches zero at 2040.

ETAW = "Evapotranspiration of Applied Water" is the portion of applied irrigation water that is consumed by the crop each year

AW = "Applied Water" is the amount of irrigation water necessary to meet ETAW needs when considering irrigation systems have certain efficiencies. This generally equates to the quantity of water pumped from the ground each year.