Table S-7. Estimated mean annual groundwater recharge as a percentage of water input for baseline conditions in the Southwest Mauna Loa aquifer sector of the Island of Hawai‘i, compiled by land-cover type and precipitation amount (refer to USGS SIR 2011–5078).

[<, less than; –, not applicable; water input is defined as the sum of mean annual rainfall, fog, and irrigation; baseline conditions are defined as 2008 land cover and mean annual rainfall for the period 1916–83; the Southwest Mauna Loa aquifer sector consists of the Manukā, Ka‘apuna, and Kealakekua aquifer systems and is defined by the Hawai‘i Commission on Water Resource Management (see http://www.state.hi.us/dlnr/cwrm/mapsillustrations/gwhu_hawaii.pdf); reported mean recharge is an area-weighted average; no distinction is made between fog and non-fog conditions for shrubland, coffee, and eucalyptus forest plantations]

Land-cover description	Mean annual rainfall plus fog equal to 40 inches or less			Mean annual rainfall plus fog greater than 40 inches and less than 80 inches			Mean annual rainfall plus fog equal to 80 inches or greater		
	Number of water-budget subareas	Area (square miles)	Mean recharge as a percentage of water input[1]	Number of water-budget subareas	Area (square miles)	Mean recharge as a percentage of water input[1]	Number of water-budget subareas	Area (square miles)	Mean recharge as a percentage of water input[1]
Open native forest (outside fog zone)	356	1.34	22.9	2,701	20.00	26.1	20	0.08	29.2
Closed native forest (outside fog zone)	7	0.02	32.7	2,048	11.62	21.9	17	0.04	30.0
Alien and mixed forest (outside fog zone)	25	0.03	1.5	1,044	3.89	9.3	12	0.02	6.6
Open native forest (inside fog zone)	2,392	53.52	25.4	5,317	56.30	40.4	100	0.96	47.5
Closed native forest (inside fog zone)	247	0.99	35.4	2,998	37.95	39.0	75	0.42	43.0
Alien and mixed forest (inside fog zone)	0	–	–	101	0.61	28.9	0	–	–
Shrubland	4,290	62.53	56.1	5,352	37.00	56.3	1	<0.005	51.7
Agriculture: Macadamia	0	–	–	732	8.94	31.0	3	0.02	51.5
Coffee	0	–	–	389	1.07	42.0	3	0.02	49.2
Diversified	0	–	–	258	0.77	41.7	10	0.20	51.7
Forest (eucalyptus)	0	–	–	0	–	–	0	–	–
Fallow/Grassland	0	–	–	0	–	–	0	–	–
Golf course	0	–	–	68	0.21	17.6	0	–	–
Low-intensity developed	28	0.03	14.1	1,737	1.51	41.4	6	0.01	49.4
High-intensity developed	14	0.03	42.1	1,066	0.73	53.1	0	–	–
Grassland	1,877	23.94	37.0	5,578	42.16	43.6	48	0.53	52.8
Sparsely vegetated	3,272	211.66	52.4	4,365	42.31	56.1	2	<0.005	48.8
Wetland vegetation	0	–	–	25	0.22	54.9	0	–	–
Water body[2]	0	–	–	0	–	–	0	–	–

[1]Recharge as a percentage of water input was calculated for each subarea using the formula: [(recharge - direct recharge)/(rainfall + fog + irrigation)] x 100. Values for each subarea in a particular land-cover category were then multiplied by the area and summed, and that sum was then divided by the total area of that category to obtain a mean. Direct recharge is described in USGS SIR 2011–5078.

[2]Recharge was not calculated using the water-budget model (see USGS SIR 2011–5078, p. 28).