

Table S-1. Estimated groundwater recharge and recharge as a percentage of water input for baseline conditions on the Island of Hawai'i, compiled by land-cover type (refer to USGS SIR 2011–5078).

[–, 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; although standard deviation is used in the table as a measure of the spread of recharge as a percentage of water input, its use is not meant to imply that the data are normally distributed; 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; because of rounding, the area for each land-cover category may not match the sum of the areas for that land-cover category from tables S-2 through S-10]

Land-cover description	Number of water-budget subareas	Area (square miles)	Mean recharge as a percentage of water input ¹	Standard deviation of mean recharge as a percentage of water input
Open native forest (outside fog zone)	43,212	196.51	34.5	20.4
Closed native forest (outside fog zone)	23,708	130.06	29.4	19.2
Alien and mixed forest (outside fog zone)	38,492	127.53	12.9	17.0
Open native forest (inside fog zone)	42,869	427.96	41.1	18.6
Closed native forest (inside fog zone)	26,420	344.14	44.8	15.5
Alien and mixed forest (inside fog zone)	6,611	38.87	36.2	26.3
Shrubland	63,545	636.61	57.0	20.2
Agriculture: Macadamia	5,043	30.39	35.4	17.4
Coffee	693	1.90	45.3	8.1
Diversified	29,812	99.81	50.0	22.9
Forest (eucalyptus)	480	1.61	19.2	6.4
Fallow/Grassland	2,945	8.62	28.8	6.5
Golf course	1,387	4.22	25.3	21.6
Low-intensity developed	37,385	42.88	34.5	23.5
High-intensity developed	15,290	11.26	57.1	14.0
Grassland	84,598	835.43	23.8	25.8
Sparsely vegetated	44,552	1,089.89	56.2	15.3
Wetland vegetation	139	0.95	34.5	13.8
Water body ²	624	1.01	–	–

¹Recharge as a percentage of water input was calculated for each subarea using the formula: $[(\text{recharge} - \text{direct recharge}) / (\text{rainfall} + \text{fog} + \text{irrigation})] \times 100$. 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.

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