

Input parameter		
surface are lake (m ²)	0.008 km ²	8000
evaporation (inch/sec)	2.26 inches/month	0.000000844

Flow Meter			
Inflow Method 1	Depth	Width	Cross Area (m ²)
trial 1		0.04	0.60
trial 2		0.04	0.60
trial 3		0.04	0.60

Float			
Inflow Method 2	Depth (m)	Width (m)	Length (m)
trial 1		0.04	0.60
trial 2		0.04	0.60
trial 3		0.04	0.60

Bucket test			
outflow method 3	Depth (m)	cm to m	Area of Bucket (m ²)
trial 1		0.05	0.05
trial 2		0.05	0.04
trial 3		0.05	0.04

Evaporation	Value (m/sec)	lake surface (m ²)	lake evaporation (m ³ /sec)
	2.14322E-08	8000	0.00017

Results

Total Inflow	flow rate (m ³ /hr)
method 1	172.0
method 2	22.01
avg. inflow	97.0
Total Inflow	97.01

Total outflow	flow rate (m ³ /hr)
method 3	0.05
evaporation	0.62
Total outflow	0.66

fern lake is increasing in steady state, because the sum of the inputs is larger than the sum of the outputs

rate of volume chart	inflow (m ³ /hr)	outflow (m ³ /hr)	Rate (m ³ /hr)
inflow-outflow	97.01	0.66	96.35

Rate of depth change	rate of volume	surface area (m^2)	depth change (m/hr)
rate of volume change	0.62	8000	7.71559E-05

Meter Value (m/s)	Flowrate (m ³ /hr)	
	2.07	174.2
	2.04	171.6
	2.03	170.3
avg. flow rate=		172.0

Volume (m ³)	Time (s)	Time (hr)	Flowrate (m ³ /hr)	
	0.02	4.72	0.00131	17.80
	0.02	3.19	0.00089	26.34
	0.02	3.84	0.00107	21.88
		avg. flow rate=		22.01

Volume	Time (s)	Time (hr)	Flowrate (m ³ /hr)	
	0.0003	20.0	0.006	0.06
	0.0002	20.1	0.006	0.04
	0.0002	20.2	0.006	0.04
		avg. flow rate=		0.05

lake evaporation (m ³ /hr)
0.62

depth change (cm/hr)

0.008