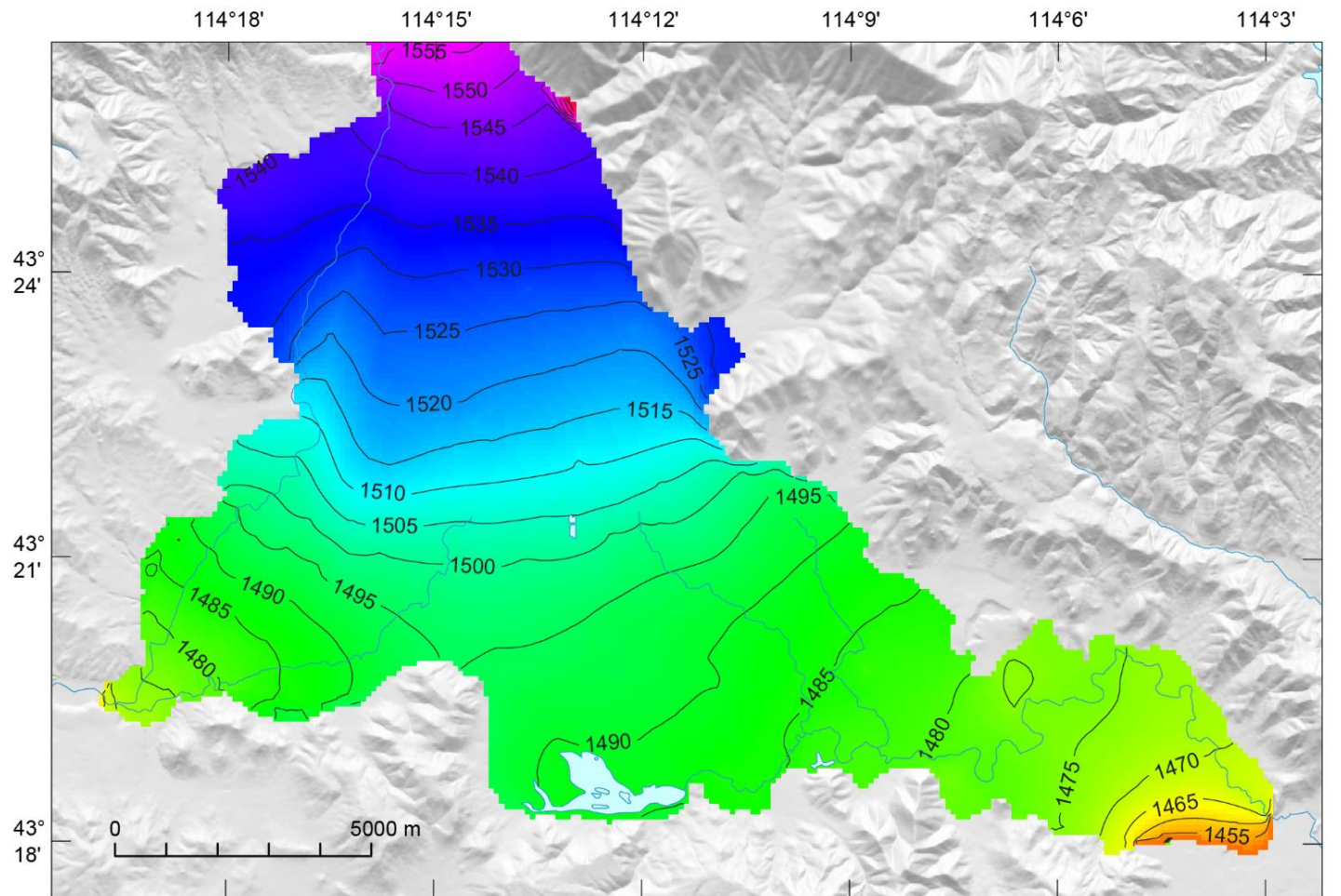


Wood River Valley Model Construction Update

Jason C. Fisher

PROVISIONAL: FOR INFORMATIONAL PURPOSES ONLY

These slides were presented at the Wood River Valley Modeling Technical Advisory Committee meeting Thursday, 2/5/2015, 10am-3pm at the Community Campus, Queen of the Hills Room, in Hailey. Taken outside the context of the original presentation, these slides may not provide a complete or accurate representation of the speaker's intent.



+proj=tmerc +lat_0=42 +lon_0=-114 +k=0.9996 +x_0=2500000 +y_0=1200000 +datum=NAD83 +units=m +no_defs +ellps=GRS80 +towgs84=0,0,0

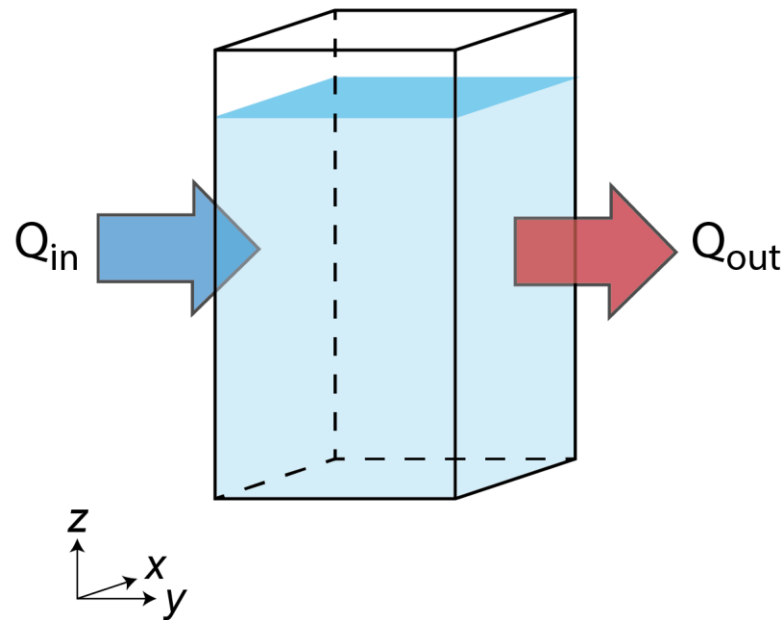
Hydraulic head in meters above the NAVD 88.



Hydrologic Boundaries

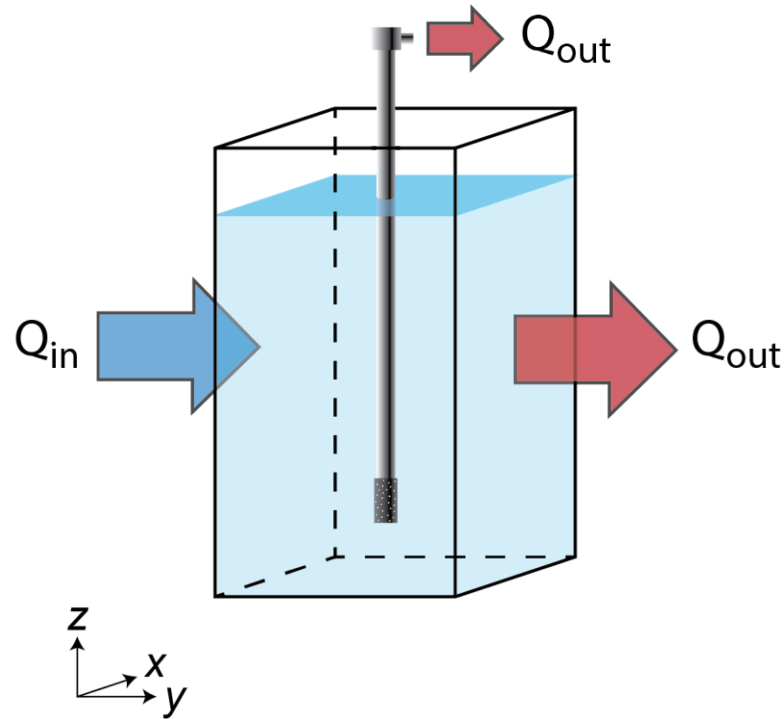
Q_{in} is groundwater entering the model domain,
specified as a positive volumetric flow rate

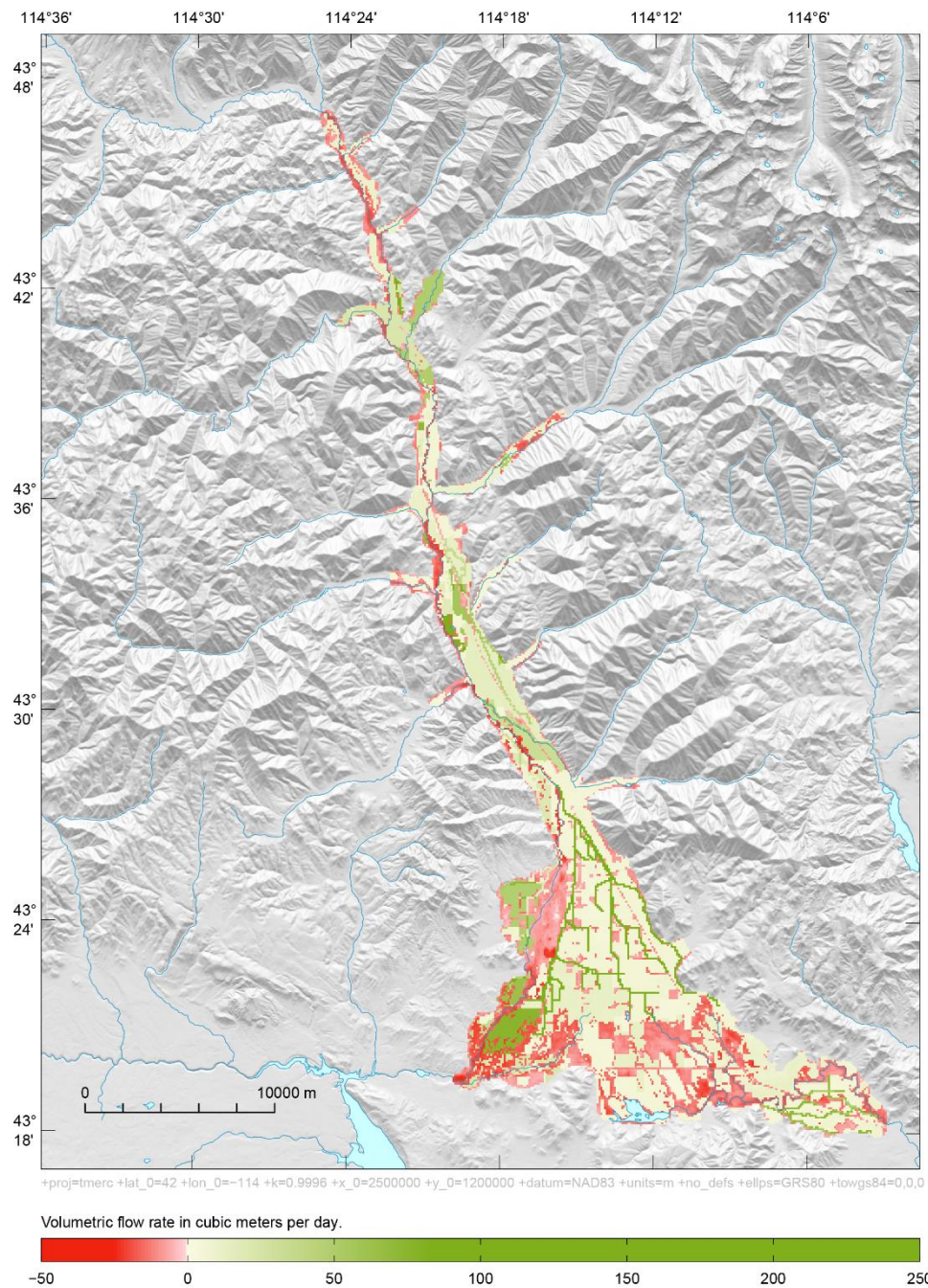
Q_{out} is groundwater leaving the model domain,
specified as a negative volumetric flow rate



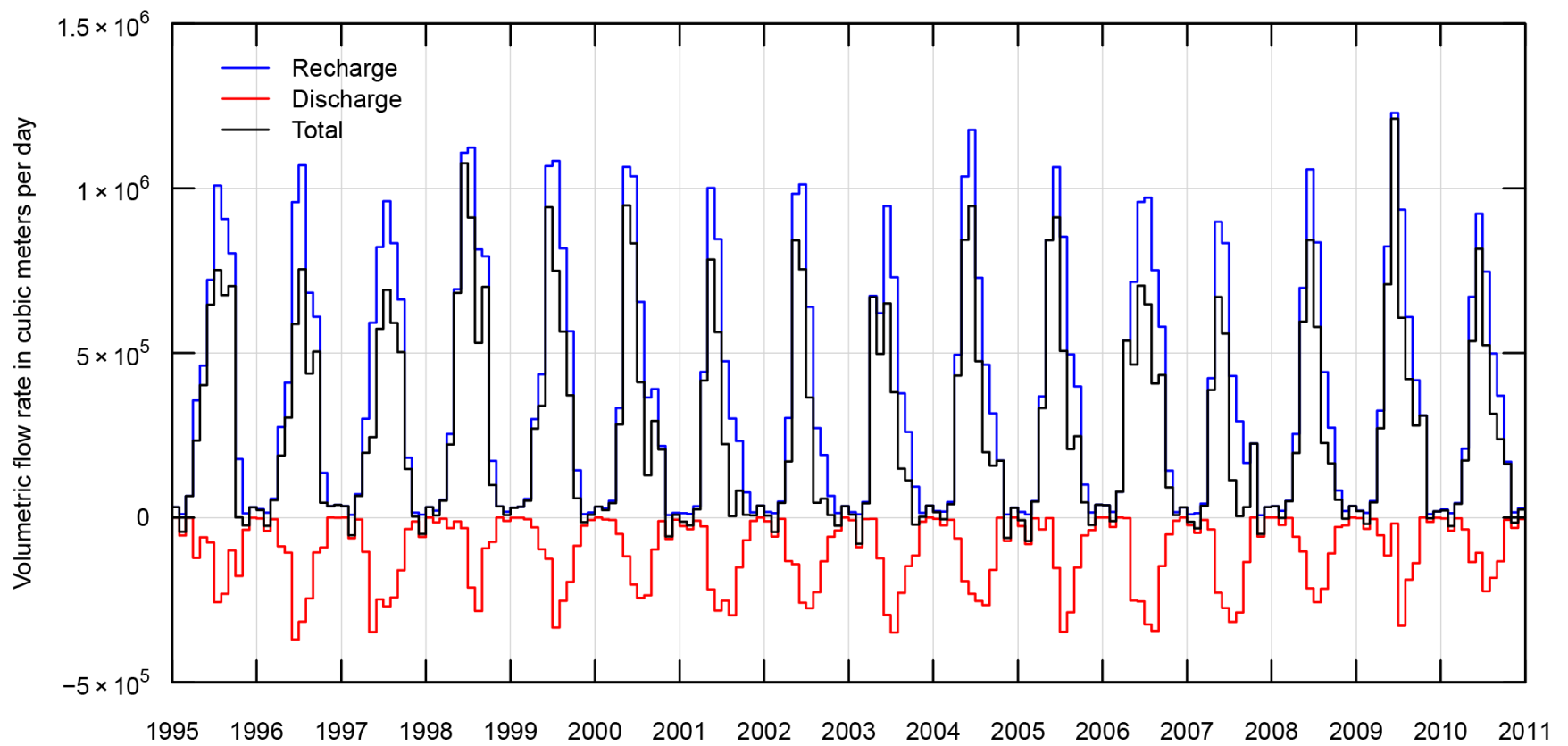
Q_{in} is groundwater entering the model domain,
specified as a positive volumetric flow rate

Q_{out} is groundwater leaving the model domain,
specified as a negative volumetric flow rate

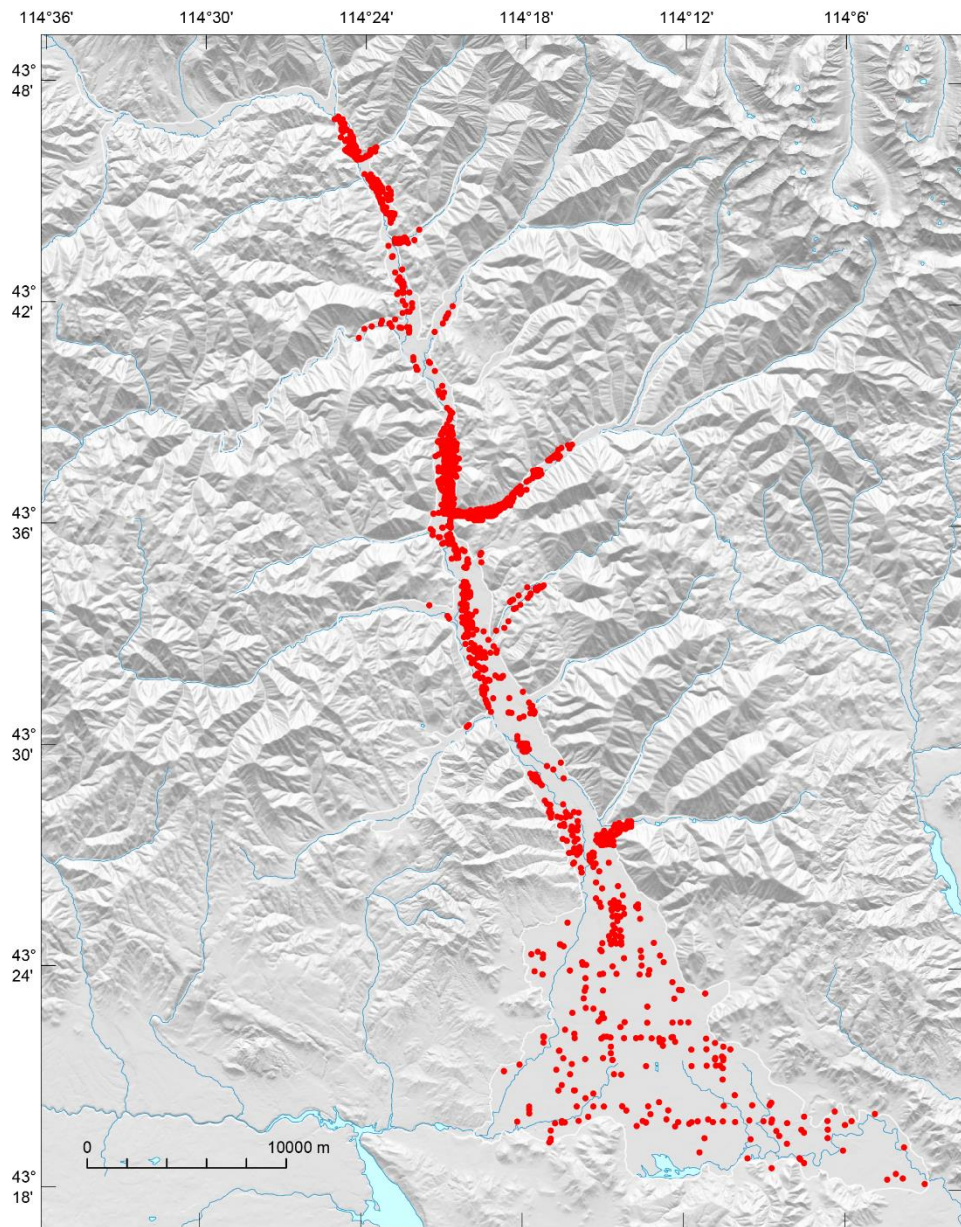




Areal
Recharge

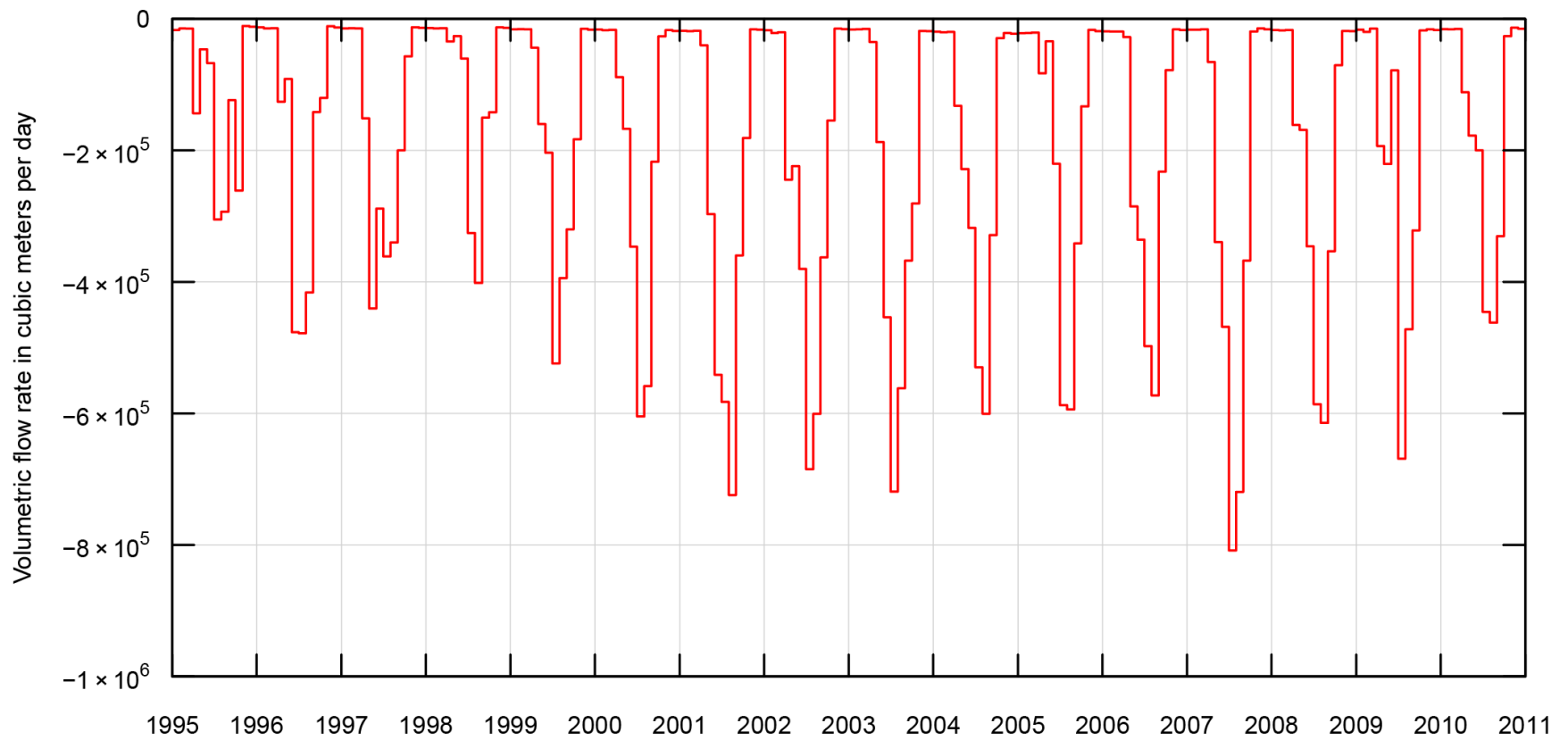


Areal recharge and discharge in the aquifer system.

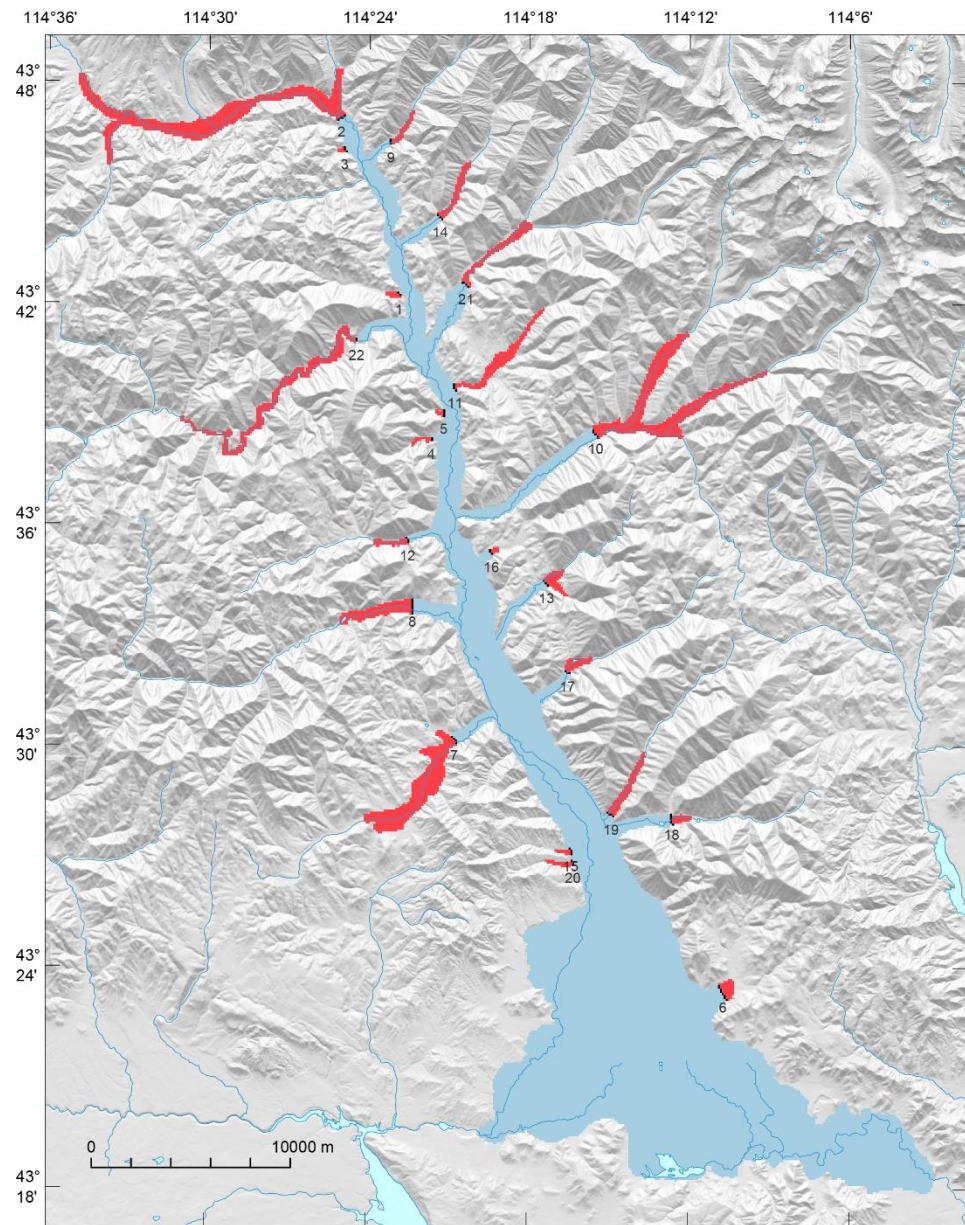


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Pumping
Wells



Groundwater pumping in the aquifer system.



Major Tributary Canyon Inlet Boundaries



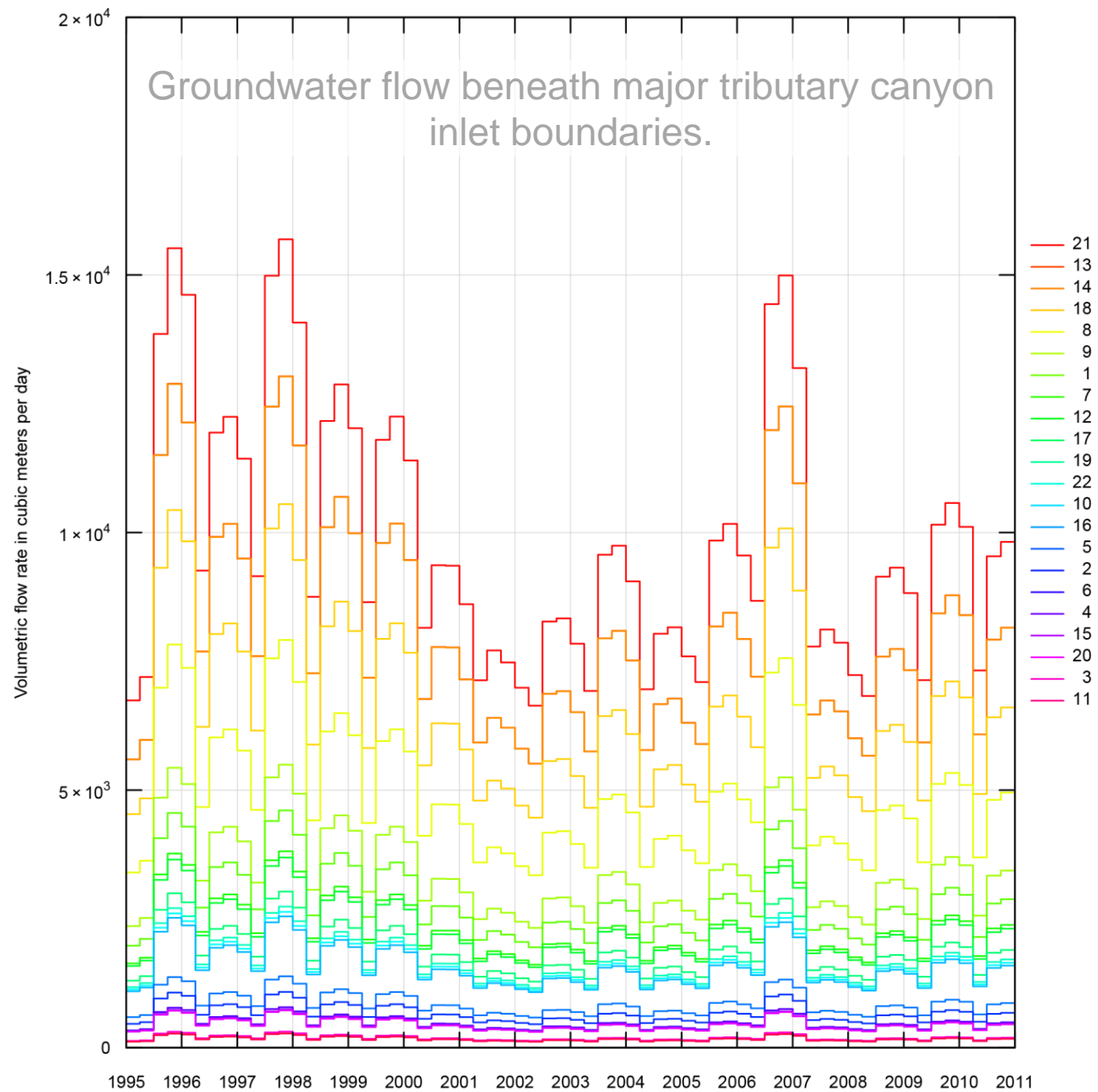
inactive cells

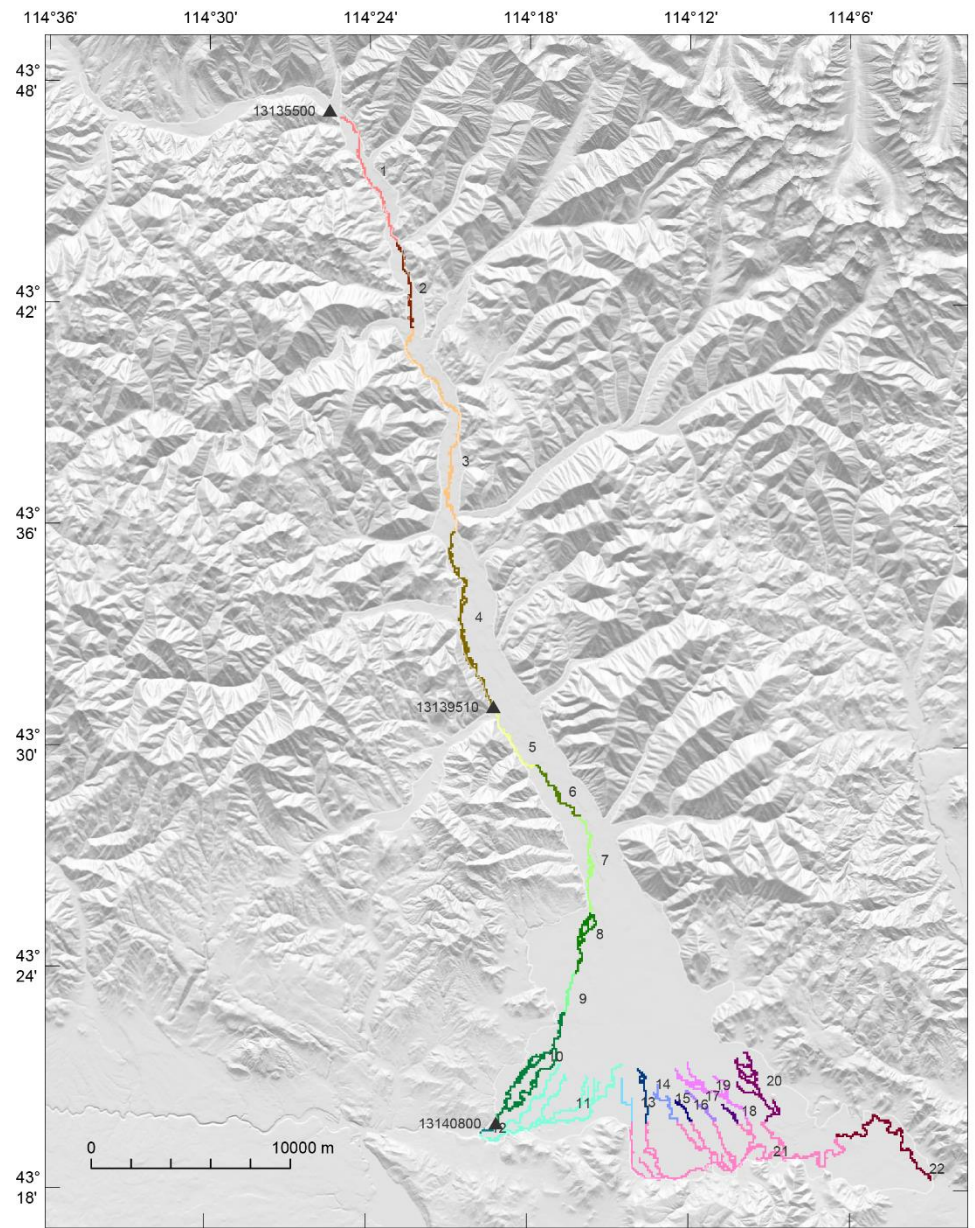


active cells



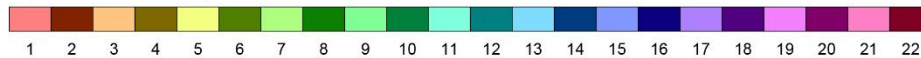
specified flow cells



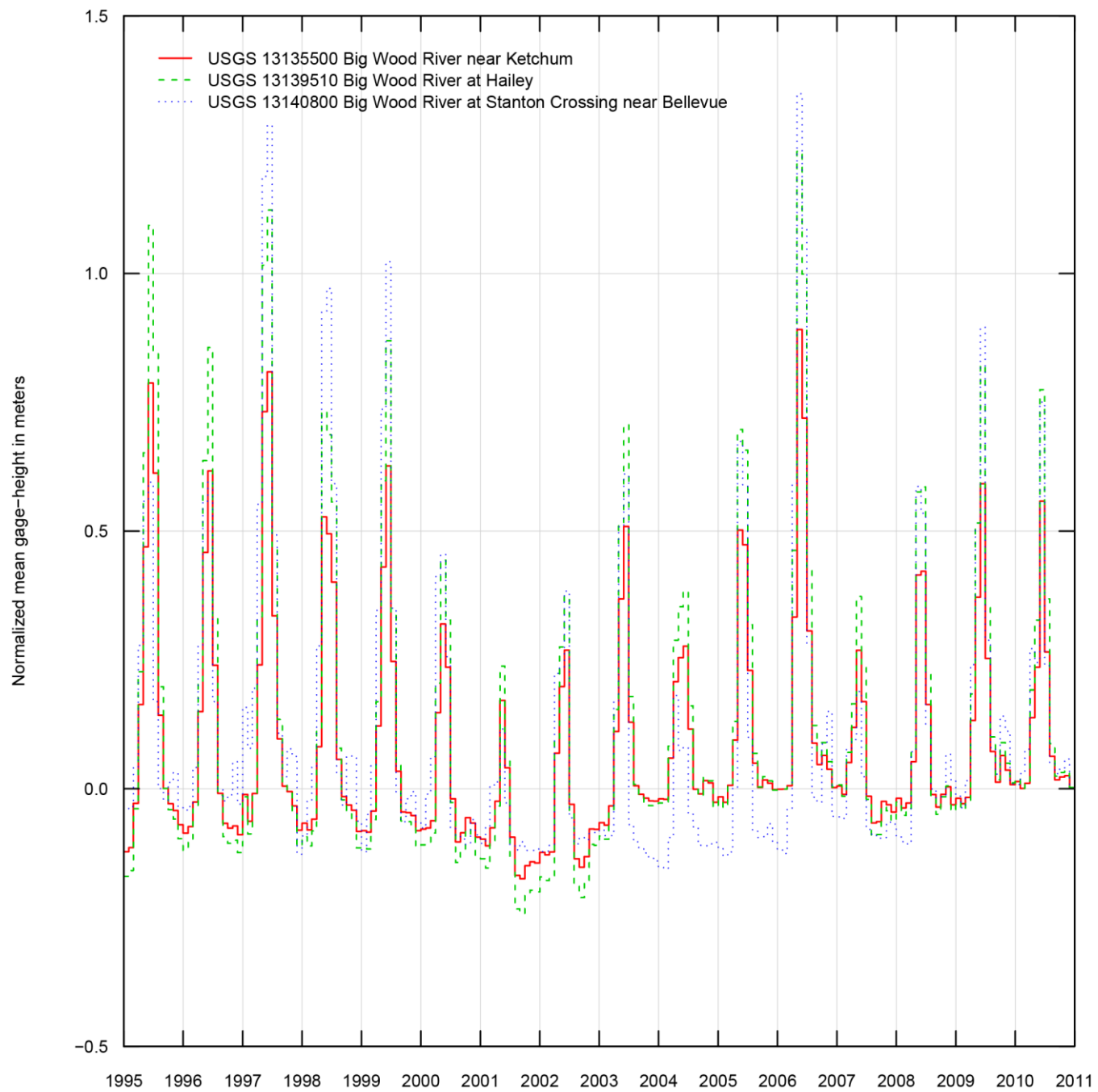


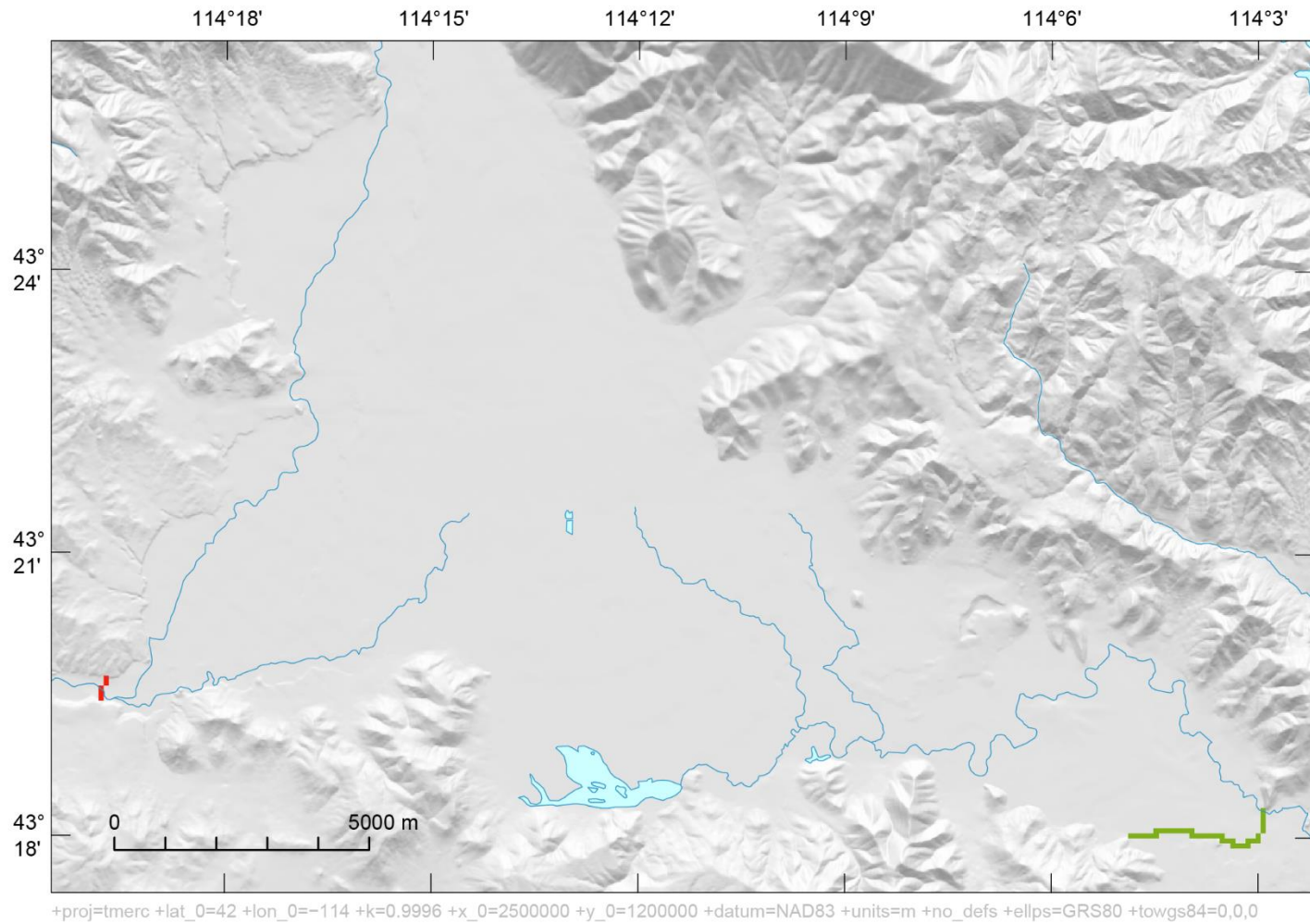
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Map number used to identify a stream reach.



Stream
Reaches



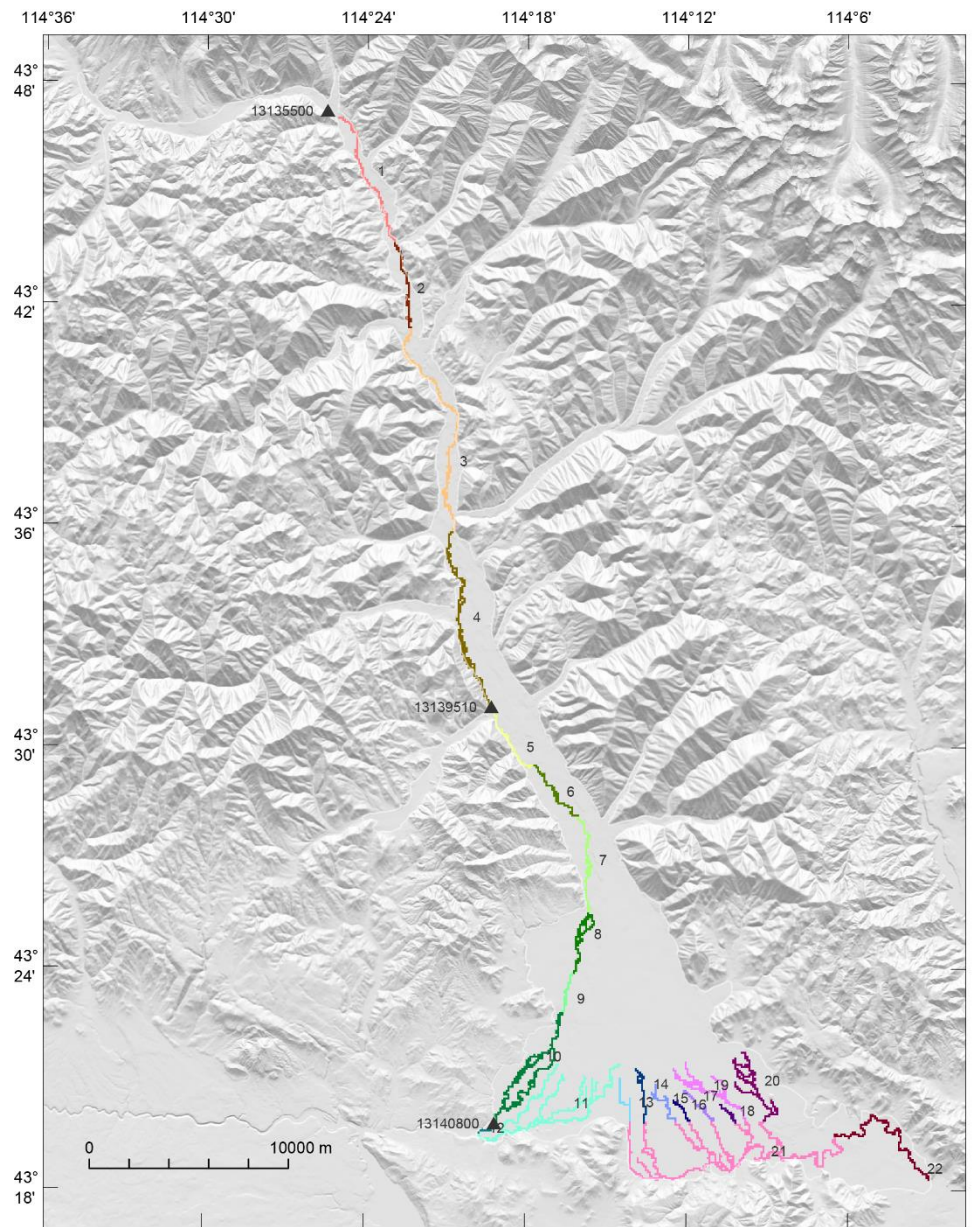



Stanton Crossing


Silver Creek

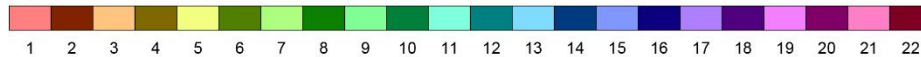
Groundwater outlet boundaries

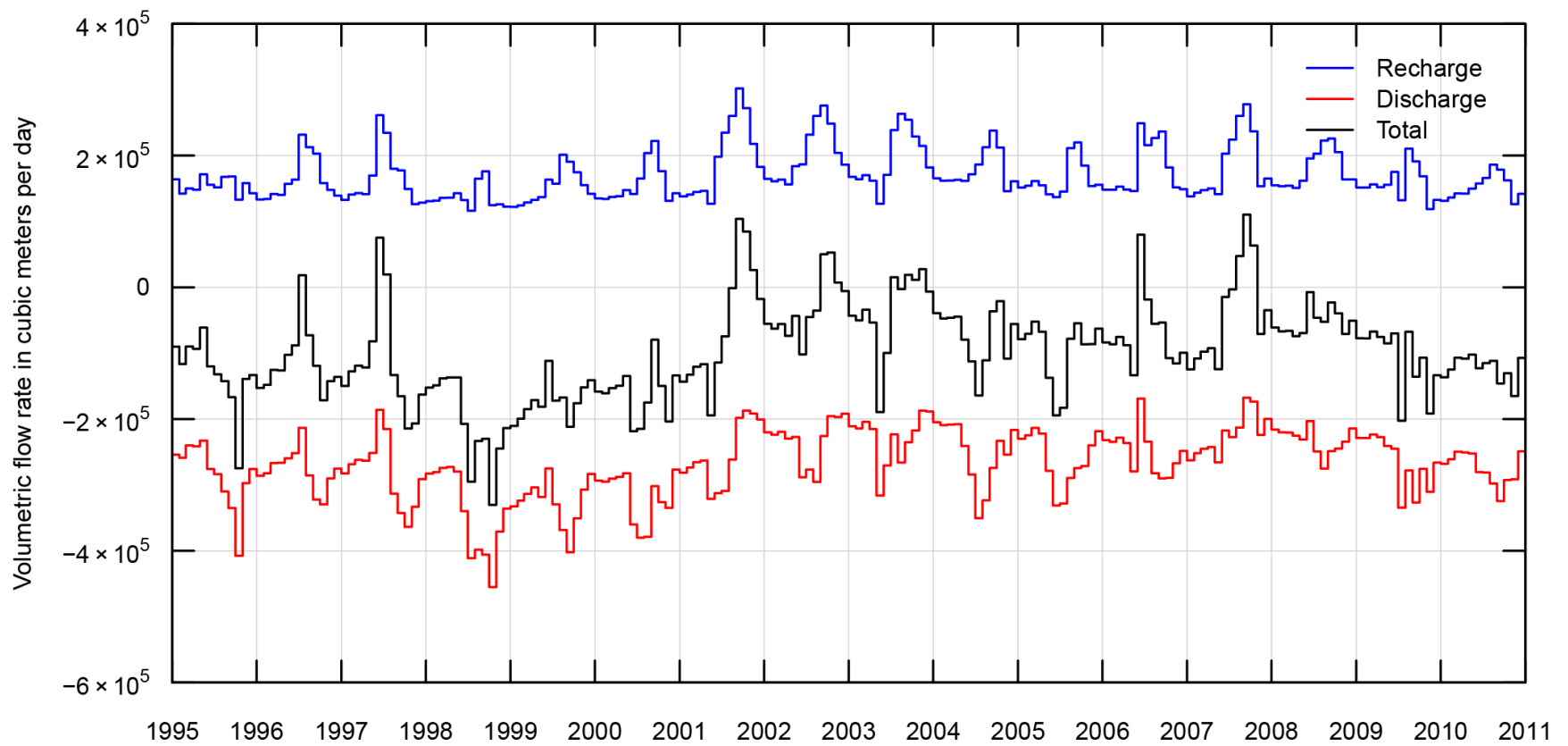
Uncalibrated Model Results



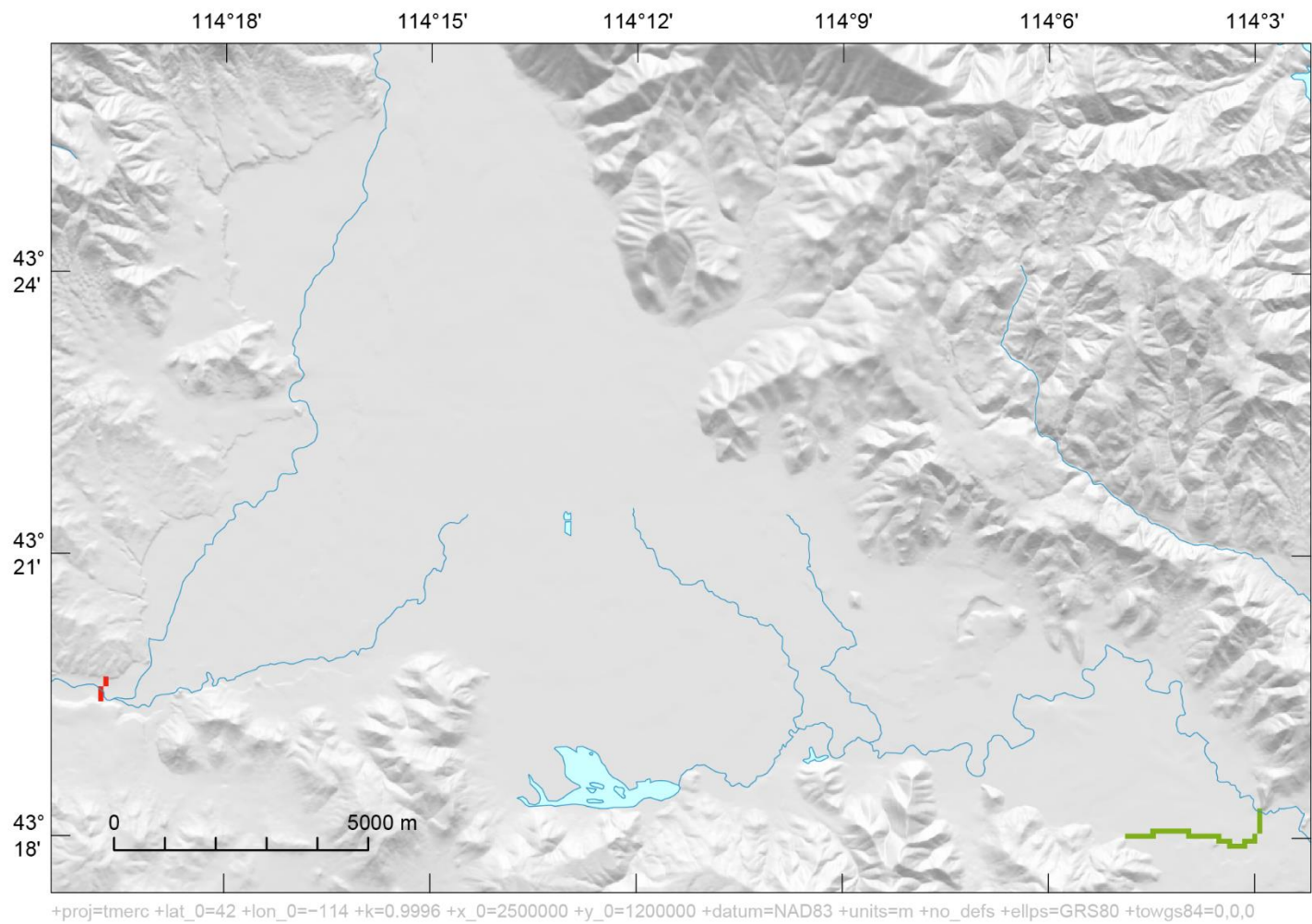
+proj=tmmerc +lat_0=42 +lon_0=-114 +k=0.9996 +x_0=2500000 +y_0=1200000 +datum=NAD83 +units=m +no_defs +ellps=GRS80 +towgs84=0,0,0

Map number used to identify a stream reach.



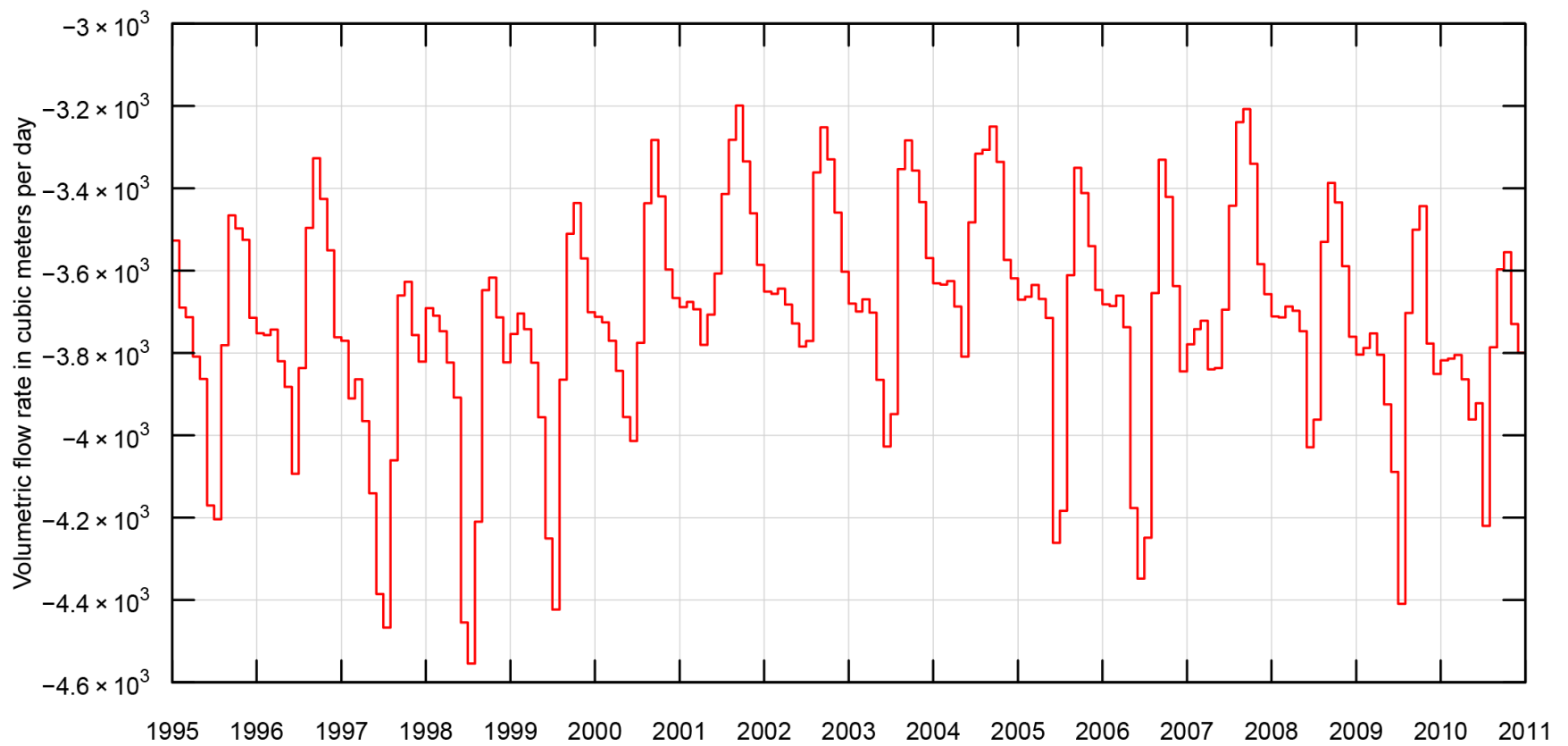


Stream-aquifer flow exchange in the major rivers.

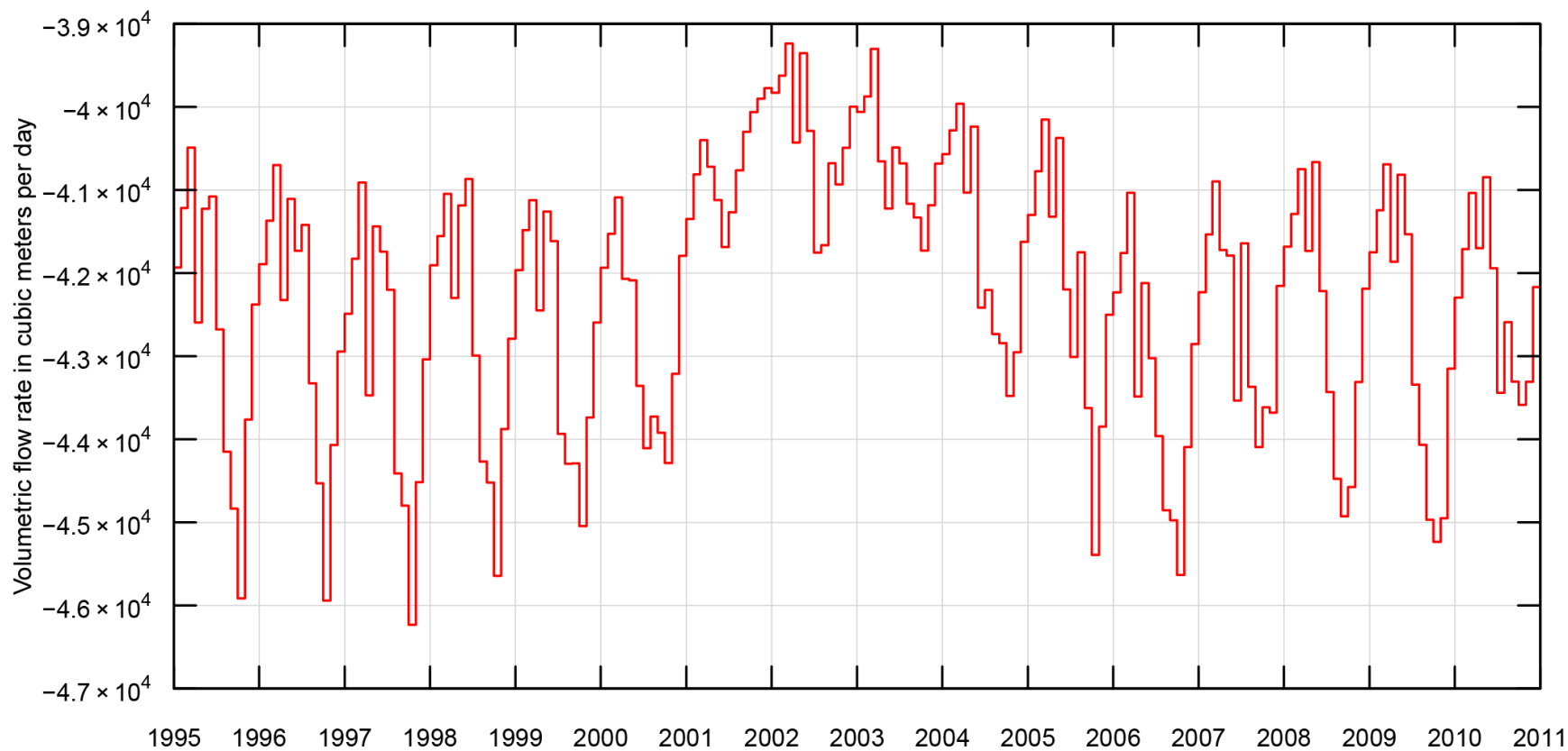



Stanton Crossing


Silver Creek



Groundwater flow beneath Stanton Crossing outlet boundary.

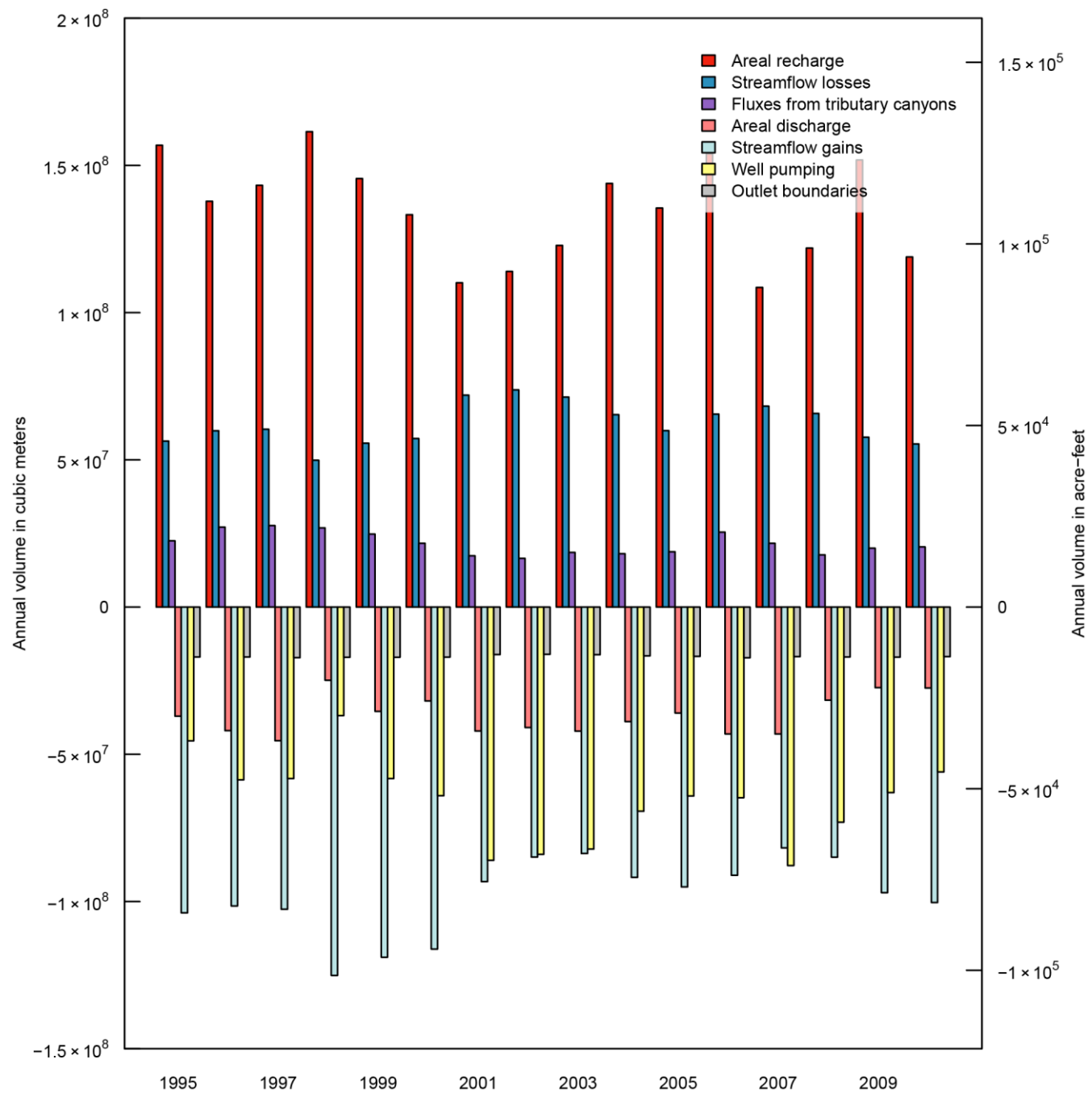


Groundwater flow beneath Silver Creek outlet boundary.

Volumetric Budget

Component		Rate (m ³ / d)	Rate (acre-ft/yr)
In	Areal recharge	347,755	102,973
	Streamflow losses	148,476	43,965
	Fluxes from tributary canyons	53,920	15,966
Out	Areal discharge	93,086	27,563
	Streamflow gains	250,519	74,180
	Well pumping	188,123	55,704
	Stanton Crossing outlet boundary	2,642	782
	Silver Creek outlet boundary	33,505	9,921

Rates averaged over the 2000 through 2010 time period.





Run Times



Steady-state, Confined:

$h(x, y, z)$

$T(x, y, z)$

12 sec

Transient, Confined:

$h(x, y, z, t)$

$T(x, y, z)$

10 min 26 sec

Transient, Convertible:

$h(x, y, z, t)$

$T(x, y, z, h)$

3 hour 17 min 11 sec



Run Times



Steady-state, Confined:

$h(x, y, z)$

$T(x, y, z)$

12 sec

Transient, Confined:

$h(x, y, z, t)$

$T(x, y, z)$

10 min 26 sec

Transient, Convertible:

$h(x, y, z, t)$

$T(x, y, z, h)$

3 hour 17 min 11 sec

UpdateRecharge function:

2 min 36 sec

Questions