

Lake Avalon is a sandhill lake. Sandhill lakes are lakes formed by the collapse of ancient sinkholes in the ridge areas of east-central Florida. The karstic limestone of the Floridan aquifer is covered by a thick sequence of sandy sediments, principally of the Pliocene Cypresshead Formation (Scott et al., 2001). Because of the sinkhole origin of the lakes and the composition and thickness of the surrounding Cypresshead Formation, which the sinkholes penetrate, sandhill lakes have small drainage basins that are limited to the slopes of the sinkholes.

Water in sandhill lakes depends on

- Rainfall and runoff within the limited drainage basin;
- Influx and outflow in the surficial aquifer, which is a minor source/sink of water largely contained within the Cypresshead Formation;
- Interaction, largely seepage losses, with the underlying Floridan aquifer; and
- Evapotranspiration.

Because of the absence of a well developed surface drainage system and dependence on rainfall, lake levels can fluctuate dramatically and the lakes are very sensitive to droughts and large rainfall events.

Robison (2008) has modeled the water budget for Lake Avalon. The water-budget model results (Table \_\_) demonstrate the importance of the rainfall and runoff on lake levels. Clearly, water levels in the lake are dominated by rainfall and runoff, and evaporation and seepage to the underlying Floridan aquifer are the dominant sinks. As a result lake-level fluctuations are almost wholly a consequence of rainfall events and droughts.

**Table \_\_. Modeled water budget for Lake Avalon (Robison, 2008).**

<b>Source/sink</b>	<b>Water Influx (acre-feet/year)</b>	<b>Water Outflow (acre-feet/year)</b>
Pervious basin runoff	769	
Impervious basin runoff	77	
Direct rainfall	653	
Direct evaporation		626
Seepage		810
<b>Totals</b>	1,499	1,436