

Glacier-Dammed Lakes in the Kenai River Basin

Larry A. Rundquist¹

There are two notable glacier-dammed lakes in the Kenai River basin. Snow Glacier-Dammed Lake has a good history of releases since 1949. Periodic operation of a gaging station on the Snow River has provided sufficient flow data for the Alaska-Pacific River Forecast Center to develop a model to forecast the release hydrograph once the lake begins to release. The Skilak Glacier-Dammed Lake is not as well documented. With no gaging station on the Skilak River, glacier lake releases pass through Skilak Lake and down the lower Kenai River before reaching a gaging station. Flood peaks are thus reduced significantly by the lake and in-channel storage, and some glacier-dammed lake releases have gone undetected. However, the Skilak Glacier-Dammed Lake released in January 1969, breaking up an existing ice cover on the lower Kenai River. The resulting ice jams caused extensive flooding and generated the highest stage of record at Soldotna. This paper will present the characteristics of these two glacier-dammed lakes and the methods used to forecast release hydrographs.

¹National Weather Service River Forecast Center, Anchorage, Alaska