

## **Seepage investigation examined surface water ground water interactions in Great Sand Dunes National Park and Preserve**

James J. Harte  
National Park Service, Water Resources Division

Andrew Valdez  
National Park Service, Great Sand Dunes National Park and Preserve

Sharla Stevenson  
Watershed Sciences Program, Colorado State University

**Abstract.** A seepage investigation to quantify base flows and identify gaining and losing stream reaches for streams in Great Sand Dunes National Park and Preserve (GRSA) was conducted by the National Park Service, Water Resources Division during the Fall of 2004 and 2007. The investigation was initiated to provide calibration data for a ground water model under construction for GRSA. Seepage investigation methodology, consisting of discharge measurements made simultaneously at multiple cross sections along a given reach of stream, was used to determine base discharge and identify stream reaches where the stream was “gaining” or “losing” discharge. The seepage investigation was conducted on Deadman Creek, Sand Creek, Big Spring Creek, and Little Spring Creek. The results of the seepage investigation indicated that, from upstream to downstream within the measured reaches, Deadman Creek was a losing stream, Sand Creek was a losing stream, Big Spring Creek was a gaining stream, and Little Spring Creek neither gained nor lost discharge.