

Project Summary
Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Assessing the Annual Sediment Budget on a Reach of the Toklat River, Denali National Park, AK

Discipline: Natural
Type of Project: Research
Funding Agency: National Park Service
Cooperators: Colorado State University
Effective Dates: 4/1/2014 - 1/30/2019
Funding Amount: \$68,267

Investigators and Agency Representatives:

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Project Abstract: This CESU Agreement (Agreement) is being entered into by and between the U.S. Department of the Interior, National Park Service (NPS), and Colorado State University (CSU). The objective of this agreement is for mutual assistance in conducting a project to evaluate the degree to which past and ongoing human activity in the valley and active channels of the Toklat River are affecting channel geomorphology and downstream sediment fluxes. To achieve this goal, the main research objectives are (i) to develop an annual sediment budget for a reach of the Toklat River to understand how in-channel gravel extraction (gravel scrapes) influence local channel morphologic changes and short-term sediment fluxes, and (ii) to compare the relative importance of valley-spanning causeway and gravel scrapes to the downstream movement of sediment into and through the affected reach of the river. Finally, a detailed, targeted monitoring plan will be developed to assist DENA scientists in quantifying the Toklat's longer-term (5-10 year) sediment budget and associated impacts from management activities.

Outcomes with Completion Dates:

CSU provides annual status/technical report	December 31, 2015
NPS provides comments on CSU annual status report	January 31, 2016
CSU provides draft monitoring plan	May 31, 2016
NPS provides comments on draft monitoring plan	June 30, 2016
CSU provides final monitoring plan	August 31, 2016
Master's thesis complete	August 31, 2016
Present research findings at professional meeting	December 31, 2016
A collaboratively-written manuscript will be submitted to a peer-reviewed journal for publication and all raw and synthesized data will be shared with DENA.	May 1, 2017

Keywords: sediment budget, channel geomorphology, human activity, Toklat River, Denali National Park, AK, Colorado State University