Project Summary
Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Development of Methods to Evaluate the Nitrogen Status of Ecosystems in National Parks: DIN, DON, and C:N in Streams and Rivers

Type of Project: Research/physical sciences

Funding Agency: National Park Service

Effective Dates: August 15, 2003 - December 1, 2005

Funding Amount: $32,440

Investigators and Agency Representative:

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Project Abstract:

Objectives of Project:
[1] Evaluate the use of nitrate concentrations in stream waters as an indicator of the nitrogen status of watersheds and surface waters in National Parks, using existing data,
[2] Evaluate the use of the DIN:DON ratio in stream waters as an indicator of nitrogen status of watersheds and surface waters in National Parks, using existing data,
[3] Evaluate the use of soil C:N ratios as an indicator of the N-status of watersheds in National Parks, using existing data,
[4] Evaluate the use of concentration data rather than flux data to develop the DIN:DON indicators.

Concentration data are much simpler to collect than discharge data. If concentration data are a reasonable substitute for flux data, the cost of using DIN:DON as a watershed indicator goes down substantially.

[5] Analyze additional samples from National Park as suggested by the results of this analysis of stream waters data.
[6] Correlate these indices with stages of N saturation proposed by Aber and others.
[7] Develop standard operating procedures (SOP) for each parameter to be measured in park streams.

Outcomes with completion dates:

- August 14, 2004: Draft N status report to National Park Service for review and comments
- Final Report due September 30, 2004
- End Date of Project: December 1, 2004

Keywords: nitrogen saturation; ecological effects of air pollution; vital signs monitoring; nitrogen deposition; dissolved organic nitrogen; dissolved inorganic nitrogen

For Administrative use only:

Date Annual Report Received:
Date Final Report Received:
Publications, etc. on file: