

Project Summary

Rocky Mountains Cooperative Ecosystem Studies Unit

Project Title: Yellowstone Winter Use Personal Exposure Monitoring

Type of Project: Technical Assistance

Funding Agency: National Park Service

Other Partners/Cooperators: Montana Tech of the University of Montana

Effective Dates: 1/1/2005 - 3/30/07

Funding Amount: \$92,766

Investigators and Agency Representative:

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Project Abstract:

This project is part of the assessment of "winter use" of snowmobiles in Yellowstone NP. Funding was provided in FY 05 and FY 06 for work during winter seasons in 2005 and 2006. The objective is to determine how to monitor occupational employee exposures to winter use air contaminants. The second year includes monitoring of both noise and exposure to air pollutants. Tasks include:

- 1) Perform onsite air/noise sampling which will be accompanied by a written report.
 - a) Exposure evaluations for this project will consist of air/noise personal and Air sampling will be performed over the Martin Luther King three-day weekend in January, the President's Day three-day weekend in February, and other times and locations as identified by Yellowstone National Park in FY 05. In FY 06 monitoring will occur Feb 18-20 at the West Entrance Station.
 - b) The assessment of occupational exposure will be performed through the acquisition of representative personal samples for warming hut personnel, west entrance personnel, snowmobile mechanics, and park rangers.
 - i) Air/Noise Sampling Strategy
 - (1) Air sampling will be performed for the following chemicals: BETX (benzene, ethyl benzene, toluene, and xylenes), total hydrocarbons, naphthalene, elemental and organic carbon, carbon monoxide, and oxides of nitrogen
 - (2) Personal samples for noise will be collected with Quest personal dosimeters. This sampling will provide time-weighted exposure data as well as peak exposures that may occur during the work shift.
 - ii) Once sampling has begun, the project team will determine whether area sampling and personal sampling should also be considered for other park areas.
- 2) Previous winter air and noise sampling has been performed in Yellowstone National Park. This project will compile the results from previous studies and determine if they can be merged with the results from this project for a more complete assessment of occupational exposure to Park Service personnel. This information will be reported in a written format to Yellowstone National Park.
- 3) In an effort to address the comments regarding the public exposure to air and noise contaminants from snowmobile use at Yellowstone National Park, the project team will review the results obtained from past exposure monitoring and the results obtained from this project to assess what effect, if any, air contaminants have on exposure to the general public and report back to Yellowstone in written format.
- 4) Review the need for summer sampling and provide a cost estimate and project plan to Yellowstone National Park.

Outcomes with Completion Dates:

Final report of FY 05 data received in fall 2005. Final report for FY 06 is due September 30, 2006.

Keywords: minimum risk levels, air quality, air pollution, winter use, air contaminants, noise pollution, snowmobiles, personal exposure, Yellowstone NP

For Administrative Use Only:

Date Annual Report Received:

Date Final Report Received:

Publications, etc. on file: