

U.S. Forest Service Report: 2006 Cruise Ship Emissions Monitoring by USFS Rangers in Tracy Arm-Ford's Terror Wilderness



USFS rangers Kevin Hood and Jon Horn prepare to monitor emissions from the Forest Service vessel, Limpet, in Tracy Arm

Introduction

2006 Overview

2006 marks the fifth year that USFS wilderness rangers partnered with the Alaska Department of Environmental Conservation (DEC) and cruise ship companies to monitor cruise ship emissions in the Tracy Arm – Ford's Terror Wilderness and adjacent waters. During the partnership's first few years, rangers explored ways to meet the challenges of monitoring emissions from moving vessels. The National Park Service (NPS), Environmental Protection Agency (EPA) and DEC each provided helpful support and information during this period. In recent years, the partnership has resulted in refined techniques and impressive accuracy and consistency.

Along with interagency cooperation, an essential asset of the partnership has been returning Forest Service employees. Coming into the 2006 season, rangers brought a combined total of seven years of emissions monitoring experience in Tracy Arm. Benefits include familiarity with geography in Tracy Arm and visible emissions monitoring protocol.

Authority

Multiple levels of authority require the Forest Service to manage for healthy airsheds in national forest wilderness areas. Federal legislation includes The Forest and Rangeland Renewable Resource Planning Act of 1974, as amended by the National Forest Management Act (16 U.S.C. 1602) and the Clean Air Act. Forest Service Manual Directive 2580 and the Tongass Land Management Plan of 1997 further address protecting air quality. Air quality is also one of the management objectives of the Ten Year Wilderness Stewardship Challenge issued by the Chief of the Forest Service in 2005. The laws, directives and regulations authorize cooperating with states to protect air quality.

Cruise Ship Numbers

Cruise ship traffic in Tracy Arm increased slowly but steadily between 1999 and 2002, with an average of slightly less than forty visits per year. In 2003, 108 cruise ships visited Tracy Arm; in 2004 there were more than 143 visits; in 2005, 170 visits. The number rose to 183 in 2006.

Methods

In the spring of 2006, the USFS provided written notification of the ongoing agreement to monitor visible emissions in Tracy Arm to each cruise line visiting the area.

On April 26, 2006, Forest Service rangers Jon Horn, Tim Lydon, Kevin Hood and Kristin Stelck were certified in EPA Method 9 visible emissions monitoring protocol by HMH Consulting in Juneau, AK.

In May, 2006, USFS rangers and DEC personnel conducted two field meetings to discuss protocol, review forms and practice observations. The first meeting occurred in downtown Juneau, the second in Tracy Arm.

Throughout the 2006 season, USFS rangers performed all emissions readings in accordance with Method 9 and state requirements.

Rangers delivered all readings of interest to Albert Faure, DEC Environmental Engineer in charge of Commercial Passenger Vessel Compliance. In accordance with a Memorandum of Understanding (MOU) between the USFS and DEC, the DEC processed all readings of interest and managed any compliance issues.



Kevin Hood reviews his form after completing a read

Results

Of eleven readings in Tracy Arm, USFS rangers reported three readings of interest. Each reading of interest was submitted to DEC for analysis and possible corrective action. As of the date of this report, DEC is working with cruise ship companies to resolve the readings.

As the table below indicates, visible emissions monitoring has not kept pace with increasing cruise ship traffic in Tracy Arm-Fords Terror. Several factors contributed to the low percentage of readings in 2006. Among the most influential were reduced USFS ranger staff and poor weather.

Year	# Cruise Ship Visits in Tracy Arm	# Different Cruise Ships Read	# of Reading Sessions	Total # of Reads	% of Cruise Ship Visits Read in Tracy Arm
2003	108	--	--	20	18%
2004	143	9	15	21	10%
2005	170	8	19	33	11%
2006	183	5	11	16	5%

Cruise Ship Visits in Tracy Arm is the total number of cruise ship visits over the summer season. The data is from the Cruise Line Agencies of Alaska 2006 calendar.

Different Cruise Ships Read is the number of different cruise ships that are read. Often rangers read the same ship several times over the season.

of Reading Sessions equals the times rangers read vessels.

Total # of Reads is the sum of all of the individual readings conducted over the summer.

% of Cruise Ship Visits Read in Tracy Arm equals the number of reading sessions divided by the number of cruise ship visits in Tracy Arm.



The rise in cruise ship traffic has increased public concern about air quality in Tracy Arm

Goals

The USFS/DEC partnership to monitor air quality in Tracy Arm will continue in 2007. Protocol will remain the same, except for the following changes:

In addition to written notification of the program in the spring, the USFS and DEC will pursue shipboard meetings with cruise ship operators in Juneau in May. The meeting will enable personnel from cruise ships, DEC and USFS to discuss in person their common mission to protect air quality.

At the request of DEC and cruise ship operators, rangers will notify vessels any time they find a reading of interest. Rangers will make every effort to convey readings of interest from the field to DEC offices as quickly as possible. The actions will enable cruise ship operators to analyze and improve conditions and provide DEC with timely information.

Conclusion

The U.S. Forest Service takes seriously its mandate to protect air quality in wilderness. The agency greatly appreciates the collaborative work with DEC and cruise ship companies in achieving the shared goal of protecting air quality in Tracy Arm. Rangers are particularly grateful to Albert Faure and Moana Leirer of DEC for their availability and technical expertise.

In the five years since the USFS and DEC have operated under an MOU in Tracy Arm, the success and profile of the program have grown considerably. Through refined methods, increased communication with the ships and DEC's corrective actions, cruise ship operators have willingly joined in a partnership to protect air quality in wilderness. Through this program, the Forest Service is achieving its mandate to protect air quality in the unique setting of Tracy Arm-Fords Terror. On many occasions, the public has recognized this with positive responses to USFS rangers in the field engaged in this project.

December 8, 2006

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