

# **Snowcat Use and Maintenance Policy**

## **HJ Andrews Experimental Forest**

### **Background:**

Scientists at the HJ Andrews Experimental Forest have used snowcats to access high-elevation sites for over 40 years, since some of the earliest snowcats were available. Distances from Andrews Forest Headquarters to high elevation research sites range from 15 to 20 km. As elevation increases from 425 m at the Headquarters to 1300 m at the high elevation climate stations, winter precipitation changes from rain to snow. Several feet of snow can accumulate or melt within a week. Because the Andrews Forest is located in a transitional snow-to-rain climatic zone, new snowfall is often extremely wet and without a base, so travel by methods other than snowcats can be problematic.

Historically, the snowcats at the Andrews have been property of US Forest Service and could carry only one passenger. Use was primarily limited to Andrews staff conducting core measurements or winter maintenance. With the acquisition of a new Oregon State University (OSU) snowcat with funds from a National Science Foundation (NSF) grant, the Andrews research community will be expanding the role of the snowcat operations to include a wider group of researchers and educators for winter activities. The new OSU snowcat is a Tucker 2000-XL and can carry three to four passengers. An older USFS snowcat, the Tucker 1443, will remain in use at the Andrews.

The following policy is intended as a reference for users to clarify how the snowcats and the vehicles and trailers that haul them should be used. The policy has six parts: Approved uses of snowcat; Requesting use of snowcat; Cost to users; Passenger and driver responsibilities; Maintenance and repairs; and Liability. Many of the policies overlap for the OSU and USFS snowcats. Distinctions will be made where necessary to highlight any differences.

### **Approved uses of snowcat:**

Snowcat use should be restricted to regularly scheduled data and sample collection, pre-approved research projects or education programs, maintenance activities, and safety support. Regular users will work together to coordinate the scheduled use of the snowcats and the vehicles/trailers that are necessary to tow them. Efforts should also be made to limit redundant trips to a general location.

Priorities for use should be evaluated in terms of cost/benefits or data loss. This may require consultation with the Andrews Forest Director or Lead PNW Scientist. New projects, such as research or education tours, requests for research access, or search and rescue requests from law enforcement, need approval from the Forest Director.

Possible passengers for the OSU snowcat include those listed below. Be sure to ask the Forest Director if you are unclear of your or others eligibility to ride in the snowcat.

- Oregon State University and US Forest Service employees with proper approval
- Forest Service volunteers helping with research
- OSU researchers, staff, and students with legitimate reason for travel
- Members of educational programs that are officially recognized by HJ Andrews administration and authorized for a particular excursion

- Participants in HJA research tour
- Students and instructors involved in K-12 education programs

Emergency use to provide rescue or medical assistance is the only exception to these use policies. Before embarking on a rescue mission, contact must be made with an HJ Andrews leadership staff person, Emergency Services (McKenzie Valley or Search and Rescue) must be notified of the location of the emergency operations, and any additional rescue personnel that may be needed should be notified.

### **Requesting use of snowcat:**

Requests for use of a snowcat should be submitted to the Forest Director well in advance of anticipated use. Although we will attempt to accommodate any request that falls within the approved uses of the snowcats, there is a clear order of priorities for snowcat use:

1. Rescue operations on the Andrews property
2. Regular LTER data collection by Andrews Staff
3. Essential winter maintenance of forest roads
4. Pre-approved research or educational activities
5. Non-essential maintenance activities
6. 'Last-minute' requests for research or education

Please recognize that in order for requests to be approved, a snowcat and a certified driver must be available. The earlier a request is submitted the higher the probability that we will be able to adjust snowcat and driver schedules to accommodate it.

### **Costs to Users:**

Normal scheduled use of the snowcats in regards to stream gauges, meteorological stations, road maintenance, and other regular work by HJA staff shall not incur use charges.

Special uses of the snowcats by researchers, research tours, or special research projects shall be charged a fee to support a share of the annual maintenance and repair costs of the snowcats. These charges will include a "per day" fee of \$150, which will cover fuel and a fraction of maintenance costs. When a staff driver is required, an additional fee of \$200 will be charged to cover the cost of the operator's wage. There will be no charge for driver training sessions that can be scheduled to coincide with programmed use of the snowcat. Special training sessions will incur the standard usage fees.

The user will not be responsible for repair of "wear and tear" damage which occurs during that day's activities. Significant damage related to and occurring during a special use may obligate the user to pay the deductible charged by the owning institution. A pattern of recurring damage consistent with reckless operation may result in the revocation of a driver's certification.

### **Passenger and driver responsibilities:**

#### **Passengers:**

All passengers must be prepared for dealing with adverse weather conditions likely to occur during snowcat trips. Snowcat drivers and other supervisors have the authority to prohibit an ill-prepared potential passenger based on a lack of proper food, clothing, physical fitness, or other

factors that lead the supervisor to believe that taking a person out in the snowcat would pose a safety risk.

**Drivers:**

All drivers must have completed the snowcat operators training program, which includes 25 hours of snowcat operation accompanied by a certified driver. The OSU and USFS snowcats have different driver requirements for using their vehicles. Except in cases of vehicle breakdown, snowcats must be returned to the Andrews Headquarters at the end of each work day.

**In addition to permission of Forest Director, drivers for OSU snowcat require:**

1. Valid state driver's license
2. Current Oregon State University driver's authorization

**For USFS snowcat:**

1. Valid state driver's license
2. USFS driver's license and background check.
3. Certification to operate snowcat given by a qualified USFS instructor
4. Inclusion in a PNW agreement stating the person's authorization to drive the HJA snowcats if not a employee of USFS.

In emergencies, the snowcats may be operated by non certified employees if health or safety are at risk and a certified driver has been incapacitated or is unavailable.

**Driver responsibilities:**

Drivers should limit exposure of vehicle and passengers to safety hazards. Drivers should not travel alone in hazardous snow and weather conditions. Drivers should always take a radio, arrange check-in/out procedures and follow them. In storm conditions regular radio progress check-in with Andrews HQ will be required every two hours. Satellite beacons and satellite phones may improve communication in certain locations and conditions. Drivers should always operate the snowcat in a manner that minimizes stress on the snowcat's components.

Standard pre- and post-use checks include:

1. Fuel and oil level
2. Fluids with known high use rates
3. Lights, wiper and heater operation
4. Track condition

Certain types of operation should be minimized to reduce wear and tear on snowcats:

1. Driving USFS snowcat on bare road surfaces (the new rubber-tracked snowcat should handle the pavement with less wear and tear, but usage on bare roads may be curtailed if wear is observed).
2. Pushing or pulling vehicles or road debris
3. Plowing roads down to the pavement
4. Moving trees with the snowplow. Use of a winch to move the logs after cutting them will be less stressful to the machine.

\*New operators should minimize plow use, log removal, and other advanced techniques.

Post-use maintenance includes:

1. Inspection of track condition
2. Turning battery shut off switch - Off - when not in use (Tucker 1443 only)
3. Recording each use in the log book.

Drivers must notify at least one HJA staff member about needed repairs immediately upon returning to Headquarters. They are also responsible for notifying (by e-mail, voice mail, telephone, or personal communication) the lead operators (Greg Cohn and Greg Downing) and the Forest Director within 12 hours of their return, if they know, or suspect, that repairs will be required. The HJA staff will notify other users if the vehicle is unusable due to breakdown or regular maintenance.

Vehicles should not be used if repairs or maintenance are needed unless:

1. Health or safety of personnel is a risk.
2. Vehicle may not be recovered or repairable if left in place.
3. No other alternatives are present, and there is no risk of further damaging the vehicle or hazard to personnel.

### **Trailer towing:**

Drivers must have permission of Andrews Forest Director and Lead PNW Scientist to haul the snowcats on trailers. Only those people who have taken the trailer towing training class and had 25 hours of supervised trailer hauling experience (or equivalent previous experience) will be certified for snowcat hauling.

The HJ Andrews Experimental Forest staff uses two USFS snowcat trailers and two USFS pickup trucks that have been approved for hauling the snowcats. The OSU motor pool has vehicles of sufficient size to be rated to pull the snowcat and trailer combinations at the HJ Andrews.

### **Maintenance and Repairs:**

Major maintenance and repair is the responsibility of HJA Staff. **All drivers are responsible for notifying staff about any maintenance or repair issues they observe while using a snowcat.**

### **Staff Drivers:**

Prompt attention to needed snowcat repairs and maintenance is each driver's responsibility. The interdependence of the snowcat users requires communication and individual responsibility to assure that the snowcats are ready when needed. Maintenance and repairs should be performed if parts and supplies are on hand or readily available and the work can be completed in a reasonable time frame. As part of monthly staff meetings, snowcat repairs will be discussed to ensure that they are completed. Given the complexities involved with the Andrews Forest, remote location, limited availability of mechanics with snowcat experience, limited budgets and the substantial labor often required, any major maintenance or repairs will be discussed among the staff, and Andrews Forest leadership before proceeding with the repairs. The general rule is "If you were driving when the breakdown occurred then you are responsible for performing or seeing that the repairs are made in a timely manner".

Follow these general guidelines for implementing major or time consuming repairs.

1. Notify users and other personnel of maintenance or repairs needed.

2. Work with group to determine if the scope of repairs/maintenance is within the skills and resources available. If so, schedule the repair/maintenance activities, procure the parts and supplies, and complete the repairs. Ask for assistance when needed but accept primary responsibility for the job as a whole.
3. If the repairs are outside the scope of the operators and Andrews maintenance staff then a plan will be set up and implemented to either hire a mechanic to come on site to perform the repairs or the snowcat will be taken to a repair shop to have the work done.
4. Operators will record all maintenance and repairs made to the snowcats in their respective maintenance/repair log books. Costs will be tracked by the lead operator of each snowcat to keep HJA leadership informed about potential long-term problems, repairs, and budget status.

With the intent of extending the life of the snowcats and reducing the frequency of repairs, each summer/fall at least one of the snowcats will either be sent to a repair shop for regular maintenance or the work will be performed on site. Annual preseason maintenance and winter season preparation will be performed by Andrews staff each fall.

### **Liability:**

Oregon State University self insures the users of the OSU snowcat, subject to the limits of liability under the Oregon Tort Claims Act (OTCA) Oregon Revised Statutes 30.260 through 30.300, within its normal and legitimate use at the HJ Andrews Experimental Forest. This insurance will apply regardless of the employer of the certified operator of the snowcat at the time of the incident. Additionally, Oregon State University insures the replacement cost of the OSU snowcat, in excess of the OTCA limits.

The United States Forest Service insures the users of the USFS snowcat, subject to the limits of liability under the Oregon Tort Claims Act (OTCA) Oregon Revised Statutes 30.260 through 30.300, within its normal and legitimate use at the HJ Andrews Experimental Forest. This insurance will apply regardless of the employer of the certified operator of the snowcat at the time of the incident. Additionally, the United States Forest Service insures the replacement cost of the USFS snowcat, in excess of the OTCA limits.

During snowcat operations the owning institution will cover liability of the vehicle and trailer regardless of the employer of the authorized driver at the time of the incident, subject to the limits of liability under the Oregon Tort Claims Act (OTCA) Oregon Revised Statutes 30.260 through 30.300.