

**Code of Conduct**  
**McMurdo Dry Valleys ASMA**  
**Research and Overnight Stays**

The McMurdo Dry Valleys Antarctic Specially Managed Area or ASMA, supports many visitors and overnight stays each year.

While the Area welcomes each of us with expansive views and breathtaking scenery, we must manage our activities while there in the interest of ecosystem preservation.

If our presence is left unmanaged, the environmental disturbance caused by human activity would be a substantially damaged landscape with permanently disrupted ecosystems.

Although this video will provide general guidelines for personal behavior during overnight stays in the Dry Valleys ASMA, you are encouraged to review the Dry Valleys ASMA manual and Code of Conduct for further information.

As specified in your pre-season plan, you have the opportunity to stay at one of the Dry Valley fixed camp facilities or set up your own tent camp.

Facility zones have been designated around all fixed camps to manage disturbances to the environment.

It is your responsibility to contain the camp footprint within the facility zone, and do your part to keep repetitive human activity to this defined area.

If a tent camp will be your base of operations, it is even more important to manage your actions.

Tent camps should be small, with only the people and equipment essential to conduct your field work.

Minimize where possible and take only items you will use.

It is important that camping equipment and personal gear be free of soil and debris to avoid the introduction of Non-Native Species to the Dry Valleys.

Prior to leaving your station, clean all footwear, walking sticks, and any other personal gear.

Basic camp protocol should be discussed with your team when you arrive at a Dry Valley Camp.

If you are sharing a camp with other groups, review the protocols for waste segregation and management protocols, obtaining water for drinking, location of spill kits, use of containment units and other practices already in place.

Be aware that the practices vary between locations, depending on the type of equipment on site.

Know the boundaries of the facility zone around the camp by reviewing the maps at these sites.

Check the location where you will be camping and working for proximity to Restricted zones, Scientific zones, and Antarctic Specially Protected Areas.

Remember that certain areas require an Antarctic Conservation Act or ACA permit for entry.

To assist with footprint management, each facility zone will have designated tent sites.

It is important to pay attention to the terrain.

If possible, set up on snow rather than bare ground

Use stakes to tie tents down and always secure with rocks.

If the ground is rocky or frozen, secure the tie downs to large rocks within the zone and pile other rocks around it.

It is preferable to use rocks at the tent site location.

Some historic tent sites are identified with a circle of rocks and should be used before the newer sites.

Ensure your tent does not intrude on long-term experiments, lake shores, or streambeds.

Remember that melting glaciers will raise the stream and lake waterline

Wheeled vehicles, carts, watercraft and trailers are available at some of the fixed facilities.

Before using any equipment, review the guidelines.

Ask questions if you don't understand the safety and operating instructions.

Wheeled carts may be available at some camps for transporting heavy propane tanks and must stay within the Facility Zone.

All-terrain vehicles are available at Lake Hoare, Lake Bonney, Lake Fryxell and New Harbor.

Your camp supervisor or Principal Investigator can explain the guidelines for this type of vehicle use.

Vehicle tracks can damage terrain; therefore, they are allowed on the Lake Ice only, with the exception of the ATV at the New Harbor Camp and vehicles at Marble Point.

Small boats are available at camps that are near the lakes.

Water safety guidelines are an important component if you are working near the Lakes and Streams.

Ensure safety equipment is on site and use it appropriately.

Be extremely careful to avoid drips and spills – especially while transferring fuel and chemicals.

Strict guidelines are in place for fuel and chemical use at all Dry Valleys locations.

Follow these guidelines resisting shortcuts for fuel and chemical use.

In this way, you will protect the environment and save time dealing with an unexpected spill.

Have a supply of absorbent pads to capture even the smallest of drips.

Use two people for all fuel handling.

You need four hands to deal with unexpected overfills or leaking equipment.

Perform transfers over drip pans or secondary containment units.

Properly secure lids when finished.

Never leave a transfer pump in the top of a drum.

Remove pumps, use absorbent pads, secure the ends to prevent drips, and store the unit on a secondary containment device or a berm.

Ensure drums are capped when leaving camp and regularly check containers and gaskets for integrity.

Use strap-down equipment and keep drums, cans, and equipment secure.

Drip pans must be used under all parked vehicles.

Perform vehicle and equipment maintenance over a drip tray or secondary containment.

All staged fuel-using equipment must be stored on secondary containment units.

Helicopter landings on the lake ice should be limited to avoid the potential for drips onto the ice.

Additionally, the landing area should be cleaned prior to leaving the area.

All releases and spills of designated pollutants such as fuel, glycol or any chemicals, no matter how small, must be reported **immediately**.

US Antarctic Program participants must report spills to the McMurdo Fire Station.

Antarctica New Zealand's personnel will report to Scott Base Station Management.

When reporting, include information on spilled material, spill size, and the assessed fire or explosion hazard.

If it is safe to do so, clean-up, bag and return all spill material to your Station's national program base.

Record the GPS coordinates of any release for your end of season report.

Any activities that would result in the dispersal of foreign materials should be avoided in the Dry Valleys, or conducted inside a hut or tent.

This includes battery replacement, science activities, building repairs or modifications, and any refurbishing, cutting, sawing and unpacking.

Waste materials from these activities should be cleaned up, packaged, and removed from the Dry Valleys.

Water Maintenance is vital to camp operations.

Practice water conservation and waste minimization at all sites.

If assisting in the collection of camp drinking water, learn and follow camp protocol to avoid contamination.

Avoid walking into moats and streams.

Consider potential impact to the environment in selecting your water source and collection equipment needed.

Methods vary from site to site, but in general collection devices such as gloves, ladles, and containers should be designated only for the purpose of collecting water.

Know where these tools are, and use them only for their intended purpose.

All grey water is flown out of the Dry Valleys, so look for ways to minimize the amount of grey water you produce.

This might include wiping down dishes instead of washing them, using just a mouthful of water to brush your teeth, and using gel to clean hands instead of water.

Do not limit drinking water, however – staying hydrated is more important than minimizing waste and is necessary for your health and safety.

Drink plenty of water and encourage your teammates to do the same.

Secure all of your items while outdoors and strictly follow a carry-in/carry-out policy.

Check your storage area often during your stay.

Use straps and rocks to anchor boxes and loose items.

As you settle into your camp, make and follow a plan to report your activities during your stay as required by your national program.

The GPS coordinates of tent sites, fuel stores, the helicopter landing zone, any releases, all sampling sites and items left in the field should be recorded for reporting purposes.

With your team members, develop guidelines that will apply to your daily activities including hiking, drilling, helicopter movements, sampling, water collection, and other activities that will require knowledge of the working terrain.

Keep in mind that careless activities can damage the fragile microorganisms on the soil surface.

McMurdo's Dry Valley glaciers are frozen repositories of micro-organisms and possess important records of climate change and the shift of ice-water balance over time.

The melt water from glaciers feed many of the streams and lakes in the valleys.

The micro communities within the rocks and salt deposits throughout the McMurdo Dry Valleys are extremely valuable because they contain a record of natural events thousands to millions of years old.

These are some of the oldest natural records in Antarctica and provide indicators of past and present regional climate change.

Each of these features are unique ecosystems.

They are connected through natural forces making their importance to the area a valuable resource for science research.

For this reason, activities such as sample collection must follow established guidelines.

Limit sample sizes and be sure to follow the scope and scale approved by your national program.

Details of the sample type and amounts permitted to be collected will be listed in documents such as an ACA permit, an Antarctic Environmental Protection Act permit, or Environmental Impact Assessment documentation.

Select sample collection materials that will withstand in extreme weather conditions.

For example, polyethylene based plastics are liable to shatter in low temperatures; wooden and fabric components are subject to wind abrasion; and gel-cell or non-spill batteries are to be utilized to avoid potential adverse environmental impact of these materials on the sensitive environment of the Dry Valleys.

Disinfect sampling equipment before it is used in a new environment as per Scientific Committee on Antarctic Research (SCAR) sampling guidelines.

Clean sampling equipment before it is brought to the field and in between sampling events where the sampling environment or location changes.

Before reuse, rinse thoroughly with clean water to remove salts.

Be sure to dispose of any ethanol solution as laboratory liquid waste and water as grey water.

Travel pest-free - brush off footwear and clean clothing to avoid cross contamination before traveling to the Dry Valleys, from your camp to a field location outside of your lake basin, or between valleys.

Further cleaning of footwear and gear may be needed and should be addressed in the field.

Minimize chemical use – including limiting the movement of tracers and manipulative experiments.

Use only naturally occurring tracers and document tracer use.

Use caution when working on stream sides as bank stability and flow patterns can be easily affected.

Ephemeral streams in your work area may not be visible in the early summer season so step lightly.

When collecting geological samples, plan to place excavated soils on tarps or mats during removal so the soils can be restored to their **original** stratification and as close as possible to their natural state upon completion of work.

Likewise, backfill all excavations to the approximate original contour.

It is suggested that you photograph the entire affected area prior to beginning your science to aid in its reconstruction to its original state.

Collect samples with limited use of mechanical equipment.

Use drills and augers as a last resource.

Do not move or collect artifacts, ventifacts or fossils, except as allowed by your environmental impact assessment document.

Small amounts of contamination can accumulate with human activity, wind flow and mechanical tool use.

The lake ice cover may appear thick and impermeable; however, any material that becomes frozen into the ice will eventually make its way into the water and become a permanent part of the lake.

Collect the smallest volume of water samples needed to minimize the amount of grey water produced.

Never dump or deposit sampled water or any other foreign materials on the lake ice, into the lakes, or onto the surrounding ground.

Collect all extra sample water as grey water.

Explosives have previously been approved for sea ice but are not approved for Dry Valley lakes.

Common items used for markers in the Dry Valleys include bamboo or metal stakes and metal tags.

Markers or other equipment such as meteorological stations, geographic monuments, communication repeaters, and level recorders should not be left in the field unless approved.

If you have approval to install equipment in the field, be sure it is secured firmly in place, as wind speeds of greater than 100 miles per hour are not unusual in the Dry Valleys during austral winter months.

Approved markers and equipment left in the field should be reported to the appropriate national program, should be easily located using GPS coordinates and retrievable when required.

Plan for return to your station well ahead of your scheduled pick-up time.

When packing, pay special attention to the winds.

Avoid environmental releases by working in teams to collect and account for all gear.

Using an inventory will ensure that everything is removed from the site.

Remember that a reportable release could be your hat, a box or papers.

Ensure that your waste is containerized, marked and sorted properly – human waste, solid waste, and hazardous waste.

Waste containers should be filled to less than 90% of their capacity, tightly cap all drums, and pound the lids down on human waste buckets.

Check the tops & sides of drums for overflows and wipe down if necessary.

Ensure the outside is clean prior to packaging for transport.

Complete all paperwork including Hazardous Cargo documents, Hazardous and Solid waste tags.

Leave clean and organized fixed camps behind when you depart.

If leaving a tent camp, leave nothing behind.

Rocks used for anchoring tents should be replaced, salt-encrusted side down.

Plan to pack out what you have packed in.

If you have made arrangements to leave items at the camp, ensure they are labeled with a date, contents and your event number.

They should be strapped properly or stored inside a shelter.

Ecological diversity, ancient terrain, long-term record of extreme climatic shifts, and delicate ice-water balance make the McMurdo Dry Valley Specially Managed Area a unique natural laboratory for research of global significance.

All life processes in the valleys are slow and easily damaged by human presence.

Conscientious planning and execution of work plans and sampling projects before, during, and after your field season and research will be your contribution to preserving the scientific integrity and pristine wilderness of the McMurdo Dry Valleys.