

# **PAL-LTER MANIFESTO\*\***

## **Preamble**

You are now part of the Palmer, Antarctica Long-Term Ecological Research Project (PAL-LTER). PAL-LTER is a research project competitively reviewed and funded by the Office of Polar Programs (OPP) of the U.S. National Science Foundation (NSF). PAL is one of twenty four LTER sites of which two are in Antarctica. The majority of the LTER sites are located in North America and range in ecological setting from an arctic tundra site in Alaska to a tropical rainforest site in Puerto Rico. We are the Polar Marine Ecosystem site and the only LTER site conducting research in the open sea. The goal of the network of LTER sites is to develop continuous, comprehensive, long-term data sets in order to address questions about ecosystem health and sustainability. How do ecosystems work? What are the unifying processes and paradigms that cross ecosystem types? These are issues that PAL-LTER scientists as well as those working at other LTER sites are attempting to address. Because our work is supported by NSF, we are all here as “guests” of the American taxpayer. Our job, simply put, is to conduct scientific research, function as an integrated scientific team and minimize any impact on the fragile and beautiful environments of the Antarctic marginal ice zone, island bird rookeries and coastal marine environment.

Below is what is expected of you as a scientific team member and as a citizen of Palmer Station and/or the research vessels LM GOULD and NB PALMER. While in the field everyone has both scientific and station/vessel responsibilities. This document addresses some of the responsibilities for those of you who are first timers. If you do not know or don't understand what or how to do something... ASK. Remember, we are a team and other members of the team, especially the wily veterans, have “been there, done that.”

*Always remember that your conduct at Palmer Station, aboard research vessels and in the field reflects on the entire group, and impacts our groups' future research on the ice.*

With good planning and cooperation you will have everything you need for a successful season and a wonderful experience.

## **Code of Conduct:**

Both Palmer Station and the research vessel are small, close-knit and sometimes intimate, always interconnected communities. Fieldwork can be stressful and exhausting. Resources are limited. Be considerate, thoughtful and friendly. Remember, though you may only be there briefly, you are a guest in your colleagues' home and workplace. It is not a resort for your personal benefit. If you have concerns or questions about Antarctic life, ask your PI or senior scientist. Also, Palmer Station manager Bob Farrell, LM GOULD Capt. Robert Verret and NB PALMER Capt. Joe Borkowski are dedicated to helping you maximize your experience in the Antarctic. Introduce yourself, and feel free to seek their help.

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\* This document was adapted from a similar Manifesto for the McMurdo Dry Valleys LTER site, provided by Berry Lyons and Tim Fitzgibbon. We are grateful to our MCM colleagues for making their documents available to us.

There is a chain of command. Always use it. Your immediate supervisor is the PI you are associated with. If he or she is not in the field, your superior is the senior scientist in charge. One should always know who is the designated LTER point of contact in the field, and report to him or her. If there is no PI in the field, the person responsible for you is the senior scientist.

Each individual is accountable to NSF, Raytheon Polar Services Company (RPSC), and other members of the field team. RPSC is the support contractor for the United States Antarctic Program. They have been contracted by NSF to provide logistical support for scientific operations in Antarctica. Our immediate points of contact with RPSC include Rob Edwards and Cara Sucher (Palmer Station) and Karl Newyear and Randy Sliester (LMG or NBP).

Treat everyone you meet with respect. We all have our jobs to do. Don't assume that your work is more important than anyone else's.

When one person makes a mistake (or stresses the system) it reflects badly on the whole team. If we can communicate our needs and work together, we can make everything go smoothly. There are also research groups other than the LTER working at Palmer. These groups have a status equal to that of the LTER and should be treated accordingly. Finally Palmer receives both distinguished visitors (DV's) to the US Antarctic Research Program and tourists visiting on cruise liners. You are there as ambassadors from the science community. They are government officials and taxpayers supporting our program – possibly paying your salary. Be courteous and friendly – in the long run it will help us all.

We cannot stress enough how important it is to keep safety in mind. This is reiterated on almost every possible occasion en route to Antarctica and then again at the Clothing Distribution Center in Punta Arenas, on your orientation at Palmer Station or on board the Gould. Assume that the weather will get worse, your radio might not work, things will go wrong. Keep your emergency cold weather gear with you. Use the buddy system and make sure someone always knows where you are. Be smart and act conservatively when it comes to weather, working on deck, traveling in your Zodiac, working on the islands. With some planning, you can keep a small mishap from turning into a disaster. Always remember, when there is a safety problem, all other activities will shut down. People will stop their scientific endeavors and come looking for you. Time is lost, precious resources are spent and most importantly, you put yourself and others at risk.

It is the responsibility of people who have been in camp to help newcomers by pointing out, in a helpful manner, particular protocols, responsibilities and potential dangers. New arrivals have a lot to learn, and may not remember everything that was explained in the first arrival briefing.

### **Once you get to the ice:**

When you arrive in Punta Arenas if you are not with your team leader you will need to contact either him/her or the designated point of contact (POC) for the LTER, who is the senior scientist in charge. The lead PI (Hugh Ducklow) will have designated these POC's prior to the beginning of the field season and this list will be given to you in advance. They will help you to navigate through the Peninsular system. Once aboard the LM Gould en route to Palmer Station, RPSC personnel and the vessel officers will brief you on conduct on board. Immediately after arrival at

Palmer Station you will have another orientation session. Throughout the field season your field team leader, or POC will answer questions and help with problems.

Palmer Station has just had a costly renovation. We will enjoy and benefit from new, high quality lab spaces. Please respect your space and that of others, and help keep the new facilities in scientifically respectable condition. Avoid extensive interior decorations, and take down seasonal décor in the labs after an appropriate time.

You need to plan ahead. RPSC employees are here to work with us. We have a great cooperative relationship. They have many responsibilities and cannot drop everything to deal with last minute requests due to improper planning.

Each individual is responsible for his or her own personal, scientific and field gear.

- Make sure equipment is returned to its proper place at the end of the field season.

- Return items no longer needed as soon as practical, and before you leave.

- Make sure that wastes and leftover chemicals are given to hazardous waste personnel.

- Plan time into your field schedule to clean up your project and personal gear.

Learn about the proper protocols for life on the ship and at Palmer Station. Ignorance is no excuse.

- Safety (Field Safety Training course)

- Communications and check in with station

- Waste management; waste segregation

- Protocols for Zodiac Safety

- Guidelines for visiting islands and prohibited areas.

## **ENVIRONMENTAL CODE OF CONDUCT IN THE PALMER REGION**

The coastal marine environment of the West Antarctic Peninsula is a pristine yet disturbed ecosystem and some of its key species are under severe stress from climate change. This code suggests how you can help to protect them for future generations and ensure that your presence in the region will have as little impact as possible.

Everything taken into the field must be removed. Do not dump any unwanted material on the ground or in the water.

Do not collect specimens or any natural material of any kind, including fossils, except for approved scientific and educational purposes.

Stay within the boating limits. Visit only approved islands at approved times. Do not harass wildlife.

Do not disturb mummified seals or penguins.

When traveling on foot, stay on established trails whenever possible. Do not walk on vegetated areas or rock formations. Some of the biological communities in them have taken several thousand years to develop.

Ensure that equipment and supplies are properly secured at all times to avoid dispersion by high winds. High velocity winds can arrive suddenly and with little warning.

Avoid any activities that would result in the dispersal of foreign substances (e.g., food, fuel, reagents, litter).

Do not leave any travel equipment behind.

### **Fuel and chemicals:**

Take steps to prevent the accidental release of chemicals such as laboratory reagents and isotopes (stable or radioactive). When permitted to use radioisotopes, precisely follow all instructions provided.

Ensure you have spill kits appropriate to the volume of fuel or chemicals you have and are familiar with their use.

### **Sampling and experimental sites:**

All sampling equipment should be clean before being brought into the field.

Once you have drilled a sampling hole in sea ice or dug a soil pit, keep it clean and make sure all your sampling equipment is securely tethered.

Avoid leaving markers (e.g. flags) and other equipment for more than one season without marking them clearly with your event number and duration of your project.

**Glaciers:**

Minimize the use of liquid water (e.g., with hot water drills) which could contaminate the isotopic and chemical record within the glacier ice.

Avoid the use of chemical-based fluids on the ice.

If stakes or other markers are placed on a glacier, use the minimum number of stakes required to meet the needs of the research; where possible, label these with event number and project duration.