



20 October, 2006

Dear PAL-LTER 2005-2006 Team Member,

*“During a particular voyage to the South Atlantic in 1820, Captain "Nat", as he was known, skippered his small 47 foot sloop "Hero" southward searching for new seal rookeries. In the area at the same time was another ship's master on a similar mission. He was Captain Bellinghaus of the Russian Imperial Navy. On November 17, 1820, Captain Nat sighted land not yet shown on any chart. The next morning the Russian Captain sailed his 250 foot ship into the same area only to find the small sloop already anchored in the harbor. Curious to learn who had beaten him to this unknown land, Captain Bellinghaus signaled for the master of the sloop to come aboard his ship to identify himself.*

*Upon meeting the young skipper, the Russian acknowledged his skill and bravery and said to him, "You, sir, have discovered new territory so let it be named Palmer Land. Today's maps of Antarctica show Palmer Peninsula named in honor of the Yankee Skipper from Stonington.”*

Dixon F. Hemphill, 1996

Nathaniel Palmer's great, great, great grandnephew

First of all, welcome to our group of Antarctic scientists! Above is the story (USA Version) of the discovery of Antarctica, in particular the West Antarctic Peninsula, by Yankee Sea Capt. Nathaniel Palmer, namesake of Palmer Station. For many of you, Palmer Station will be your home in the coming months. Others will visit during our annual cruise aboard ARSV LM Gould in January. We all look forward to working with you and introducing you to the fantastic world of the Antarctic Peninsula region. Our region is experiencing one of the most rapid rates of climate warming on our planet, and PAL-LTER is engaged in research on the response of the Antarctic marine ecosystem to this great change. Useful links for the Palmer LTER are:

**Palmer LTER Website:** <http://pal.lternet.edu/>

**LTER Network:** <http://www.lternet.edu/>

Please find enclosed the PAL-LTER Manifesto, developed by the PIs and scientific staff of PAL-LTER. It is meant as an introduction to our research effort as well as a number of important issues of working together in a fragile and, sometimes, hostile environment. For all of you who



have been there before, this is familiar, but (as a favor to me), please read it anyway. For the newcomers, [this is must-reading](#).

Thirdly, find enclosed the most recent 2006-2007 Deployment Schedule for the PAL-LTER. Listed below are the designated points of contact (POC) for this field season. These people are the official representatives of PAL-LTER in Antarctica during the times shown. After your own team leader, these are your official supervisors/representatives to National Science Foundation (NSF) and Raytheon Polar Services Company (RPSC) (see the Manifesto document for details). Any issues relating to PAL-LTER should be brought to their attention.

**LTER Points of Contact and Field Team Leaders, 2006-07:**

Oct 10 to Nov 22	Hugh Ducklow
Nov 22 to Jan 07	Langdon Quetin (at Palmer Station)
Jan 01 to Feb 11	Hugh Ducklow (aboard LM GOULD)
Jan 07 to April 01	Brett Pickering

Of course you may also contact me at any time, as PI for PAL-LTER.

In this field season, we are in our third 6-year grant from NSF in the Long Term Ecological Research Program, and our 15<sup>th</sup> field season. With over a decade of observations under its belt, PAL has amassed an unprecedented wealth of climatic, ecological and biogeochemical data, and is gaining a new understanding of the Antarctic marine ecosystem. Many of you have contributed to that monument already and will continue to do so. I thank you profoundly for your efforts on behalf of PAL, and appreciate the sacrifices you make for our program. For those of you joining PAL for the first time, you are about to become part of a great adventure and a serious, world-class scientific research and education program. You are also a new member of the larger world of LTER, contributing to a great vision of ecological research. I hope you find the experience enriching and satisfying. We are lucky to have you all in the project.

If you have any questions regarding any of this, please feel free to contact me either by phone (804-684-7180) or e-mail (duck@vims.edu). Finally, have a great field season! Get all of your science done, enjoy the camaraderie and appreciate the spectacular wildlife of the Peninsula. Good luck!

Hugh Ducklow (duck)

Lead PI, PAL-LTER



## **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 one of just 2 LTER sites 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

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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.

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. The Palmer Station managers Bob Farrell and Joe Petit and the LM GOULD Captain Marty Galster are dedicated to helping you maximize your experience in the Antarctic. Introduce yourself, and feel free to seek their help.

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 Traci Baldwin (Palmer Station) and Steffi Suhr-Sliester (LMG).

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.



## R/V LAURENCE M. GOULD OPERATING SCHEDULE

**10/10/2006**

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General Information: Maximum cabin berthing is 28 including RPSC staff. In addition, two berthing vans will be available to provide additional passenger space as needed. These will increase the berthing limit on transits to Palmer Station to a total of 37. Grantees should plan to board the ship the night before the scheduled departure date, and to depart the ship the day the ship returns to port. Port calls generally require five days. This can sometimes be reduced to four days to meet mission-critical requirements. Ship schedules are subject to change. Opportunities exist on oceanic transits for collection of underway scientific measurements as well. Please contact Alice Doyle, Marine Superintendent, (alice.doyle@usap.gov) with questions or comments regarding either. **This schedule incorporates changes from the previous schedule published 10 August 2006.**

### Key

COPA=Copacabana Field Camp	PAL=Palmer Station	PUQ=Punta Arenas, Chile
DEC= Deception Island	PAN=Panama Canal	SHF=Cape Shirreff
FCH=Fourchon, LA	PTR=Petermann Island	TAL=Talcahuano, Chile
KGI=King George Island	PTH=Port Hueneme, CA	
LIV=Livingston Island		

CRUISE/PROJECT	DATES	ARR/DEP	COMMENTS	
LMG06-11 COPA Opening  POC:Doyle MPC:Ager	05-Oct-06 09-Oct-06 10-Oct-06 11-Oct-06 12-Oct-06 16-Oct-06	LV:PUQ AR:COPA LV:COPA AR:PAL LV:PAL AR:PUQ	XBT/pC02	11
LMG06-11A OPEN  POC: Doyle MPC: Ager/Hutt	20-Oct-06   25-Oct-06	LV: PUQ   AR: PUQ		5
LMG06-11B Naveen B-086-L Open Cape Shirreff  POC:Doyle MPC:Hutt	28-Oct-06 01-Nov-06 02-Nov-06 03-Nov-06 03-Nov-06 04-Nov-06 08-Nov-06	LV:PUQ AR/LV:SHF AR:PAL LV:PAL AR/LV: PTR AR/LV:COPA AR:PUQ	NB stop at COPA	11
LMG06-12 NSF Operations  POC: Doyle MPC:Baker	12-Nov-06 15-Nov-06 16-Nov-06 17-Nov-06  01-Dec-06	LV:PUQ AR/LV: SHF AR:PAL LV:PAL  AR:PUQ	SB stop at Cape Shirreff	19
LMG06-13 Shuttle  POC:Doyle MPC:Baker	05-Dec-06 09-Dec-06 10-Dec-06  14-Dec-06	LV:PUQ AR:PAL LV:PAL  AR:PUQ	XBT/pC02	9

CRUISE/PROJECT	DATES	ARR/DEP	COMMENTS	
LMG06-14 Shuttle	18-Dec-06 22-Dec-06	LV:PUQ AR:PAL		9
POC:Doyle MPC:Baker	23-Dec-06 27-Dec-06	LV:PAL AR:PUQ		
LMG07-01 LTER	01-Jan-07 05-Jan-07 07-Jan-07 06-Feb-07 07-Feb-07 11-Feb-07	LV:PUQ AR:PAL LV:PAL AR:PAL LV:PAL AR:PUQ	XBT/pC02	41
POC: Suhr Sliester MPC:Nunn				
LMG07-02 Tentative science Petermann pick-up Close Cape Shirreff Close COPA	16-Feb-07 20-Feb-07 21-Feb-07 22-Feb-07 22-Feb-07 28-Feb-07 1-Mar-07 5-Mar-07	LV:PUQ AR/LV:COPA AR:PAL LV:PAL AR/LV:PTR AR/LV:SHF AR/LV:COPA AR:PUQ	tentative NB science Peterman gear pick-up stop SB stop at COPA	17
LMG07-03 Shuttle	09-Mar-07 13-Mar-07	LV:PUQ AR:PAL	XBT/pC02	9
POC:Doyle MPC: Owen	14-Mar-07 18-Mar-07	LV:PAL AR:PUQ		
LMG07-04 Palmer Turnover Blanchette (B-038-E)	22-Mar-07 27-Mar-07	LV:PUQ AR:PAL	1 day added to SB transit for Blanchette exact use of time TBD	14
POC:Doyle MPC:Hickey	01-Apr-07 05-Apr-07	LV:PAL AR:PUQ		
LMG07-05 Sidell B-036-L Costa B-232-L	10-Apr-07 14-Apr-07 16-Apr-07 19-Apr-07 30-Apr-07 03-May-07 04-May-07 08-May-07	LV:PUQ AR:PAL LV: PAL AR: PAL LV:PAL AR: PAL LV: PAL AR: PUQ	cycle 1  cycle 2	28
POC: Suhr Sliester MPC: Hickey				
LMG07-06 Sidell B-036-L Costa B-232-L	11-May-07 15-May-07 18-May-07 29-May-07 02-Jun-07	LV:PUQ AR/LV: PAL AR: PAL LV: PAL AR:PUQ	cycle 3	22
POC: Suhr Sliester MPC: Baker				
LMG07-07 Haz Waste Shuttle	06-Jun-07 10-Jun-07	LV:PUQ AR:PAL		15
POC: Doyle MPC: Baker	17-Jun-07 21-Jun-07	LV:PAL AR:PUQ		
LMG07-08 NB Haz Run	24-Jun-07	LV:PUQ		27
POC: Doyle MPC: Hutt	21-Jul-07	AR:PTH		

CRUISE/PROJECT	DATES	ARR/DEP	COMMENTS	
LMG07-09 SB transit  POC: Doyle MPC: Hickey	25-Jul-07  16-Aug-07	LV: PTH  AR:TAL		22
LMG07-10 Drydock  POC: Doyle MPC: TBD	17-Aug-07  08-Sep-07	begin  end	drydock begins	22
LMG07-11 SB transit  POC: Doyle MPC: TBD	09-Sep-07  16-Sep-07	LV:TAL  AR:PUQ		7
LMG07-12 Station Opening  POC:Doyle MPC:TBD	20-Sep-07 24-Sep-07  29-Sep-07 05-Oct-07	LV:PUQ AR:PAL  LV:PAL AR:PUQ		15