External Relations Ministry
Peruvian Antarctic Institute

INVESTIGATION PROJECTS FOR THE 2007/08 AUSTRAL SUMMER THAT COULD CONTRIBUTE TO THE CENSUS OF ANTARCTIC MARINE LIFE

1. **Biodiversity characterization of Mackelar Inlet and the deep portion of Admiralty Bay**

   Determine the benthic communities' structures of Mackelar Inlet and the deep portion of Admiralty Bay (the latter in cooperation with the Brazilian IPY MABIREH project) and their relationship with the sea floor nature and physical-chemical characteristics and general environmental conditions.

   This project shall be conducted by INANPE with the participation of the Instituto del Mar del Perú, the Universidad National Mayor de San Marcos in cooperation with the Federal University of Rio de Janeiro and other National Antarctic Programmes.

2. **Characterization of the Bransfield Strait benthic biodiversity**

   Increase observations on the pelagic and benthic observations that have been carried out in Mackelar inlet and Admiralty Bay in general to the Bransfield Strait during the 2008 Austral summer. This would be done using the R/V Humbodt to gather integrated oceanographic information in those areas. Sampling shall be done using a variety of equipment (e.g. Granton trawl, van Veen, box corer) to assess biodiversity, communities' spatial distribution in those study areas. The information generated through this cruise shall be used to design a wider plan to evaluate the existing biological resources: determine populations and biomass existing especially at the Bransfield Strait in other to establish pelagic-benthic couplings.

   All this shall be dependant on the economic resources available for the expedition to take place. If there is external / international collaboration that would be ideal, and an effort towards that purpose has been made. Initially this project shall be carried out by IMARPE (Peruvian Marine Institute) and the Universidad Nacional Mayor de San Marcos and strong potential for collaboration with the Federal University of Rio de Janeiro.

3. **Degradation, weather, microclimate and selection of nest forming site of the Sterna Vittata Gemlin 1789 Antarctic colony at Crepin Point, King George Island.**

   This project has the objective of quantifying microclimate variation of the reproductive area of the Antarctic Sterna Vittata Gemlin 1789, and its

coastal population dynamics. Biological and physical factors that may influence their reproduction will be evaluated during the laying eggs phase and the eggs' incubation taking into account the following *S. Vittata* reproductive factors: size and colony state, density of nests hatching success, nursing period. All these aspects will be compared in relation to: predation by skuas, meteorology and microclimate in the nesting area. A register and analysis of possible microclimate differences between nesting areas without birds in reproductive stage will be carried out.

This projetct will be carried out by the Asociación Peruana for the Conservación de la Naturaleza (APECO).

4. **Project COPEPOD II, Biology and Ecology of the main pelagic communities from the Bransfield Strait and surroundings of the Elephant Island, developed in cooperation with the Instituto del Mar del Perú – IMARPE**

The main objective of this project is to analyse, describe and evaluate the "nictimeral" behaviour and the distribution of the main pelagic communities from the Antarctic sub-area CCAMLR 48.1 in relation to the primary production, presence of predators, and the physical- chemical water column conditions.

This project proposes to make an investigation on the behavioural ecology of the main pelagic communities in order to study their tridimensional space use, which includes different trophic levels in relation to environmental parameters. In order to carry out this project 4 areas of investigation have been established: 1) Behaviour, Biology and Ecology Assessment; 2) Chemical and Physical Oceanography, and top predators. Data has been collected in an integrated manner in collaboration through national and international cooperation, including for publication of the studies results.

This project is lead by the Instituto del Mar del Perú and participate in collaboration the Universidad Nacional Mayor de San Marcos, the British Antarctic Survey, the Univeristy of Washington and the IRD-France.