

# MARINE BIRD AND PINNIPED POPULATION CHANGES IN THE WESTERN ANTARCTIC PENINSULA REGION

## Summary

The Southern Ocean marine ecosystem has been exploited commercially for over 200 years. Selective harvesting of various components of the food web led to significant changes in the structure of this ecosystem. Recently, these negative changes are exacerbated by increased tourist traffic and expanding infrastructure of Antarctic stations. Moreover, currently observed rapid environmental changes, expressed in changing temperature, wind and precipitation, may potentially lead to major environmental perturbations in this very sensitive region. Among the major effects of the atmospheric warming are changes within the sea-ice cover, which affects not only abundance of krill, the main food base of Ant-

arctic marine predators, but also nesting and breeding areas available for penguins. Therefore, the environmental changes pose a new challenge to the survival of Antarctic wildlife. Study of the complex interactions between the animals life cycles, abundance of food, and predators pressure imposed by birds and pinnipeds, explain some trends in the populations dynamics. Bird and pinniped species and their response to the climate perturbations, including significant alternations of populations sizes and changes of breeding areas as well as changes in arrival and laying dates, have been recorded as important bio-indicators of changes in the Antarctic ecosystem.