

## LANDSCAPE IMPACT ASSESSMENT AS AN INSTRUMENT FOR PLANNING OF NEW SETTLEMENTS IN ANTARCTIC ENVIRONMENTS

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The occupation of Antarctica has typically occurred without previous assessment of the impacts caused by human activities. When potential effects were taken into account, only impacts on fauna and flora were evaluated. The Antarctic landscape, as a place of unique characteristics has not yet been the object of a systematic study undertaken by professionals responsible for the design and planning of Antarctic settlements to manage adversarial effects of the human presence on the Antarctic landscape. The objective of this study is to create a methodology for a landscape impact assessment (LIA) in Antarctica. This methodology works as a guideline for conducting an LIA, aiming to analyze and identify and develop measures to avoid or mitigate the effects of any development on the landscape. The methodology was developed based on literature review of LIAs and landscape reading, and tested on a case study of the site of the Brazilian Station (Estação Antártica Comandante Ferraz – EACF), in the Admiralty Bay, King George Island. The methodology complies with the following phases: 1) Survey: assessment of available site documentation (maps, photos, etc.); 2) Field studies: confirmation of the information collected in the survey; 3) Simulation and photomontages to investigate ideal scenarios for development; 4) Identification and assessment of sources of impact; 5) Proposition of mitigation measures; and 6) Review of the landscape assessment process and monitoring. The proposed methodology was tested up to phase 6, based on an expert analysis. The results of this research are manifold. First, the methodology seemed appropriate to be used in Antarctica. It is considered relevant for design and planning of subsequent proposals. Second, concrete mitigation measures were proposed to recover the landscape around the EACF. Third, it was proposed recommendations for future interventions in the area around the EACF. Along these lines, further research should consider the establishment of guidelines for future development in Antarctica. Furthermore, it should be noted that ideally, this methodology, as any LIA, should be an integral part of any design process in Antarctica.