

## Bacterial Diversity in Ornithogenic Soils From Signy Island, Maritime Antarctic- Temporal Ariation

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Gourlay Peninsula (60.72°S 45.57°W) on Signy Island is characterized by the presence of penguin rookeries. To determine the temporal variation of soil bacterial diversity in selected penguin rookery during the austral summer season. The soils were collected in the early summer (December 2005) of 2005/06, and the early (December 2006) and late summer (February 2007) of 2006/07. Total community DNA was extracted from the soils and the 16S rRNA gene fragment was amplified using a nested PCR protocol. The secondary PCR products were run in a Denaturing Gradient Gel Electrophoresis (DGGE). The resultant banding patterns indicated variations in bacterial diversity between the 2005/06 and 2006/07 soil samples which may be correlated with a higher average soil temperature in the latter season. A few bands found in the late summer (February 2007) soils were absent in the early summer soils. This may be associated with the changes in wildlife at the study site between the early and late summer seasons. The soils are analysed for carbon, nitrogen and moisture content, salinity, pH, and heavy metals as a means to correlate the environmental factors with the bacterial community structure.