Monitoring and eradication of a non-native grass, *Poa annua*, from the Western Shore of Admiralty Bay, King George Island, South Shetland Islands - 2022/2023 update

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Summary

This report provides information on the monitoring and progress of eradication of the non-native grass *Poa annua* within the west coast of Admiralty Bay, King George Island, during the 2022/2023 season.

Background

The non-native grass *Poa annua* L. was accidentally introduced at the Arctowski Polish Antarctic Station (hereafter Arctowski) during the 1980s. Its presence was initially recorded in the austral summer of 1985/86, first in sites disturbed by human activities, later on the deglaciated moraines of Ecology Glacier, within ASPA No. 128 Western Shore of Admiralty Bay. In 2014-2017, a research program entitled “The causes, course and consequences of the expansion of *Poa annua* L. in Western Antarctica, a multi-aspect population study” was conducted, a component of which was regular eradication of *P. annua* from Point Thomas Oasis and ASPA no. 128. The last individuals of non-native plants within ASPA no. 128 were recorded and eradicated in the 2015/2016 season, and since then, individuals of the non-native grass were recorded only in the Point Thomas Oasis, encompassing the Arctowski infrastructure. In the 2018/2019 season, monitoring and eradication of *P. annua* became part of the complex non-native species monitoring carried out by Environmental Observers at Arctowski.

In accordance with Annex II of the Protocol on Environmental Protection to the Antarctic Treaty, as well as the CEP non-native species manual and the Management Plan of ASPA No. 128, measures to eradicate *P. annua* from the area were taken. Progress was reported at the ATCM XXXVIII/CEP XVIII (IP78), ATCM XXXIX/CEP XIX (IP60), ATCM XL/CEP XX (IP47), ATCM XLII/CEP XXII (IP150) and ATCM XLIII/CEP XXIII (IP89) meetings.

***Follow-up activities taken in the 2022/2023 season***

*Point Thomas Oasis*

In the summer season of 2022/2023, the vicinity of the Arctowski Station was thoroughly checked for the presence of tussocks and seedlings of *P. annua*. With the Arctowski redevelopment underway in 2022/2023 and the risk of spreading soil material containing *P. annua* propagules associated with the works, monitoring in the Point Thomas Oasis has intensified. During the period of 30.11.2022–14.03.2023, 18 eradication events were carried out, resulting in the removal of 4,707 individuals of *P. annua*, which were mostly in the early stages of development. Eradication was carried out in accordance with the methods used in the multi-year research program “The causes, course and consequences of the expansion of *Poa annua* L. in Western Antarctica, a multi-aspect population study” (Galera et al. 2016). Removal was conducted by hand by trained environmental observers, ensuring that native plant species were not disturbed. Each tussock was dug up with the roots and surrounding soil. All of the material was incinerated. Each site was photographed, and the GPS location was recorded.

To minimize the risk of spreading seeds deposited in seed banks, zones were designated for the movement of construction machinery, and all station staff and construction workers were trained in methods to prevent the spread of material outside the station infrastructure zone.

*ASPA No. 128*

Inspections of ASPA no. 128 were conducted in 2022/2023 by two environmental observers. The inspections did not indicate the presence of *P. annua*. Monitoring, both around Arctowski and in ASPA no. 128, will be continued during the next Antarctic season.

*Mapa

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