

FLUX OF MATTER AND ENERGY FROM SEA TO LAND IN NORTHWEST SPITSBERGEN

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This study focused on connections across the marine-land boundary at the western part of the Casimir Périerkammer bird cliff at Krossfjorden, northwest Spitsbergen. The aim was to find relations between the marine environment and the ornitocoprophilous meadow vegetation below the bird cliff. During two marine transects, horizontal and vertical trawling data, together with CTD data were collected, analyzed and used to localize the polar front and to assess the abundance and nutritional content of marine life. Seabirds were counted and correlated with the abundance of food items in surface waters.

The consumption of marine prey by seabirds results in the transport of large amounts of nutrients from the marine foraging environment to the terrestrial area, mostly during the breeding season. Therefore, the number of birds and the composition of the bird colony at the western part of the Casimir Périerkammer bird cliff were estimated. At three sites a full relevé analysis was performed. Guano soil and plant samples were collected and analyzed for water content, pH, organic matter, carbon and nitrogen content. The influences of the guano on soil and vegetation types were elucidated.

Acknowledgment: This study was conducted during a course in summer 2003 at UNIS (University Center of Svalbard) under the supervision of Prof. Dr. Rolf Arnt Olsen, and Associate Professors Bakken Vidar, Solheim Bjørn, Spjelkavik Sigmund, Eiane Ketil, whom we would like to thank.