R-10-28

Chemistry data from surface ecosystems in Forsmark and Laxemar-Simpevarp

Site specific data used for estimation of CR and K_d values in SR-Site

Mats Tröjbom, Mats Tröjbom Konsult AB

Sara Nordén, Svensk Kärnbränslehantering AB

November 2010

Svensk Kärnbränslehantering AB
Swedish Nuclear Fuel
and Waste Management Co

Box 250, SE-101 24 Stockholm
Phone +46 8 459 84 00

ISSN 1402-3091
SKB R-10-28

Updated 2013-01

Chemistry data from surface ecosystems in Forsmark and Laxemar-Simpevarp

Site specific data used for estimation of CR and K_d values in SR-Site

Mats Tröjbom, Mats Tröjbom Konsult AB

Sara Nordén, Svensk Kärnbränslehantering AB

November 2010

Update notice

The original report, dated November 2010, was found to contain both factual and editorial errors which have been corrected in this updated version. The corrected factual errors are presented below.

Updated 2011-10

Location	Original text	Corrected text
Page 109, section 2.3.4, line 26	Section 3.4.3	Section 3.4.4

Updated 2013-01

Location	Original text	Corrected text
Page 116, reference Mjöfors et al. 2007	SKB P-07-23	SKB R-07-23

Summary

This report is a background report for the biosphere analysis of the SR-Site Safety Assessment. This work aims to compile information from the Forsmark and Laxemar-Simpevarp sites in order to select and provide relevant site data for parameter estimates used in the Radionuclide Dose Model.

This report contains an overview of all available chemistry data from the surface ecosystems at Forsmark and Laxemar-Simpevarp areas, comprising hydrochemistry of shallow groundwater, pore-water, lake water, stream water and sea water as well as the chemical composition of the regolith and biota of the terrestrial, limnic and marine ecosystems. Detailed references to data reports are tabulated and all sampling points are shown in a large number of maps in Chapter 2. An explorative analysis in Chapter 3 is the basis for the final selection of site data described in Chapter 4.

Sammanfattning

Detta är en bakgrundsrapport till biosfärsanalysen för Säkerhetesanalysen SR-site. Det huvudsakliga syftet med det här arbetet är att välja ut relevanta platsdata från Forsmark och Laxemar-Simpevarp för parameterskattningar till radionuklidmodellen.

Rapporten innehåller också en översikt av samtliga tillgängliga kemidata från ytekosystemen i Forsmark och Laxemar-Simpevarp. Dessa data omfattar hydrokemin i ytligt grundvatten, porvatten, sjövatten, strömmande vatten och havsvatten, samt den kemiska sammansättningen hos regolit och biota från de terrestra, limniska och marina ekosystemen. Detaljerade referenser till underliggande datarapporter redovisas i tabeller och alla provpunkter beskrivs i ett stort antal kartor i kapitel 2. Den explorativa analysen i kapitel 3 utgör grunden för det slutgiltiga urvalet av platsdata som redovisas i kapitel 4.

Contents

Attached on CD

1 Introduction

Radioactive waste and spent nuclear fuel from Swedish nuclear power plants are managed by the Swedish Nuclear Fuel and Waste Management Co, SKB. Both waste and spent fuel are planned to be placed in a geological repository according to the KBS-3 method. According to KBS-3, copper canisters with a cast iron insert containing spent fuel are to be enclosed by bentonite clay and deposited at approximately 500 m depth in saturated, granitic rock. Approximately 12,000 tonnes of spent nuclear fuel is forecasted to arise from the Swedish nuclear power programme, corresponding to roughly 6,000 canisters in a KBS-3 repository.

Between 2002 and 2007, SKB performed site investigations with the intention on finding a suitable location for a repository. Investigations were focused on two different sites along the eastern coast of southern Sweden; Forsmark in the municipality of Östhammar and Laxemar-Simpevarp in the municipality of Oskarshamn. Data from the site investigations have been used to produce comprehensive, multi-disciplinary site descriptions for each of the sites. The resulting site descriptions were reported in /SKB 2008/ (Forsmark) and /SKB 2009/ (Laxemar-Simpevarp). Based on available knowledge from the site descriptions and from preliminary safety assessments of the planned repository, SKB decided in June 2009 to select Forsmark as the site for the repository. This decision was based on a large number of empirical evidence suggesting Forsmark to be more suitable for a geological repository. The location of Forsmark is shown in Figure 1-1. An application for the construction of a geological repository for spent nuclear fuel at Forsmark is planned to be filed in 2011.

According to the regulations from the Swedish Radiation Safety Authority, SSM, a safety assessment of the planned repository has to be performed before the construction of the repository starts (SSMFS 2008:21). The assessment should focus on potential developments that may lead to the release of radionuclides. SKB launched the project SR-Site to conduct the safety assessment, summarised in the SR-Site main report /SKB 2011a/.

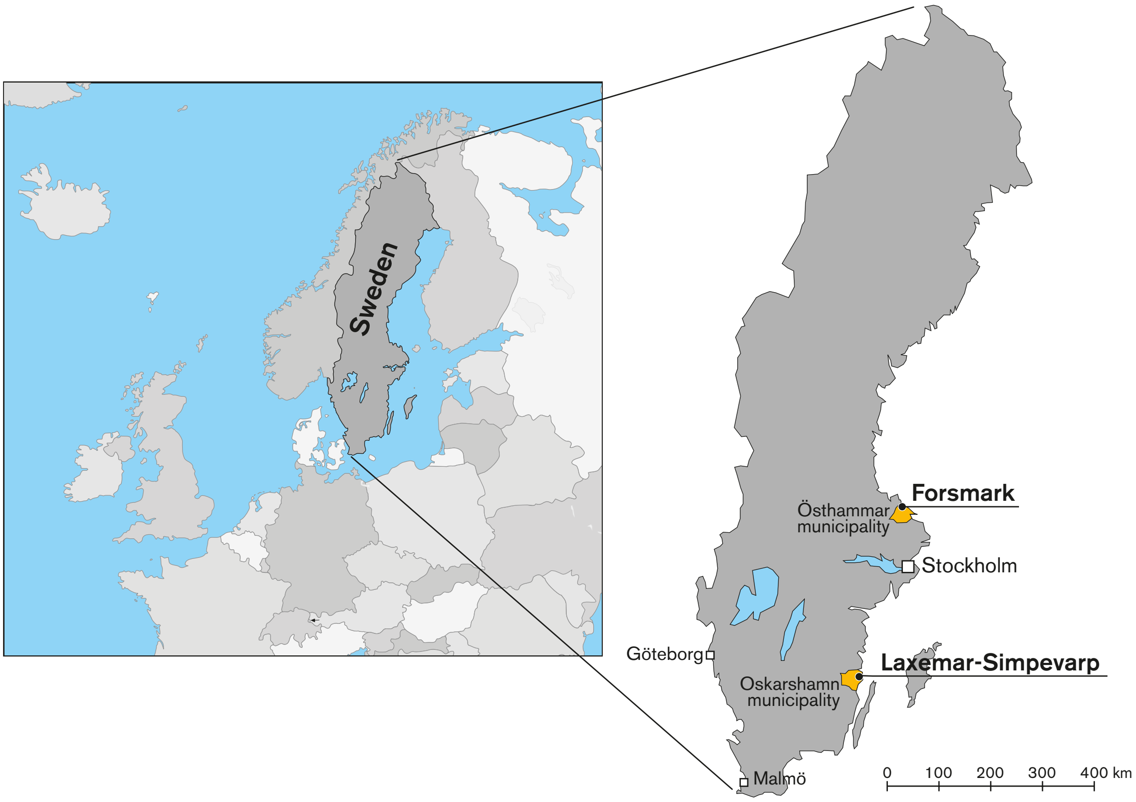

Figure 1-1. Location of the Forsmark and Laxemar-Simpevarp sites.

1.1 SR-Site Biosphere

The safety assessment SR-Site focuses on three major fields of investigation: performance of the repository, the geosphere and the biosphere. The biosphere part of SR-Site, SR-Site Biosphere, provides estimates for human exposure given a unit release, expressed as *Landscape Dose Conversion Factors*. Multiplying these factors with modelled release rates from the geosphere results in estimates of the annual doses used to assess compliance with the regulatory risk criterion. The effects on the environment of a potential release from the repository are also assessed in SR-Site Biosphere.

Within the SR-Site Biosphere project a number of subtasks could be distinguished:

- Description of the site and the site development under different future conditions,
- description of properties and processes of importance for modelling radionuclide behaviour in present and future ecosystems,
- identification and description of areas in the landscape that potentially can be affected by release of radionuclides from the planned repository (Biosphere Objects),
- calculation of the radiological exposure to humans at constant unit release in future ecosystems in order to estimate Landscape Dose conversion Factors (LDF's), and also to calculation of radiological exposure to the environment,
- description and justification of the simplifications and assumptions made in the biosphere radionuclide model and in the underlying models.

The present report, which is further described in Section 1.2, compiles information from the Forsmark and Laxemar-Simpevarp sites (bullet 1) in order to select and provide relevant site data for parameter estimates used in the radionuclide dose model (bullet 4).

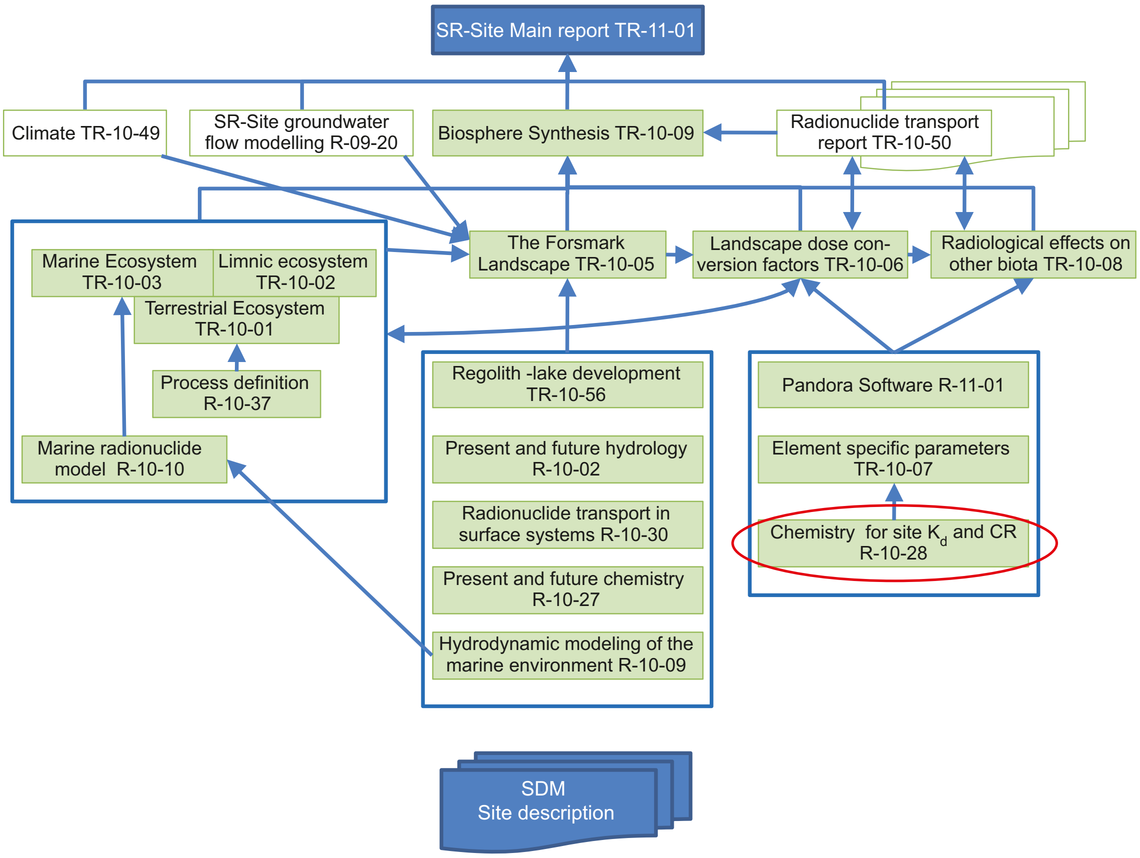

Figure 1-2. *The hierarchy of reports produced in the SR-Site Biosphere project. Arrows indicates major interactions during project work flow of analysis and results, but interaction has been substantial between most parts of the project throughout the process. This report (R-10-28) is encircled in red mainly provides information to Elements Specific Parameter Report TR-10-07 /Nordén et al. 2010/.*

The SR-Site Biosphere project is part of a larger framework constituting the previous Site Descriptive Models (SDM – cf. /Lindborg 2008/), the present Safety Assessment /SKB 2011a/, and the Environmental Impact Assessment /SKB 2011b/. The SDM provides a description of the present conditions at the site, which is used as a basis for developing models describing the future conditions in the area within the SR-Site Safety Assessment. The general objectives of the SR-Site modelling and the specific objectives of the SR-Site Biosphere modelling are presented in /SKB 2010a/.

1.2 This report

The main objective of this report is to select and deliver site data representative for parameter estimations used in the radionuclide model /Avila et al. 2010/. Statistical handling of these data and estimations of K_d and CR parameter values are described in /Nordén et al. 2010/.

This report compiles all available chemistry data from the surface ecosystems at Forsmark and Laxemar areas sampled within the site investigations. A subset of these data is selected for parameter estimations of the radionuclide model used in the SR-site safety assessment. These parameters are used to estimate the distribution of radionuclides within the environment, e.g. water, soil and biota. Since literature values often vary several orders of magnitude site specific data could be valuable in order to reduce uncertainties and improve model predictions. The extensive site investigations carried out by SKB at Forsmark and Laxemar-Simpevarp areas support, and to a varying degree, replace the use of generic data for these parameters as described in /Nordén et al. 2010/.

All available chemistry data from the two sites are presented in Chapter 2 followed by descriptive and explorative analyses of these data in Chapter 3. Assumptions and considerations behind the selection of site specific data representative for parameter estimations of the radionuclide model are presented in Chapter 4.

2 Description of site specific data

This chapter presents the site specific chemistry data available from the surface ecosystems at Forsmark and Laxemar-Simpevarp. Short descriptions of the different studies that produced the data, maps of sampling sites and further references, are structured according to different matrices, e.g. soil, water and biota. Sampling techniques and analysis methods are also described along with each data set. Further detailed information can be found in the cited SKB references. An overview of the number of observations and elements analysed, is presented in Appendix 1 together with information about how many of the data are below the reported detection limits.

For most sample types, analyses of total element contents were determined using some kind of inductively couple plasma (ICP) technique. This method includes a first step where the solid sample has to be digested in order to get a solution which can be analysed. By the use of acids of varying strength different fractions of the total contents are dissolved. For biota samples a total dissolution is usually achieved whereas regolith samples need a larger effort to be totally dissolved, e.g. lithium borate melt.

Depending on the purpose of the studies, the chemical composition of regolith samples reported may have very different meanings. If the total element composition is of interest a total dissolution is preferred but if the purpose is to estimate e.g. K_d values, which describes the exchangeable fraction of the solid phase, a total dissolution may not be the best choice since elements included in silicates are not part of the exchangeable phase. Several extraction methods were in use in different studies.

/Sheppard et al. 2009/ used aqua regia (a mixture of concentrated strong acids) partial extraction which does not extract all elements in the mineral matrices.

In /Kumblad and Bradshaw 2008/ as well as in /Johanson et al. 2004/ a combination of HNO_3 and H_2O_2 was used. This method does not dissolve all silicates from the mineral matrices.

/Engdahl et al. 2008/ used a mixture of nitric/hydrochloric/hydrofluoric acids followed by $LiBO_3$ melting which gives a total dissolution of all elements (except halogens which were treated differently). The same method was also used for regolith samples in /Hannu and Karlsson 2006/ and /Engdahl et al. 2006/.

The mineral samples in /Strömgren and Brunberg 2006/ were fused with lithium metaborate and dissolved in dilute nitric acid whereas the samples with high organic content were prepared with nitric acid and hydrogen peroxide.

Also for the suspended matter a pre-preparation is performed where the filter used are digested. In /Engdahl et al. 2008/ a combination of hydrofluoric and nitric acids was used whereas a mixture of HNO_3 and H_2O_2 was used in /Kumblad and Bradshaw 2008/.

2.1 Data from terrestrial ecosystems

In this section various types of data from the terrestrial system are described. These are regolith composition and elemental concentrations of porewater, groundwater and precipitation, as well as elemental contents in biota (plants, animals, fungi and litter).

2.1.1 Regolith and porewater

Data of the chemical composition of regolith were collected in several different campaigns with varying purposes. These studies are summarized below together with references to background reports where methods and other specific details are presented. The sampling sites in the different studies are shown in Figure 2-1 (Forsmark) and Figure 2-2 (Laxemar-Simpevarp). A summary of the information needed to find the different data sets in the Sicada data base are presented in Table 2-1.

Site specific data for terrestrial regolith is available from /Sheppard et al. 2009/. The aim of this study was to analyse samples in order to estimate K_d-values for different types of regolith. The authors have analysed 3 different soils in Forsmark and 4 soils in Laxemar-Simpevarp. All soil samples were from a soil depth of c. 30 cm, which means that there is no information about the vertical variation. The samples represent different soil types; two were peat soils (one from Laxemar-Simpevarp and the other from Forsmark), two were clayey silty tills (from the Forsmark area), one was a sandy till (from Laxemar-Simpevarp) and two of the soils were clay gyttja (from Laxemar-Simpevarp). The till samples were taken in spade-dug holes and the other samples were collected using a hand-driven corer. The soil samples were wetted to approximately field capacity and then centrifuged in order to separate the porewater from the soil matrix. The solid phase of the samples was digested using aqua regia extraction. This is the only study of terrestrial regolith from the two sites were porewater was extracted and analysed separately. The contents of elements dissolved in porewater of the other regolith samples are therefore assumed to be part of the soil matrix.

Soil samples have also been analysed in the study by /Johanson et al. 2004/. The aim of the study was to investigate the accumulation of various elements and to estimate concentration ratios for mushrooms in forest ecosystems. In this study the chemical contents of soil and mushroom fruit bodies collected simultaneously in the Forsmark area were analysed. The soil samples were collected to a depth of 10 cm using a cylindrical steel coring device. The soil samples were sorted into different fractions according to their proximity to the mushroom mycelium (bulk soil, rhizosphere fraction and soil-root interface fraction). In this study we have used only the fraction called bulk soil which was the fraction obtained after sieving the soil through a 2-mm mesh. The soil samples were digested using a mixture of HNO_3 and H_2O_2.

Regolith samples were also analysed in the studies by /Hannu and Karlsson 2006/ (Forsmark) and /Engdahl et al. 2006/ (Laxemar-Simpevarp), which contained samples from different studies. The aim of the studies was to characterize important parts of the ecosystems in Forsmark and Laxemar-Simpevarp chemically. Samples of the upper soil from three locations each in Forsmark and Laxemar-Simpevarp, respectively, were from the study by /Persson and Stadenberg 2007/ which sampled fine roots and soil simultaneously. A steel corer was used for the sampling. Each soil sample was taken as deeply as possible, *viz.* to a depth where stones and larger blocks prevented further penetration by the soil corer. The soil was divided into bulk soil and rhizosphere soil respectively. The later was defined as the few millimetres of soil surrounding the plant and was separated from the root fragments by gently shaking the root fragments in a glass jar. All soil samples in /Hannu and Karlsson 2006/ and /Engdahl et al. 2006/ were digested using a mixture of nitric/hydrochloric/hydrofluoric acids followed by $LiBO_3$ melting.

The other regolith samples in /Hannu and Karlsson 2006/ and /Engdahl et al. 2006/ were collected during studies of the quaternary deposits in the areas and were sampled mainly using a Russian corer. The samples from trenches in Laxemar-Simpevarp were sampled using a spade. All soil samples in /Hannu and Karlsson 2006/ and /Engdahl et al. 2006/ were digested using a mixture of nitric/hydrochloric/hydrofluoric acids followed by $LiBO_3$ melting.

Till samples collected during installation of groundwater wells in Forsmark were also analysed for chemical composition. This data set contains 41 till samples from 37 sites in the Forsmark area. Chemistry data for quaternary deposits in Forsmark collected up to May 2005 are compiled in /Tröjbom and Söderbäck 2006b/. Of the samples included in this data set the following SKB reports can give some information about the sampling techniques, descriptions of local conditions and stratigraphy of the sampling sites /Johansson 2003, Sundh et al. 2004, Claesson and Nilsson 2004, Hedenström 2004/. Some of the reports have compilations of raw data and in some cases also evaluations of data. Chemical analyses for some samples of Quaternary deposits were also performed by /Sohlenius and Rudmark 2003/. The sample preparation before ICP-MS analyses differed for the different samples. All samples with idcodes SFMXXXX as well as the samples from HFM11, HFM13, PFM002461, PFM002572, PFM2573, PFM2576, PFM2577, PFM2581, PFM2582, PFM2586, PFM2587, PFM2588 and PFM2592 were extracted using aqua regia before analyses whereas the other samples were leached with 7M HNO_3.

Two regolith samples (one humus sample from Forsmark and one peat sample from Laxemar-Simpevarp) were analysed for a selected number of radionuclides /Roos et al. 2007/, representing the total contents in the samples. The primary aim was to investigate the content of radionuclides in the areas before the construction of the repository. The sample from Forsmark was collected in the study by /Persson and Stadenberg 2007/ (see above) whereas the sample from Laxemar-Simpevarp was collected exclusively for the study by /Roos et al. 2007/, using a spade.

Three soil samples (humus samples from three forest sites in Forsmark) was analysed for selected radionuclides /Grolander and Roos 2009/. The study was a complement to earlier investigations with a primary goal to increase the very small set of data concerning radionuclides in the environment of Forsmark which for example lacked information of the important radionuclide Ra-226. Data for Ra-226 were included in the investigation of /Grolander and Roos 2009/. The soil samples were composited from three spade dug holes at each site in order to get a pooled sample of total the contents representing the sampling area.

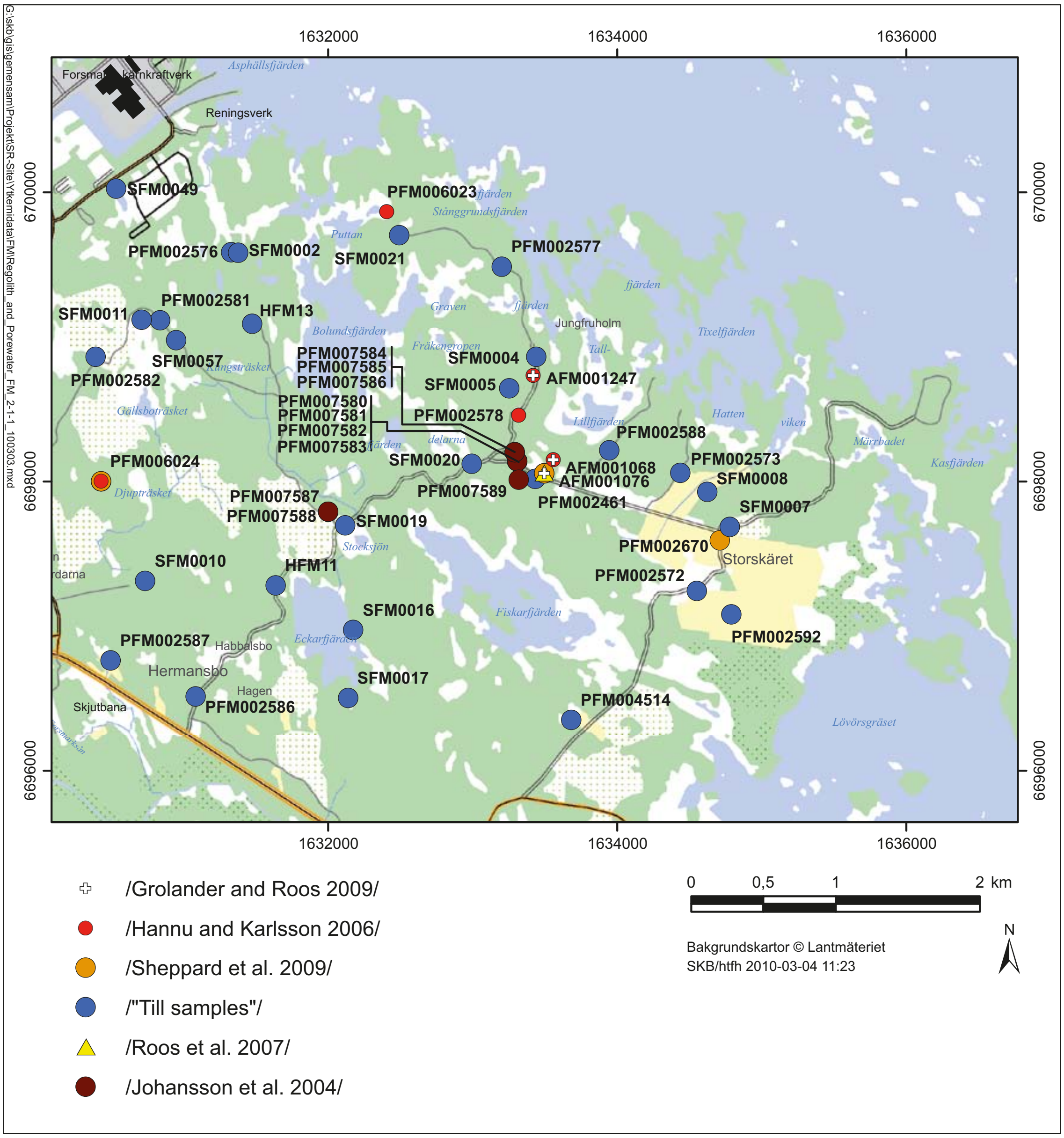

Figure 2-1. *Location of the sampling sites of regolith and porewater samples in the Forsmark area. Sites from different studies are displayed with different symbols according to the legend of the figure.*

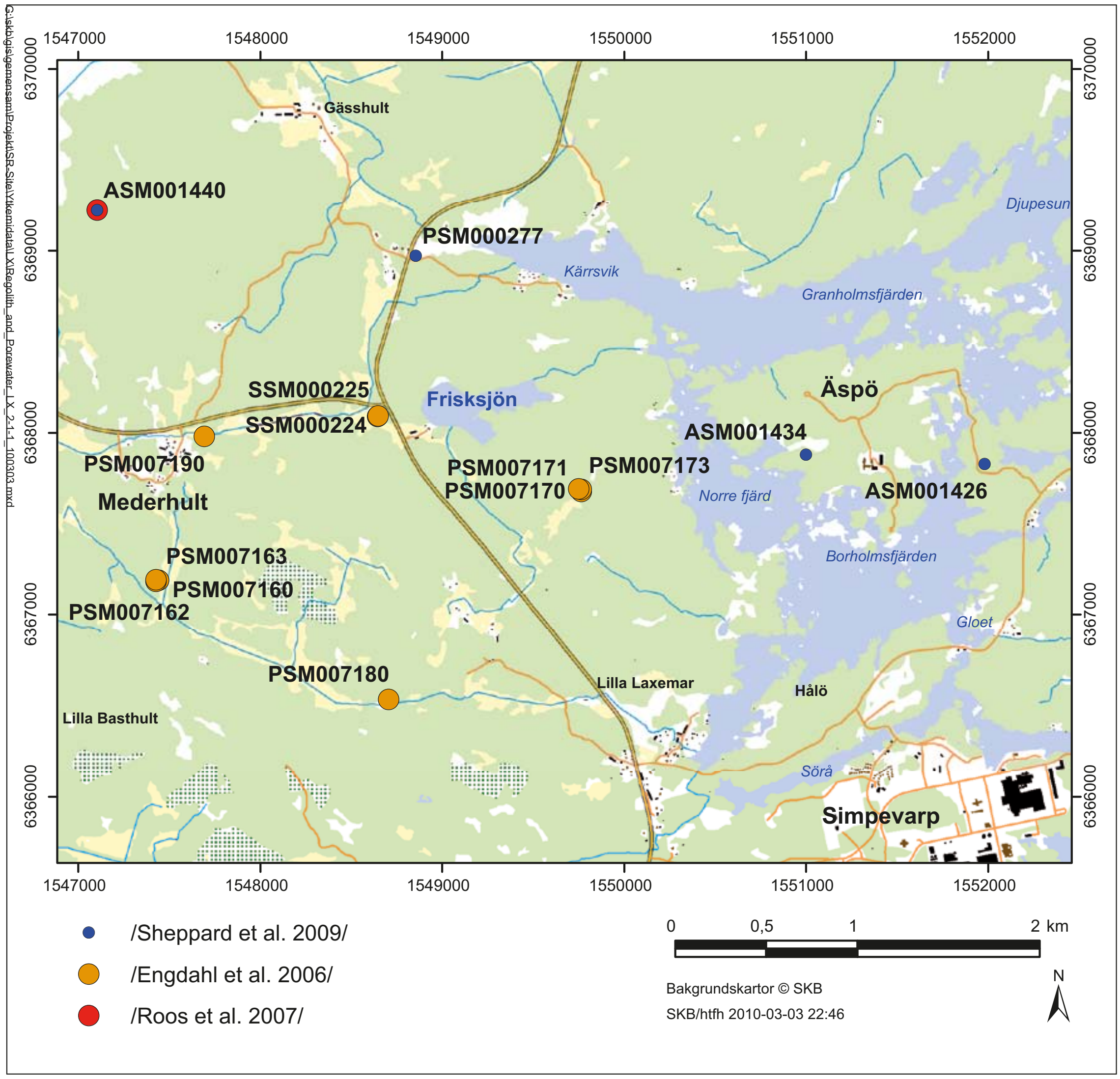

***Figure 2-2.** Location of the sampling sites of regolith and porewater samples in the Laxemar-Simpevarp area. Sites from different studies are displayed with different symbols according to the legend of the figure.*

Table 2-1. Meta data for the data concerning terrestrial regolith and pore waters presented in this section. "Activity type" is the code of the specific data table in Sicada. Two types of sample names are presented; "Sample name Sicada" is the name used in the Sicada data base whereas "Sample name new" is the name used in this report. A '_x' following the name denotes that samples from different vertical positions are available and where the name is followed by a number, it is the upper sample level (m). In the column "Sample type" it is stated if the samples are organic (O) or inorganic (I). If no note is presented this information could not be found. The figures in the column "Sample digestion" is specified below the table. The column "Report" refers to the SKB report where these data are presented.

Site	Activity type	Activity_type_ description	Sample name Sicada	Sample name new	Sample type	Sample digestion	Report
Terrestrial regolith							
F	WC501	Soil sampling – pore water analysis	Centrifugated soil_rego_Low	Centrifugated soil_rego_Low_0.3	I	1	/Sheppard et al. 2009/
F	WC501	Soil sampling – pore water analysis	Centrifugated soil_rego_Up	Centrifugated soil_rego_Up_0.3	O	1	/Sheppard et al. 2009/
F	BI043	Sampling and analysis of fungi and soil	Fungi_Rhizosphere	Soil_Rhizosphere_ fungi		2	/Johanson et al. 2004/
F	BI043	Sampling and analysis of fungi and soil	Fungi_Soil_root	Soil_Root_fungi		2	/Johanson et al. 2004/

Site	Activity type	Activity_type_ description	Sample name Sicada	Sample name new	Sample type	Sample digestion	Report
F	BI043	Sampling and analysis of fungi and soil	fungi_Bulk_soil	Soil_Bulk_fungi		2	/Johanson et al. 2004/
F	BI050	Chemical analysis of fauna and flora	Humuslager 0–2,5 cm	humus_0-0.025	O	–	/Roos et al. 2007/
F	GE512	Sampling, chemical analysis – Qartenary dep	Quartenary deposit	Quartenary deposit_x		3	/Tröjbom and Söderbäck 2006b/ and references in therein
F	GE512	Sampling, chemical analysis – Qartenary dep	Quaternary Deposit: Till	Quaternary Deposit: Till_x	I	3	/Tröjbom and Söderbäck 2006b/ and references in therein
F	GE512	Sampling, chemical analysis – Qartenary dep	Quaternary Deposit: Till1	Quaternary Deposit: Till1_x	I	3	/Tröjbom and Söderbäck 2006b/ and references in therein
F	GE512	Sampling, chemical analysis – Qartenary dep	Quaternary Deposit: Till2	Quaternary Deposit: Till2_x	I	3	/Tröjbom and Söderbäck 2006b/ and references in therein
F	GE526	Organic sediment sampling and analysis	bulkjord,min.j.sk.	mineral soil_bulk_x	I	4	/Hannu and Karlsson 2006/
F	GE526	Organic sediment sampling and analysis	jord, humusskikt	humus layer_x	O	4	/Hannu and Karlsson 2006/
F	GE526	Organic sediment sampling and analysis	jord, min.j.skikt	mineral soil_x	O	4	/Hannu and Karlsson 2006/
F	GE526	Organic sediment sampling and analysis	jord; moränlera	soil_tilly clay_3.5	I	4	/Hannu and Karlsson 2006/
F	GE526	Organic sediment sampling and analysis	jord; ospec morän	soil_unspec_till_x	I	4	/Hannu and Karlsson 2006/
F	GE526	Organic sediment sampling and analysis	torv	peat_x	O	4	/Hannu and Karlsson 2006/
F	GE526	Organic sediment sampling and analysis	vasstorv	reed peat_1.53	O	4	/Hannu and Karlsson 2006/
F	GE526	Organic sediment sampling and analysis	våtmark; alggyttja	wetland_algal gyttja_x	O	4	/Hannu and Karlsson 2006/
F	GE526	Organic sediment sampling and analysis	våtmark; glacial-lera	wetland_glacial clay_x	I	4	/Hannu and Karlsson 2006/
F	GE526	Organic sediment sampling and analysis	våtmark; gyttja	wetland_gyttja_0.66	O	4	/Hannu and Karlsson 2006/
F	GE526	Organic sediment sampling and analysis	våtmark; sand	wetland_sand_1.58	I	4	/Hannu and Karlsson 2006/
F	GE526	Organic sediment sampling and analysis	våtmark;lerig gyttja	wetland_clayey gyttja_x	O	4	/Hannu and Karlsson 2006/
F	BI050	Chemical analysis of fauna and flora	Humus	Humus	O	–	/Grolander and Roos 2009/
L	WC501	Soil sampling – pore water analys	Centrifugated soil_rego_Low	Centrifugated soil_rego_Low_0.3	I	1	/Sheppard et al. 2009/
L	WC501	Soil sampling – pore water analys	Centrifugated soil_rego_Mid	Centrifugated soil_rego_Mid_0.3	O	1	/Sheppard et al. 2009/
L	WC501	Soil sampling – pore water analys	Centrifugated soil_rego_Up	Centrifugated soil_rego_Up_0.3	O	1	/Sheppard et al. 2009/
L	BI050	Chemical analysis of fauna and flora	jord 10 cm	soil_0-0.10		–	/Roos et al. 2007/

Site	Activity type	Activity_type_ description	Sample name Sicada	Sample name new	Sample type	Sample digestion	Report
L	GE526	Organic sediment sampling and analysis	extraktion i ammoniumacetat	extraction ammoniumacetate_x		5	/Engdahl et al. 2006/
L	GE526	Organic sediment sampling and analysis	extraktion i ditionitcitrat	extraction ditionitcitrate_x		6	/Engdahl et al. 2006/
L	GE526	Organic sediment sampling and analysis	extraktion i kungsvatten	extraction aqua regia_x		1	/Engdahl et al. 2006/
L	GE526	Organic sediment sampling and analysis	humus	humus		4	/Engdahl et al. 2006/
L	GE526	Organic sediment sampling and analysis	Jord_rego_Low	soil_rego_Low_x	I	4	/Engdahl et al. 2006/
L	GE526	Organic sediment sampling and analysis	Jord_rego_Mid	soil_rego_Mid_x	O	4	/Engdahl et al. 2006/
L	GE526	Organic sediment sampling and analysis	Jord_rego_Mid?	soil_rego_Mid?_2		4	/Engdahl et al. 2006/
L	GE526	Organic sediment sampling and analysis	Lergyttja/ gyttjelera X	soil_clayey gyttja_ gyttja clay	O	4	/Engdahl et al. 2006/
L	GE526	Organic sediment sampling and analysis	mineral bulk	mineral soil_bulk	I	4	/Engdahl et al. 2006/
L	GE526	Organic sediment sampling and analysis	mineral rhizo	mineral soil_ rhizophere	I	4	/Engdahl et al. 2006/
L	GE526	Organic sediment sampling and analysis	Morän II	soil_till	I	4	/Engdahl et al. 2006/
L	GE526	Organic sediment sampling and analysis	Morän II_12	soil_till_12	I	4	/Engdahl et al. 2006/
L	GE526	Organic sediment sampling and analysis	peat	peat	O	4	/Engdahl et al. 2006/
L	GE526	Organic sediment sampling and analysis	Torv- eller våtmark	wetland_x	O	4	/Engdahl et al. 2006/
Pore water							
F	WC501	Soil sampling - pore water analys	Pore water	Porewater			/Sheppard et al. 2009/
L	WC501	Soil sampling - pore water analys	Pore water	Porewater			/Sheppard et al. 2009/

Explanation to the column "Sample digestion". Digestion media used:
1) aqua regia
2) mixture of HNO_3 and H_2O_2
3) aqua regia or HNO_3 (see text for more information)
4) mixture of nitric/hydrochloric/hydrofluoric acids followed by $LiBO_3$ melting
5) ammonium acetate
6) ditionitcitrate
–) analyses of radionuclides, no sample digestion performed

2.1.2 Groundwater

The groundwater chemistry presented here includes only shallow groundwater, i.e. groundwater from soil layers sampled in soil tubes (piezometers). The chemical characteristics of shallow groundwater in the Simpevarp and Forsmark areas were evaluated in /Tröjbom and Söderbäck 2006a, b/. Shallow groundwater in Forsmark is also evaluated in /Tröjbom et al. 2007/. Samples for water chemistry analyses have predominantly been sampled four times per year.

Shallow groundwater data used in the evaluation section of this report (Section 3) represents three levels of detail:

- One value representative for each site. The median value of all available shallow groundwater data from soil tubes (idcode starting with SFM), where the Cl concentration is lower than 200 mg/l. The rationale for selecting data with low Cl concentrations is to exclude groundwater samples influenced by relict marine remnants (cf. /Tröjbom et al. 2007/).
- One value per soil tube. The median value of available data from the time series of each soil tube.
- All available data are used in some evaluations in order to reflect both spatial and temporal variation.

The sampling sites in the different studies are shown in Figure 2-3 (Forsmark) and 2-4 (Laxemar-Simpevarp). A summary of the information needed to find the different data sets in the data base Sicada are presented in Table 2-2.

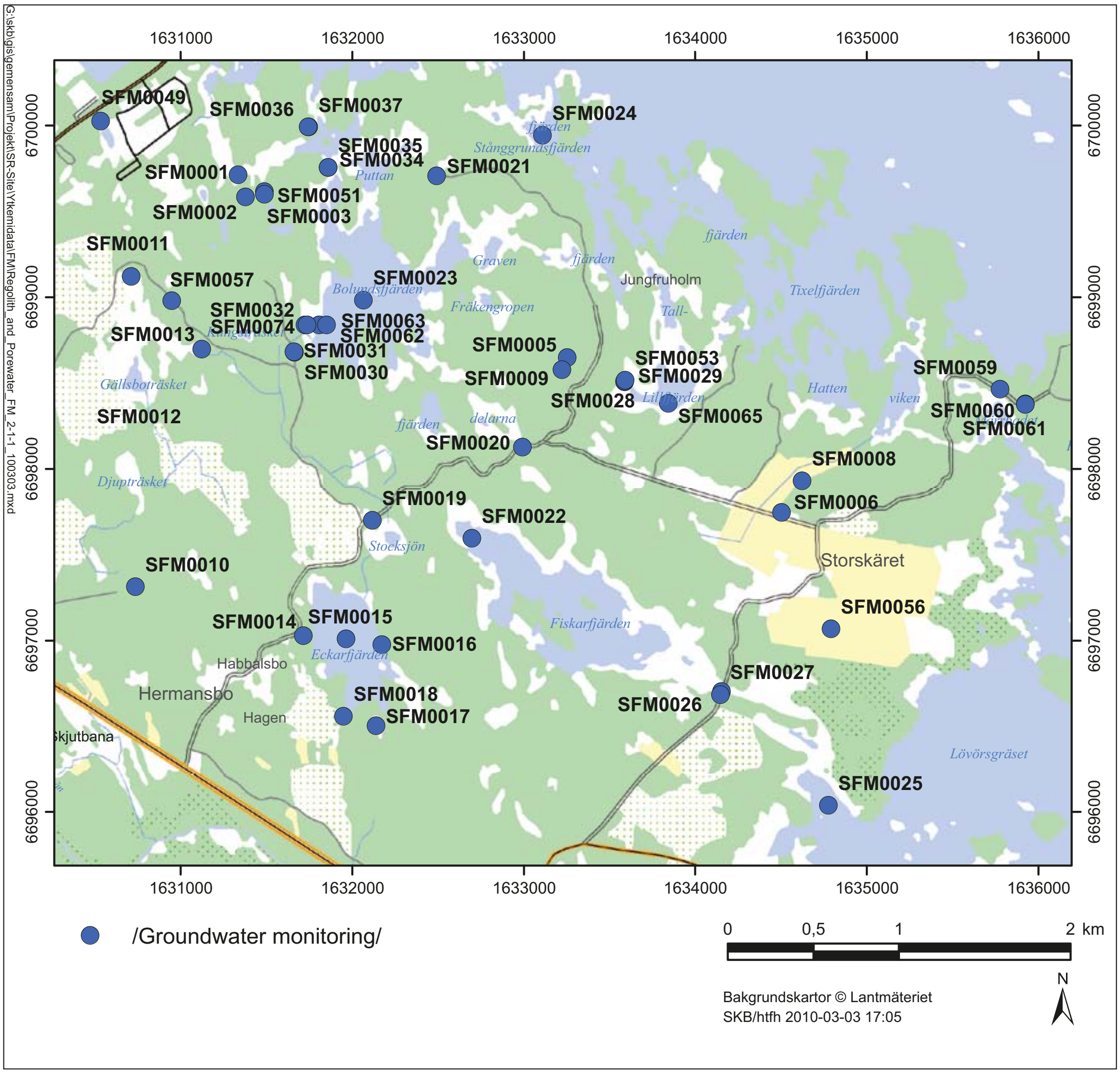

Figure 2-3. *Location of the sampling sites of ground water samples in the Forsmark area.*

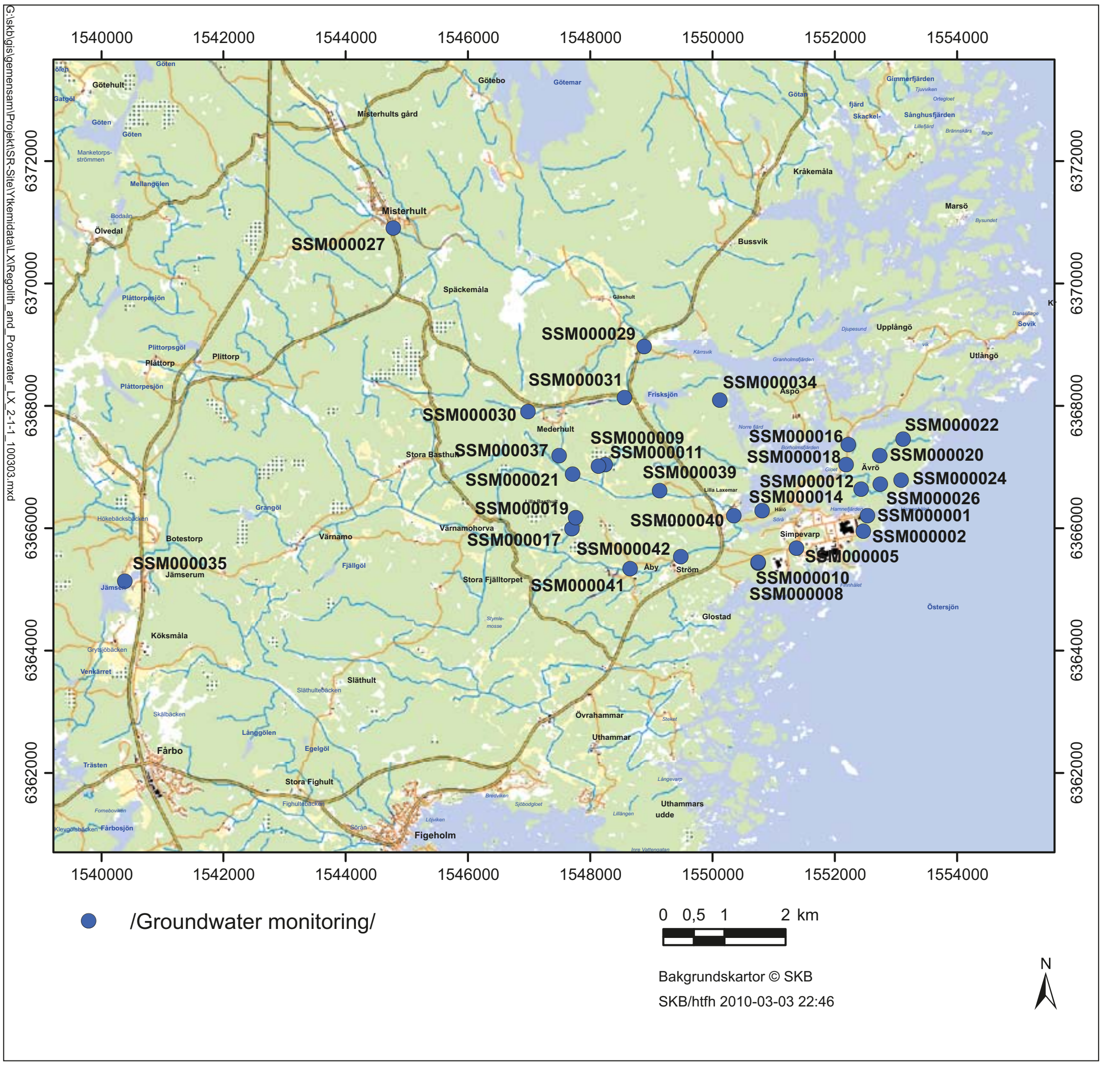

Figure 2-4. *Location of the sampling sites of ground water samples in the Laxemar-Simpevarp area.*

Table 2-2. Meta data for the data concerning terrestrial shallow groundwater presented in this section. "Activity type" is the code of the specific data table in Sicada. In the Sicada database these samples are of the 'water type' "Near Surface Groundwater", whereas the column "sample name new" contains the name used in this report. The column "Report" refers to the SKB report where these data are presented.

Site	Activity type	Activity_type_description	Sample name Sicada	Sample name new	Report
F	WC085, WC105	Surface water sampling, class 3 & class 5	–	NGW	R-06-19, R-07-55
F	WC085, WC105	Surface water sampling, class 3 & class 5	–	NGWsfm	R-06-19, R-07-55
L	WC085, WC105	Surface water sampling, class 3 & class 5	–	NGW	R-06-18, R-08-46

2.1.3 Precipitation

The chemical composition of precipitation (all forms including rain and snow) was analysed for samples from the stations in the Forsmark and Laxemar-Simpevarp area /Berg et al. 2009, Ericsson and Engdahl 2008/ (cf. Table 2-3 and Figure 2-5 and Figure 2-6 for sampling locations). During 2002 and most of 2003, the chemical sampling in Forsmark took place at PFM002457, but since the end of 2003 chemical sampling was conducted at PFM002564. A varying number of sample bottles were pooled together forming one sample. Also the number of chemical analyses per month varied over the sampling period.

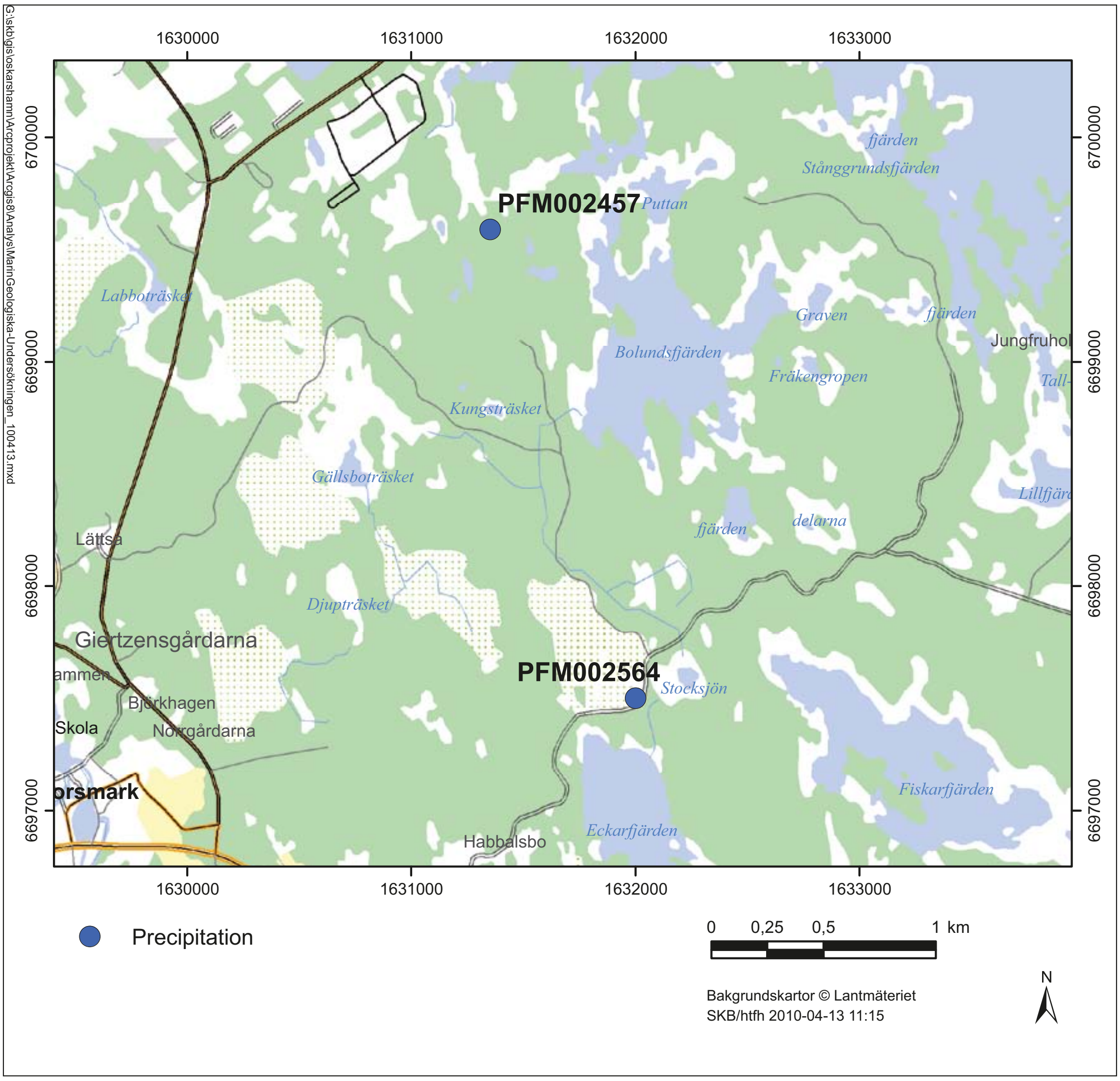

***Figure 2-5.** Location of the precipitation sampling sites in the Forsmark area.*

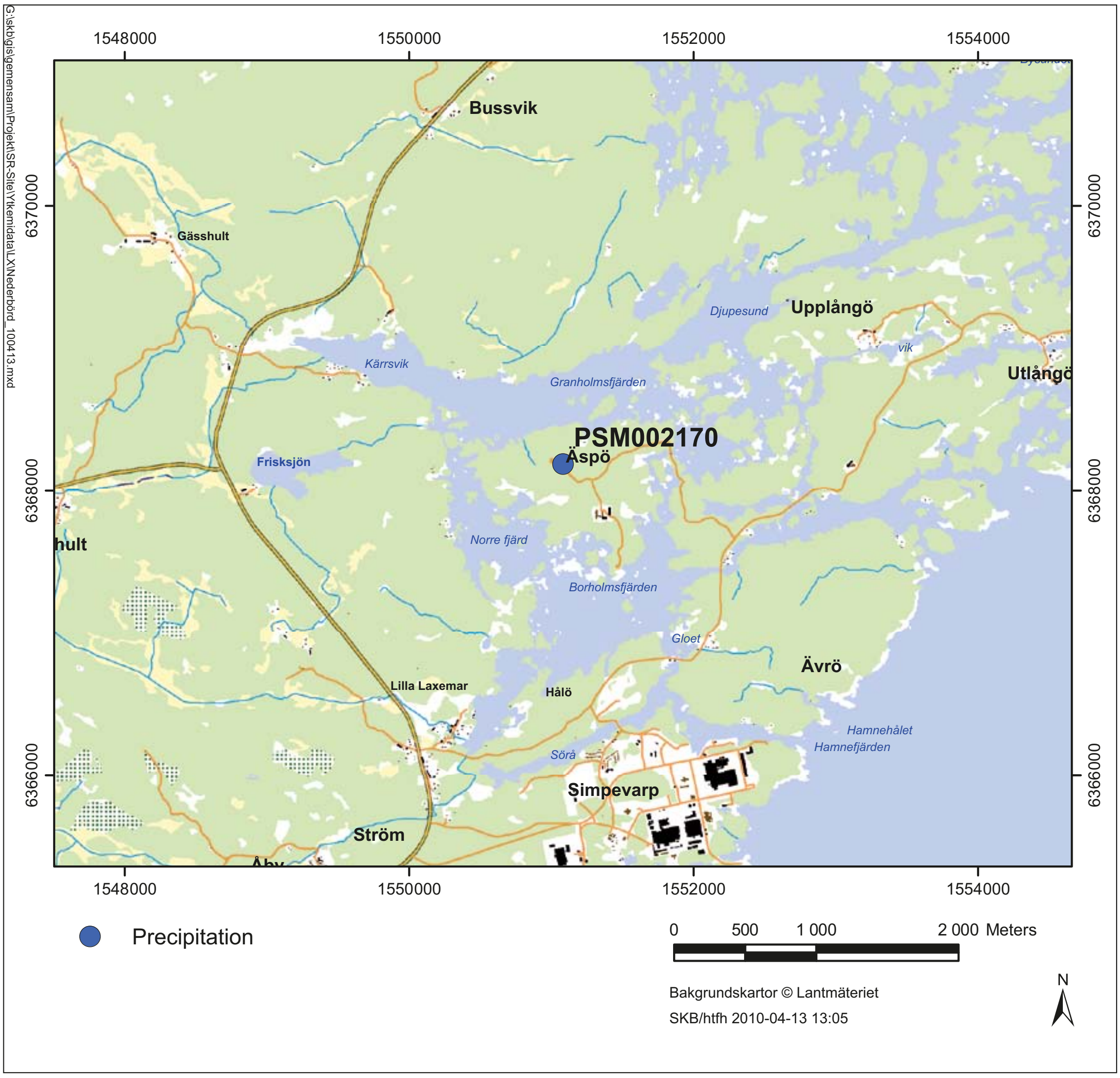

***Figure 2-6.** Location of the precipitation sampling sites in the Laxemar-Simpevarp area.*

Table 2-3. Meta data for the data concerning precipitation presented in this section. "Activity type" is the code of the specific data table in Sicada. Two types of sample names are presented; "Sample name Sicada" is the name used in the Sicada data base whereas "sample name new" is the name used in this report. The column "Report" refers to the SKB report where these data are presented.

Site	Activity type	Activity_type_description	Sample name Sicada	Sample name new	Report
F	WC115	Precipitation sampling	Precipitation	Precipitation	/Berg et al. 2009/
L	WC115	Precipitation sampling	Precipitation	Precipitation	/Ericsson and Engdahl 2008/

2.1.4 Vegetation

The chemical composition of green parts of vegetation as well as woody parts of trees were analysed in /Hannu and Karlsson 2006/ (Forsmark) and /Engdahl et al. 2006/ (Laxemar-Simpevarp). Green parts were sampled as 'representative animal browse', i.e. mainly green shoots. The samples from Forsmark (see Table 2-4) comprised the dominating species of field, ground, shrub and tree layer at three different locations (same as root samples in Section 2.1.5), sampled in summer. There was no washing of the samples prior to sample preparation, which means that elements deposited onto the foliage are included in the analyses. The samples from Laxemar-Simpevarp were dominating species for trees and shrubs and pooled samples of field and bottom layer respectively from three different locations (same as root samples in Section 2.1.5).

The contents of selected radionuclides were analysed in terrestrial vegetation by /Roos et al. 2007/. The analysed samples were one moss sample and one sample containing whole plants of *Rubus saxatilis* (except roots) from Forsmark and sprigs of *Vaccinium myrtillus* and needles of *Picea abies* from Laxemar-Simpevarp.

The content of selected radionuclides in terrestrial vegetation was reported in /Grolander and Roos 2009/. Data for Ra-226 were included in this data set. In the study, five different species were sampled at three locations in the Forsmark area. The samples contained green shoots of the following species: *Carex elata, Maianthemum bifolium, Rubus saxatilis, Vaccinium myrtilus* and *Picea abies*. The samples were collected at several locations within each sampling area to get a pooled sample representing the vegetation of the area.

The sampling sites in the different studies are shown in Figure 2-7 (Forsmark) and 2-8 (Laxemar-Simpevarp). A summary of the information needed to find the different data sets in the data base Sicada are presented in Table 2-5.

Table 2-4. Terrestrial vegetation samples analysed in /Hannu and Karlsson 2006/ (Forsmark) and /Engdahl et al. 2006/ (Laxemar-Simpevarp).

Idcode	Sample description
Forsmark	
AFM001076	*Picea abies* (green shoots and wood)
	Fraxinus excelsior (small bushes)
	Rubus saxatilis
	moss
AFM001068	*Picea abies* (green shoots and wood)
	Vaccinium myrtillus
	Rubus saxatilis
	Rhytidiadelphus triquetrus
AFM001247	*Picea abies* (green shoots and wood)
	Vaccinium myrtillus
	Melampyrum sylvaticum
	Hylocomium splendens
Laxemar-Simpevarp	
ASM001426	*Quercus robur*, leaves and phloem and xylem (Ø ≈ 5 cm)
	Q. robur, Juniperus communis and *Sorbus aucuparia* (green parts from small bushes)
	Field layer (green parts)
	Bottom layer (green parts)
ASM001434	*Alnus glutinosa*, leaves and phloem and xylem (Ø ≈ 5 cm)
	Field layer (green parts)
	Bottom layer (green arts)
ASM001440	*Picea abies*, needles and phloem and xylem (Ø ≈ 5 cm)
	Field layer (green parts)
	Bottom layer (green parts)

Table 2-5. Meta data for the data concerning terrestrial vegetation presented in this section. “Activity type” is the code of the specific data table in Sicada. Two types of sample names are presented; “Sample name Sicada” is the name used in the Sicada data base whereas “sample name new” is the name used in this report. The column “Report” refers to the SKB report where these data are presented.

Site	Activity type	Activity type description	Sample name Sicada	Sample name new	Sample sub type	Report
F	BI050	Chemical analysis of fauna and flora	blåbär	shrub layer	Shrub layer	/Hannu and Karlsson 2006/
F	BI050	Chemical analysis of fauna and flora	buskskikt; ask	shrub layer	Shrub layer	/Hannu and Karlsson 2006/
F	BI050	Chemical analysis of fauna and flora	gran, gröna skott	tree layer_ green	Tree layer, green part	/Hannu and Karlsson 2006/
F	BI050	Chemical analysis of fauna and flora	gran, ved	tree layer_wood	Tree layer, woody part	/Hannu and Karlsson 2006/
F	BI050	Chemical analysis of fauna and flora	husmossa	bottom layer	Bottom layer	/Hannu and Karlsson 2006/
F	BI050	Chemical analysis of fauna and flora	kranshakmossa	bottom layer	Bottom layer	/Hannu and Karlsson 2006/
F	BI050	Chemical analysis of fauna and flora	mossa	bottom layer	Bottom layer	/Hannu and Karlsson 2006/, /Roos et al. 2007/
F	BI050	Chemical analysis of fauna and flora	skogskovall	field layer	Field layer	/Hannu and Karlsson 2006/
F	BI050	Chemical analysis of fauna and flora	stenbär	field layer	Field layer	/Hannu and Karlsson 2006/, /Roos et al. 2007/
F	BI050	Chemical analysis of fauna and flora	Maianthemum bifolium	field layer	Field layer	/Grolander and Roos 2009/
F	BI050	Chemical analysis of fauna and flora	Picea abies	tree layer_ green	Tree layer, green part	/Grolander and Roos 2009/
F	BI050	Chemical analysis of fauna and flora	Carex elata	field layer	Field layer	/Grolander and Roos 2009/
F	BI050	Chemical analysis of fauna and flora	Rubus saxatilis	field layer	Field layer	/Grolander and Roos 2009/
F	BI050	Chemical analysis of fauna and flora	Vaccinium myrtilus	shrub layer	Shrub layer	/Grolander and Roos 2009/
L	BI050	Chemical analysis of fauna and flora	blåbärsris	shrub layer	Shrub layer	/Roos et al. 2007/
L	BI050	Chemical analysis of fauna and flora	bottenskikt	bottom layer	Bottom layer	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	buskskikt	shrub layer	Shrub layer	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	fältskikt	field layer	Primary producer	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	granbarr	tree layer_ green	Tree layer, green part	/Roos et al. 2007/
L	BI050	Chemical analysis of fauna and flora	N bottenskikt	bottom layer	Bottom layer	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	N buskskikt	shrub layer	Shrub layer	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	N fältskikt	field layer	Primary producer	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	N trädskikt	tree layer_ green	Tree layer, green part	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	trädskikt	tree layer_ green	Tree layer, green part	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	ved av al	tree layer_wood	Tree layer, woody part	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	ved av ek	tree layer_wood	Tree layer, woody part	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	ved av gran	tree layer_wood	Tree layer, woody part	/Engdahl et al. 2006/

2.1.5 Fine roots

Fine roots from three locations in Forsmark and three locations in Laxemar-Simpevarp were sampled in the study by /Persson and Stadenberg 2007/. A steel corer was used for the sampling. The roots were sorted out from the soil cores using steel tweezers and rinsed in deionised water. The root samples from Forsmark were sorted according to root diameter and soil horizon (humus or mineral soil layer) whereas the roots from Laxemar-Simpevarp also were sorted according to vegetation type (tree roots or other roots). The primary aim of the sampling was to estimate the root biomass of different soil layers but a restricted number of the samples which contained enough biomass were also characterized chemically as described in /Hannu and Karlsson 2006/ (Forsmark) and /Engdahl et al. 2006/ (Laxemar-Simpevarp), see Table 2-6.

The sampling sites in the different studies are shown in Figure 2-7 (Forsmark) and 2-8 (Laxemar-Simpevarp). A summary of the information needed to find the different data sets in the data base Sicada are presented in Table 2-7.

Table 2-6. Root samples analysed in /Hannu and Karlsson 2006/ (Forsmark) and /Engdahl et al. 2006/ (Laxemar-Simpevarp).

Idcode	Sample description
Forsmark	
AFM001076	root Ø < 1 mm in humus layer; 2,5 cm–
AFM001076	root Ø > 2 mm in whole humus layer
AFM001076	root Ø > 2 mm in mineral soil layer; 0–20 cm
AFM001068	root Ø < 1 mm in mineral soil layer; 0–10 cm
AFM001068	root Ø > 2 mm in mineral soil layer; 0–20 cm
AFM001247	root Ø < 1 mm in humus layer; 2,5 cm–
AFM001247	root Ø > 2 mm in whole humus layer
AFM001247	root Ø > 2 mm in mineral soil layer; 0–20 cm
Laxemar-Simpevarp	
ASM001426	Tree roots from humus layer 0–10 cm (Ø < 5 mm)
ASM001426	Tree roots from mineral soil layer 0–20 cm (Ø < 5 mm)
ASM001426	Other living roots fr. humus layer 0–10 cm (Ø < 2 mm)
ASM001434	Tree roots from humus layer 0–10 cm (Ø < 5 mm)
ASM001434	Tree roots from mineral soil layer 0–40 cm (Ø < 5 mm)
ASM001440	Tree roots from humus layer 0–10 cm (Ø < 5 mm)
ASM001440	Tree roots from mineral soil layer 0–10 cm (Ø < 5 mm)
ASM001440	Tree roots fr. mineral soil layer 10–40 cm (Ø < 5 mm)

Table 2-7. Meta data for the data concerning root samples presented in this section. "Activity type" is the code of the specific data table in Sicada. Two types of sample names are presented; "Sample name Sicada" is the name used in the Sicada data base whereas "Sample name new" is the name used in this report. The column "Report" refers to the SKB report where these data are presented.

Site	Activity type	Activity type description	Sample name Sicada	Sample name new	Report
F	BI050	Chemical analysis of fauna and flora	rot,humus, <1mm diam	root_humic layer_0.03	/Hannu and Karlsson 2006/
F	BI050	Chemical analysis of fauna and flora	rot,humus, >2mm diam	root_humic layer_0	/Hannu and Karlsson 2006/
F	BI050	Chemical analysis of fauna and flora	rot,mineral, <1mm dia	root_mineral soil layer_0	/Hannu and Karlsson 2006/
F	BI050	Chemical analysis of fauna and flora	rot,mineral, >2mm dia	root_mineral soil layer_0	/Hannu and Karlsson 2006/
L	BI050	Chemical analysis of fauna and flora	trädrot humus	root_humic layer_tree	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	trädrot mineral-jord	root_mineral soil layer_tree	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	övr rot humus	root_humic layer_other	/Engdahl et al. 2006/

2.1.6 Litter

The chemical composition of leaf/needle litter (not twigs or larger materials) was analysed /Brun 2008/ (Forsmark) and /Engdahl et al. 2006/ (Laxemar-Simpevarp). The study by /Brun 2008/ focused on the changes in organic and inorganic components in litter during decomposition. The samples were collected in the study by /Mjöfors et al. 2007/. Litter from spruce and alder in Forsmark and spruce, pine and oak from Laxemar-Simpevarp were analysed. The litter samples were of different age in order to investigate the degradation of organic matter. The youngest sample were collected at the start of the study were approximately 1.5 g litter were enclosed in litter bags made from polyester net. The litter bags were placed on the litter layer in each forest. Three times a year during a two-year period (six collections in total) one litter bag was retrieved from each of the subplots at each site and the contents where analysed chemically.

The sampling sites in the different studies are shown in Figure 2-7 (Forsmark, /Hannu and Karlsson 2006/) and 2-8 (Laxemar-Simpevarp). A summary of the information needed to find the different data sets in the data base Sicada are presented in Table 2-8.

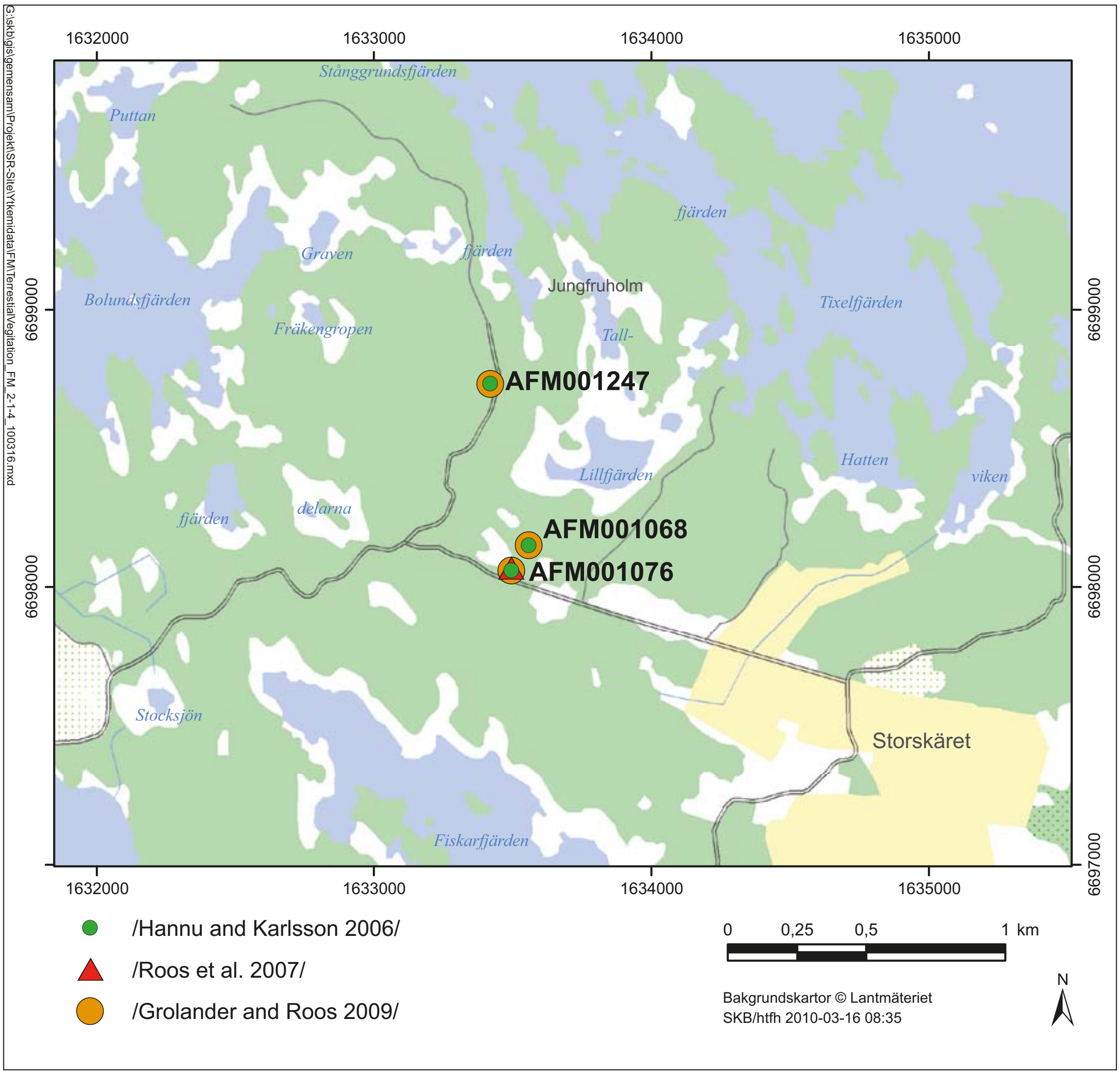

***Figure 2-7.** Location of the sampling sites of terrestrial vegetation (green parts as well as roots) and litter in the Forsmark area. Sites from different studies are displayed with different symbols according to the legend of the figure.*

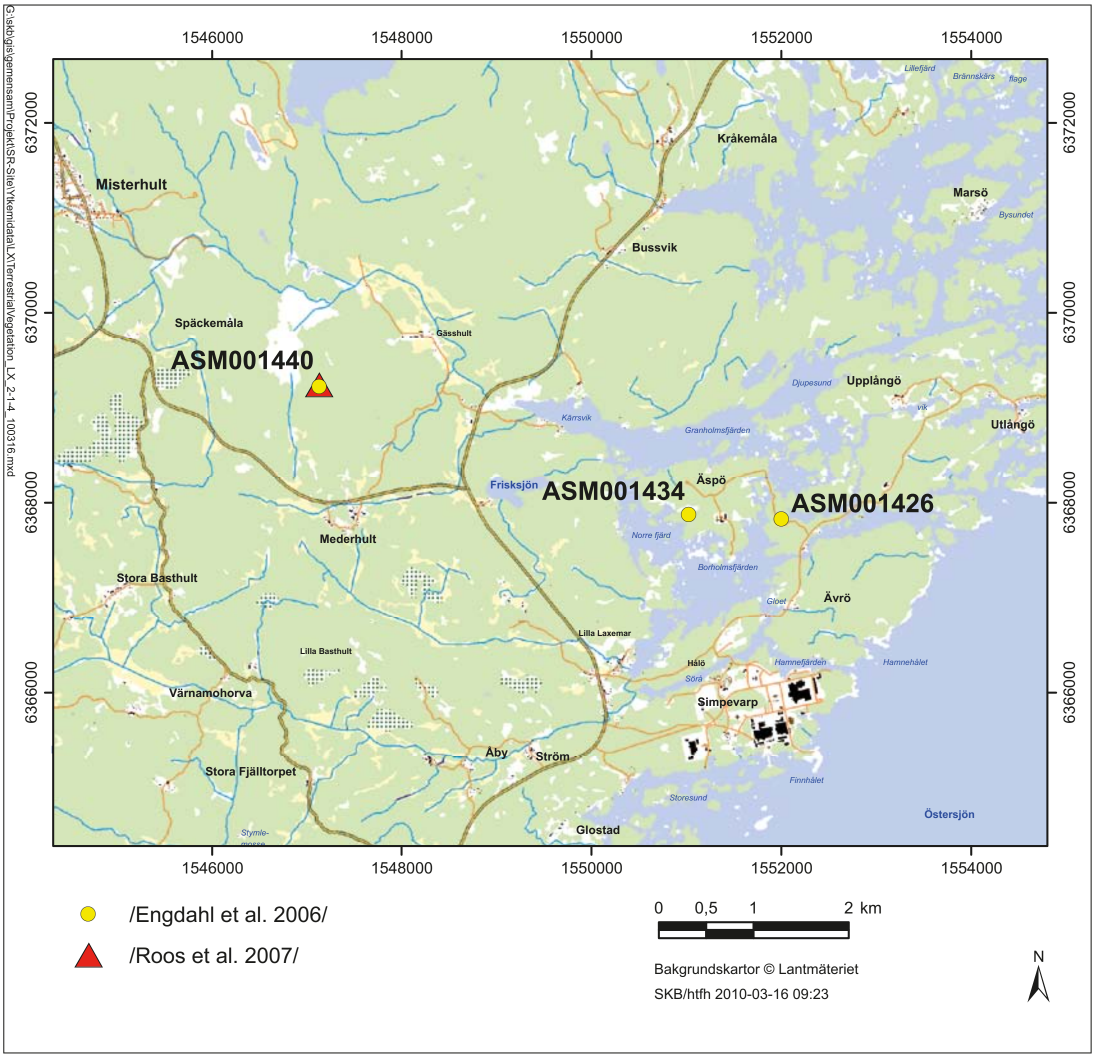

Figure 2-8. *Location of the sampling sites of terrestrial vegetation (green parts as well as roots) and litter in the Laxemar-Simpevarp area. Sites from different studies are displayed with different symbols according to the legend of the figure.*

Table 2-8. Meta data for the data concerning litter presented in this section. "Activity type" is the code of the specific data table in Sicada. Two types of sample names are presented; "Sample name Sicada" is the name used in the Sicada data base whereas "Sample name new" is the name used in this report. The prefix '_x' denotes that samples from different time steps in the study are available (x = 0–6). The column "Report" refers to the SKB report where these data are presented.

Site	Activity type	Activity type description	Sample name Sicada	Sample name new	Species	Report
F	BI050	Chemical analysis of fauna and flora	fallförna, allöv_ F2A-x	litter_A. glutinosa_F2A-x	Alder (*Alnus glutinosa*)	/Brun 2008/
F	BI050	Chemical analysis of fauna and flora	fallförna, granbarr_ F1S-x	litter_Picea abies_F1S-x	Spruce (*Picea abies*)	/Brun 2008/
F	BI050	Chemical analysis of fauna and flora	fallförna, granbarr_ F2S-x	litter_Picea abies_F2S-x	Spruce (*Picea abies*)	/Brun 2008/
F	BI050	Chemical analysis of fauna and flora	fallförna, granbarr_ F3S-x	litter_Picea abies_F3S-x	Spruce (*Picea abies*)	/Brun 2008/
L	BI800	Sampling of litter fall	Oak_leaf_O1O-x	litter_Quercus robur_O1O-x	Oak (*Quercus robur*)	/Engdahl et al. 2006/
L	BI800	Sampling of litter fall	Pine_needles_ O2P-x	litter_ pine_ O2P-x	Pine (*Pinus sylvestris)*	/Engdahl et al. 2006/
L	BI800	Sampling of litter fall	Spruce_needles_ O3S-x	litter_ Picea abies_O3S-x	Spruce (*Picea abies*)	/Engdahl et al. 2006/

2.1.7 Mushrooms

Chemical composition of mushroom fruit bodies (and corresponding soil samples, see Section 2.1.1.) were analysed by /Johanson et al. 2004/. Thirteen different mushroom species sampled in the Forsmark area were analysed. No sampling equipment is specified in the report.

The sampling sites are shown in Figure 2-9. A summary of the information needed to find the data set in the data base Sicada are presented in Table 2-9.

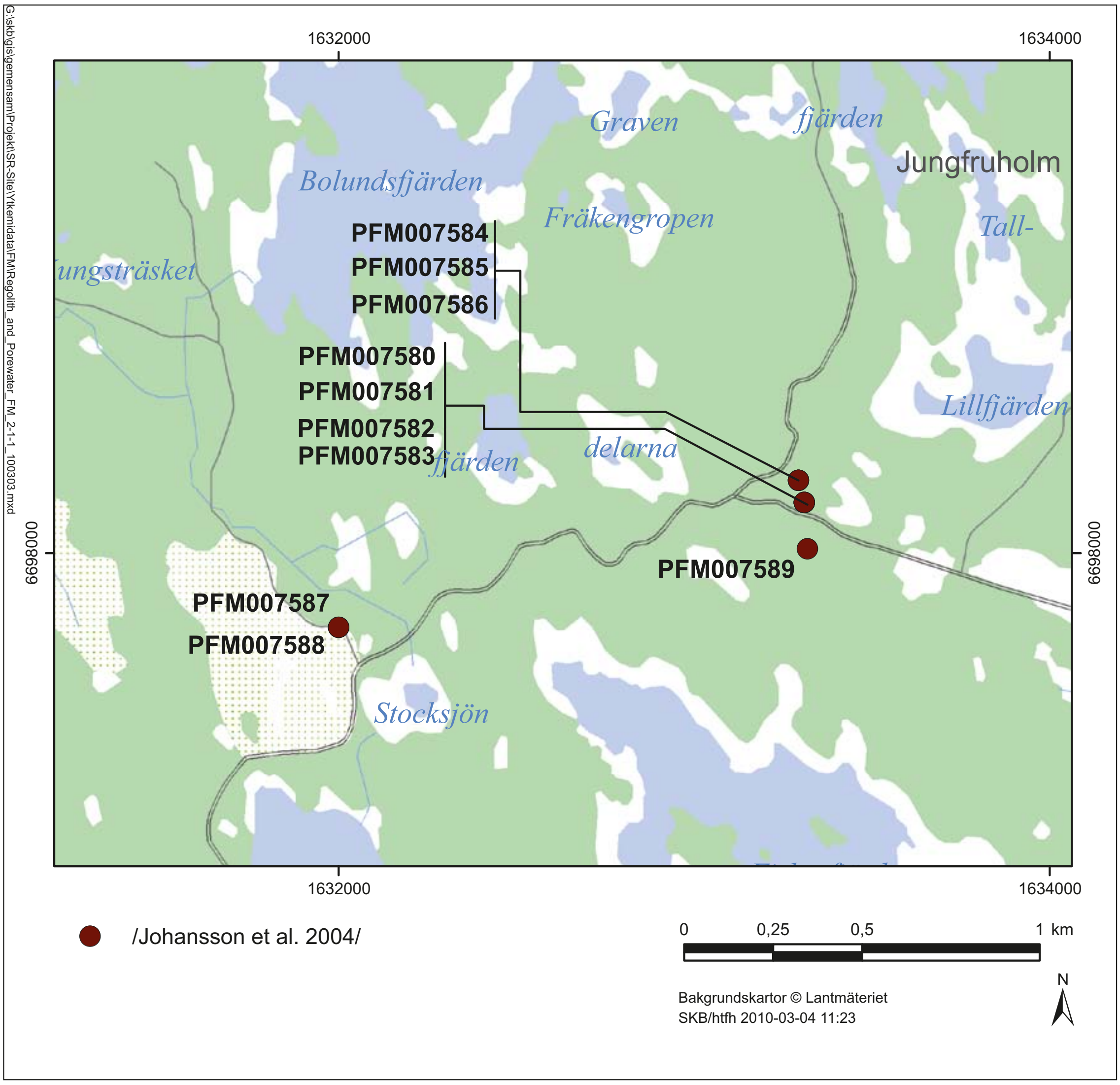

Figure 2-9. Location of the sampling sites of mushrooms in the Forsmark area.

Table 2-9. Meta data for the data concerning mushroom fruit bodies presented in this section. "Activity type" is the code of the specific data table in Sicada. Two types of sample names are presented; "Sample name Sicada" is the name used in the Sicada data base whereas "Sample name new" is the name used in this report. The column "Report" refers to the SKB report where these data are presented.

Site	Activity type	Activity type description	Sample name Sicada	Sample name new	Sample sub type	Report
F	BI043	Sampling and analysis of fungi and soil	Fungi_Boletus edulis	B. edulis	Mushroom fruit body	/Johanson et al. 2004/
F	BI043	Sampling and analysis of fungi and soil	Fungi_Cantharellus tubaeformis	C. tubaeformis	Mushroom fruit body	/Johanson et al. 2004/
F	BI043	Sampling and analysis of fungi and soil	Fungi_Collybia peronata	C. peronata	Mushroom fruit body	/Johanson et al. 2004/
F	BI043	Sampling and analysis of fungi and soil	Fungi_Cortinarius armeniacus	C. armeniacus	Mushroom fruit body	/Johanson et al. 2004/
F	BI043	Sampling and analysis of fungi and soil	Fungi_Cortinarius odorifer	C. odorifer	Mushroom fruit body	/Johanson et al. 2004/
F	BI043	Sampling and analysis of fungi and soil	Fungi_Cortinarius sp.	Cortinarius sp.	Mushroom fruit body	/Johanson et al. 2004/
F	BI043	Sampling and analysis of fungi and soil	Fungi_Hypholoma capnoides	H. capnoides	Mushroom fruit body	/Johanson et al. 2004/
F	BI043	Sampling and analysis of fungi and soil	Fungi_Lactarius deterrimus	L. deterrimus	Mushroom fruit body	/Johanson et al. 2004/
F	BI043	Sampling and analysis of fungi and soil	Fungi_Lactarius scrobiculatus	L. scrobiculatus	Mushroom fruit body	/Johanson et al. 2004/
F	BI043	Sampling and analysis of fungi and soil	Fungi_Lactarius trivialis	L. trivialis	Mushroom fruit body	/Johanson et al. 2004/
F	BI043	Sampling and analysis of fungi and soil	Fungi_Sarcodon imbricatus	S. imbricatus	Mushroom fruit body	/Johanson et al. 2004/
F	BI043	Sampling and analysis of fungi and soil	Fungi_Suillus granulatus	S. granulatus	Mushroom fruit body	/Johanson et al. 2004/
F	BI043	Sampling and analysis of fungi and soil	Fungi_Suillus varegatus	S. varegatus	Mushroom fruit body	/Johanson et al. 2004/
F	BI043	Sampling and analysis of fungi and soil	Fungi_Suillus variegatus	S. variegatus	Mushroom fruit body	/Johanson et al. 2004/
F	BI043	Sampling and analysis of fungi and soil	Fungi_Tricholoma equestre	T. equestre	Mushroom fruit body	/Johanson et al. 2004/
F	BI043	Sampling and analysis of fungi and soil	Fungi_Mycelium	Fungi_Mycelium	Mushroom mycelium	/Johanson et al. 2004/

2.1.8 Terrestrial fauna

Site specific chemistry data for terrestrial fauna were presented in /Hannu and Karlsson 2006/ (Forsmark) and /Engdahl et al. 2006/ (Laxemar-Simpevarp). The samples include large herbivores (moose from both sites and roe deer from Laxemar-Simpevarp), small rodents (yellow-necked mouse, bank vole, water vole and shrews from Forsmark and wood mouse, bank vole and shrews from Laxemar-Simpevarp) and carnivores (fox from both sites). The large herbivores and carnivores were supplied to SKB from local hunters whereas the small rodents were sampled by traps in earlier investigations /Cederlund et al. 2005a, b/. Only muscle tissue was analysed.

Muscles from bank vole and moose from Forsmark and Yellow-necked mouse and moose from Laxemar-Simpevarp were analysed for selected radionuclides by /Roos et al. 2007/.

The sampling sites in the different studies are shown in Figure 2-10 (Forsmark) and 2-11 (Laxemar-Simpevarp). A summary of the information needed to find the different data sets in the data base Sicada are presented in Table 2-10.

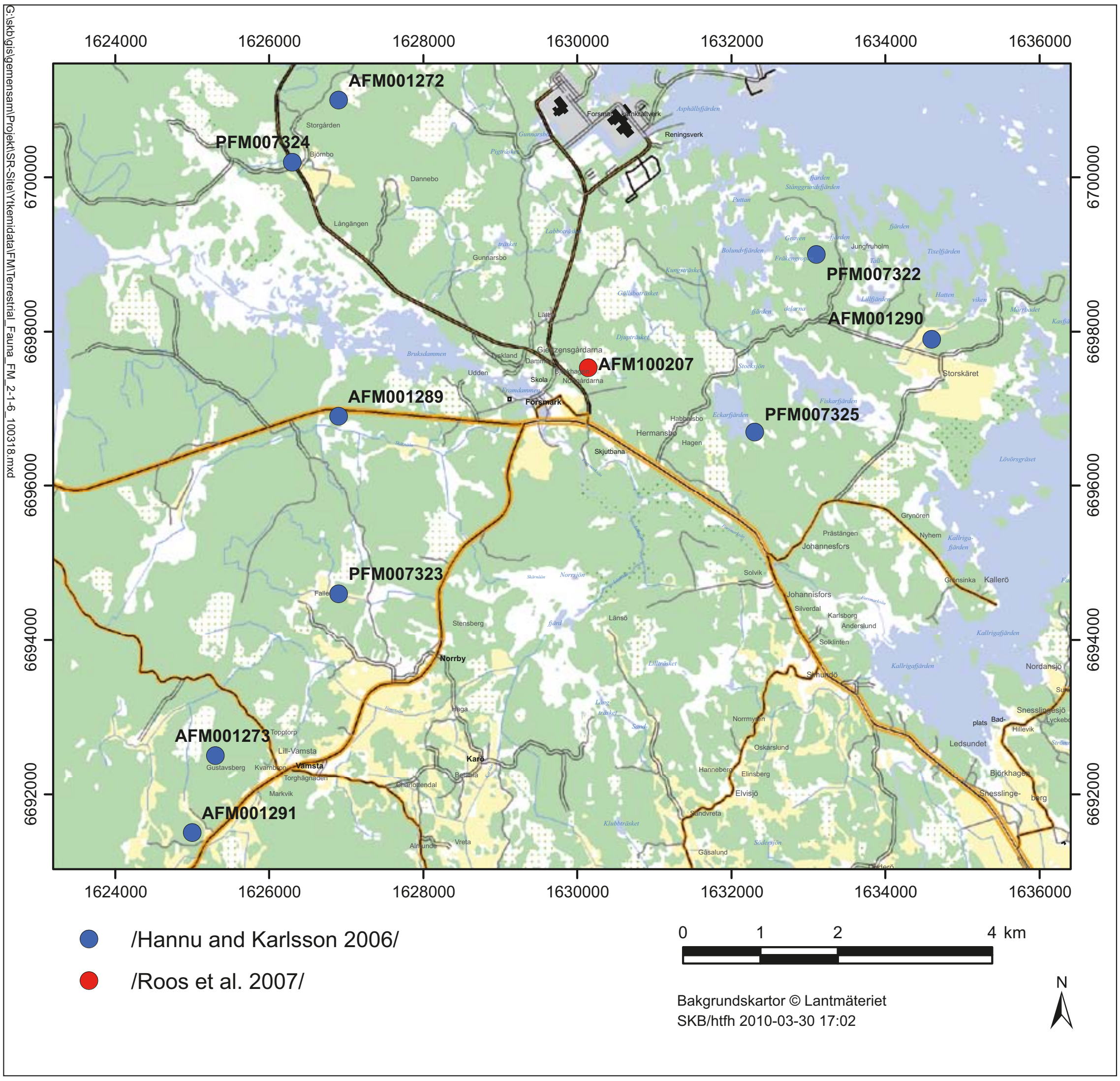

Figure 2-10. *Location of the sampling sites of terrestrial fauna in the Forsmark area. Missing in the map is the idcode AFM000100 from which samples were analysed in /Hannu and Karlsson 2006/ as well as in /Roos et al. 2007/. This idcode represents the regional model area and a more detailed geographical reference is not available.*

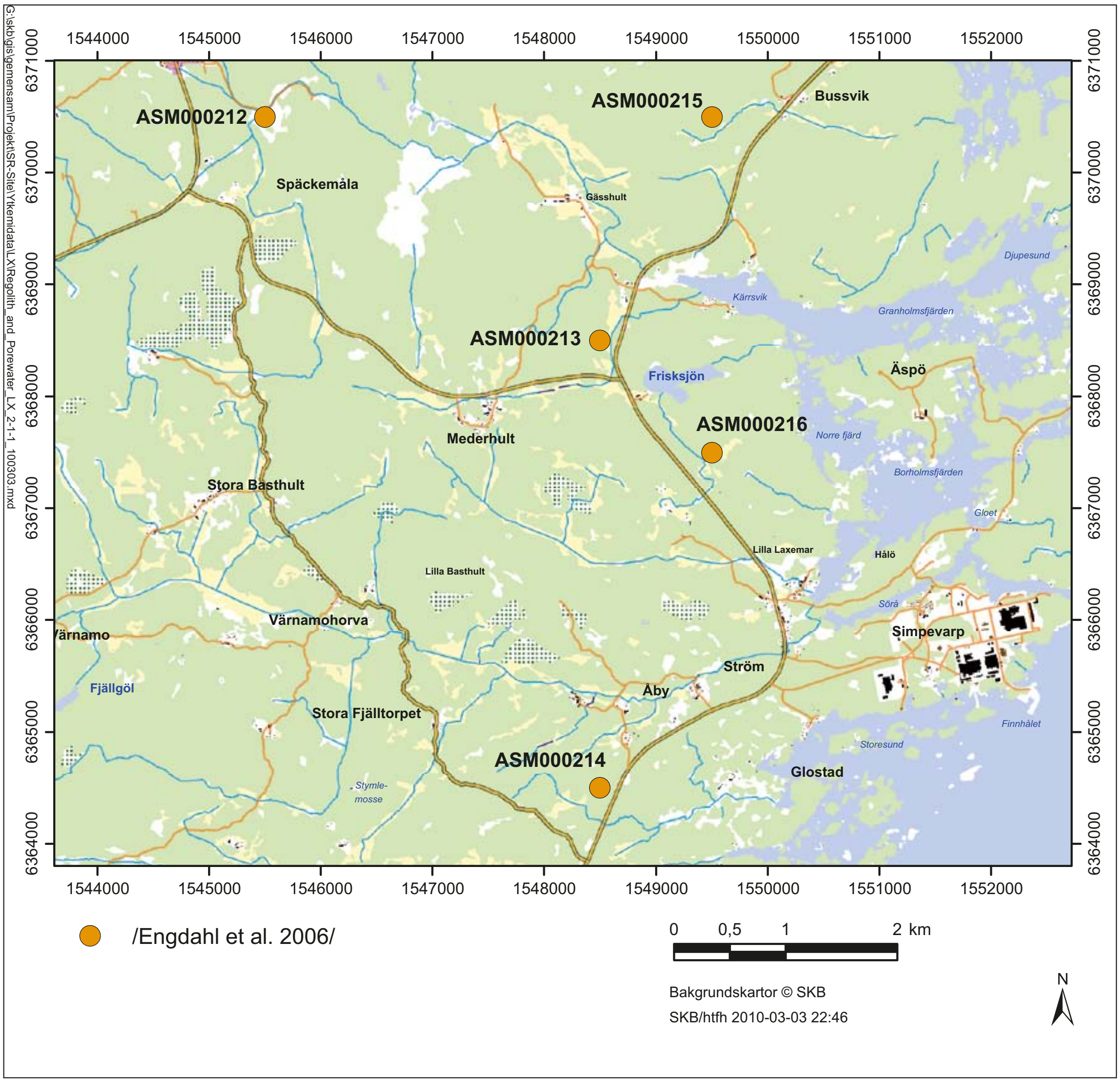

***Figure 2-11.** Location of the sampling sites of terrestrial fauna in the Laxemar-Simpevarp area. Missing in the map is the idcode ASM000005 from which samples were analysed in /Engdahl et al. 2006/ as well as in /Roos et al. 2007/. This idcode represents the regional model area and a more detailed geographical reference is not available.*

Table 2-10. Meta data for the data concerning terrestrial fauna presented in this section. "Activity type" is the code of the specific data table in Sicada. Two types of sample names are presented; "Sample name Sicada" is the name used in the Sicada data base whereas "Sample name new" is the name used in this report. The prefix 'x' indicates that there are several samples of this kind named with different kind of combinations of figures and letters. The column "Report" refers to the SKB report where these data are presented.

Site	Activity type	Activity type description	Sample name Sicada	Sample name new	Species	Sample sub type	Report
F	BI050	Chemical analysis of fauna and flora	räv	V. vulpes	Fox (*Vulpes vulpes*)	Carnivore	/Hannu and Karlsson 2006/
F	BI050	Chemical analysis of fauna and flora	Älg	A. alces	Moose (*Alces alces*)	Large herbivore	/Roos et al. 2007/
F	BI050	Chemical analysis of fauna and flora	älg, kalv	A. alces	Moose (*Alces alces*)	Large herbivore	/Hannu and Karlsson 2006/
F	BI050	Chemical analysis of fauna and flora	älg, ko	A. alces	Moose (*Alces alces*)	Large herbivore	/Hannu and Karlsson 2006/
F	BI050	Chemical analysis of fauna and flora	älg, tjur	A. alces	Moose (*Alces alces*)	Large herbivore	/Hannu and Karlsson 2006/
F	BI050	Chemical analysis of fauna and flora	näbbmus	S. araneus	Shrew (*Sorex araneus*)	Small rodent	/Hannu and Karlsson 2006/
F	BI050	Chemical analysis of fauna and flora	skogsmus	Apodemus sp	Yellow-necked mouse (*Apodemus sp*)	Small rodent	/Hannu and Karlsson 2006/
F	BI050	Chemical analysis of fauna and flora	större skogsmus	A. flavicollis	Yellow-necked mouse (*Apodemus flavicollis*)	Small rodent	/Hannu and Karlsson 2006/
F	BI050	Chemical analysis of fauna and flora	vattensork	A. terrestris	Water vole (*Arvicola terrestris*)	Small rodent	/Hannu and Karlsson 2006/
F	BI050	Chemical analysis of fauna and flora	ängssork	C. glareolus	Bank vole (*Clethrionomys glareolus*)	Small rodent	/Hannu and Karlsson 2006/, /Roos et al. 2007/
L	BI050	Chemical analysis of fauna and flora	räv x	V. vulpes	Fox (*Vulpes vulpes*)	Carnivore	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	rådjur x	C. capreolus	Roe deer (*Capreolus capreolus*)	Large herbivore	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	älg	A. alces	Moose (*Alces alces*)	Large herbivore	/Roos et al. 2007/
L	BI050	Chemical analysis of fauna and flora	älg x	A. alces	Moose (*Alces alces*)	Large herbivore	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	mindre skogsmus x	A. sylvaticus	Wood mouse (*Apodemus sylvaticus*)	Small rodent	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	näbbmus	S. araneus	Shrew (*Sorex araneus*)	Small rodent	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	större skogsmus	A. flavicollis	Yellow-necked mouse (*Apodemus flavicollis*)	Small rodent	/Roos et al. 2007/
L	BI050	Chemical analysis of fauna and flora	ängssork skog x	C. glareolus_ forest	Bank vole (*Clethrionomys glareolus*)	Small rodent	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	ängssork äng x	C. glareolus_ field	Bank vole (*Clethrionomys glareolus*)	Small rodent	/Engdahl et al. 2006/

2.2 Data for limnic ecosystems

In this section various types of data from the limnic system are described. These are composition of limnic sediments, suspended matter, element concentrations of sediment porewater and lake water as well as element contents in biota (plants and animals).

2.2.1 Sediments and porewater

Data of the chemical composition of limnic sediments were collected in a few different campaigns with varying purposes. These studies are summarized below together with references to background reports where methods and other details are presented. The sampling sites in the different studies are shown in Figure 2-12 (Forsmark) and 2-13 (Laxemar-Simpevarp). A summary of the information needed to find the different data sets in the data base Sicada are presented in Table 2-11.

Site specific data for the freshwater sediments and porewater are from /Engdahl et al. 2008/. The aim of this study was to provide data for estimation of site-specific distribution coefficients (K_d, cf. Section 4.1). The authors analysed sediment and porewater from two sediment depth levels; 0–5 and 25–30 cm depth in two lakes in Forsmark and 0–5 and 15–20/20–25 cm in two lakes in the Simpevarp area. A Limnos corer was used when collecting the sediment samples. The samples were filtered in order to separate the dissolved porewater fraction from the solid fraction which were analysed separately (the solid fraction is denoted ‘filtered sediment’ and the dissolved fraction ‘porewater’). The samples were digested using a mixture of nitric/hydrochloric/hydrofluoric acids followed by $LiBO_3$ melting.

Site specific chemistry data for dry limnic sediments were presented in /Hannu and Karlsson 2006/ (Forsmark) and /Engdahl et al. 2006/ (Laxemar-Simpevarp). From Forsmark seven sediment samples from the lake Eckarfjärden were analysed. The two surface samples were sampled using a Limnos corer, whereas the deeper samples (down to app. 4 m) were collected using a Russian corer. From Laxemar-Simpevarp twelve samples (sediment depth 0–4.4 m) from the lake Frisksjön, collected with Russian corer, were analysed. The same digestion procedure was used as in /Engdahl et al. 2008/, see above. These samples reflect the total element contents including the evaporated porewater fraction.

/Strömgren and Brunberg 2006/ analysed the elemental composition of one sediment core sampled in Lake Stocksjön in the Forsmark area. The sediment core was collected with a Livingstone sampler. The upper 50 cm was divided into 5 cm parts whereas the deepest 5 cm layer was divided into two parts. The mineral samples were fused with lithium metaborate and dissolved in dilute nitric acid whereas the samples with high organic content were prepared with nitric acid and hydrogen peroxide. These samples reflect the total element contents including the evaporated porewater fraction.

The content of selected radionuclides in lake sediments were analysed in /Roos et al. 2007/. The authors analysed two pooled surface samples (0–5 cm sediment depth) from one Lake Bolundsfjärden in Forsmark and Lake Frisksjön in Laxemar-Simpevarp. The samples from Forsmark were collected using a Limnos corer whereas the Laxemar-Simpevarp samples were collected with an Ekman grabber.

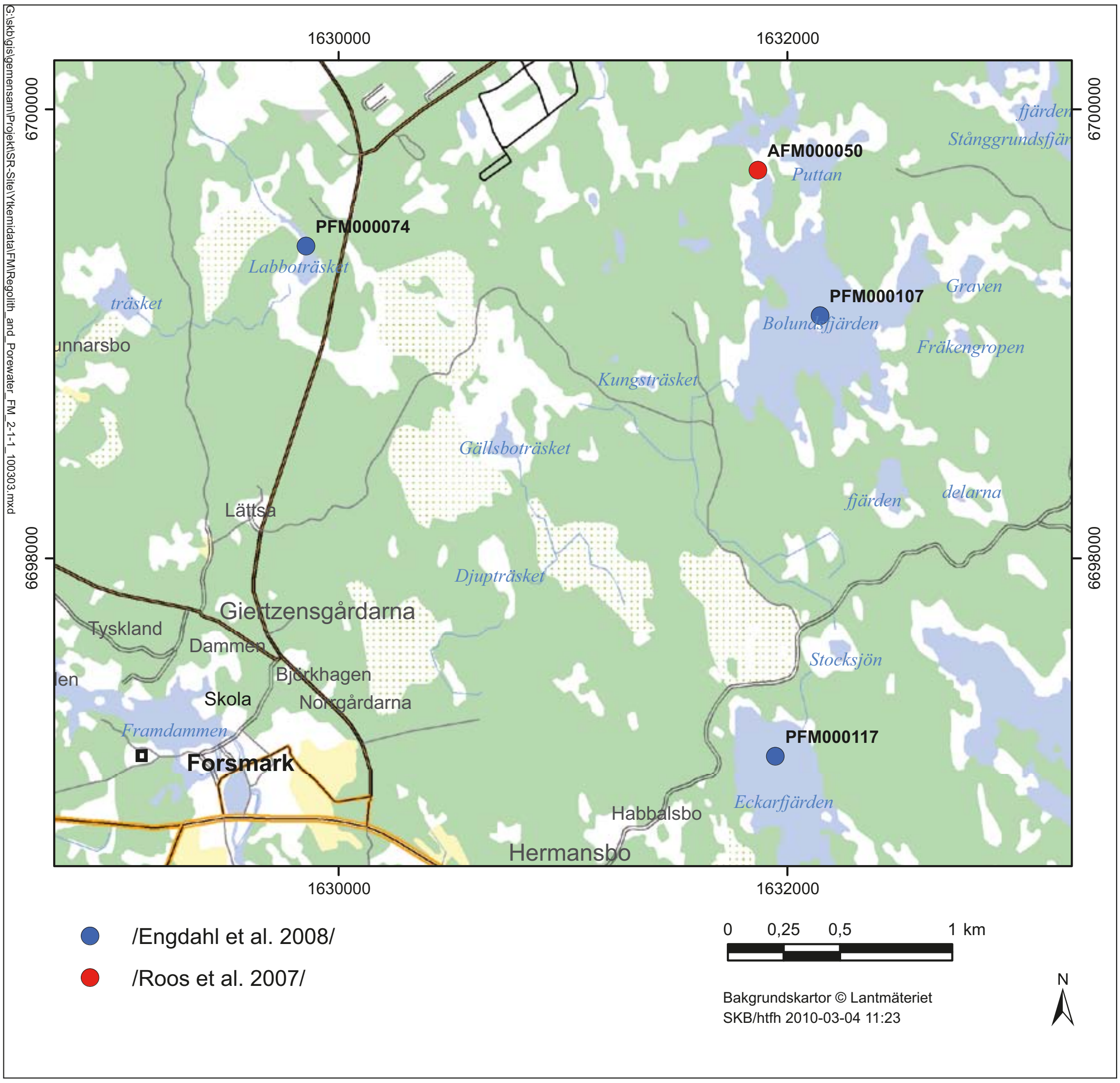

***Figure 2-12.** Location of the sampling sites of limnic sediments and pore water in the Forsmark area. Sites from different studies are displayed in different colours according to the legend of the figure.*

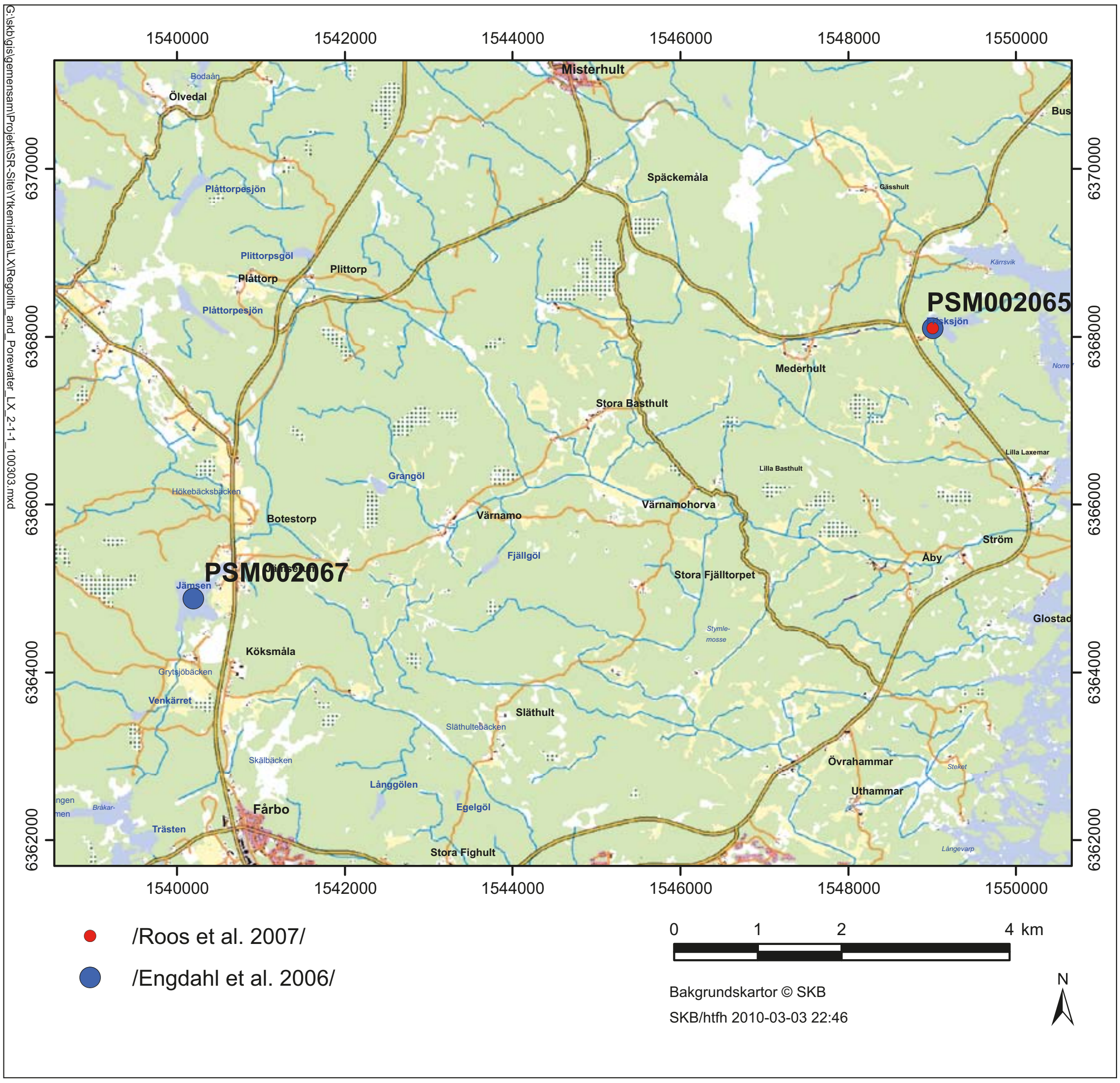

***Figure 2-13.** Location of the sampling sites of limnic sediments and pore water in the Laxemar-Simpevarp area. Sites from different studies are displayed in different colours according to the legend of the figure.*

Table 2-11. Meta data for the data concerning sediment and porewater data from limnic environments presented in this section. "Activity type" is the code of the specific data table in Sicada. Two types of sample names are presented; "Sample name Sicada" is the name used in the Sicada data base whereas "Sample name new" is the name used in this report. The '_x' following the name denotes that samples from different horizontal positions are available and where there is a value it is depth for sediment in m and for porewater in cm. In the column "Sample type" it is stated if the samples are organic (O) or inorganic (I). The figures in the column "Sample digestion" is specified below the table. The column "Report" refers to the SKB report where these data are presented.

Site	Activity type	Activity type description	Sample name Sicada	Sample name new	Sample type	Sample digestion	Report
Limnic sediments							
F	WC500	Sediment sampling - pore water analysis	filtered sediment	filtered sediment_x	O	1	/Engdahl et al. 2008/
F	BI050	Chemical analysis of fauna and flora	Sediment 0–5 cm	sediment _0-0.05	O	–	/Roos et al. 2007/
F	GE526	Organic sediment sampling and analysis	sjösed, alg-gyttja	sediment_ algal gyttja_x	O	1	/Hannu and Karlsson 2006/
F	GE526	Organic sediment sampling and analysis	sjösed, kalkgyttja	sediment_ calc_gyttja_x	O	1	/Hannu and Karlsson 2006/
F	GE526	Organic sediment sampling and analysis	sjösed, lergyttja	sediment_ clay_gyttja_x	O	1	/Hannu and Karlsson 2006/
F	GE526	Organic sediment sampling and analysis	sjösediment	sediment_x	O	1	/Hannu and Karlsson 2006/
F	GE526	Organic sediment sampling and analysis	sjösediment; lera	sediment_ clay_x	I	1	/Hannu and Karlsson 2006/
F	GE512	Sampling, chemical analysis - Qartenary dep	sediment_ STOCK x	sediment_x-x	O/I	2	/Strömgren and Brunberg 2006/
L	WC500	Sediment sampling - pore water analysis	filtered sediment	filtered sediment_x	O	1	/Engdahl et al. 2008/
L	BI050	Chemical analysis of fauna and flora	sediment 0–5 cm	sediment _0-0.05	O	–	/Roos et al. 2007/
L	GE526	Organic sediment sampling and analysis	gyttja 1	sediment_gyttja	O	1	/Engdahl et al. 2006/
L	GE526	Organic sediment sampling and analysis	gyttja 1	sediment_ gyttja_x	O	1	/Engdahl et al. 2006/
L	GE526	Organic sediment sampling and analysis	Lera I	sediment_clay	I	1	/Engdahl et al. 2006/
L	GE526	Organic sediment sampling and analysis	Lera I	sediment_ clay_x	I	1	/Engdahl et al. 2006/
L	GE526	Organic sediment sampling and analysis	Morän I	sediment_till	I	1	/Engdahl et al. 2006/
L	GE526	Organic sediment sampling and analysis	Sand I	sediment_ sand	I	1	/Engdahl et al. 2006/
L	GE526	Organic sediment sampling and analysis	Sand I	sediment_ sand_x	I	1	/Engdahl et al. 2006/
L	GE526	Organic sediment sampling and analysis	Sjösediment	sediment_x	O	1	/Engdahl et al. 2006/
Porewater							
F	WC500	Sediment sampling - pore water analysis	Porewater	Porewater_x			/Engdahl et al. 2008/
L	WC500	Sediment sampling - pore water analysis	Porewater	Porewater_x			/Engdahl et al. 2008/

Explanation to the column "Sample digestion". Digestion media used:
1) mixture of nitric/hydrochloric/hydrofluoric acids followed by $LiBO_3$ melting
2) prepared with lithium metaborate and dissolved in dilute nitric acid
–) analyses of radionuclides, no sample digestion performed

2.2.2 Suspended matter and filtered water

Site specific chemistry data for suspended matter and simultaneously sampled filtered lake water were from /Engdahl et al. 2008/. The study included data for three different lakes in Forsmark (Bolundsfjärden, Eckarfjärden and Labboträsket) and Simpevarp (Frisksjön, Götemar and Jämsen) respectively. The water was sampled with a metal free Ruttner sampler and filtered using 142 mm diameter cellulose membrane filters with 0.22 µm pore size. The filters were digested using a mixture of hydrofluoric and nitric acids.

Data concerning filtered lake water were also available from the surface water monitoring at both sites. Evaluations of the surface water data were presented in /Tröjbom and Söderbäck 2006a, Sonesten 2005/. Filtered water from lakes and streams was sampled with different frequency at both sites. The sampling programme was more extensive the first years of the site investigation and was reduced after the evaluation of the first years. Median values of available lake and stream water data from each site were used to get representative values for average conditions in the limnic ecosystem (only surface water samples with Cl < 200mg/L were included in order to discriminate samples influenced by sea water intrusions).

The content of Ra-226 in lake and stream water was presented in /Grolander and Roos 2009/. Filtered water from three lakes (Bolundsfjärden, Eckarfjärden and Gällsboträsket) and one stream (Kungsträsket) in the Forsmark area was analysed. The lake water samples were taken from a boat using water cans which had first been rinsed with distilled water and then also with water from the sampling site. The stream water was sampled from the side of the stream with the same kind of vessels as the lake water.

The sampling sites in the different studies are shown in Figure 2-14 (Forsmark) and 2-15 (Laxemar-Simpevarp). A summary of the information needed to find the different data sets in the data base Sicada are presented in Table 2-12.

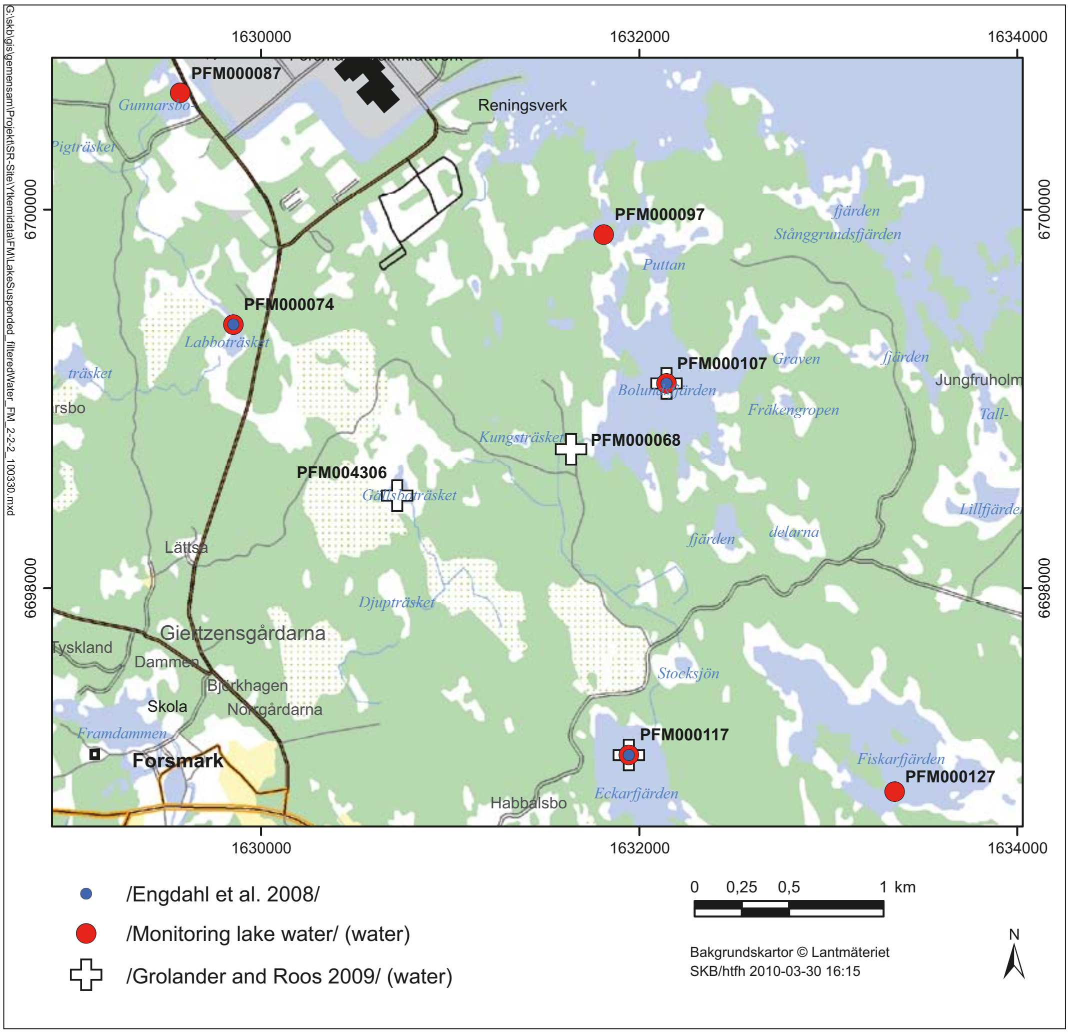

***Figure 2-14.** Location of the sampling sites of filtered water and suspended matter in limnic environments in the Forsmark area. Sites from different studies are displayed with different symbols according to the legend of the figure.*

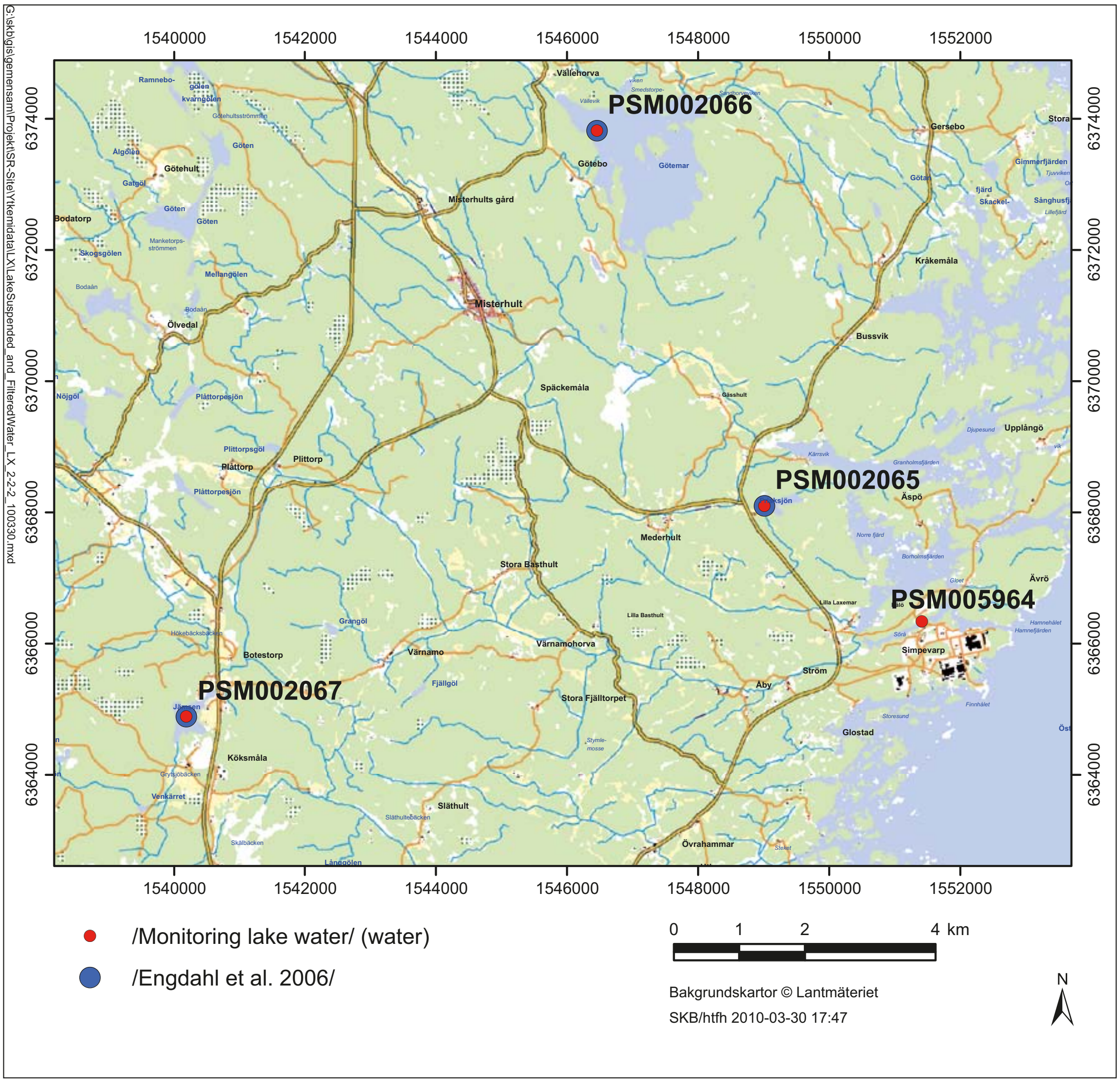

Figure 2-15. Location of the sampling sites of filtered water and suspended matter in limnic environments in the Laxemar-Simpevarp area. Sites from different studies are displayed in different colours according to the legend of the figure.

Table 2-12. Meta data for the data concerning suspended matter and filtered water from limnic environments presented in this section. "Activity type" is the code of the specific data table in Sicada. The data from the monitoring programme are median values for time series and can not be directly found in Sicada. These data are marked with '*' in the activity type columns. Two types of sample names are presented; "Sample name Sicada" is the name used in the Sicada data base whereas "Sample name new" is the name used in this report. The figures in the column "Sample digestion" is specified below the table. The column "Report" refers to the SKB report where these data are presented.

Site	Activity type	Activity type description	Sample name Sicada	Sample name new	Sample digestion	Report
Suspended matter						
F	WC400	Water sampling-analysis of suspended material	suspenderat material	suspended matter	1	/Engdahl et al. 2008/
L	WC400	Water sampling-analysis of suspended material	suspenderat material	suspended matter	1	/Engdahl et al. 2008/
Filtered water						
F	WC400	Water sampling-analysis of suspended material	filtered water	filtered water		/Engdahl et al. 2008/
F	WC085/ WC105/ WC107*	Surface water sampling, class 3/ Surface water sampling, class 5/ Surface water measurements*	Lake Water	Lake		/Sonesten 2005/
F	WC085/ WC105/ WC107*	Surface water sampling, class 3/ Surface water sampling, class 5/ Surface water measurements*	Stream Water	Stream		/Sonesten 2005/
F	WC105	Surface water sampling, class 5	Lake water	Lake		/Grolander and Roos 2009/
L	WC400	Water sampling-analysis of suspended material	filtered water	filtered water		/Engdahl et al. 2008/
L	WC085/ WC105/ WC107*	Surface water sampling, class 3/ Surface water sampling, class 5/ Surface water measurements*	Lake Water	Lake		/Tröjbom and Söderbäck 2006a/
L	WC085/ WC105/ WC107*	Surface water sampling, class 3/ Surface water sampling, class 5/ Surface water measurements*	Stream Water	Stream		/Tröjbom and Söderbäck 2006a/

Explanation to the column "Sample digestion". Digestion media used: 1) mixture of hydrofluoric and nitric acids

2.2.3 Primary producers

Data concerning the chemical composition of limnic primary producers were from /Hannu and Karlsson 2006/ (Forsmark) and /Engdahl et al. 2006/ (Laxemar-Simpevarp). The samples from Forsmark (4 samples from the lakes Bolundsfjärden and Fiskarfjärden) contained *Chara tomentosa* which is the dominating primary producer in the Forsmark lakes /Andersson 2010/. The samples were collected by hand. The samples from Laxemar-Simpevarp were two species (*Phragmites australis* and *Nymphaeaceae sp*.) from three locations in the same lake (Frisksjön). Plants were collected by hand or with a plastic rake.

The content of selected radionuclides in lake primary producers were analysed in /Roos et al. 2007/. The samples analysed were microphytobenthos (algal mat), *Chara sp*. and *Phragmites australis* from Bolundsfjärden in Forsmark and *Phragmites australis* and Nymphaeaceae (leaf) from Frisksjön in Laxemar-Simpevarp. The microphytobenthos were sampled using a Limnos corer whereas the other samples were collected by hand.

Data concerning the content of Ra-226 in lake water plants were available in /Grolander and Roos 2009/. The limnic vegetation samples (containing *Chara sp.*) were collected in two different lakes in the Forsmark area (Eckarfjärden and Bolundsfjärden) from a boat using a rake. Before the samples were placed in a plastic bag the samples were rinsed in the lake water.

The sampling sites in the different studies are shown in Figure 2-16 (Forsmark) and 2-17 (Laxemar-Simpevarp). A summary of the information needed to find the different data sets in the data base Sicada are presented in Table 2-13.

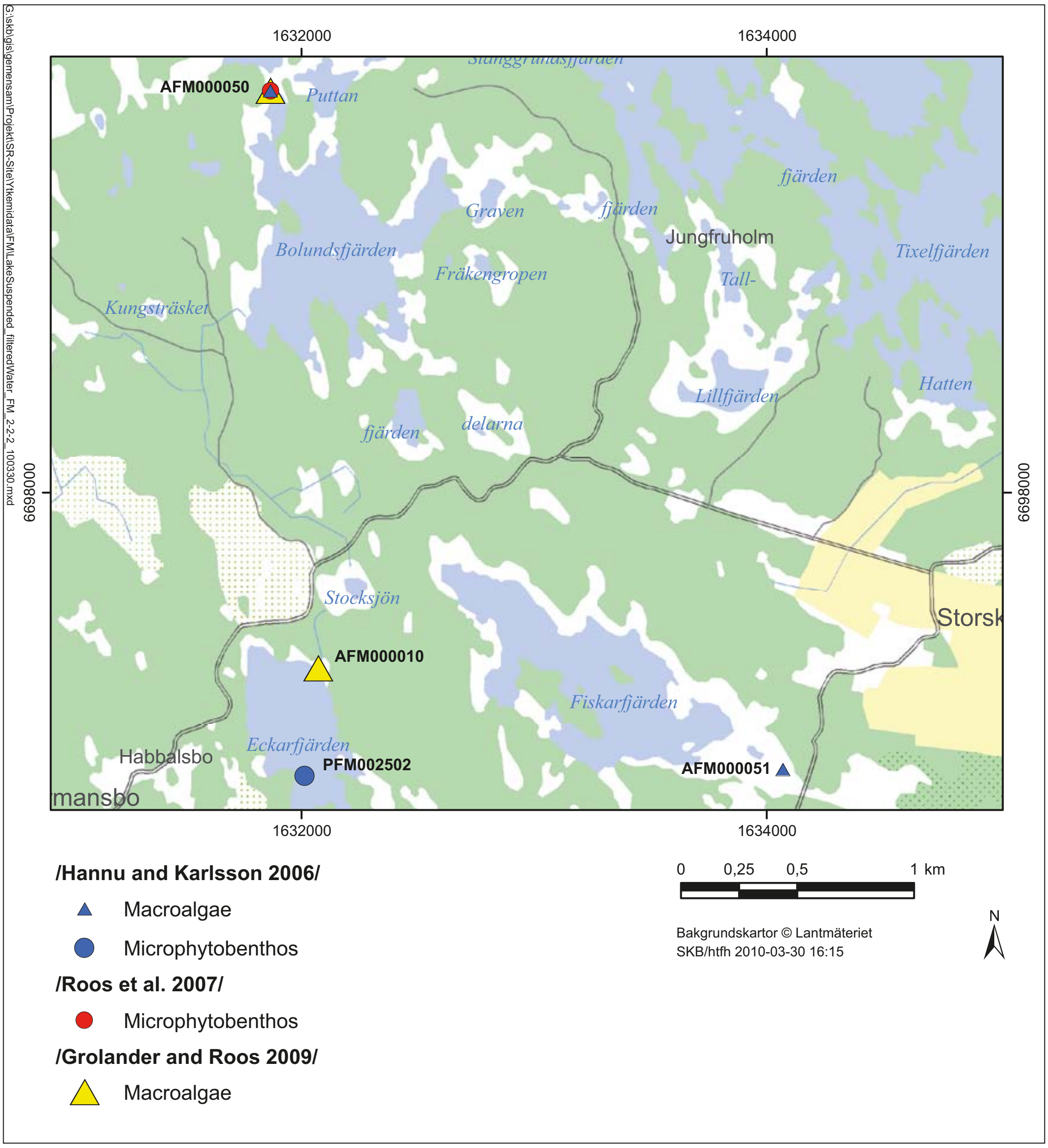

Figure 2-16. *Location of the sampling sites of limnic primary producers in the Forsmark area. Sites from different studies are displayed with different symbols according to the legend of the figure. The idcodes denoted "AFM0000XX" were given to samples representing the whole lake (often bulk samples from different parts of the lake) and were not sampled in the exact point shown on the map. The symbols instead mark the outflow from each of these lakes.*

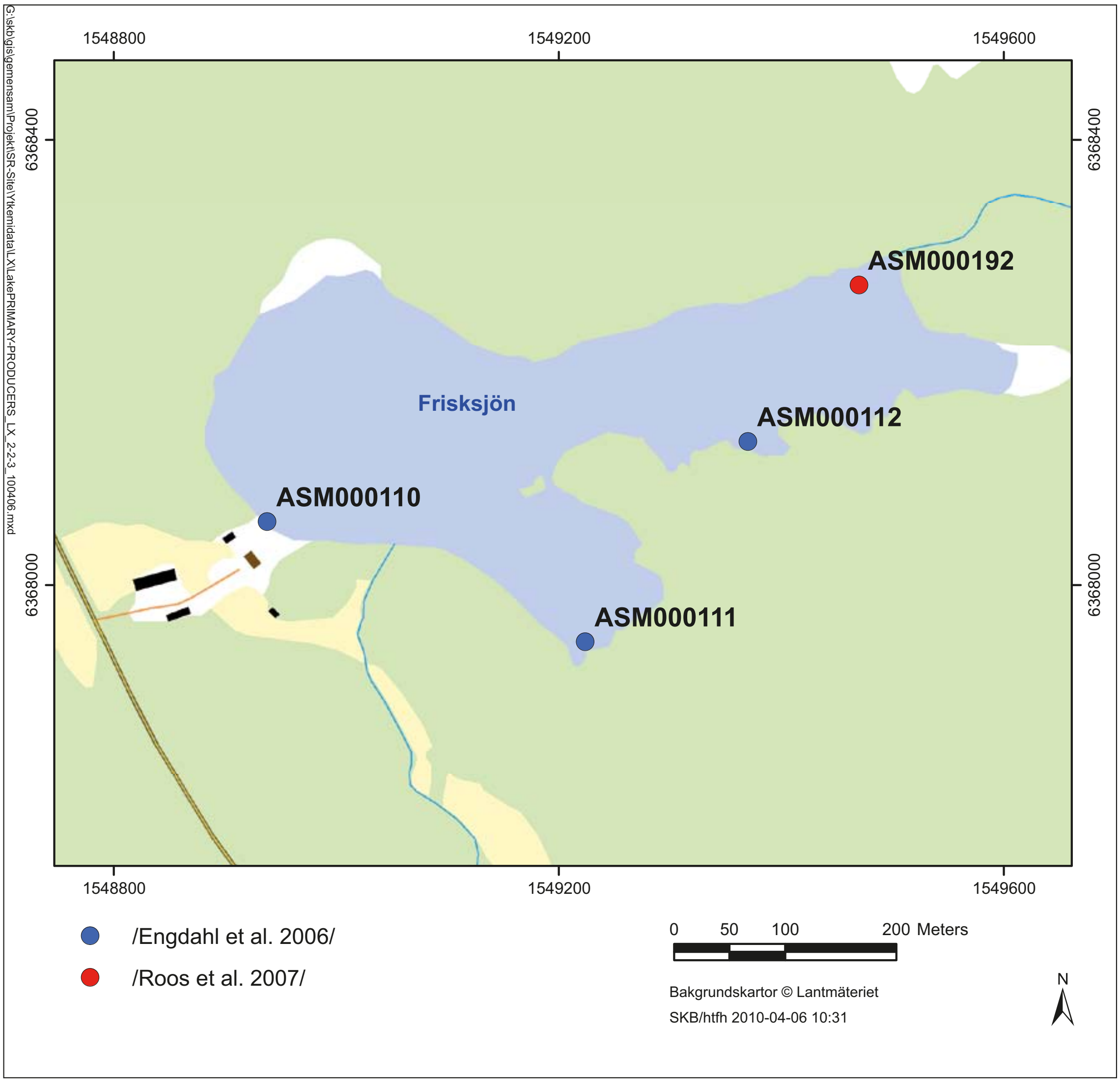

***Figure 2-17.** Location of the sampling sites of limnic primary producers in the Laxemar-Simpevarp area. Sites from different studies are displayed in different colours according to the legend of the figure.*

]

Table 2-13. Meta data for the data concerning limnic primary producers presented in this section. "Activity type" is the code of the specific data table in Sicada. Two types of sample names are presented; "Sample name Sicada" is the name used in the Sicada data base whereas "sample name new" is the name used in this report. The column "Report" refers to the SKB report where these data are presented.

Site	Activity type	Activity type description	Sample name Sicada	Sample name new	Species	Sub sample type	Report
F	BI050	Chemical analysis of fauna and flora	Algmatta 0–5 cm	microphytobenthos		microphytobenthos	/Roos et al. 2007/
F	BI050	Chemical analysis of fauna and flora	Chara	Chara	(*Chara tomentosa*)	macroalgae	/Roos et al. 2007/
F	BI050	Chemical analysis of fauna and flora	kransalger, sjö	Chara	Stonewarts (*Chara sp*)	macroalgae	/Hannu and Karlsson 2006/
F	BI050	Chemical analysis of fauna and flora	Vass	reed	Reed (*Phragmites australis*)	macrophyte	/Roos et al. 2007/
F	GE526	Organic sediment sampling and analysis	algmatta, sjö	microphytobenthos		microphytobenthos	/Hannu and Karlsson 2006/
F	BI050	Chemical analysis of fauna and flora	Chara sp.	Chara	Stonewarts (*Chara sp*)	macroalgae	/Grolander and Roos 2009/
L	BI050	Chemical analysis of fauna and flora	Näckros	Nymphaeaceae sp	Water lily (*Nymphaeaceae sp*)	macrophyte	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	näckros blad	Nymphaeaceae sp_leaf	Water lily (*Nymphaeaceae sp*)	macrophyte	/Roos et al. 2007/
L	BI050	Chemical analysis of fauna and flora	Näckros rot	Nymphaeaceae sp_root	Water lily (*Nymphaeaceae sp*)	macrophyte, root	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	Vass	P. australis	Reed (*Phragmites australis*)	macrophyte	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	vass ovanveg	P. australis_above sediment	Reed (*Phragmites australis*)	Macrophyte	/Roos et al. 2007/
L	BI050	Chemical analysis of fauna and flora	Vass rhizom	P. australis_rhizom	Reed (*Phragmites australis*)	macrophyte, root	/Engdahl et al. 2006/

2.2.4 Filter feeders

The chemical composition of limnic filter feeders were from /Hannu and Karlsson 2006/ (Forsmark) and /Engdahl et al. 2006/ (Laxemar-Simpevarp). The species analysed were *Anodonta sp* from Bolundsfjärden in Forsmark and *Anodonta anatine* from Frisksjön in Laxemar-Simpevarp. In both cases the mussel shell was removed and the muscle was analysed.

The content of selected radionuclides in lake filter feeders were analysed in /Roos et al. 2007/. The samples analysed contained *Anodonta sp* from one lake in Forsmark and *Anodonta anatima* from one lake in Laxemar-Simpevarp. The mussel muscles were prepared and analysed.

The sampling sites in the different studies are shown in Figure 2-18 (Forsmark) and 2-19 (Laxemar-Simpevarp). A summary of the information needed to find the different data sets in the data base Sicada are presented in Table 2-14.

Table 2-14. Meta data for the data concerning limnic filter feeders presented in this section. "Activity type" is the code of the specific data table in Sicada. Two types of sample names are presented; "Sample name Sicada" is the name used in the Sicada data base whereas "Sample name new" is the name used in this report. The column "Report" refers to the SKB report where these data are presented.

Site	Activity type	Activity type description	Sample name Sicada	Sample name new	Species	Report
F	BI050	Chemical analysis of fauna and flora	dammussla	Anodonta	(*Anodonta sp*)	/Hannu and Karlsson 2006/, /Roos et al. 2007/
L	BI050	Chemical analysis of fauna and flora	anodonta muskel	Anodonta muscle	Duck mussel (*Anodonta anatina*)	/Roos et al. 2007/
L	BI050	Chemical analysis of fauna and flora	Dammussla	Anodonta	Duck mussel (*Anodonta anatina*)	/Engdahl et al. 2006/

2.2.5 Fish

Site specific data for limnic fish were from /Hannu and Karlsson 2006/ (Forsmark) and /Engdahl et al. 2006/ (Laxemar-Simpevarp). The species analysed were *Gymnocephalus cernuus*, *Tinca tinca*, *Esox lucius* and *Rutilus rutilus* from three lakes in the Forsmark area (Bolundsfjärden, Eckarfjärden and Fiskarfjärden) and *Rutilus rutilus* and *Perca fluviatilis* from one lake in Laxemar-Simpevarp (Frisksjön). The fish were caught in gill nets and the back muscles (fillets) were analysed.

The content of selected radionuclides in lake fish were analysed in /Roos et al. 2007/. The samples analysed contained *Rutilus rutilus* and *Perca fluviatilis* from Bolundsfjärden in Forsmark and planctivorous and piscivorous perch from Frisksjön in Laxemar-Simpevarp. The fish were caught in gill nets and muscles were prepared and analysed.

The sampling sites in the different studies are shown in Figure 2-18 (Forsmark) and 2-19 (Laxemar-Simpevarp). A summary of the information needed to find the different data sets in the data base Sicada are presented in Table 2-15.

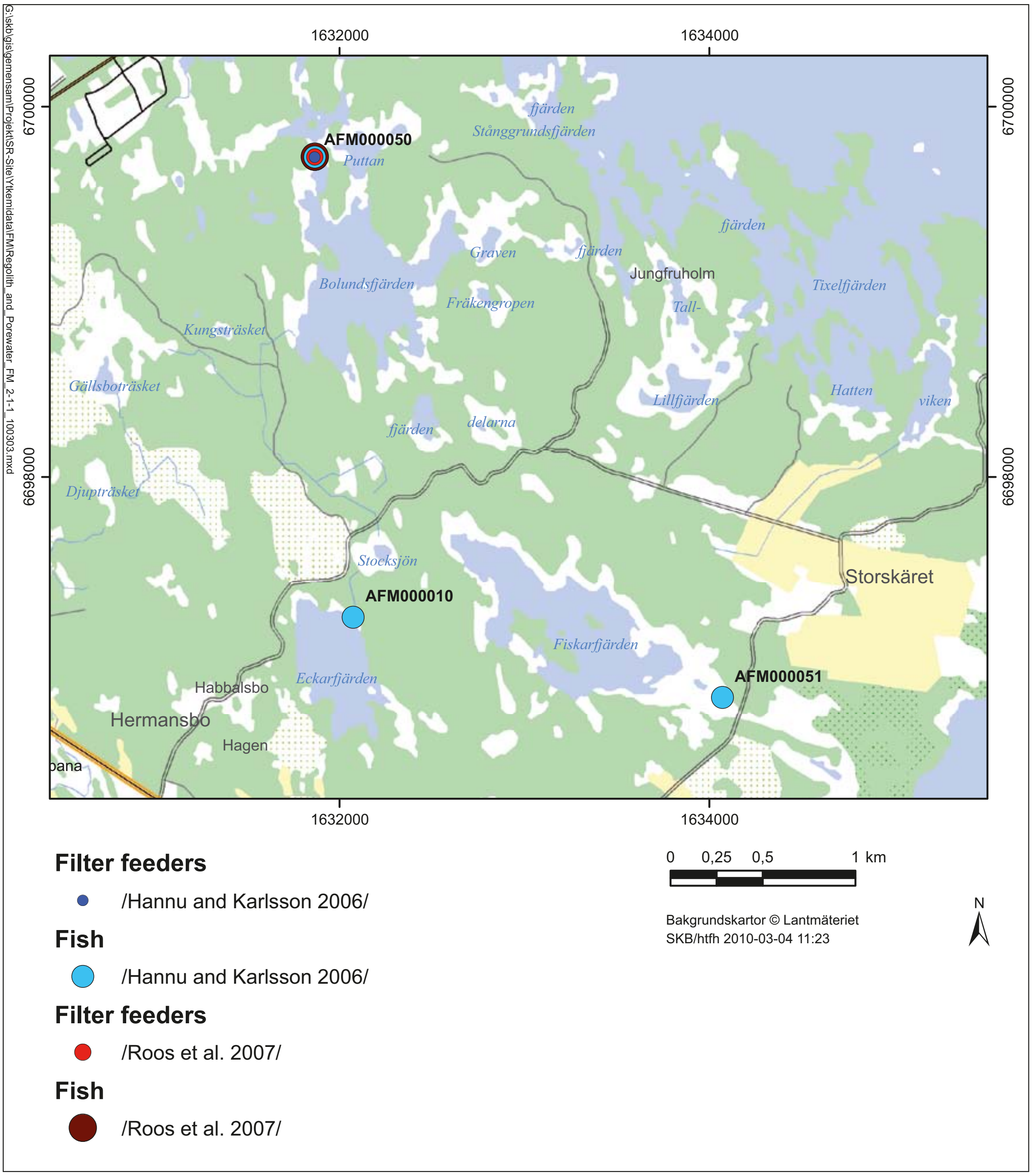

Figure 2-18. *Location of the sampling sites of limnic fauna in the Forsmark area. Sites from different studies as well as samples of different biota types are displayed in different colours according to the legend of the figure. The samples were assumed to represent the whole lake and were not sampled in the exact point shown on the map. The symbols instead mark the outflow from each of these lakes.*

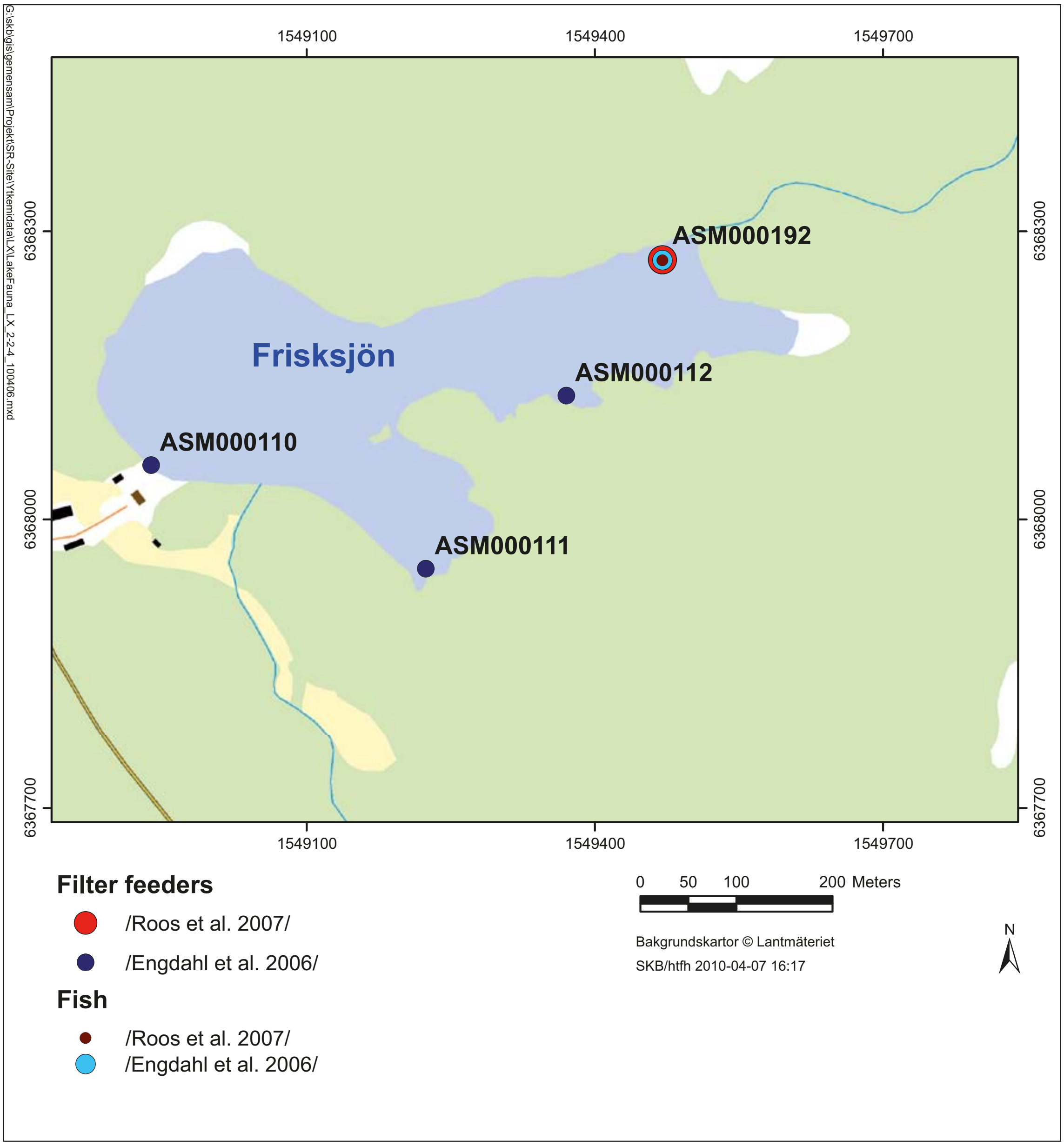

Figure 2-19. *Location of the sampling sites of limnic fauna in the Laxemar-Simpevarp area. Sites from different studies as well as samples of different biota types are displayed in different colours according to the legend of the figure.*

Table 2-15. Meta data for the data concerning limnic fish presented in this section. “Activity type” is the code of the specific data table in Sicada. Two types of sample names are presented; “Sample name Sicada” is the name used in the Sicada data base whereas “Sample name new” is the name used in this report. The column “Report” refers to the SKB report where these data are presented.

Site	Activity type	Activity type description	Sample name Sicada	Sample name new	Species	Report
F	BI050	Chemical analysis of fauna and flora	gädda	E. lucius	Pike (*Esox lucius*)	/Hannu and Karlsson 2006/, /Roos et al. 2007/
F	BI050	Chemical analysis of fauna and flora	gärs	G. cernuus	Ruffe (*Gymnocephalus cernuus*)	/Hannu and Karlsson 2006/
F	BI050	Chemical analysis of fauna and flora	mört	R. rutilus	Roach (*Rutilus rutilus*)	/Hannu and Karlsson 2006/, /Roos et al. 2007/
F	BI050	Chemical analysis of fauna and flora	sutare	R. rutilus	Tench (*Tinca tinca*)	/Hannu and Karlsson 2006/
L	BI050	Chemical analysis of fauna and flora	Abborre 1	P. fluviatilis	Perch (*Perca fluviatilis*)	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	Abborre 2	P. fluviatilis	Perch (*Perca fluviatilis*)	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	Abborre 3	P. fluviatilis	Perch (*Perca fluviatilis*)	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	abborre piscivor	P. fluviatilis_ piscivore	Perch (*Perca fluviatilis*)	/Roos et al. 2007/
L	BI050	Chemical analysis of fauna and flora	abborre planktivor	P. fluviatilis_ planktivore	Perch (*Perca fluviatilis*)	/Roos et al. 2007/
L	BI050	Chemical analysis of fauna and flora	Mört 1	R. rutilus	Roach (*Rutilus rutilus*)	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	Mört 2	R. rutilus	Roach (*Rutilus rutilus*)	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	Mört 3	R. rutilus	Roach (*Rutilus rutilus*)	/Engdahl et al. 2006/

2.3 Data for marine ecosystems

2.3.1 Sediments and porewater

Site specific data for the marine sediments were from /Engdahl et al. 2008/. The authors have analysed sediment and porewater from two sediment depth levels (0–5 and 20–25 cm depth) in one marine site at Forsmark (Tixlan), and in two marine sites in Simpevarp (Granholmsfjärden and Kråkelund, 0–5 and 25–30 cm sediment depths). A Limnos corer was used. The sediment samples were filtered in order to separate the porewater which was analysed separately. The sediment solid samples were digested using a mixture of nitric/hydrochloric/hydrofluoric acids followed by $LiBO_3$ melting.

/Kumblad and Bradshaw 2008/ analysed sediment and porewater from two sediment depth levels (0–3 and 3–6 cm depth, 3 and 1 replicates respectively) in one sea bay in Forsmark (“Outside Tixlorna”). The overall aim of the study was to contribute to the understanding of ecological properties and processes that govern uptake and transfer of elements in coastal environments of the Baltic Sea. The equipment used was Kajak corers operated by divers. The sediment samples were centrifugated in order to separate the porewater which was analysed separately. A combination of HNO_3 andH_2O_2 was used for digesting the sediment solid samples before analyses.

The content of selected radionuclides in marine sediments were analysed in /Roos et al. 2007/. The authors analysed one surface sample (0–3 cm sediment depth) from a bay in Forsmark (“Outside Tixlorna”) collected during the study by /Kumblad and Bradshaw 2008/ (see above) and one pooled surface sample (0–5 cm sediment depth) from one sea bay in Laxemar-Simpevarp (Borholmsfjärden). The samples from Forsmark were collected using a Kajak corer whereas the Laxemar-Simpevarp samples were collected with an Ekman grabber.

The sampling sites in the different studies are shown in Figure 2-20 (Forsmark) and 2-21 (Laxemar-Simpevarp). A summary of the information needed to find the different data sets in the data base Sicada are presented in Table 2-16.

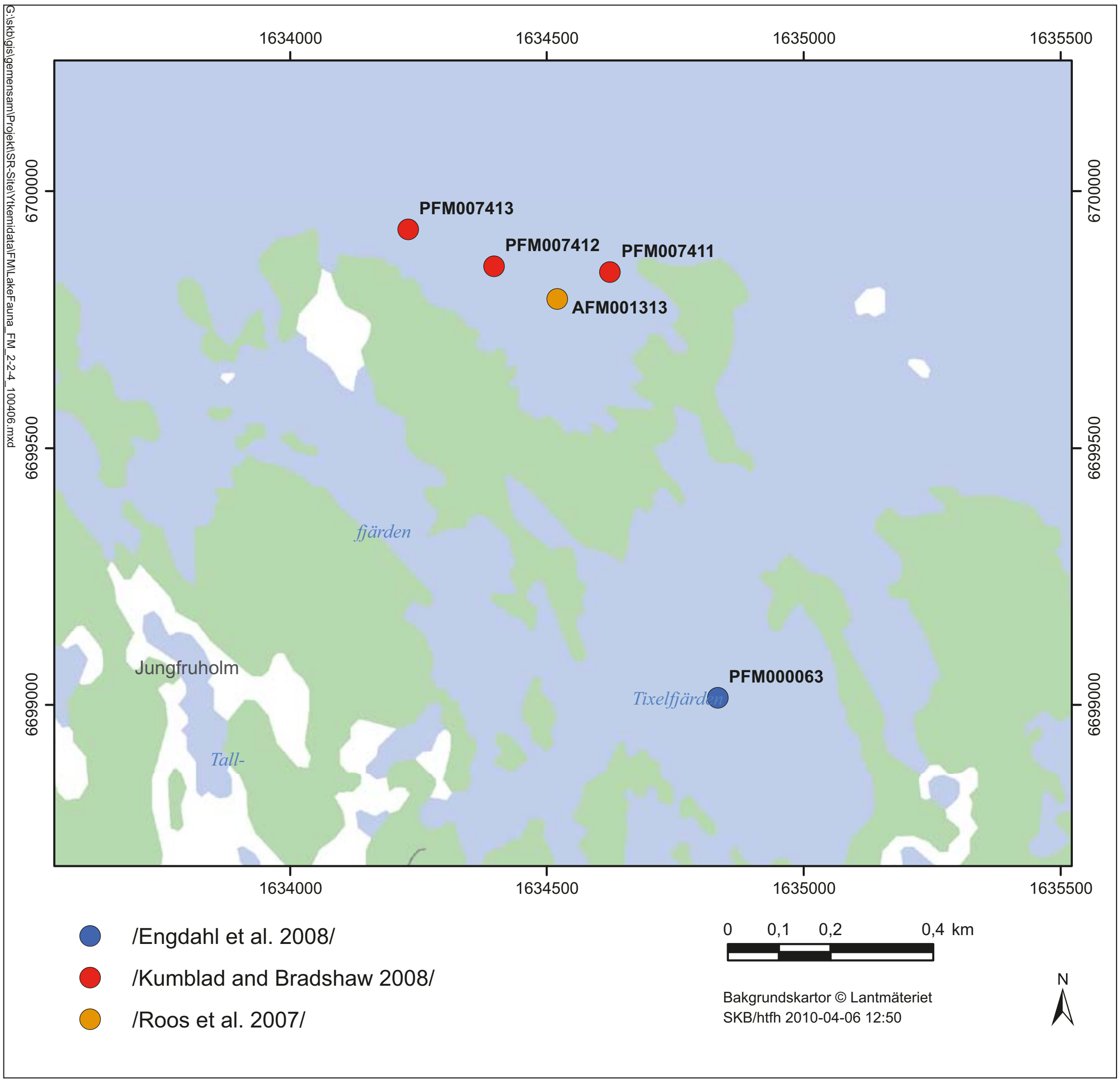

Figure 2-20. *Location of the sampling sites of marine sediment and porewater samples in the Forsmark area. Sites from different studies are displayed in different colours according to the legend of the figure.*

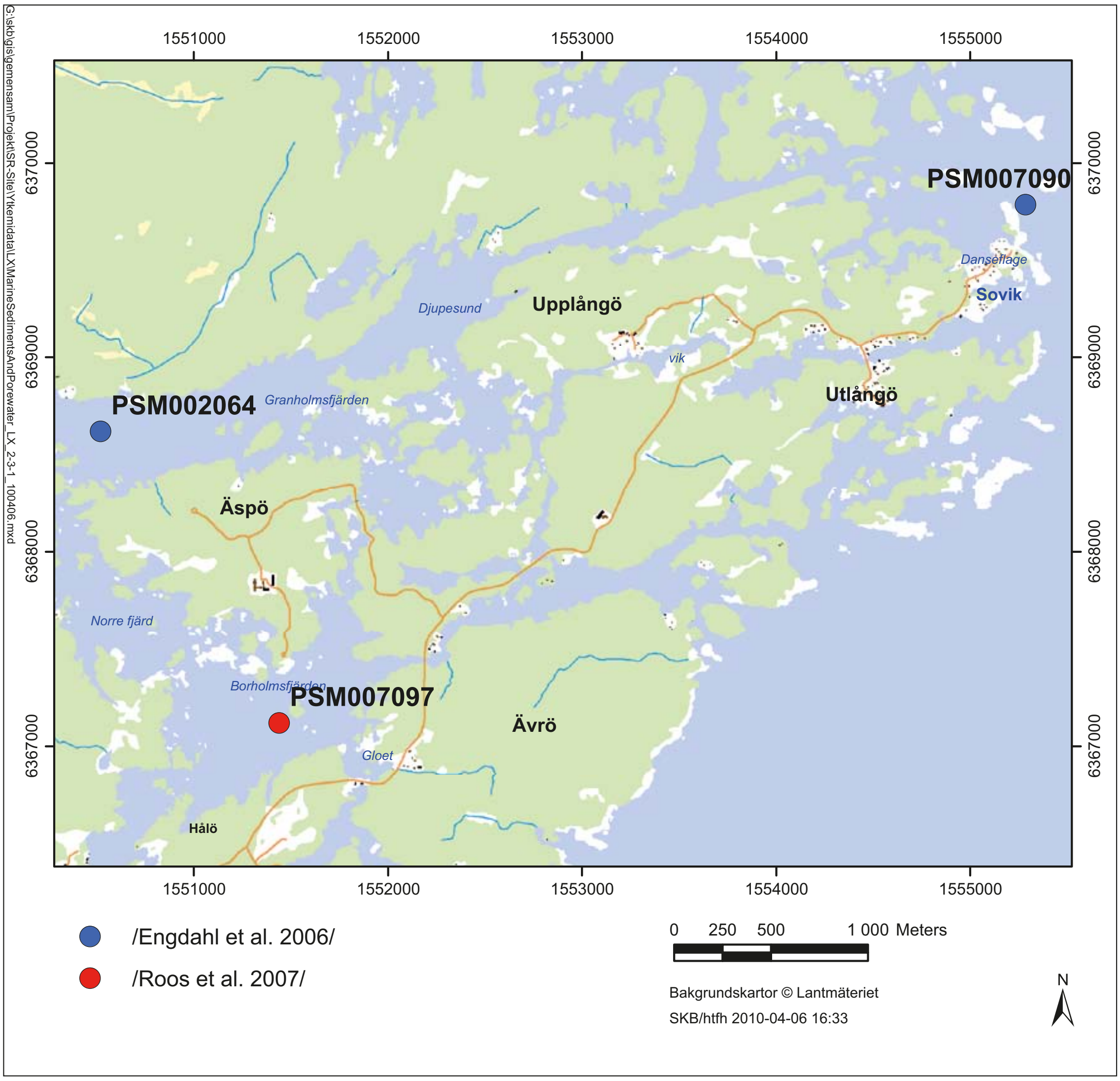

***Figure 2-21.** Location of the sampling sites of marine sediment and porewater samples in the Laxemar-Simpevarp area. Sites from different studies are displayed in different colours according to the legend of the figure.*

Table 2-16. Meta data for the data concerning sediment and pore water from marine environments presented in this section. "Activity type" is the code of the specific data table in Sicada. Two types of sample names are presented; "Sample name Sicada" is the name used in the Sicada data base whereas "Sample name new" is the name used in this report. The '_x' after the name denotes that samples from different horizontal positions are available, and when given the value is the upper sample level, for sediment in m and for porewater in cm. In the column "Sample type" it is stated if the samples are organic (O) or inorganic (I). The figures in the column "Sample digestion" is specified below the table. The column "Report" refers to the SKB report where these data are presented.

Site	Activity type	Activity type description	Sample name Sicada	Sample name new	Sample type	Sample digestion	Report
Marine sediments							
F	WC500	Sediment sampling - pore water analysis	filtered sediment	filtered sediment_x	O	1	/Engdahl et al. 2008/
F	BI050	Chemical analysis of fauna and flora	Sediment 0–3 cm	Sediment 0–3 cm	O	–	/Roos et al. 2007/
F	GE526	Organic sediment sampling and analysis	havssed; lera	sediment_clay_x	I	1	/Hannu and Karlsson 2006/
F	GE526	Organic sediment sampling and analysis	havssed; sand/grus	sediment_sand_gravel_2.24	I	1	/Hannu and Karlsson 2006/
F	GE526	Organic sediment sampling and analysis	havssediment	sediment_x	O/I	1	/Hannu and Karlsson 2006/
F	GE526	Organic sediment sampling and analysis	SED031	sediment_0–0.03	I	2	/Kumblad and Bradshaw 2008/
F	GE526	Organic sediment sampling and analysis	SED032	sediment_0–0.03	I	2	/Kumblad and Bradshaw 2008/
F	GE526	Organic sediment sampling and analysis	SED033	sediment_0–0.03	I	2	/Kumblad and Bradshaw 2008/
F	GE526	Organic sediment sampling and analysis	SED361	sediment_0.03–0.06	I	2	/Kumblad and Bradshaw 2008/
F	GE526	Organic sediment sampling and analysis	SED362	sediment_0.03–0.06	I	2	/Kumblad and Bradshaw 2008/
F	GE526	Organic sediment sampling and analysis	SED363	sediment_0.03–0.06	I	2	/Kumblad and Bradshaw 2008/
L	WC500	Sediment sampling - pore water analysis	filtered sediment	filtered sediment_x	O	1	/Engdahl et al. 2008/
L	BI050	Chemical analysis of fauna and flora	sediment 0–5 cm	Sediment 0–5 cm	O	–	/Roos et al. 2007/
L	GE526	Organic sediment sampling and analysis	Havssediment	sediment_x	O	1	/Engdahl et al. 2006/
Porewater							
F	WC210	Sediment pore water - SYSTEMEKOLOGEN	PoreW_PV031	Porewater_0			/Kumblad and Bradshaw 2008/
F	WC210	Sediment pore water - SYSTEMEKOLOGEN	PoreW_PV032	Porewater_0			/Kumblad and Bradshaw 2008/
F	WC210	Sediment pore water - SYSTEMEKOLOGEN	PoreW_PV033	Porewater_0			/Kumblad and Bradshaw 2008/
F	WC210	Sediment pore water - SYSTEMEKOLOGEN	PoreW_PV361	Porewater_0.03			/Kumblad and Bradshaw 2008/
F	WC500	Sediment sampling - pore water analysis	Porewater	Porewater_x			/Engdahl et al. 2008/
L	WC500	Sediment sampling - pore water analysis	Porewater	Porewater_x			/Engdahl et al. 2008/

Explanation to the column "Sample digestion". Digestion media used:
1) mixture of nitric/hydrochloric/hydrofluoric acids followed by $LiBO_3$ melting
2) mixture of HNO_3 and H_2O_2
–) analyses of radionuclides, no sample digestion performed

2.3.2 Suspended matter and filtered water

Site specific chemistry data for suspended matter and filtered sea water were from /Engdahl et al. 2008/. The study includes data for three marine sites in Forsmark (Asphällsfjärden, Outside Tixlorna and Grepen) and Simpevarp (Borholmsfjärden, Granholmsfjärden and Kråkelund) respectively. The water was sampled with a metal free Ruttner sampler and filtered using 142 mm diameter cellulose membrane filters with 0.22 µm pore size. The suspended matter was digested using a mixture of hydrofluoric and nitric acids.

Suspended matter and filtered water was also analysed in /Kumblad and Bradshaw 2008/. The authors analysed samples from one sea bay in Forsmark (Outside Tixlorna). The water samples were collected using a metal-free pump. The water was filtered through pre-soaked disposable filters (45 µm) in order to separate water and suspended matter. The suspended matter was digested using a mixture of HNO_3 and H_2O_2.

Data concerning filtered sea water were also available from the surface water monitoring at both sites. Evaluations of the surface water data were presented in /Tröjbom and Söderbäck 2006a, Sonesten 2005/. Filtered water from marine sampling points was sampled with different frequency at both sites. Generally speaking, the sampling programmes were more extensive in the beginning and reduced after the evaluation of the first years. Median values of available sea water samples from each site were used to get representative values for average conditions in the marine ecosystem (only surface water samples with Cl>2,000 mg/L were included in order to exclude samples influenced by fresh surface water).

The content of Ra-226 in sea water was presented in /Grolander and Roos 2009/. Filtered water from one marine site in the Forsmark area was analysed. The water sample was taken from a boat using water cans which were rinsed first with distilled water and then also with water from the sampling site.

The sampling sites in the different studies are shown in Figure 2-22 (Forsmark) and 2-23 (Laxemar-Simpevarp). A summary of the information needed to find the different data sets in the data base Sicada are presented in Table 2-17.

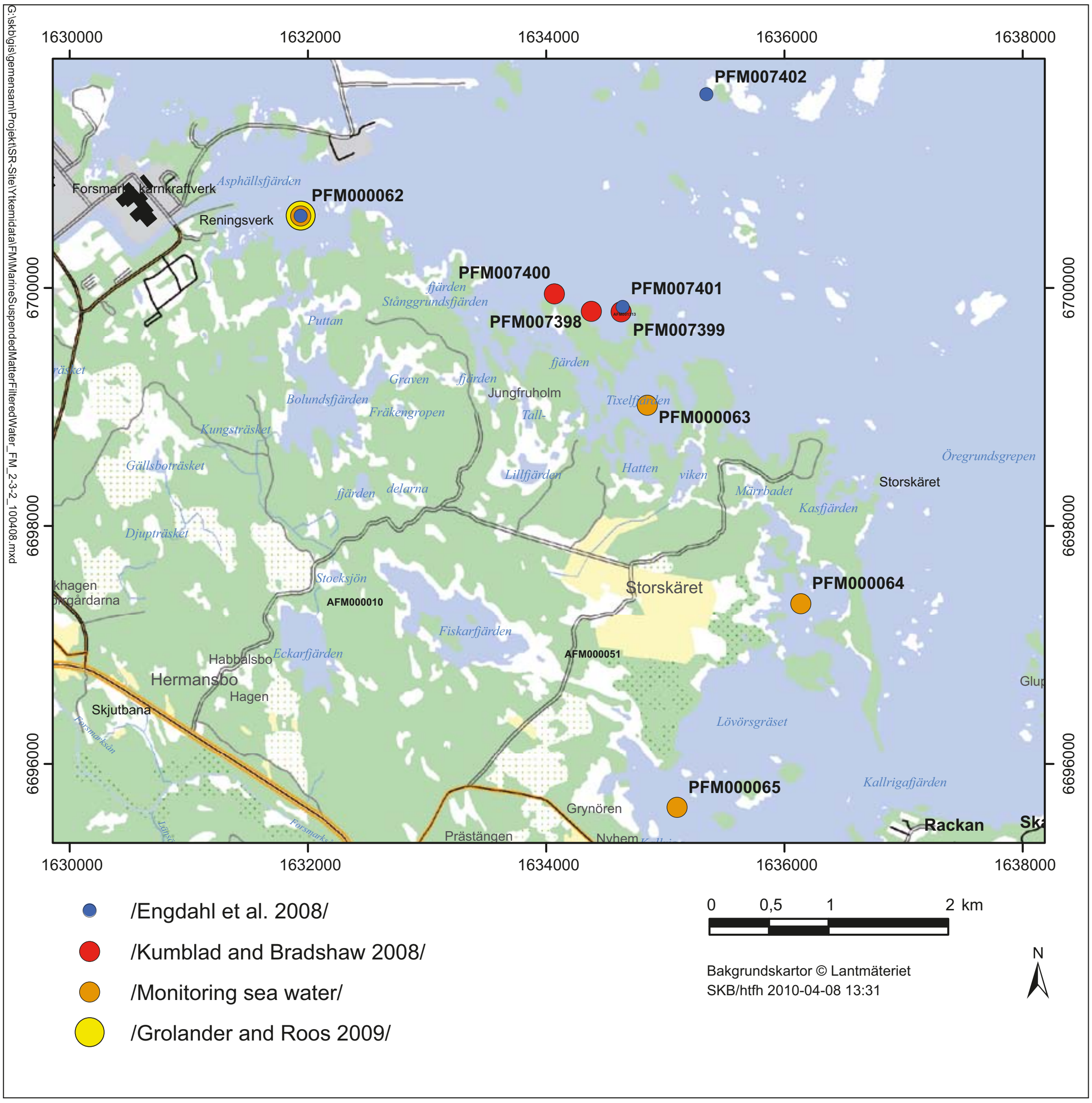

***Figure 2-22.** Location of the sampling sites of filtered water and suspended matter in marine environments in the Forsmark area. Sites from different studies are displayed in different colours according to the legend of the figure.*

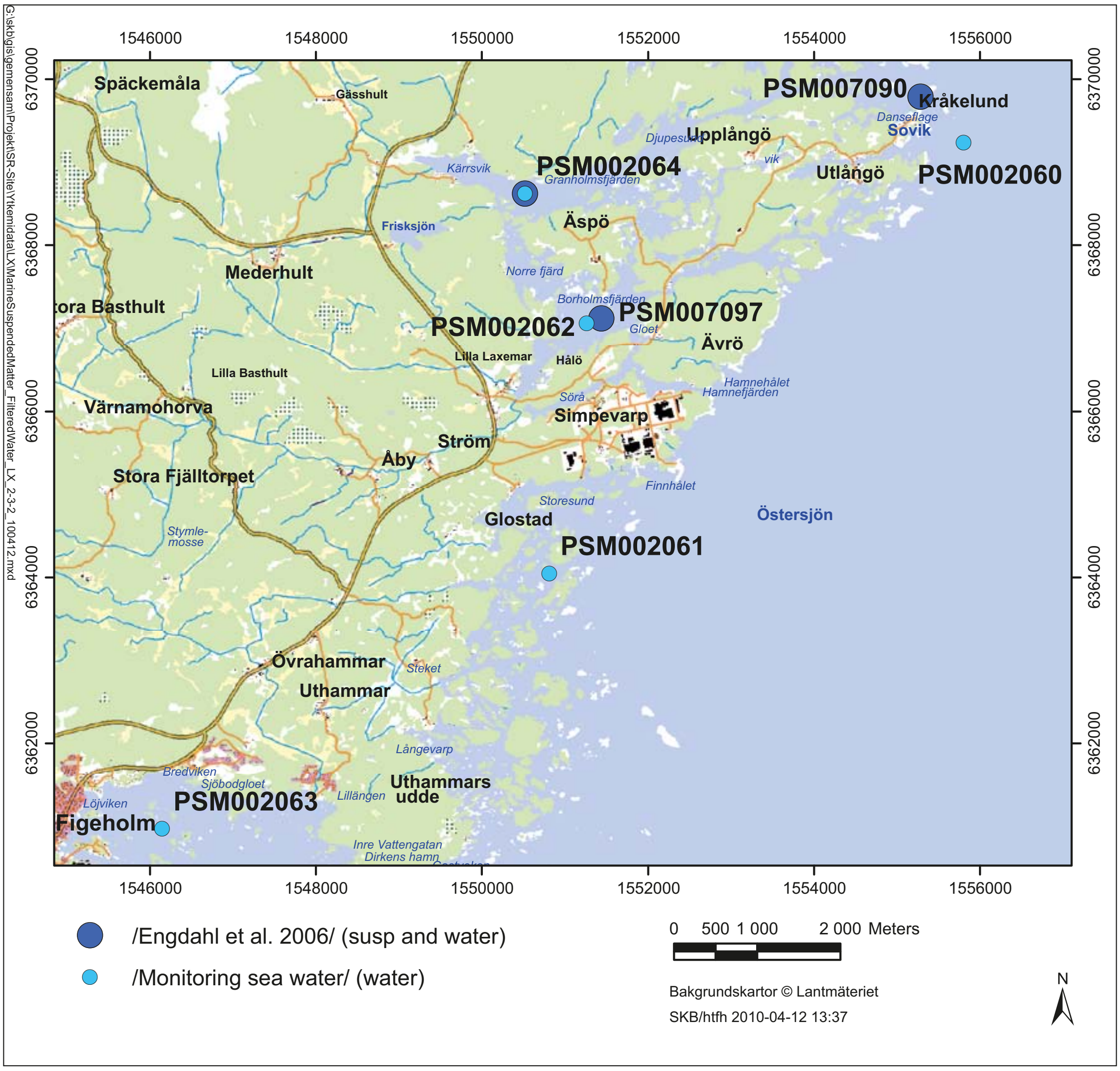

***Figure 2-23.** Location of the sampling sites of filtered water and suspended matter in marine environments in the Laxemar-Simpevarp area. Sites from different studies are displayed in different colours according to the legend of the figure.*

Table 2-17. Meta data for the data concerning suspended matter and filtered water from marine environments presented in this section. "Activity type" is the code of the specific data table in Sicada. The data from the monitoring programme are median values for time series and can not be directly found in Sicada. These data are marked with '*' in the activity type columns. Two types of sample names are presented; "Sample name Sicada" is the name used in the Sicada data base whereas "Sample name new" is the name used in this report. The figures in the column "Sample digestion" is specified below the table. The column "Report" refers to the SKB report where these data are presented.

Site	Activity type	Activity type description	Sample name Sicada	Sample name new	Sample digestion	Report
Suspended matter						
F	WC200	Water sampling - coastal area	POM1_susp	suspended matter	1	/Kumblad and Bradshaw 2008/
F	WC200	Water sampling - coastal area	POM2_susp	suspended matter	1	/Kumblad and Bradshaw 2008/
F	WC200	Water sampling - coastal area	POM3_susp	suspended matter	1	/Kumblad and Bradshaw 2008/
F	WC400	Water sampling-analysis of suspended material	suspenderat material	suspended matter	2	/Engdahl et al. 2008/
L	WC400	Water sampling-analysis of suspended material	suspenderat material	suspended matter	2	/Engdahl et al. 2008/
Filtered water						
F	WC200	Water sampling - coastal area	DIM1_W	filtered water		/Kumblad and Bradshaw 2008/
F	WC200	Water sampling - coastal area	DIM2_W	filtered water		/Kumblad and Bradshaw 2008/
F	WC200	Water sampling - coastal area	DIM3_W	filtered water		/Kumblad and Bradshaw 2008/
F	WC400	Water sampling-analysis of suspended material	filtered water	filtered water		/Engdahl et al. 2008/
F	WC085/ WC105/ WC107*	Surface water sampling, class 3/ Surface water sampling, class 5/ Surface water measurements*	Sea Water	Sea		/Sonesten 2005/
F	WC105	Surface water sampling, class 5*	Sea water	Sea		/Grolander and Roos 2009/
L	WC400	Water sampling-analysis of suspended material	filtered water	filtered water		/Engdahl et al. 2008/
L	WC085/ WC105/ WC107*	Surface water sampling, class 3/ Surface water sampling, class 5/ Surface water measurements*	Sea Water	Sea		/Tröjbom and Söderbäck 2006a/

Explanation to the column "Sample digestion". Digestion media used:
1) mixture of HNO_3 and H_2O_2
2) mixture of hydrofluoric and nitric acids

2.3.3 Primary producers

Data concerning the chemical composition of marine primary producers in Forsmark were from /Kumblad and Bradshaw 2008/ (Outside Tixlorna). The species analysed were phytoplankton, benthic microalgae, macroalgae (*Fucus vesiculosus, Pilayella littoralis*), and phanerogams (*Potamogeton pectinatus*). The red algae community covers the largest area, followed by the *Potamogeton pectinatus* community, *Chara sp* and *Fucus vesiculosus* /Wijnbladh et al. 2008/. Phytoplankton was sampled from depth-integrated water samples (from 1 m above the bottom to the surface) which were pumped directly into two nested plankton nets with mesh sizes 60 µm and 20 µm. The benthic microalgae were sampled from collected stones. The surface organic film was brushed off using a toothbrush and the resulting suspension was sieved through 400 µm and 20 µm plastic sieves. The 20 µm fraction was further concentrated by a combination of centrifuging and sieving through the 20 µm sieve. Macroalgae and macrophyte samples were collected by snorkelers, who cut (using a plastic knife) or pulled free whole plants into mesh bags. Any benthic organism on the vegetation was removed. *F. vesiculosus* samples were taken from the outermost parts of the plants, avoiding or removing any epiphytes or epifauna. *P. pectinatus* plants were relatively clean and whole plants were collected (without roots). Filamentous algae were either collected whole in the field or were removed from other algal species.

Chemical composition of marine primary producers from Laxemar-Simpevarp were studied in /Engdahl et al. 2006/. The species *Fucus vesiculosus, Chara sp.* filamentous green algae and *Potamogeton perfoliatus* were analysed from three marine sites called "The shore outside Simpevarp-Kråkelund". The primary producers were collected with a plastic rake and by hand.

The content of selected radionuclides in marine primary producers were analysed in /Roos et al. 2007/. The samples analysed were *Fucus vesiculosus* and *Potamogeton sp* sampled Outside Tixlorna in Forsmark in the study by /Kumblad and Bradshaw 2008/ and *Fucus vesiculosus, Potamogeton perfoliatus* and *Chara sp.* from two marine sites; Borholmsfjärden and "The shore outside Simpevarp-Kråkelund", in Laxemar-Simpevarp in the study by /Engdahl et al. 2006/. The Forsmark samples were collected by snorkelers whereas the Laxemar-Simpevarp samples by collected with a plastic rake and by hand.

The sampling sites in the different studies are shown in Figure 2-24 (Forsmark) and 2-25 (Laxemar-Simpevarp). A summary of the information needed to find the different data sets in the data base Sicada are presented in Table 2-18.

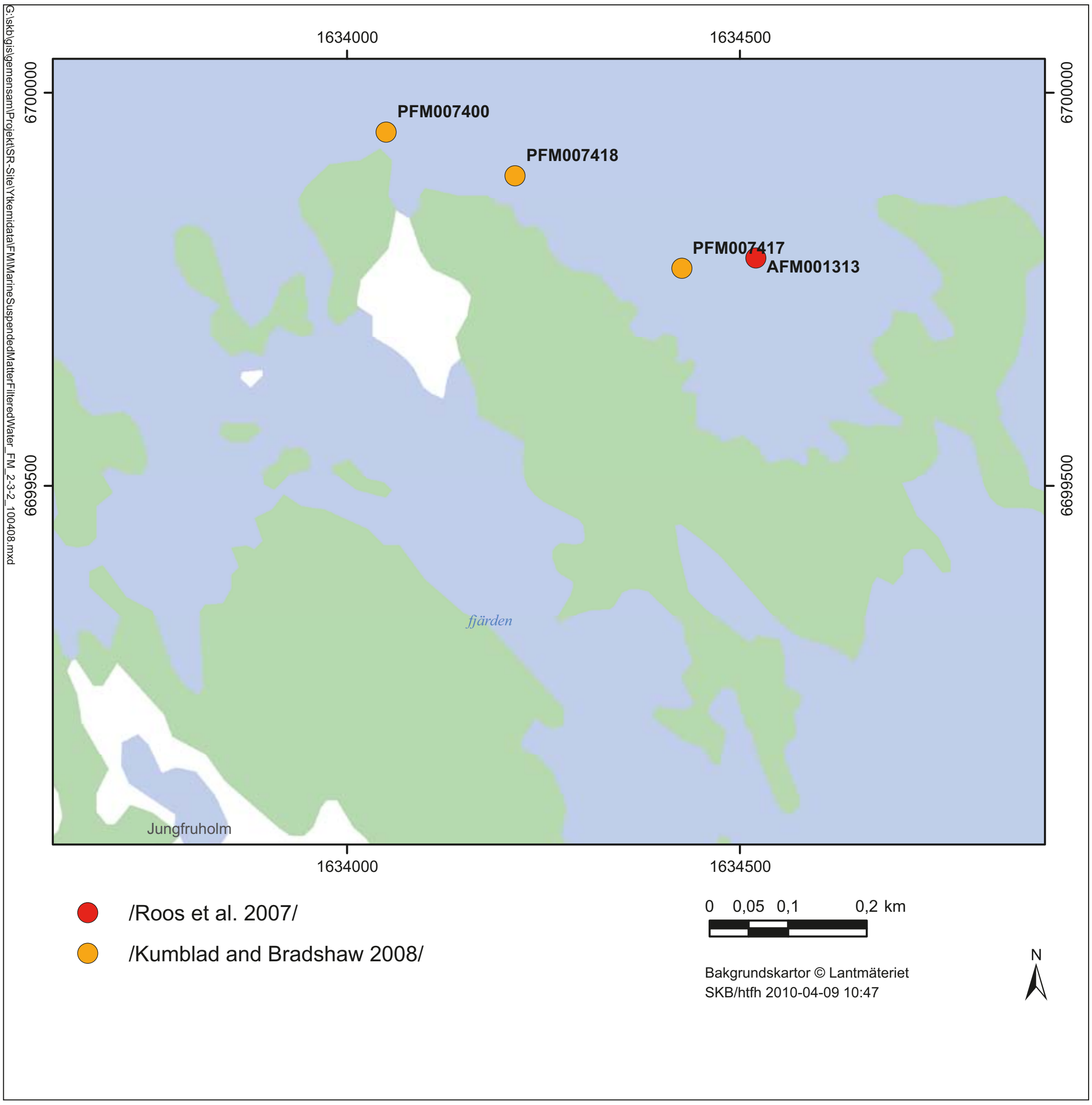

Figure 2-24. *Location of the sampling sites of marine primary producers in the Forsmark area. Sites from different studies are displayed in different colours according to the legend of the figure.*

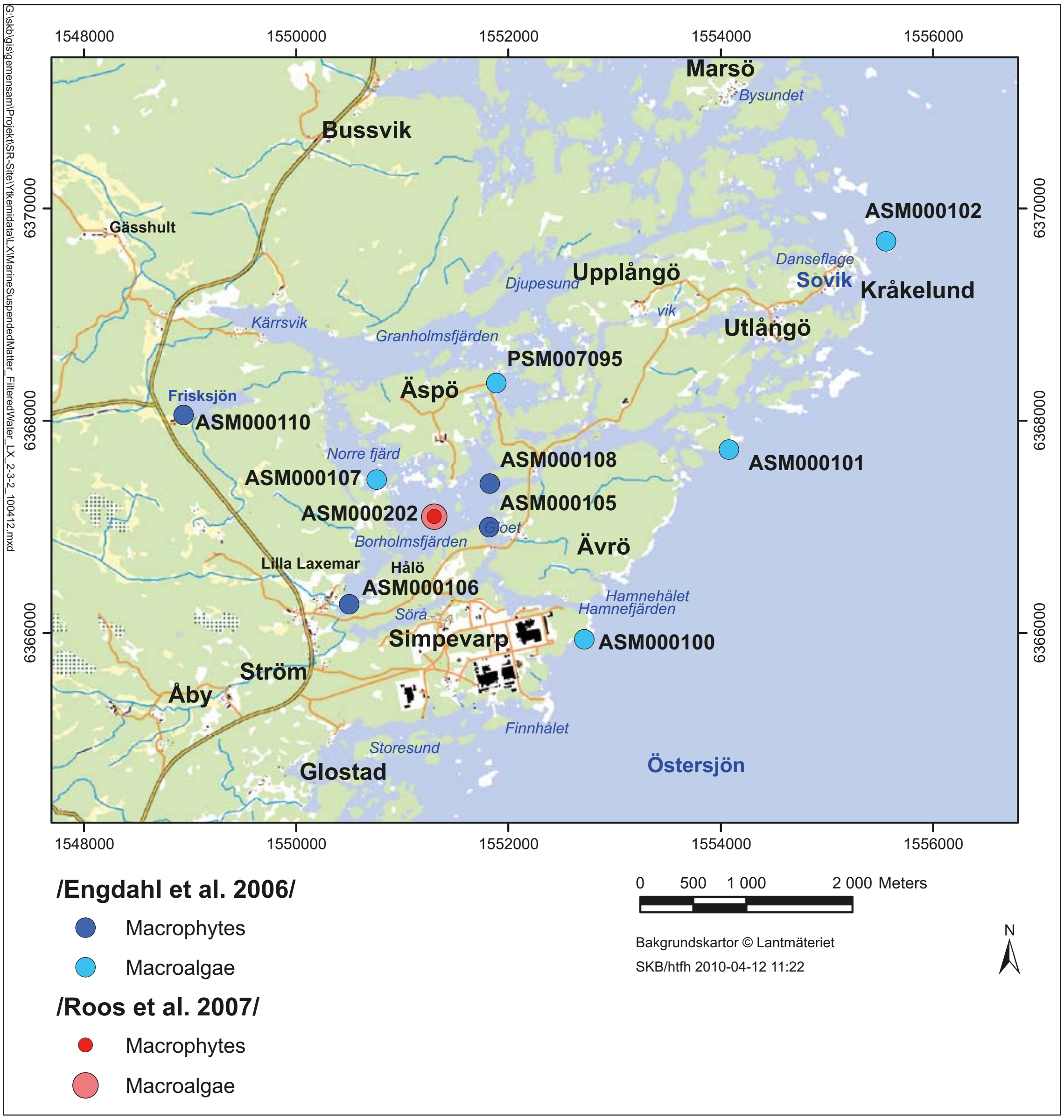

Figure 2-25. *Location of the sampling sites of marine primary producers in the Laxemar-Simpevarp area. Sites from different studies as well as samples of different biota types are displayed in different colours according to the legend of the figure. One macroalgae sample in /Roos et al. 2007/ is from the idcode ASM100000 which is not displayed here. This sample is a lumped sample collected from the eastern shoreline of the Simpevarp peninsula in south, to Kråkelund in north.*

Table 2-18. Meta data for the data concerning marine primary producers presented in this section. "Activity type" is the code of the specific data table in Sicada. Two types of sample names are presented; "Sample name Sicada" is the name used in the Sicada data base whereas "Sample name new" is the name used in this report. The column "Report" refers to the SKB report where these data are presented.

Site	Activity type	Activity type description	Sample name Sicada	Sample name new	Species	Sub sample name	Report
F	BI050	Chemical analysis of fauna and flora	Potamogeton	Potamogeton	Fennel pondweed (*Potamogeton pectinatus*)	macrophyte	/Roos et al. 2007/
F	BI050	Chemical analysis of fauna and flora	Växtplankton VP1	phytoplankton		phytoplankton	/Kumblad and Bradshaw 2008/
F	BI050	Chemical analysis of fauna and flora	Växtplankton VP2	phytoplankton		phytoplankton	/Kumblad and Bradshaw 2008/
F	BI050	Chemical analysis of fauna and flora	Växtplankton VP3	phytoplankton		phytoplankton	/Kumblad and Bradshaw 2008/
F	BI050	Chemical analysis of fauna and flora	Fucus	Fucus	Bladder wrack (*Fucus vesiculosus*)	macroalgae	/Roos et al. 2007/
F	BI050	Chemical analysis of fauna and flora	Makrofyter FUC1	F. vesiculosus	Bladder wrack (*Fucus vesiculosus*)	macroalgae	/Kumblad and Bradshaw 2008/
F	BI050	Chemical analysis of fauna and flora	Makrofyter FUC2	F. vesiculosus	Bladder wrack (*Fucus vesiculosus*)	macroalgae	/Kumblad and Bradshaw 2008/
F	BI050	Chemical analysis of fauna and flora	Makrofyter FUC3	F. vesiculosus	Bladder wrack (*Fucus vesiculosus*)	macroalgae	/Kumblad and Bradshaw 2008/
F	BI050	Chemical analysis of fauna and flora	Makrofyter PIL1	P. littoralis	(*Pilayella littoralis*)	macroalgae	/Kumblad and Bradshaw 2008/
F	BI050	Chemical analysis of fauna and flora	Makrofyter PIL2	P. littoralis	(*Pilayella littoralis*)	macroalgae	/Kumblad and Bradshaw 2008/
F	BI050	Chemical analysis of fauna and flora	Makrofyter PIL3	P. littoralis	(*Pilayella littoralis*)	macroalgae	/Kumblad and Bradshaw 2008/
F	BI050	Chemical analysis of fauna and flora	Makrofyter POT1	P. pectinatus	Fennel pondweed (*Potamogeton pectinatus*)	macrophyte	/Kumblad and Bradshaw 2008/
F	BI050	Chemical analysis of fauna and flora	Makrofyter POT2	P. pectinatus	Fennel pondweed (*Potamogeton pectinatus*)	macrophyte	/Kumblad and Bradshaw 2008/
F	BI050	Chemical analysis of fauna and flora	Makrofyter POT3	P. pectinatus	Fennel pondweed (*Potamogeton pectinatus*)	macrophyte	/Kumblad and Bradshaw 2008/
F	BI050	Chemical analysis of fauna and flora	Mikrofyter MIK1	microphytobenthos		microphytobenthos	/Kumblad and Bradshaw 2008/
F	BI050	Chemical analysis of fauna and flora	Mikrofyter MIK2	microphytobenthos		microphytobenthos	/Kumblad and Bradshaw 2008/
L	BI050	Chemical analysis of fauna and flora	Blåstång	F. vesiculosus	Bladder wrack (*Fucus vesiculosus*)	macroalgae	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	chara	Chara	Stonewarts (*Chara sp*)	macroalgae	/Roos et al. 2007/
L	BI050	Chemical analysis of fauna and flora	fucus	F. vesiculosus	Bladder wrack (*Fucus vesiculosus*)	macroalgae	/Roos et al. 2007/
L	BI050	Chemical analysis of fauna and flora	Kransalg	Chara	Stonewarts (*Chara sp*)	macroalgae	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	Nate	Potamogeton	(*Potamogeton sp*)	macrophyte	/Roos et al. 2007/, /Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	Trådf.grönalg	green algae		macroalgae?	/Engdahl et al. 2006/

2.3.4 Zooplankton

Site-specific zooplankton data were only available from one marine site in Forsmark (Outside Tixlorna) /Kumblad and Bradshaw 2008/. The samples were collected two months later than the rest of the samples in the study since the amount of zooplankton was far too small to be used for analyses at the first attempt. Water was pumped into nested 100 µm and 60 µm nets. A depth-integrated sample was taken from c. 1 m above the seabed up to the surface. The 100 µm and 60 µm fractions from all sites were eventually pooled in order to have enough material for analysis. To separate the phyto- and zooplankton in the samples repeated settling and light-separation procedures were performed. The authors state that some contamination by algae and diatoms could not be avoided.

The sampling sites in the study are shown in Figure 2-24. A summary of the information needed to find the different data sets in the data base Sicada are presented in Table 2-19.

2.3.5 Benthic fauna

Chemical composition of marine benthic fauna were analysed by /Kumblad and Bradshaw 2008/ (from Forsmark) and by /Engdahl et al. 2006/ (in Laxemar-Simpevarp). The former sampled phyto-benthic fauna (*Idothea* spp, *T. fluviatilis*) from outside Tixlorna which were picked out of submerged vegetation using plastic tools. Soft-bottom benthic fauna were sampled from surface sediment collected both by divers using a plastic scoop and mesh bags and by Ekman grabs from a boat. The sediment was rinsed through a plastic sieve (mesh size c. 2 mm) with brackish water and the filter feeders *Macoma baltica* and *Cerastoderma glaucum* were picked out. The samples from Laxemar-Simpevarp contained Mytilus edulis from "The shore outside Simpevarp-Kråkelund" which were collected in a mesh bag by divers /Engdahl et al. 2006/.

The content of selected radionuclides in marine benthic fauna were analysed in /Roos et al. 2007/. The species analysed was *Mytilus edulis* from "The shore outside Simpevarp-Kråkelund" in Laxemar-Simpevarp collected in the study by /Engdahl et al. 2006/. One sample containing muscle and one containing shell was analysed.

The sampling sites in the different studies are shown in Figure 2-24 (Forsmark) and 2-25 (Laxemar-Simpevarp). A summary of the information needed to find the different data sets in the data base Sicada are presented in Table 2-20.

Table 2-19. Meta data for the data concerning marine zooplankton presented in this section. "Activity type" is the code of the specific data table in Sicada. Two types of sample names are presented; "Sample name Sicada" is the name used in the Sicada data base whereas "Sample name new" is the name used in this report. The column "Report" refers to the SKB report where these data are presented.

Site	Activity type	Activity type description	Sample name Sicada	Sample name new	Report
F	BI050	Chemical analysis of fauna and flora	Zooplankton ZP	zooplankton	/Kumblad and Bradshaw 2008/

Table 2-20. Meta data for the data concerning marine benthic fauna presented in this section. "Activity type" is the code of the specific data table in Sicada. Two types of sample names are presented; "Sample name Sicada" is the name used in the Sicada data base whereas "Sample name new" is the name used in this report. The column "Report" refers to the SKB report where these data are presented.

Site	Activity type	Activity type description	Sample name Sicada	Sample name new	Species	Trophic level	Report
F	BI050	Chemical analysis of fauna and flora	Benthos CAR1	C. glaucum	Lagoon cockle *(Cerastoderma glaucum)*	Filter feeder	/Kumblad and Bradshaw 2008/
F	BI050	Chemical analysis of fauna and flora	Benthos CAR2	C. glaucum	Lagoon cockle *(Cerastoderma glaucum)*	Filter feeder	/Kumblad and Bradshaw 2008/
F	BI050	Chemical analysis of fauna and flora	Benthos MAC1	M. baltica	Baltic Macoma (*Macoma baltica)*	Filter /deposit feeder	/Kumblad and Bradshaw 2008/
F	BI050	Chemical analysis of fauna and flora	Benthos MAC2	M. baltica	Baltic Macoma (*Macoma baltica)*	Filter /deposit feeder	/Kumblad and Bradshaw 2008/
F	BI050	Chemical analysis of fauna and flora	Benthos MAC3	M. baltica	Baltic Macoma (*Macoma baltica)*	Filter /deposit feeder	/Kumblad and Bradshaw 2008/
F	BI050	Chemical analysis of fauna and flora	Betare IDO3	Idothea	*(Idothea spp)*	Grazer	/Kumblad and Bradshaw 2008/
F	BI050	Chemical analysis of fauna and flora	Betare IDO4	Idothea	*(Idothea spp)*	Grazer	/Kumblad and Bradshaw 2008/
F	BI050	Chemical analysis of fauna and flora	Betare THEO3	T. fluviatilis	River nerite (*Theodoxus fluviatilis)*	Grazer	/Kumblad and Bradshaw 2008/
F	BI050	Chemical analysis of fauna and flora	Betare THEO4	T. fluviatilis	River nerite (*Theodoxus fluviatilis)*	Grazer	/Kumblad and Bradshaw 2008/
L	BI050	Chemical analysis of fauna and flora	Blåmussla	M. edulis	Blue mussel (*Mytilus edulis)*	Filter feeder	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	Blåmussla skal	M. edulis_ shell	Blue mussel (*Mytilus edulis)*	Filter feeder	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	mytilus muskel	M. edulis_ muscle	Blue mussel (*Mytilus edulis)*	Filter feeder	/Roos et al. 2007/
L	BI050	Chemical analysis of fauna and flora	mytilus skal	M. edulis_ shell	Blue mussel (*Mytilus edulis)*	Filter feeder	/Roos et al. 2007/

2.3.6 Fish

Site specific chemistry data for fish were available for the species *Osmerus eperlanus*, *Gymnocephalus cernuus* and *Rutilus rutilus* from Outside Tixlorna in Forsmark /Kumblad and Bradshaw 2008/ and for *Perca fluviatilis, Abramis brama, Platichthys flesus, Alburnus alburnus* and *Clupea harengus* from Borholmsfjärden in Laxemar-Simpevarp /Engdahl et al. 2006/. The fish were collected using gill nets. For the samples from Forsmark /Kumblad and Bradshaw 2008/ all organs were removed from the body cavity and a slice was taken through the fish which was then homogenized (thus including some bone tissue). The fish samples from Laxemar-Simpevarp /Engdahl et al. 2006/ contained only fish muscles.

The content of selected radionuclides in marine fish were analysed in /Roos et al. 2007/. The samples analysed contained *Rutilus rutilus* and *Osmerus eperlanus* from Outside Tixlorna in Forsmark, sampled in the study by /Kumblad and Bradshaw 2008/. The Laxemar-Simpevarp samples contained *Alburnus alburnus*, and piscivorous and planctivorous *Perca fluviatilis* from Borholmsfjärden. The fish were caught in gill nets and muscles prepared and analysed.

The sampling sites in the different studies are shown in Figure 2-26 (Forsmark) and 2-27 (Laxemar-Simpevarp). A summary of the information needed to find the different data sets in the data base Sicada are presented in Table 2-21.

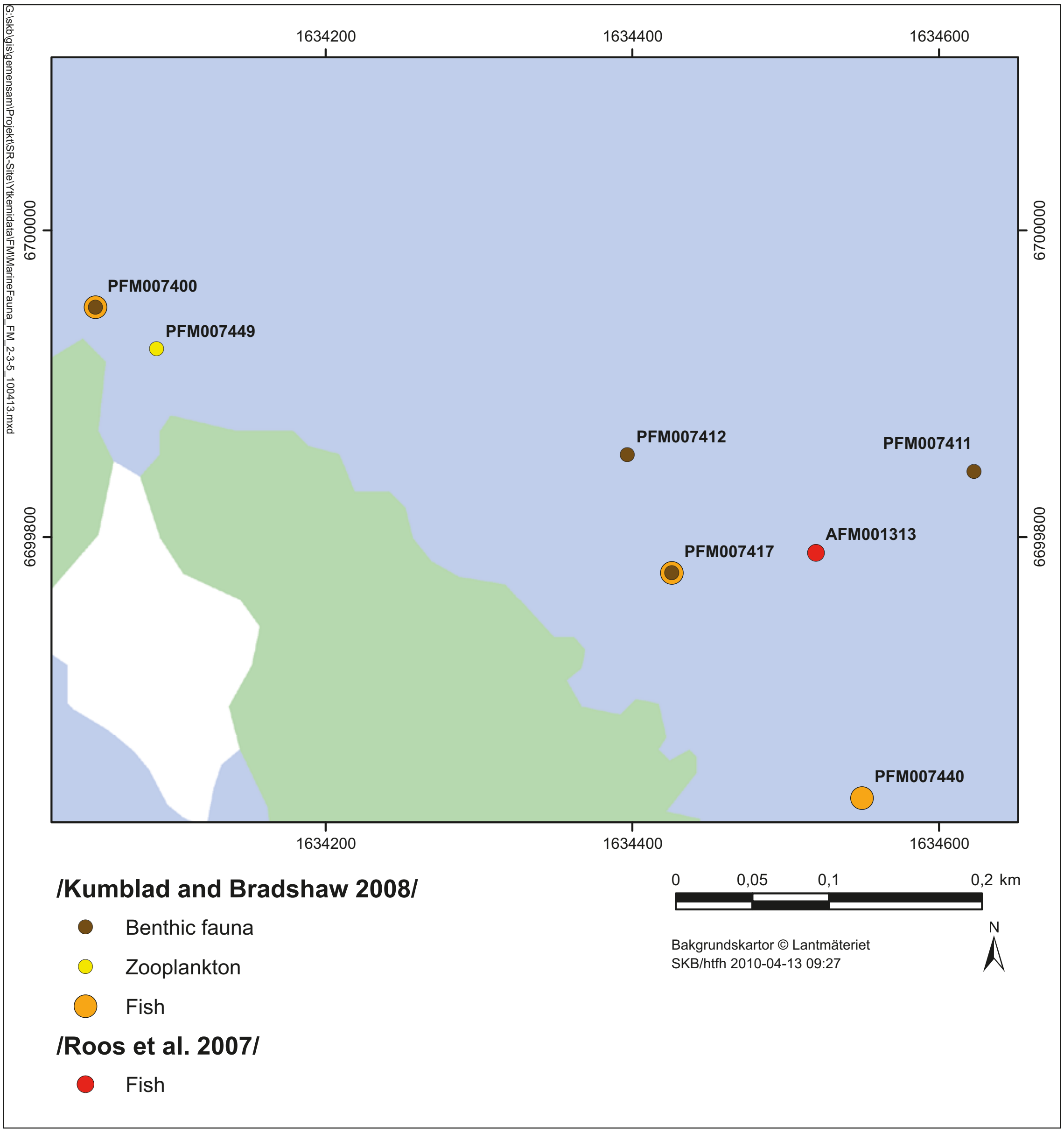

***Figure 2-26.** Location of the sampling sites of marine fauna in the Forsmark area. Sites from different studies as well as samples of different biota types are displayed in different colours according to the legend of the figure.*

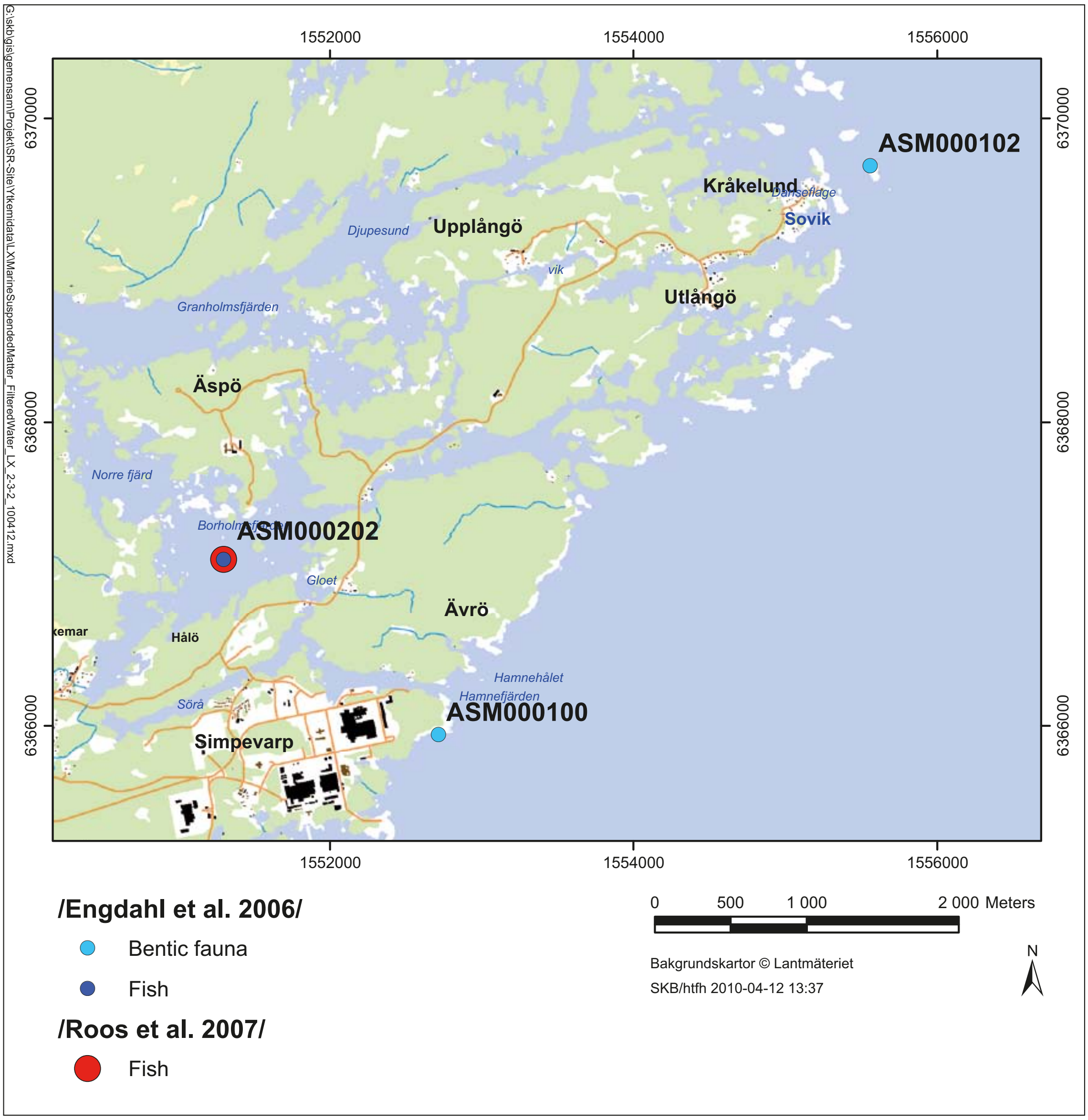

Figure 2-27. *Location of the sampling sites of marine fauna in the Laxemar-Simpevarp area. Sites from different studies as well as samples of different biota types are displayed in different colours according to the legend of the figure. Not displayed on the map is the idcode ASM100000 for which fish samples were analysed in /Engdahl et al. 2006/ as well as in /Roos et al. 2007/. The fish were bought from fishermen who were fishing in the southern Baltic Sea. The samples are considered representative for this area.*

Table 2-21. Meta data for the data concerning marine fish presented in this section. "Activity type" is the code of the specific data table in Sicada. Two types of sample names are presented; "Sample name Sicada" is the name used in the Sicada data base whereas "Sample name new" is the name used in this report. An 'x' in the column "Sample name Sicada" indicates that there is several different samples of this kind (x=1, 2 or 3). The column "Report" refers to the SKB report where these data are presented.

Site	Activity type	Activity type description	Sample name Sicada	Sample name new	Species	Report
F	BI050	Chemical analysis of fauna and flora	Mört	R. rutilus	Roach (*Rutilus rutilus*)	/Hannu and Karlsson 2006/, /Roos et al. 2007/
F	BI050	Chemical analysis of fauna and flora	Mört Mx	R. rutilus	Roach (*Rutilus rutilus*)	/Kumblad and Bradshaw 2008/
F	BI050	Chemical analysis of fauna and flora	Nors	O. eperlanus	Smelt (*Osmerus eperlanus*)	/Roos et al. 2007/
F	BI050	Chemical analysis of fauna and flora	Nors Nx	O. eperlanus	Smelt (*Osmerus eperlanus*)	/Kumblad and Bradshaw 2008/
F	BI050	Chemical analysis of fauna and flora	Gärs Gx	G. cernuus	Ruffe (*Gymnocephalus cernuus*)	/Kumblad and Bradshaw 2008/
L	BI050	Chemical analysis of fauna and flora	Abborre x	P. fluviatilis	Perch (*Perca fluviatilis*)	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	abborre piscivor	P. fluviatilis_ piscivore	Perch (*Perca fluviatilis*)	/Roos et al. 2007/
L	BI050	Chemical analysis of fauna and flora	Braxen x	A. brama	Common bream *(Abramis brama)*	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	Flundra x	P. flesus	European flunder (*Platichthys flesus*)	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	löja	A. alburnus	Bleak (*Alburnus alburnus*)	/Roos et al. 2007/
L	BI050	Chemical analysis of fauna and flora	Löja x	A. alburnus	Bleak (*Alburnus alburnus*)	/Engdahl et al. 2006/
L	BI050	Chemical analysis of fauna and flora	Strömming x	C. harengus	Herring (*Clupea harrengus*)	/Engdahl et al. 2006/

2.4 Data from other sources than the SKB site investigations

Almost all site-specific data used are from the site investigations and consist of measured element concentrations in different media. Only a small number of samples was analysed for a selected number of radionuclides /Roos et al. 2007, Grolander and Roos 2009/ as described above.

Another source for radionuclide data which was used is the MORS-PRO database (Monitoring of Radioactive Substances in the Baltic Sea) which is governed by HELCOM (the Helsinki Commission, http://www.helcom.fi). The aim of the organization is to protect the marine environment of the Baltic Sea from all sources of pollution through intergovernmental co-operation between Denmark, Estonia, the European Community, Finland, Germany, Latvia, Lithuania, Poland, Russia and Sweden. SKB got access to the data base in November 2006. The data set includes data from HELCOM MONAS MORS-PRO environmental data report of 2005 which contain data from 1984–2004. It contains data for marine biota as well as sediments and water from the Baltic Sea. The database does not contain samples specifically from the Forsmark or Laxemar-Simpevarp sites but data represent different parts of the Baltic Sea. Data from the nearest basins of the Baltic Sea ("Archipelago and Åland Sea" as well as "Bothnian Sea" for Forsmark and "Gotland east", "Gotland west" and "Northern Baltic proper" for Laxemar-Simpevarp) were used. The values used are median values for all sampling localities within the basins chosen for Forsmark and Laxemar-Simpevarp respectively. The data were normalised to carbon using site specific carbon contents /Wijnbladh et al. 2008/, see Table 2-22. As expected, the variation between the two sites is negligible but the different values were used when data were available from both sites. Data for the following biota species have been taken from the MORS-PRO database:

Filter feeders: *Macoma baltica* and *Mytilus edulis*, for both sites.

Fishes: *Clupea harengus* (both sites) and *Gadus morhua* (for Laxemar-Simpevarp)

Primary producers (macroalgae): *Fucus vesiculosus*, for both sites.

Table 2-22. Site specific carbon contents used when normalising radionuclide data from the MORS database to carbon. Data from Appendix 5a and 5b in /Wijnbladh et al. 2008/.

Species	**Carbon content (mg C/kg dw)** **Forsmark**	**Laxemar-Simpevarp**
Macoma baltica	1.7E+05	1.7E+05*
Mytilus edulis	1.5E+05	3.7E+05
Clupea harengus	4.8E+05	5.3E+05
Gadus morhua		4.3E+05
Fucus vesiculosus	3.4E+05	3.1E+05

*Site specific carbon data for this biota type is lacking for Laxemar. The value for Forsmark has been used instead.

SKB also has access to a database containing radionuclide concentrations measured in the environments near Forsmark and Laxemar-Simpevarp nuclear power plants as part of their monitoring programme. The aim of the measurements is to show that the levels in the environments are below a certain limit prescribed by the authority. The accuracy of the measurements is depending on the measuring time and with many samples to analyse the priority was to reach the set limit but not to improve the accuracy further. Our aim of using the data demands a higher accuracy and we have therefore decided not to use this data set in our analyses. Data from the power plants contain site specific information about contents of radionuclides in human food which is of interest for the dose calculations. Of special interest are agricultural data since such site specific data are lacking from the site investigations. Unfortunately soil and pore water data are missing making the calculation of terrestrial concentration ratios impossible.

The sampling sites are shown in Figure 2-28. These data are not included in the data base Sicada. Meta data for the data is presented in Table 2-23.

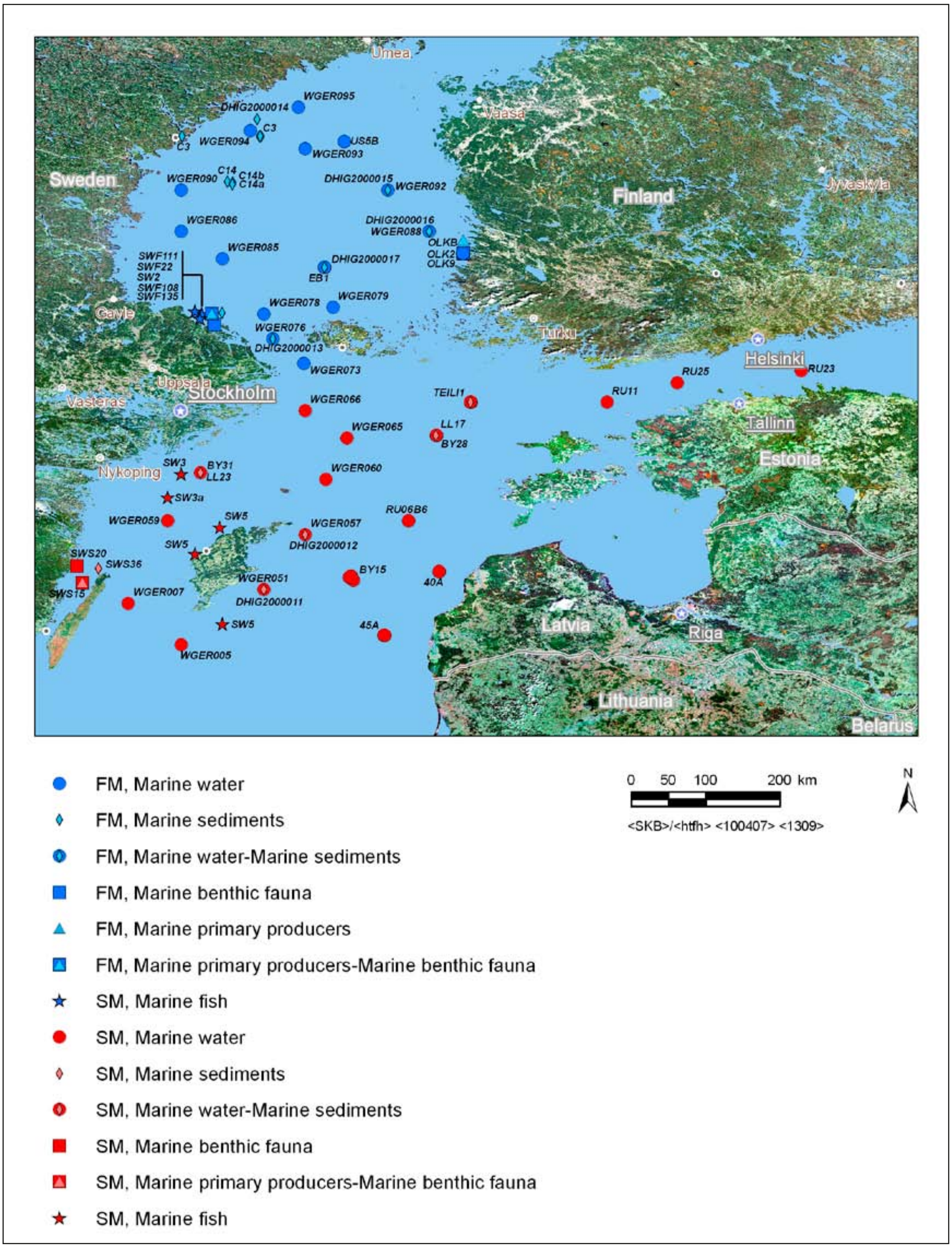

Figure 2-28. *Location of the sampling sites of filtered sea water, marine sediments and marine biota closest to the Forsmark and Laxemar-Simpevarp areas from the MORS-PRO database /HELCOM 2009/. Sites for different sample types are displayed with different symbols according to the legend of the figure. The idcode "SW5" was used for three sampling sites with different coordinates and is therefore here displayed as three different points.*

Table 2-23. Meta data for the data concerning marine environments from external references presented in this section. Since this data are not included in Sicada no Activity type is presented. "Sample name new" is the name used in this report. In the column "Sediment type" it is stated if the samples are organic (O) or inorganic (I). The column "Report" refers to the reference where these data are presented.

Site	Sample name new	Biota type	Species	Sediment type	Report
Sediment					
F	fine sand and mud			O	/HELCOM 2009/
F	gravel			I	/HELCOM 2009/
F	pure mud			O	/HELCOM 2009/
F	soft clay			I	/HELCOM 2009/
F	soft mud			O	/HELCOM 2009/
L	gravel			I	/HELCOM 2009/
L	mud			O	/HELCOM 2009/
L	mud and fine sand			O	/HELCOM 2009/
L	pure mud			O	/HELCOM 2009/
L	sand			I	/HELCOM 2009/
L	soft mud			O	/HELCOM 2009/
L	sulphidic mud			O	/HELCOM 2009/
Sea water					
F	Sea water				/HELCOM 2009/
L	Sea water				/HELCOM 2009/
Primary producers					
F	Fucus vesiculosus	Macroalgae	Bladder wrack (*Fucus vesiculosus*)		/HELCOM 2009/
L	Fucus vesiculosus	Macroalgae	Bladder wrack (*Fucus vesiculosus*)		/HELCOM 2009/
Benthic fauna					
F	Macoma Baltica	Filter feeder	Baltic Macoma (*Macoma baltica*)		/HELCOM 2009/
F	Mytilus edulis	Filter feeder	Blue mussel (*Mytilus edulis*)		/HELCOM 2009/
L	Macoma Baltica	Filter feeder	Baltic Macoma (*Macoma baltica*)		/HELCOM 2009/
L	Mytilus edulis	Filter feeder	Blue mussel (*Mytilus edulis*)		/HELCOM 2009/
Fish					
F	Clupea harengus	Planktivore	Herring (*Clupea harengus*)		/HELCOM 2009/
L	Clupea harengus	Planktivore	Herring (*Clupea harengus*)		/HELCOM 2009/
L	Gadus morhua	Piscivore	Cod (*Gadus morhua*)		/HELCOM 2009/

3 Explorative analysis of site data

In this chapter chemical data of water, regolith and biota from the Forsmark and Laxemar-Simpevarp areas are explored as a basis for the selection of site specific data used for the estimation of model parameters. This evaluation focuses on major patterns in elemental composition as well as in finding outliers and inconsistencies with the purpose of describing available site data. Data selected for each model parameter and considerations behind this selection is presented in Chapter 4.

3.1 Selection and handling of data prior to analysis

This large dataset comprises a large number of elements, several organisms, different regolith types and many types of water. Some measurements are below reporting limits, which must be handled. There are usually few replicates which make the identification of artefacts harder; a deviant measurement could hold important information or be an artefact disturbing the identification of general patterns and reduce the understanding. Ideally, the selection of site data should reflect the variation of the model compartment regarding spatial and temporal variation.

In order to make a conservative selection of data undisturbed by outliers and reporting limits the following automatic procedure was applied:

- Median values were estimated per site and ecosystem for appropriate categories based on all available data.
- If more than 50% of the observations within a category fall below reporting limits these medians are excluded from the analysis.
- In case of missing values in the correlation matrix these were replaced by mean values in the PCA analysis.
- In case of lake, sea and groundwater samples from the monitoring programme, additional criteria were applied in order to deselect groundwater with clear marine influences (Cl<200 mg/L), lake water influenced by sea water intrusions (Cl<200 mg/L) and sea water influenced by fresh water (Cl>2,000 mg/L).

Most visualizations in this Chapter are based on this selection of data where one value represents each category. Some analyses with the purpose of exploring detailed patterns within a category, e.g. terrestrial animals, are based on individual samples. In this case, all available samples are included and values below reporting limits were replaced with a value equal to half the reporting limit.

3.2 Water – dissolved and particulate concentrations

3.2.1 Overview of all water samples

Elements concentrations range from 1–10 ng/l for metals such as Pt, Ta, Ag and Re to 10–1,000 mg/l for Ca, Na, and Cl, i.e. a total variation over 9 orders of magnitude. For a specific element the concentration generally range over 3 orders of magnitude depending on water type. Within a water type (e.g. lake water, sea water, groundwater and pore water), median values from Forsmark and Simpevarp areas usually differ less than an order of magnitude.

If all water samples from Forsmark and Simpevarp areas are included in a PCA (Figure 3-2), the relative distribution of each element among the water types are outlined. This type of plot separates samples according to the relative concentrations of several elements and the patterns reflect major sources and processes common for these elements irrespective of the absolute concentrations measured for a specific element. Two major groups are formed in this plot separating fresh waters in the lower part from marine waters in the upper part of the figure. Two samples of terrestrial pore water ('FTporewater' and 'ST_porewater') plot in between.

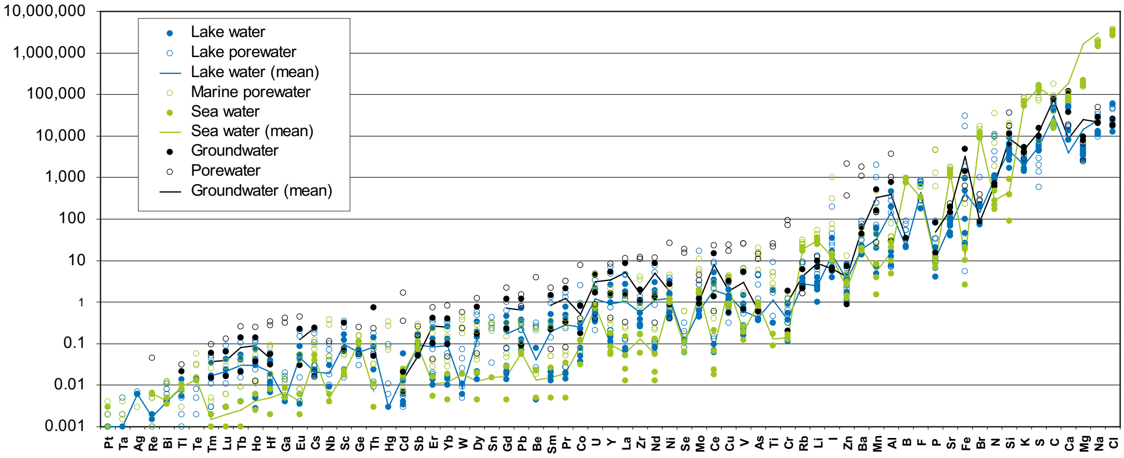

Figure 3-1. *Concentrations (mg/m³) of all water types from Forsmark and Simpevarp areas. The elements are sorted by mean concentration of all water types. Individual samples shown as dots, mean values shown as lines. Each dot represents a median value per site and water type (e.g. there is one pore water median value from Forsmark and Simpevarp areas each, whereas there are two sea water observations per site from different sampling campaigns).*

The separation of the observations according to the selected variables could be attributed to underlying factors (approximated by the principal components in the figure). In the vertical direction samples are separated from dilute waters at the bottom to more concentrated waters at the top – reflecting a dilution factor. The interpretation of the factor separating in the horizontal direction is more complex but a possible candidate is a site-factor reflecting site specific characteristics of the Laxemar-Simpevarp and Forsmark areas: within each water type, observations from Laxemar-Simpevarp plot to the right of observations from the Forsmark area.

In Figure 3-3 where several elements attributed to higher measurement and analytical uncertainties were excluded, the major pattern is further strengthened. Conclusions from both these figures are summarised below:

Marine ions as Na, Mg, Cl, Br, K, Rb and Li occur at highest concentrations in sea water samples and especially in marine pore water samples.

Terrestrial pore water constitutes the other extreme with higher concentrations of geogenic elements such as Al and Si as well as elevated concentrations of several metals where atmospheric deposition could be a significant source (Cu, Ni, V, Zn, Ba, Cd, Cr, Co) /Tröjbom and Grolander 2010/.

Fresh water from both Forsmark and Laxemar-Simpevarp areas form a cluster at the bottom of the upper panel of Figure 3-2 characterised by dilute waters compared to both marine water and terrestrial pore water.

In the vertical direction samples are separated according to the concentrations of marine ions (Na, K, Rb, Li, Mg, Cl and Br) with the highest concentrations in marine porewater in the upper part.

In the horizontal direction there is a separation of Laxemar-Simpevarp samples to the right and Forsmark samples to the left if the cluster of sea water samples is excluded. This separation, which indicates that concentrations of some elements are higher in the Laxemar-Simpevarp area compared to the Forsmark area, could be an indication of a site specific factor influencing many elements in all water types. Several elements occur at higher concentrations in the Laxemar-Simpevarp area if marine pore waters, limnic pore waters, shallow groundwater, lake water and stream water are pair wise compared (V, Cr, Ni, Zn, Co, Mn, Pb and Fe as well geogenic elements as Al, Si, Ba and nutrients as N and P). Concentrations of Ca and S are higher in the Forsmark area. These patterns are most probably a consequence of the composition of the regolith and the general hydrochemical characteristics of each site, e.g. the calcite rich till in the Forsmark area.

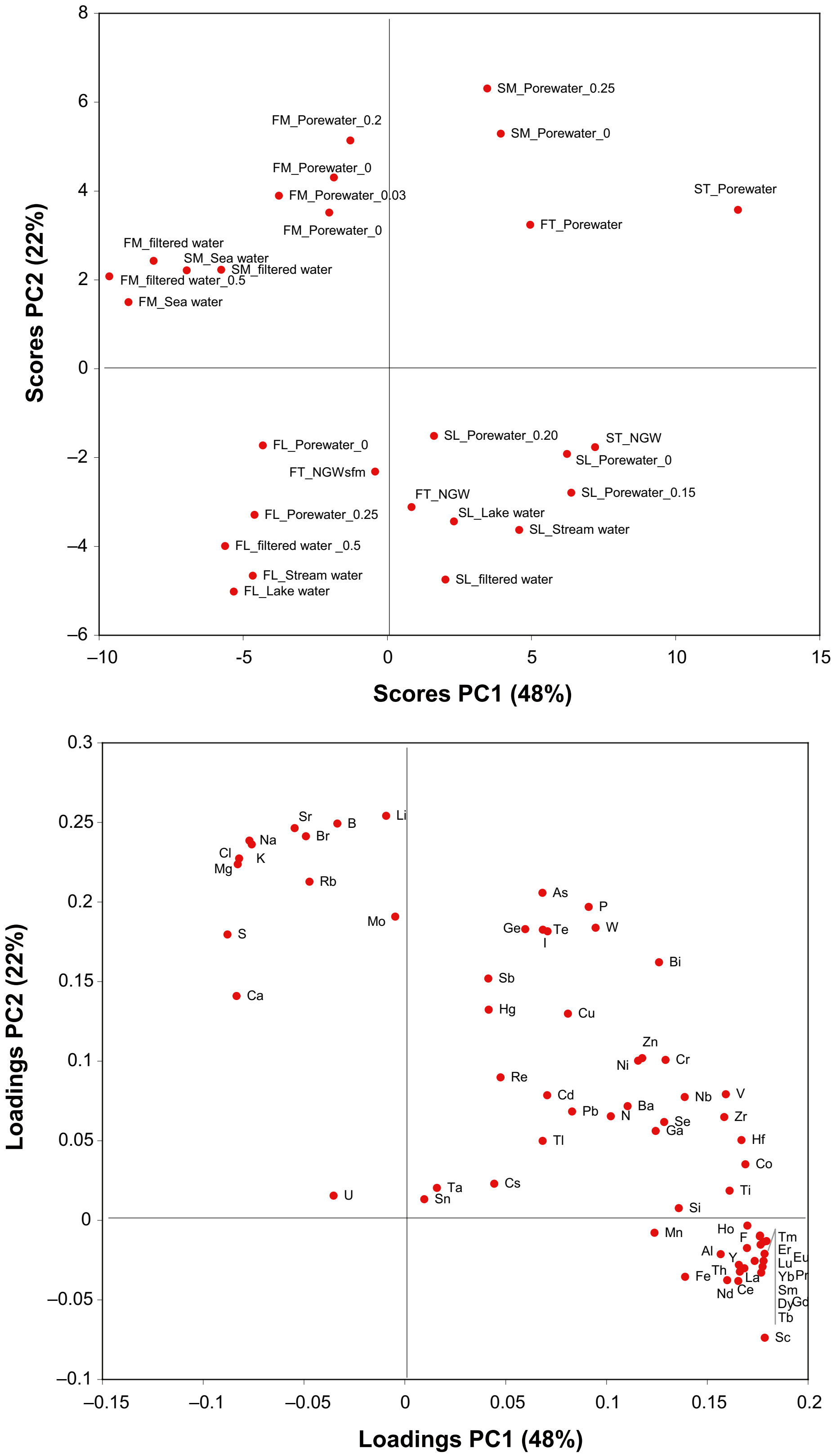

Figure 3-2. *Overview of all water samples from the Forsmark and Laxemar-Simpevarp areas. This Principal Component Analysis, PCA, summarises the major variation (70%) among the variables included in the lower panel (loadings). In the upper panel, the 'score plot' shows how individual observations relate to the major variation pattern. This PCA is based on the logarithms (10) of the original data. The labels used in this plot denotes site (Forsmark, 'F', or Laxemar-Simpevarp, 'L'), ecosystem (marine, 'M', limnic, 'L', terrestrial, 'T') followed by the sample name used in the tables of Section 2.*

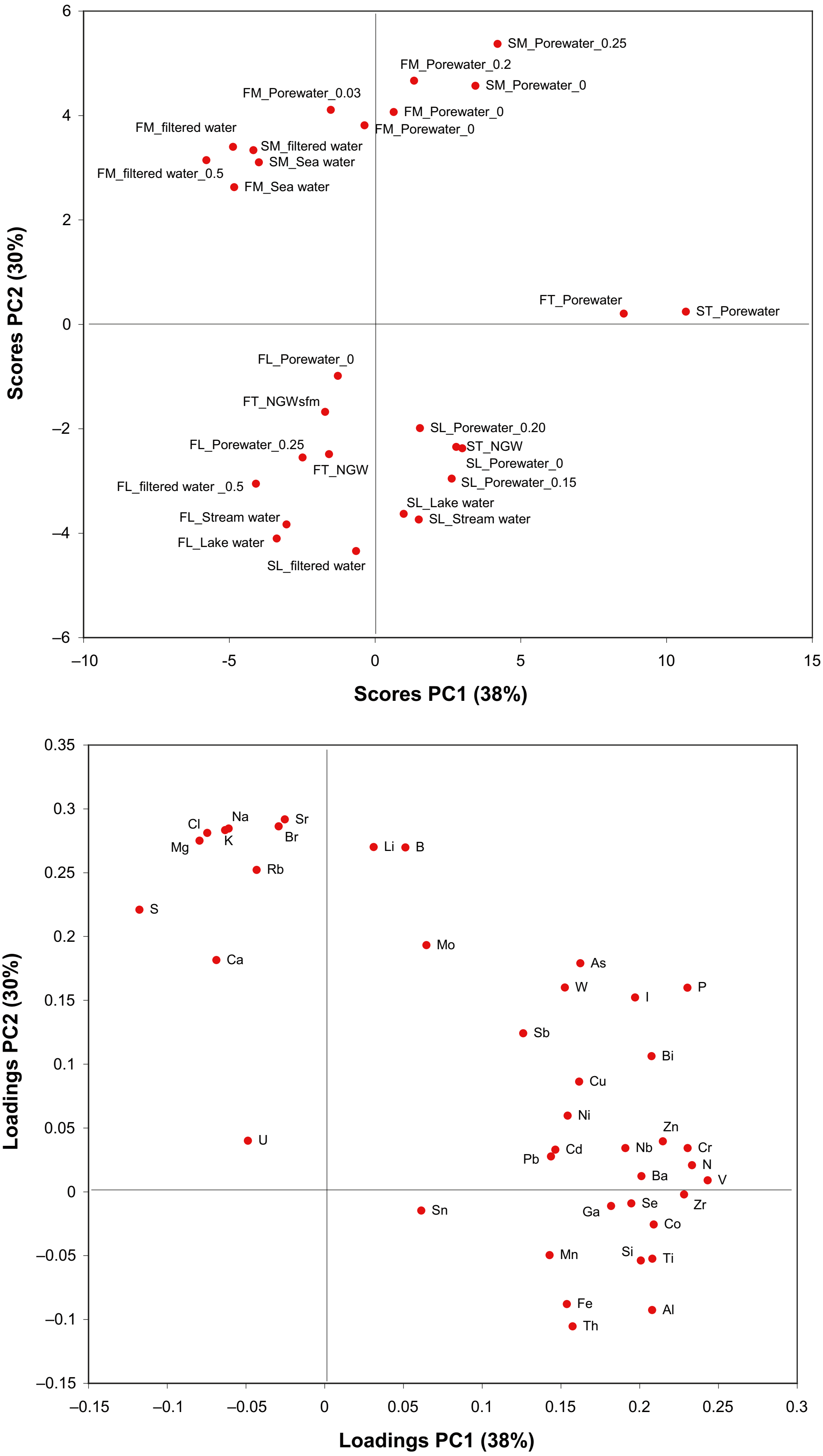

Figure 3-3. *Overview of water samples from the Forsmark and Laxemar-Simpevarp areas with REE and some uncertain elements excluded compared to Figure 3-2. This PCA is based on logarithmic (10) values. Cf. Figure 3-2 for further explanations.*

Further conclusions regarding site specific differences could be drawn from Figure 3-4 where a wider selection of elements is included. In these figures, ratios based on median concentrations from Forsmark and Laxemar-Simpevarp areas are shown for lake water, sea water and groundwater. The following conclusions could be drawn from these figures:

Ca and U occur at higher concentration in both lake water and groundwater in the Forsmark area.

Several metals (e.g. Fe, Mn, Cr, Zn, and Cd) occur at higher concentrations in both lake water and shallow groundwater in the Laxemar-Simpevarp area. For porewater this difference is less pronounced.

When sea water samples from both areas are compared there is a general ratio of 0.8 for most elements which corresponds to the salinity gradient along the Baltic Sea (more saline in the Laxemar-Simpevarp area, cf. /Tröjbom and Söderbäck 2006a/). There are, however, marked discrepancies between the sites regarding Fe, Mn, Si, Al and rare earth elements (REE) with approximately 5 times higher concentrations in the Laxemar-Simpevarp area when filtered water samples are compared. This discrepancy is either an indication of high influence of elements of terrestrial origin or a methodological artefact. It could be noted that these specific elements are usually associated to the particulate fraction.

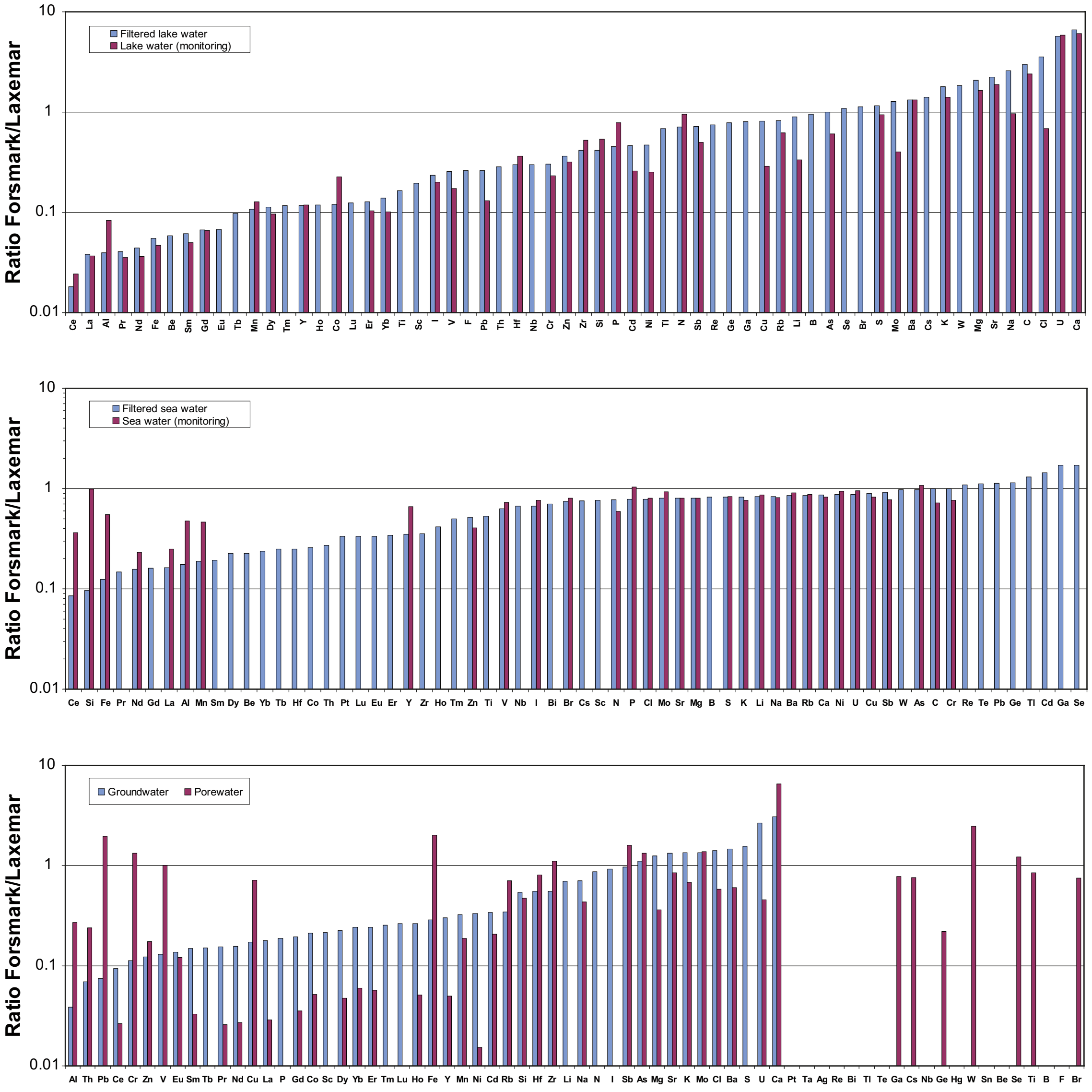

***Figure 3-4.** Comparisons between median concentrations of lake water (upper panel) sea water (middle panel), groundwater and terrestrial porewater (lower panel) in the Forsmark and Laxemar-Simpevarp areas. The ratios between Forsmark and Laxemar-Simpevarp are shown on logarithmic scales.*

3.2.2 Groundwater and pore water

If groundwater and terrestrial porewater samples are compared, element concentrations differ significantly between these water types for some elements. Discrepancies from the 1:1 relationship are usually similar for both sites, although the absolute concentrations may differ significantly due to site specific factors. In Figure 3-6 groundwater and porewater concentrations are compared for a large number of elements (marine influenced groundwater samples were excluded). The same information is alternatively presented as ratios in Figure 3-5. It should be noted that porewater and groundwater samples compared here represent median concentrations per site and not coupled measurements. Conclusions regarding groundwater and porewater concentrations in the terrestrial system are summarized below:

For most elements porewater concentrations are higher than in the surrounding groundwater. In case of some metals such as Cd, Cr and Zn, porewater concentrations are 100 times higher compared to the median groundwater concentration.

Also geogenic elements such as Si, Al, Zr and Sc occur at elevated concentrations in porewater compared to groundwater.

Mobile elements such as Na, Cl and I occur at approximately the same concentrations in groundwater as in porewater.

On the other end of the scale Mn, Fe and U display higher concentration in the surrounding groundwater compared to porewater.

The REE group shows a systematic difference between the Forsmark and Laxemar-Simpevarp areas. In the Forsmark area REE concentrations are significantly higher in groundwater compared to porewater (ratio below 1). In the Laxemar-Simpevarp area groundwater and porewater concentrations are nearly equal.

Systematic differences seen when groundwater and porewater samples are compared may well reflect real discrepancies, but there is the potential that these effects are related to analysis artefacts. Terrestrial pore water samples represent pore water equilibrated with the solid phase in laboratory, whereas groundwater is sampled in the field at preserved eH.

Another factor contributing to uncertainties when analysing water samples is the particulate bound fraction of the elements. All samples are filtered which means that they should reflect the dissolved fraction of an element. Small particles, e.g. colloids which pass these filters are included in the dissolved fraction. In case of elements predominantly bound to the particulate fraction, such as REE, variations in measured concentrations mainly reflects variations in the particulate carrier, e.g. Fe or Al oxyhydroxides or organic matter passing the filter. Conversely, estimations of suspended matter could be underestimated (or more accurately the fraction sorbed to particles). Evaluations of two REE in Figure 3-7 further demonstrate this problem. This pattern is significative for all REE, and

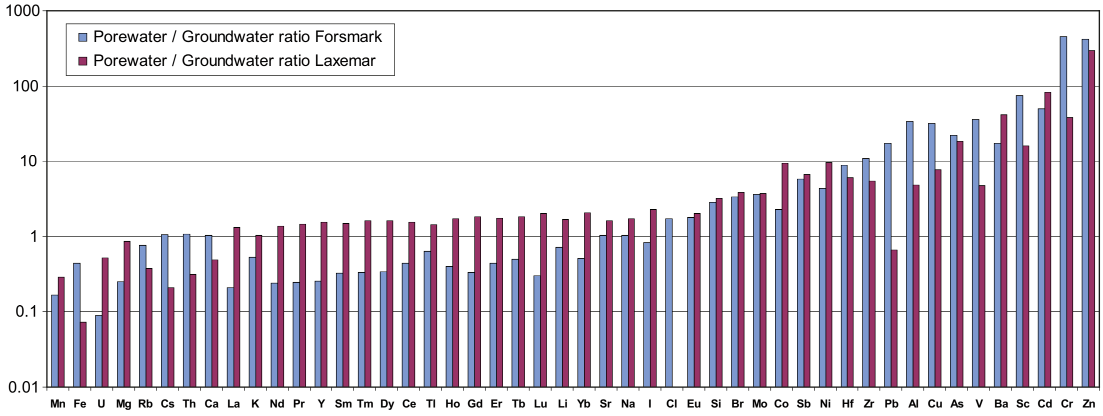

***Figure 3-5.** Comparisons of groundwater and porewater concentrations in the Forsmark and Laxemar-Simpevarp areas. A ratio above 1 means that the porewater concentration is higher than groundwater of an element.*

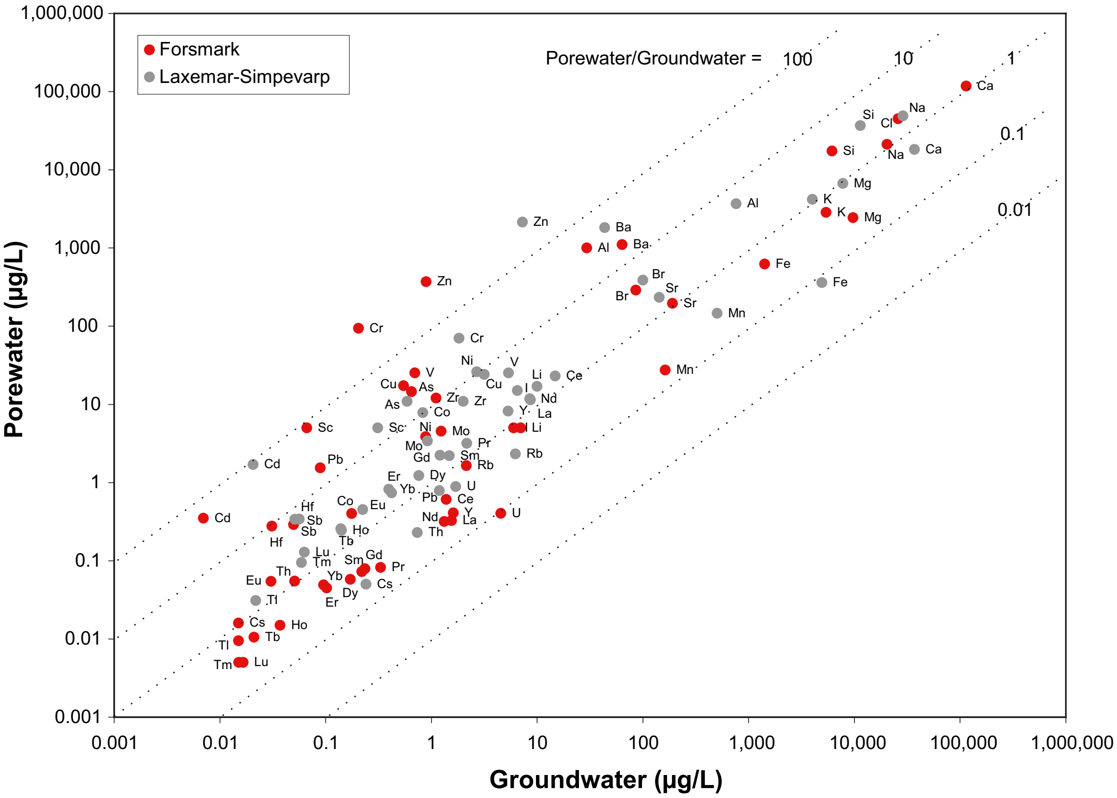

Figure 3-6. Median concentrations of groundwater versus terrestrial porewater samples from Forsmark and Laxemar-Simpevarp areas. Some observations for Tl, Tm and Lu fall below reporting limits and are therefore more uncertain. Dottes lines mark 10-fold deviations from the 1:1-relationship.

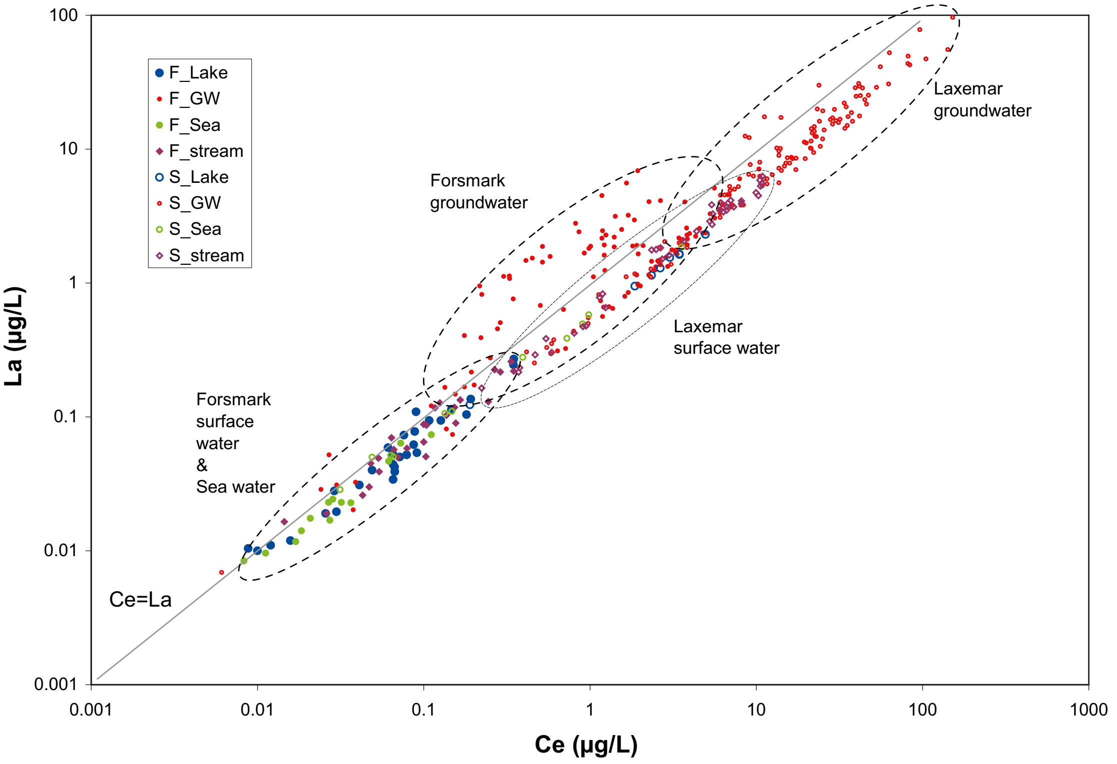

Figure 3-7. REE concentrations for individual samples from Forsmark (F_) and Laxemar-Simpevarp (S_) areas. Lake water (F_lake=Forsmark lake water), Groundwater (GW), Stream water (stream) and Sea water (Sea).

according to this figure there are significant differences between both the sites and water types when REE concentrations in filtered groundwater are compared. The variation is also large within each water type. The following conclusions could be drawn from this figure:

Concentrations of REE in both groundwater and fresh surface water in the Simpevarp area is at least one order of magnitude higher compared to the Forsmark area (Figure 3-7), probably reflecting a geologic property that differs between the sites.

At both sites, there is a general pattern that REE concentrations are at least one order of magnitude higher in groundwater compared to fresh surface water. This means that there is a general mechanism/process that discriminates groundwater from surface water at both sites site, which overlays the geologic site specific difference probably reflecting the different geologies of the sites.

Most observations at both sites show a fairly constant Ce/La ratio possibly indicating a common origin and fate of both these elements. Only some groundwater observations from the Forsmark area deviate from this ratio at any extent.

There is an overlap of sea water samples from both sites, i.e. similar concentrations were measured at both sites. In the Laxemar-Simpevarp area, however, several sea water samples show significantly higher concentrations extending towards concentrations observed in fresh water samples. In the Forsmark area there is no general difference between fresh water and sea water. This is probably an indication of influence from the terrestrial system in the closed brackish bays of the Laxemar-Simpevarp area.

From these comparisons could be concluded that groundwater monitoring data are not directly comparable to terrestrial porewater data. Discrepancies in concentration seen for e.g. some metals could reflect differing pH or redox conditions between these two water types. It is also plausible that some of these discrepancies could have methodological reasons due to changing conditions during sample preparation prior to analysis. If for example the concentrations of the dissolved phase are overestimated, K_d values could be underestimated with an apparent higher mobility as a result.

3.2.3 Particulate and dissolved matter

Particulate and dissolved fractions of lake and sea water samples are revealed in Figure 3-8 /Engdahl et al. 2008/. At both Forsmark and Laxemar-Simpevarp, 3 samples from lake water and 3 samples from sea water were analysed in a special campaign in order to determine the particulate fraction separated by a 0.22µm membrane filter.

Depending on element, the particulate fraction range from less than 1% to nearly 100% of the total element contents. At both sites there is a general tendency that e.g. Ti, Al, P, Fe and Pb predominantly occur in the particulate fraction, whereas e.g. Na, Cl, Ca, Mg and Br only occur as dissolved species. This pattern is expected as Ti predominantly occurs as hard weathered mineral particles, Al and Fe as particulate hydroxy-oxides whereas very mobile elements as Cl mainly occur as dissolved ions.

When data from Forsmark and Laxemar-Simpevarp are compared, the order of the elements agrees when they are sorted with respect to the particulate fraction, which could be interpreted as if the composition of the particulate matter is similar at both sites. There are however some discrepancies in the absolute magnitude of the particulate fraction among these samples, i.e. there is a general shift in the vertical direction most clearly seen in the lower panel of Figure 3-8. This systematic discrepancy could be explained by methodological uncertainties, e.g. actual filter porosity, which shifts the total contents between the ‘particulate’ and ‘dissolved’ fractions. The distinction between what is particulate and what is dissolved is in practice a question of definition. The error bars also indicate that there is a considerable spread for some elements, especially among the samples from the Laxemar-Simpevarp area.

If the total content of suspended matter is explored in Figure 3-9, there is an overall seasonal tendency with highest content during April to September (cf. /Tröjbom et al. 2007/ and /Tröjbom et al. 2008/ for further evaluations of element concentrations versus flow in streams. The sources

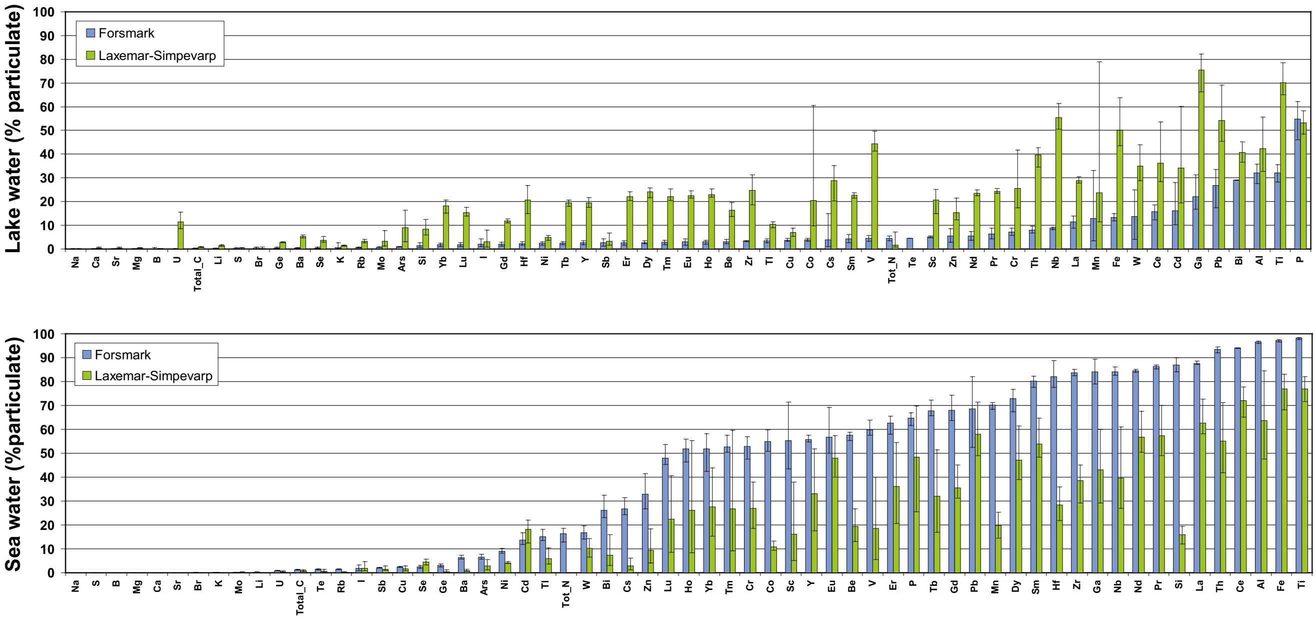

Figure 3-8. *Particulate of total element content in lake water (upper panel) and sea water (lower panel) separated by a 0.22µm membrane filter. The bars represent the geometric mean of three samples (representing one sampling occasion) and the error marks the minimum and maximum values.*

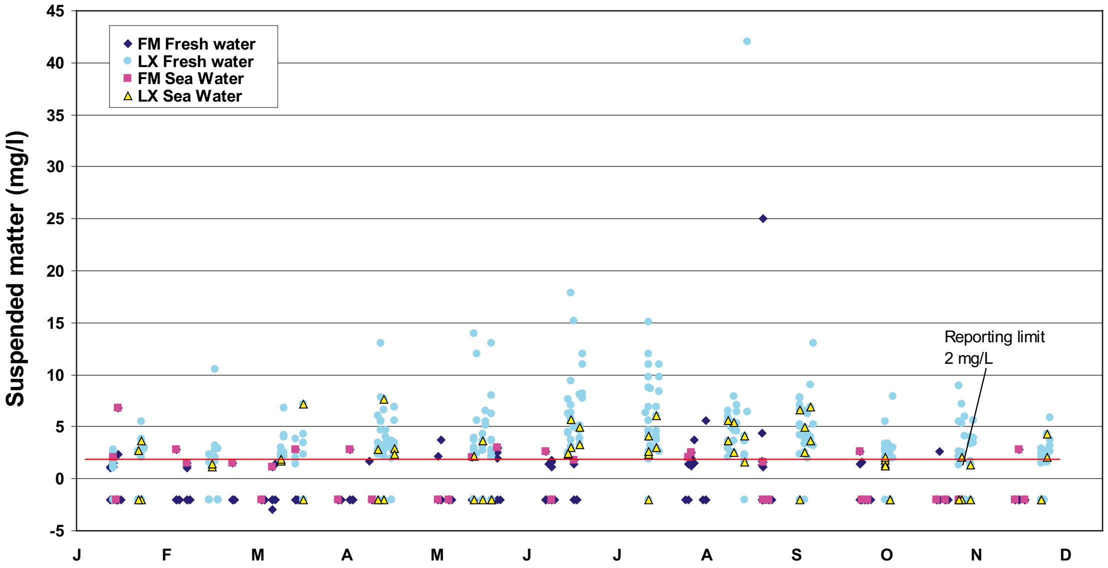

Figure 3-9. *Contents of suspended matter at different times of the year. This figure is based on data from the monitoring from the years 2007 to 2009. Values displayed as –2 mg/l are those reported as below the detection limit (2 mg/l).*

of particulate matter differ depending on season probably due to varying processes, e.g. abrasive erosion during high flood episodes in spring, increased influence from secondary precipitation of for example Fe and Mn in discharging groundwater during lower flow rates and primary production (plankton) during the growing season.

3.3 Regolith and composition of suspended matter

3.3.1 Overview of terrestrial, limnic and marine sediments

If all available deposit samples from the terrestrial, limnic and marine systems are compared in Figure 3-10, there is a continuous gradient from mineral soils in the lower right to organic soils (peat) in the upper left corner. The x-axis represents the sum of all elements analyzed, major elements as well as trace elements (carbon, oxygen, and hydrogen are excluded from this sum). The y-axis represents the total carbon content in the sample. From this figure could be concluded that carbon and the other analyzed elements comprise approximately 55% of the dry substance, whereas mainly oxygen and hydrogen comprise the remaining 45% irrespective of soil type. Plant samples (aquatic and terrestrial plants, fungi and litter fall) are with a few exceptions mainly organic. This figure could be seen as a simple mass balance of all elements except O and H: when there is more C there is less of the other elements, and there is a constant proportion of all samples that is O and H. A few samples deviate from the 50–50 line, which means that they do not represent the total mineral contents but a leached fraction.

As a complement to Figure 3-10 the relative distribution of specific elements analysed is outlined in Figure 3-11. The residual (blue bar) comprises approximately 50% of the total dry matter, mainly oxygen and hydrogen irrespective of soil type. In case of mineral samples the residual consists of oxygen bound into metal oxides, whereas both oxygen and hydrogen incorporated in organic matter comprise the residual in the organic soil samples. The major conclusions from both these figures are outlined below:

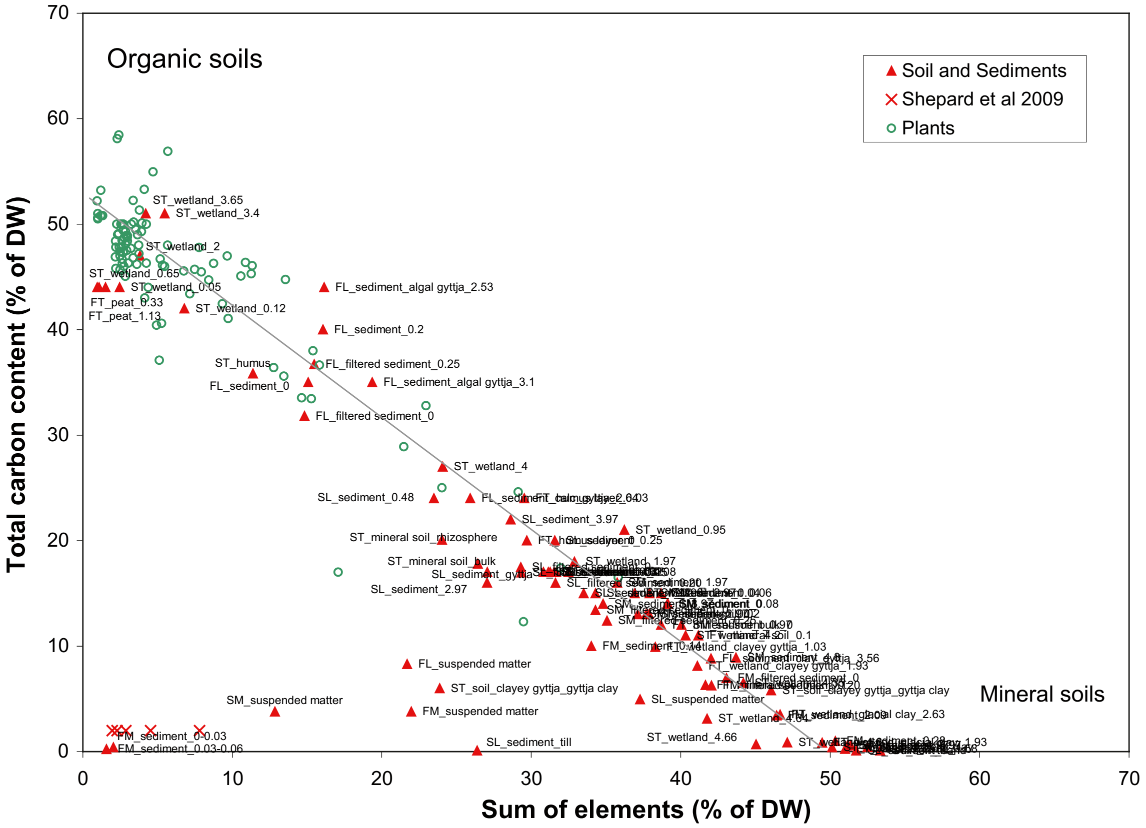

Figure 3-10. Total carbon content and sum of elements analysed both expressed in percent of dry weight (DW). Carbon, oxygen and hydrogen are not included in this sum). Plant samples representing living organic matter are marked as green circles as comparison. Individual samples are coded as follows: first letter 'F' or 'S' denote "Forsmark" or "Simpevarp" areas respectively. The second letter denotes the ecosystem: 'L', 'M' or 'T' for limnic, marine and terrestrial respectively. After that comes the sample name followed by the sampling depth (cf. Table 2-1).

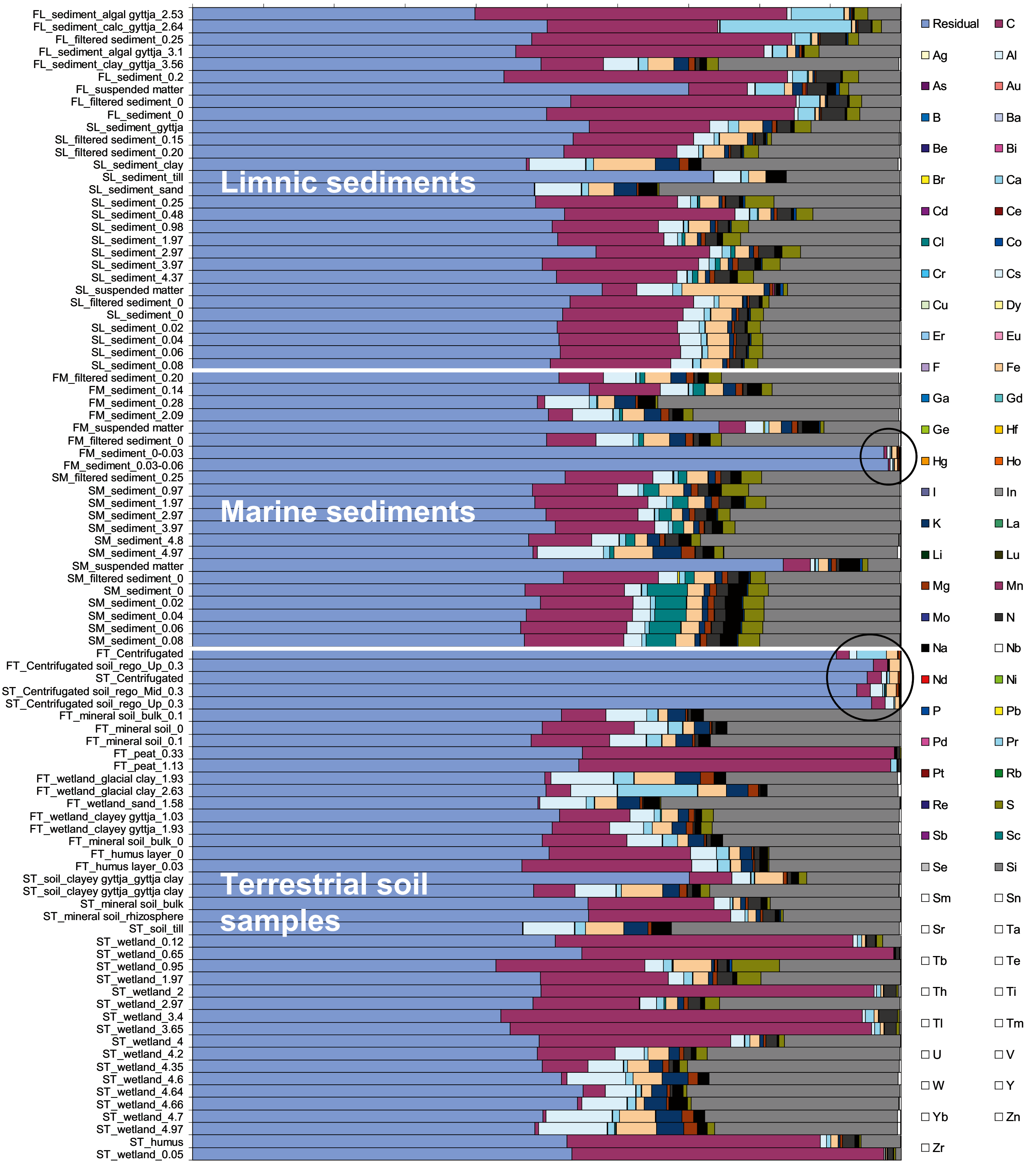

Figure 3-11. *The relative distribution of all elements analysed of samples from limnic sediments, marine sediments and terrestrial soils at the bottom. The comparison is based on measurements of mg/kg DW. The residual, which is the difference between the sum of all elements analysed in a sample and 100%, consists mainly of oxygen and hydrogen, in organic soils bound to organic matter and in mineral soil mainly as metal oxides. Samples lacking carbon analysis were excluded from this figure. See Figure 3-10 for an explanation of the labels.*

There is a clear difference between organic and mineral soil samples. In the organic soil type the relative content of C (lilac) is high and the Si content (grey to the right) is, as expected, low or negligible. Conversely mineral soils contain more Si and Al (light blue), and sometimes negligible contents of C. There is a continuous gradient between these soil types, as indicated in Figure 3-10, depending on the mixing proportions of the soil types and ultimately the genesis of the actual sediment.

There are samples of mainly mineral composition (rich in Si) from the limnic, marine and terrestrial environments that show similar compositions regarding carbon contents and most major elements. Within these mineral samples there are however some differences regarding the major constituents of the regolith:

- The Cl content is elevated in the marine sediments compared to both limnic and terrestrial sediments.
- Among limnic and terrestrial sediments, there are examples of elevated calcium contents. In the case for lake sediments, a probable explanation is calcite precipitation in the oligotrophic hardwater lakes /Brunberg and Blomqvist 2000, Brunberg et al. 2002/. In the terrestrial environment, the elevated calcium content could be explained by influence from the calcite rich till which is present in the Forsmark area /Tröjbom et al. 2007/.
- The content of S is generally larger in the aquatic environments compared to most terrestrial sediments.

Suspended matter from both limnic and marine environments show a similar pattern characterised by high residual. These samples have been digested with a weaker extraction media (sections 2.2.2 and 2.3.2) than most sediment and soil samples which may be one of several possible explanations.

Seven samples, encircled in black, deviate markedly from all other samples. These samples stress the importance of correctly interpreting data with respect to the extraction method used and the purpose with a specific sampling campaign:

- Two marine samples, ‘FM_sediment_0–0.03’ and ‘FM_sediment 0.03–0.06’ do not represent the total contents as a combination of HNO_3 and H_2O_2 was used for extraction (cf. Section 4.1).
- Five terrestrial samples encircled in black and marked as ‘centrifugated soil samples’ in Figure 3-11 belong to a special campaign where ‘aqua regia’ was used to extract the exchangeable fraction, not the total content as was the case in all other samples. These samples lack several major constituents as Si, S, Ti and P, and are also not directly comparable to the other total analyses because of the extraction method. These samples are however important as they are used for estimations of terrestrial K_d reflecting the exchangeable fraction rather than the total contents.

In previous figures only the relative contents of major constituents are visible. By the use of principal component analysis, PCA, general patterns for major elements as well as trace elements could be elucidated simultaneously. When analysing this kind of mass balance data statistically, where the sums converge to the same value, element mass concentrations could not be used as they are. The explanation for this is that if the concentration of one element is changed, the concentrations of all other elements are changed as well, since the concentrations have to sum up to 100%. This leads to apparent mass changes to the other elements. One way to overcome this problem is to normalize the various element concentrations to a reference element. In the analysis of biota all elements are related to carbon which is the common building block in living matter. In the case of sediments Si may be appropriate as the main constituent of many minerals in regolith and bedrock. Mass ratios relative Si could give indications how different samples are related and also where minor constituents and trace elements are enriched or depleted.

The PCA in Figure 3-12 show two major sources of variation among the sediment samples from the limnic, marine and terrestrial systems. The separation in the horizontal direction probably reflects elevated contents of organic matter to the left and presence of minerals resistible to weathering to the right. In the vertical direction, observations are to some extent sorted according to site with Forsmark samples prevailing in the upper part.

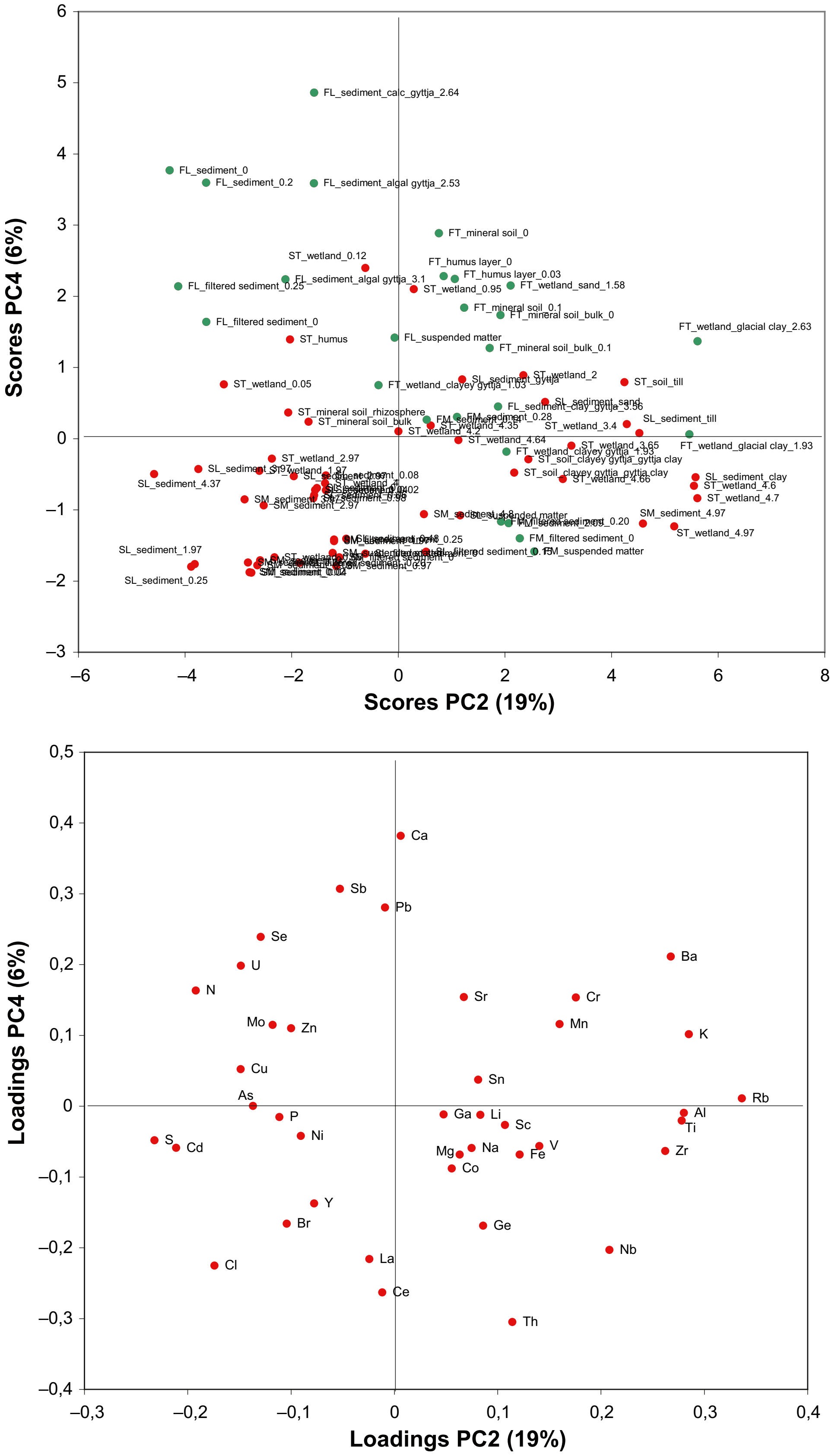

Figure 3-12. *PCA showing how several elements normalised to Si are related based on the logarithm (10) of original data. The second and fourth components are shown in this figure as they extract relevant information for the question at issue. The first component comprises some artefact due to missing data and the third component separate particulate matter from regolith samples. Cf. Figure 3-10 for an explanation of this type of plot and a description of the labels.*

The horizontal gradient separates limnic and marine sediments to the left from samples of glacial clay to the right. In these samples nutrients as N, S, and P are enriched relative to Si indicating influence from organic matter that tends to be rich in these elements. Also Cl, Cd, As, Cu, Mo, Zn, U and Se belong to this group.

In the right end of the horizontal gradient where deep samples of glacial clay are found, elements occurring in minerals resistible to weathering are enriched relative Si, e.g. Zr, Ti and Al. Also elements as Rb, K, and Ba are enriched relative Si among these samples.

In the vertical direction observations seem to be separated according to site with Forsmark samples prevailing in the upper half. The calcite rich till in combination with secondary precipitation of calcite in the lakes is probably the underlying factor behind this separation with respect to site (the vertical PC4 is heavily loaded to represent Ca/Si ratios). Other elements associated to this possible site specific trend are Sb, Pb, Se, U and Ba which seem to occur at higher concentrations relative to Si in the Forsmark area.

Conversely, some elements are enriched relative to Si in the Laxemar-Simpevarp area compared to the Forsmark area. For example REE elements, exemplified by La and Ce as well as trace elements as Th and Nb (cf. Section 3.2.2 where the same difference for REE was observed in the water phase).

3.3.2 Evaluation of soil data of the fungi campaign

During sampling of fungi fruit bodies in the Forsmark area, corresponding soil samples were taken at the same locations /Johanson et al. 2004/. In this section these organic soil samples are compared with other organic regolith samples from the Forsmark area. In the fungi campaign, two soil fractions were sampled ‘soil_bulk_fungi’ and ‘soil_rhizospere_fungi’ (cf. Section 2.1.1). If these samples are compared with median values of other organic soils from the Forsmark area in Figure 3-13, it could be concluded that most elements scatter around or below the 1:1-line. This

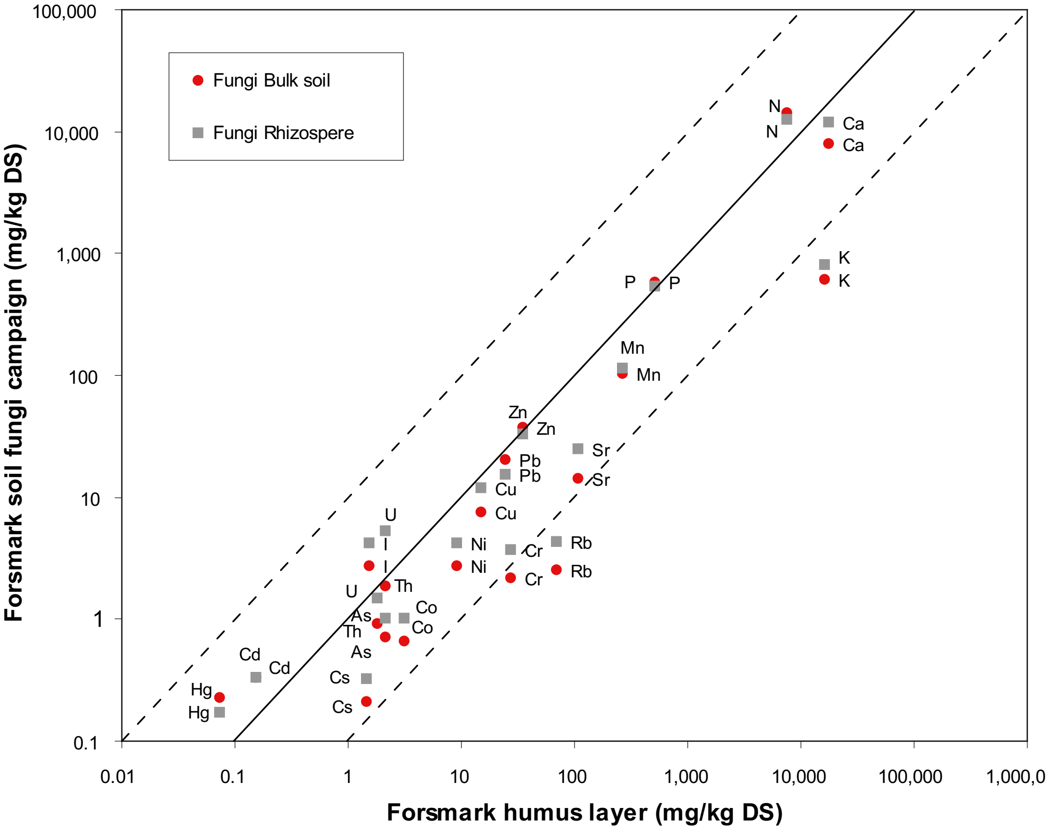

Figure 3-13. Comparison between organic soil samples from the Forsmark area and the element contents in soil sampled during the fungi campaign. Dashed lines mark 10-fold deviations from the 1:1-relationship (the solid line).

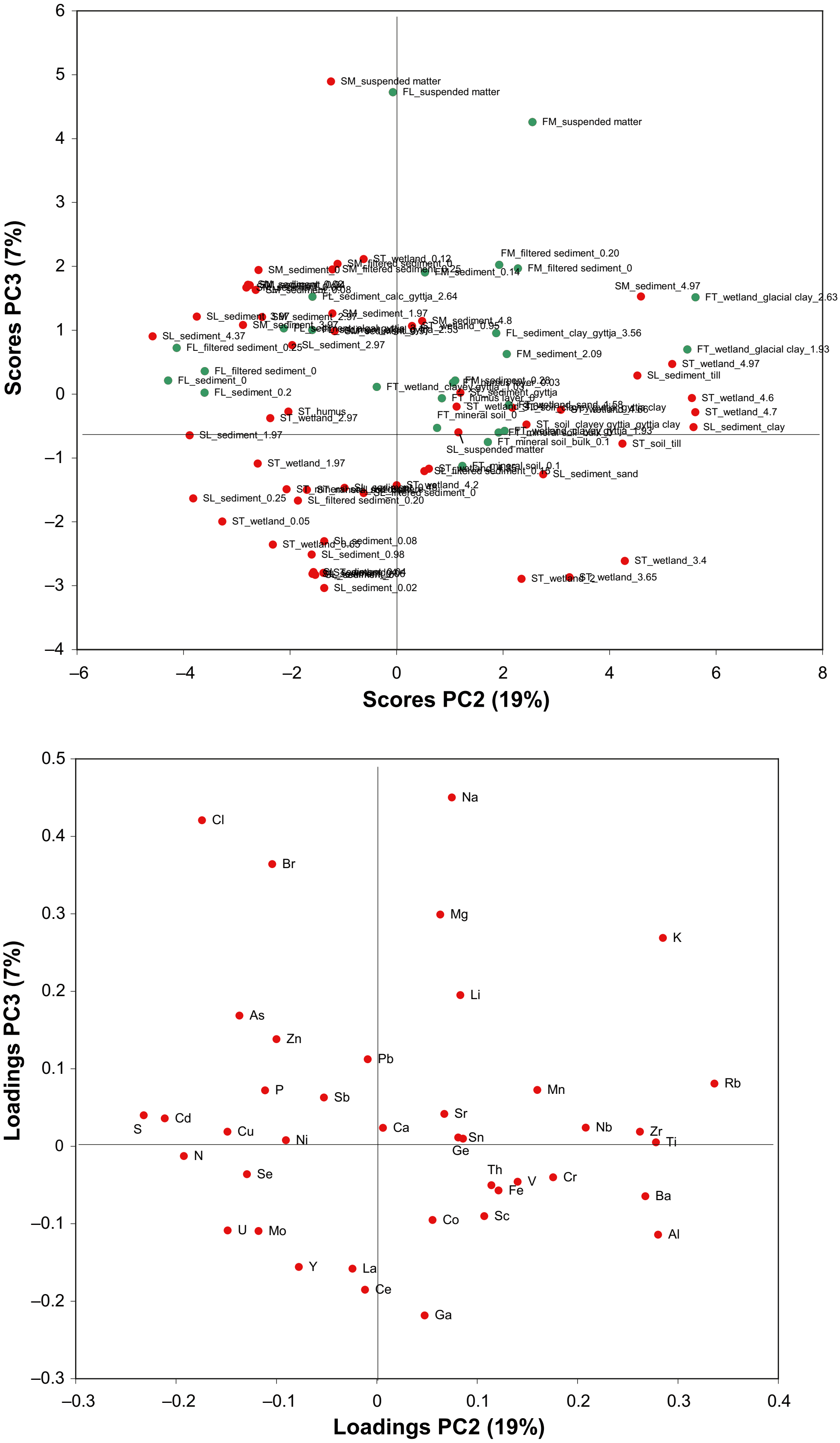

Figure 3-14. *PCA showing how several elements normalised to Si are related based on log-transformed data. In the score plot in the upper panel observations are shown, and in the corresponding loading plot in the lower panel is shown how variables (elements) are related. The second and third components are shown in this figure. The first component comprises some artefact due to missing data. Labels are explained in Figure 3-10.*

means that the concentrations for some elements are markedly higher in the other Forsmark organic soil samples compared to the soil samples of the fungi campaign. The largest discrepancies are found for Rb, Cs, and K (analogues), as well as Cr and Sr, which perhaps could be explained by less mineral particle contents in the fungi campaign. As can be seen in Figure 3-16 the difference in concentrations between "bulk soil" and "rhizosphere" samples are small.

3.3.3 Detailed evaluation of suspended matter

All four samples of suspended matter deviate from most other regolith samples by showing a larger residual in Figure 3-11, i.e. a larger fraction of the total dry mass not explained by sum of the included elements. A similar discrepancy is also evident in Figure 3-10 where samples of suspended matter deviate from the general organic-inorganic gradient. This is probably an indication that there has not been a total dissolution of these samples compared to most other regolith samples. The samples of suspended matter were digested with a mixture of hydrofluoric and nitric acids according to Sections 2.2.2 and 2.3.2.

If the contents of several elements relative Si are studied in a PCA the most evident deviation is shown by ions of marine origin. The third principal component of the previously shown PCA (the second and fourth components where shown in Figure 3-12) separates three observations of suspended matter from sediment and regolith samples characterised by elevated contents of Na, Cl, Mg and Br, as well as K and Li relative to Si. This is the case for the marine samples of suspended matter from both sites and the limnic sample from Forsmark. The limnic sample from the Laxemar-Simpevarp area does not show this deviation. In other respects there is no pronounced difference between the composition of suspended matter and other regolith types such as limnic sediments.

3.4 Terrestrial biota

Due to heterogeneous data sets, biota data are explored in several steps. A comparison of terrestrial animals and plants in Section 3.4.1 is followed by a comparison with fungi in Section 3.4.2. A more detailed evaluation of terrestrial plants in Section 3.4.3 and terrestrial animals are discussed in more detail in Section 3.4.4. Limnic and marine biota is handled separately in Section 3.5.

The concentrations of elements in biota mentioned in this section are all concentrations normalised to carbon content if nothing else is stated. The normalisation was performed using the reported carbon content for each individual sample. If carbon data were missing the arithmetic mean value of the carbon contents from site data was used, see Appendix 3.

3.4.1 Overview of terrestrial biota – animals and plants

If all samples of animals and plants from the terrestrial system are explored in the PCA in Figure 3-15, three major groups are revealed: animals to the left, plants in the middle and root samples to the right. This PCA is based on element concentrations normalised to carbon which means that they reflect the relative element content per carbon. Nutrients and other essential elements usually occur at relatively stable ratios to carbon, whereas other elements may be enriched or depleted depending on the biochemical properties of that specific element.

There is a clear discrimination among animals, plants and plant roots in Figure 3-15. One sample was removed from this analysis: 'FT_tree_layer_wood_spruce' which is an outlier regarding especially Fe, Al, Sc, Zr. The major conclusions of the PCA in Figure 3-15 are summarized below:

Animals differ from higher plants regarding higher contents of nutrients such as N, P, K and S relative to carbon. Also Rb and Cs, which follows the same uptake routes as K, occur in elevated concentrations in animals. Na, Cl and Zn show a tendency of enrichment relative carbon in animals compared to plants.

Plants differ from animals by showing higher contents of elements used in structural tissues as cell walls, e.g. Ca and Mg. In animal samples skeletons were removed which further enhance this discrepancy. Also elements related to Ca, as Sr and Ba are enriched in plants, as well as essential elements as B and Mn.

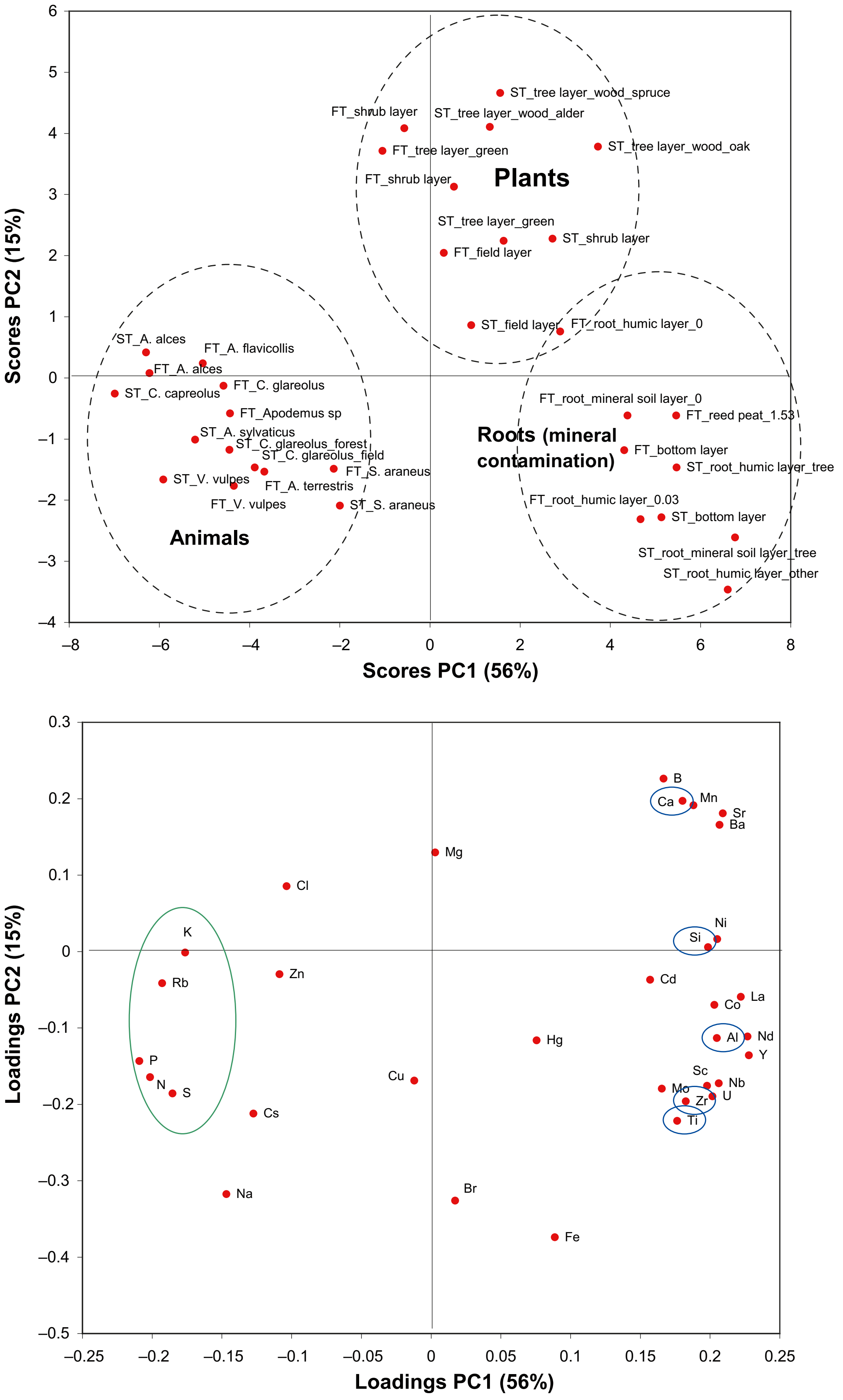

Figure 3‑15. *PCA showing the elements contents relative to carbon in all terrestrial biota samples from Forsmark and Laxemar-Simpevarp areas. The PCA is based on log-transformed data with root samples included but with 'FT_ved av gran' excluded. In the loading plot in the lower panel, some elements associated to mineral soil is marked with a blue ellipse. Labels are explained in Figure 3-10.*

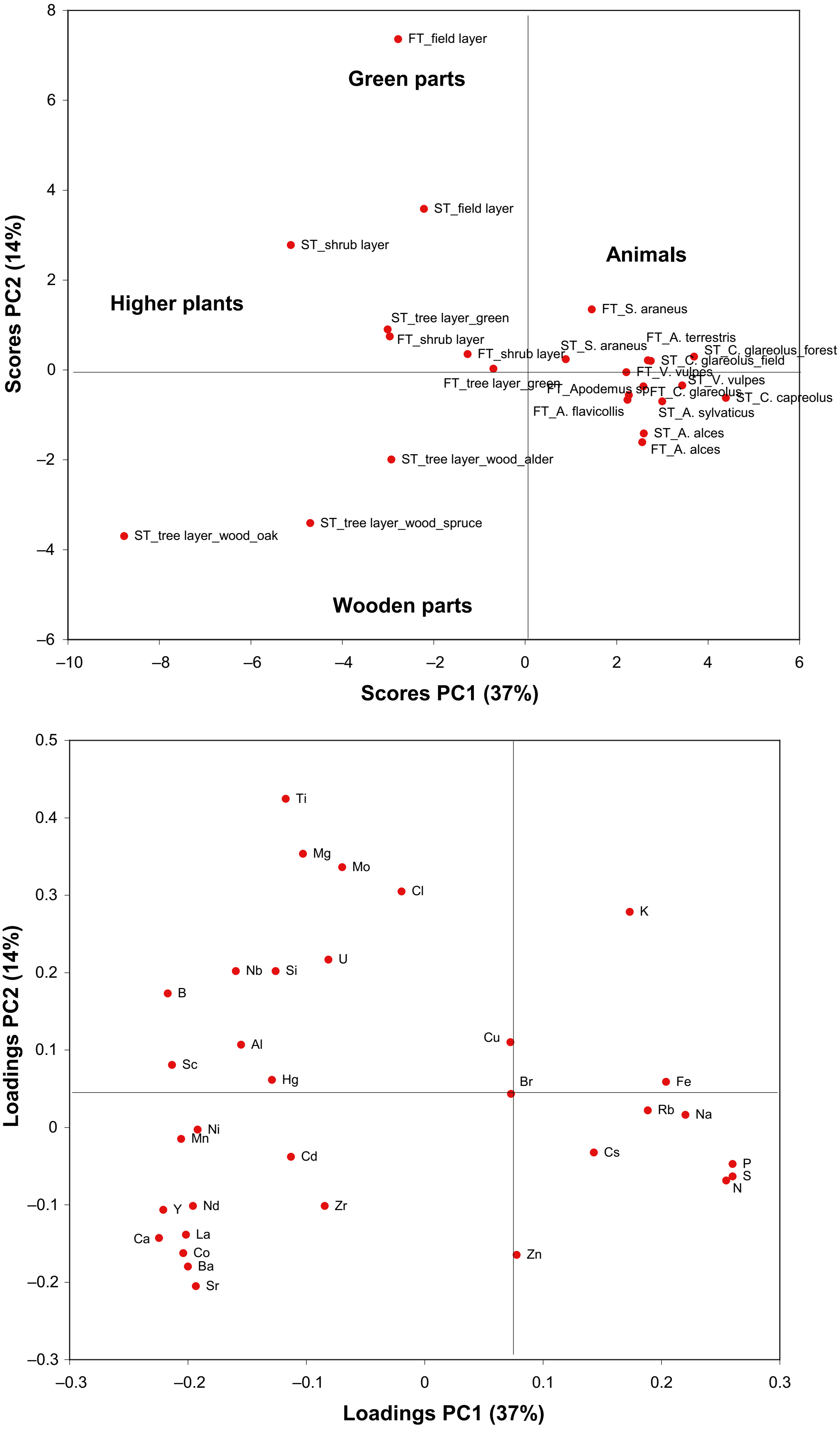

Figure 3-16. *PCA showing the elements contents relative to carbon in all terrestrial biota samples from Forsmark and Laxemar-Simpevarp areas. The PCA is based on non-transformed data with root samples excluded. Labels are explained in Figure 3-10.*

Root samples form a separate group more similar to other plant samples than to animal samples. This group is also characterized by elevated contents of elements associated to mineral particles, e.g. Si, Al, Zr, and Ti. Mineral contamination by soil particles could not be excluded although root samples are thoroughly washed prior analysis (cf. /Sheppard et al. 2010/).

Two samples consisting mainly of mosses plot along the root samples (the samples 'FT_bottom layer' and 'ST_bottom layer'), which means that they are more similar to root samples rather that green parts of plants. These samples consist mainly of mosses that have no uptake from the soil and therefore differing uptake mechanisms compared to higher plants. Mineral soil contamination during sampling or dust associated to the surfaces could be possible explanations to the enrichment of these elements relative to carbon in mosses.

If root samples and the bottom layer samples (mosses) are excluded from Figure 3-15 a more detailed pattern arises not biased by the presumed contamination of mineral particles. From Figure 3-16 further details regarding the element composition relative to carbon is revealed. Major conclusions are summarized in the bullet list below:

This PCA highlights differences between higher plants and animals. It is based on non-transformed data and thus mainly influenced by "end-members" located far from the origin in the score plot. There are of course mainly similarities in chemical composition among plants and animals as both consist of living matter with similar stoichiometry.

There is a clear separation between higher plants and animals regarding several nutrients and trace elements according to the horizontal factor (PC1). The second factor (PC2), vertical in the figure, separates green and wooden parts among plant samples, with little correlation to animals.

All animals form a relatively homogenous group, which means that these samples have a similar composition. Animals contain more of the nutrients N, P, K, S, Na, and Fe relative to carbon compared to plants. Also Rb and Cs, which share uptake mechanism with K, are accumulated in animal tissues compared to plant tissues. The enrichments of N and S could be explained by the higher protein contents in animals related to motor activity. Also P could be explained by motor activity through ATP used for energy transfer, whereas enrichments of Fe could be explained by haemoglobin in blood. Na is essential for animals but not plants.

In plants, essential elements as Ca, Cl, Mo, Mg, (B), Mn, and Ni are accumulated relative to carbon compared to animals. The enrichments of Ca and Mg could be explained by the use in cell walls, whereas Cl is taken up by plants as a counter ion in the vacuoles. Also the related elements Sr and Ba are accumulated in plants relative to carbon. This discrimination could to some extent be skewed because bones, which are rich in Ca, are excluded from the animal samples in the comparison.

Geogenic elements such as Si, Al, U and La are also accumulated relative to carbon in plants compared to animals.

When green and wooden parts of higher plants are compared, green parts contain more of mobile essential elements as K, Cl, Mo and Mg, whereas structural elements associated to cell walls predominates in the wooden parts, e.g. Ca, Ba and Sr.

When the Forsmark and Laxemar-Simpevarp areas are compared, there is no general difference in composition among animals (observations from both Forsmark and Laxemar-Simpevarp form a common cluster).

3.4.2 Comparisons of animals, plants and fungi

This evaluation is based on a data set including elemental analyses of fungi. As the number of elements analyzed in fungi is fewer compared to plants and animals, this exploration is based on a sub-dataset limited by the number elements of the fungi campaign (Ca, Cd, Co, Cr, Cs, Cu, Hg, I, K, Mn, N, Ni, P, Pb, Rb, Sr, Th, U and Zn). Also Cr, I, Pb and Th were excluded from the PCA due to missing data.

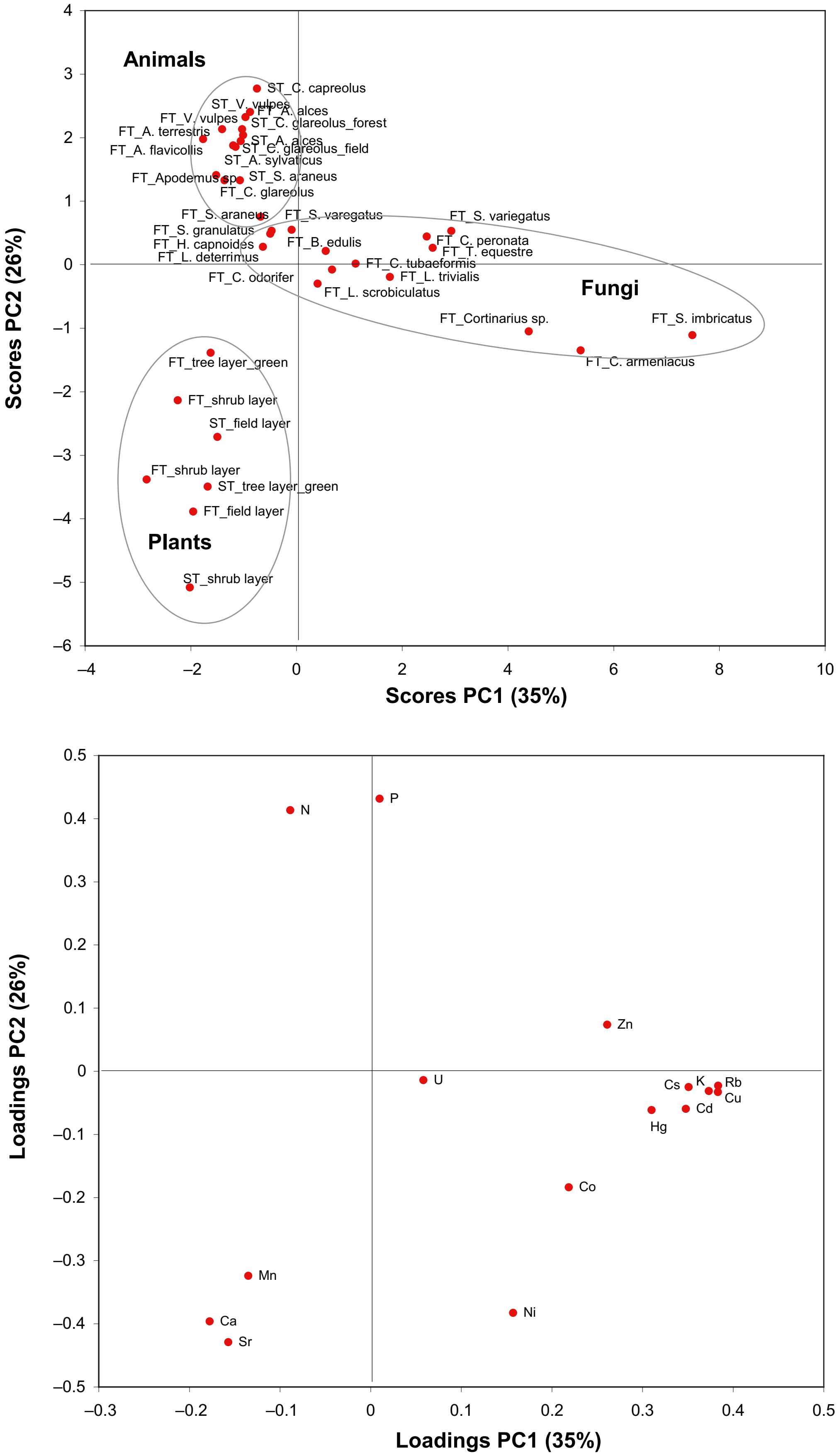

Figure 3-17. *PCA showing the elements contents relative to carbon in all terrestrial biota samples from Forsmark and Laxemar-Simpevarp areas including fungi samples. The PCA is based on log-transformed data with root samples excluded. Labels are explained in Figure 3-10.*

The PCA in Figure 3-17 reveals the correlation structure among terrestrial plant, fungi and animal samples:

The horizontal component comprising 35% of the total variation in the dataset discriminates some fungi species from both plants and animals plotting at the left side. This could be interpreted as if some elements are accumulated in these fungi species relative to carbon compared to plant and animal tissues. These elements are K and the related elements Rb and Cs plotting to the right in the lower panel, which probably share uptake mechanisms. Several metals, e.g. Cu, Cd, Hg, Zn, Co, Ni are also accumulated in fungi, which is a known phenomenon for e.g. Cd in some species. The magnitude of this uptake mechanism could be a species specific property.

The variation in the vertical direction separates animals from plants. All fungi species ends up in between the plant and animal clusters perhaps with a slight attraction towards the animal cluster. This means that fungi is intermediate to animals and plants with respect to N, P, Ca, Sr, Mn, and Ni contents in relation to carbon. Animals contain more N and P compared to fungi, whereas higher plants contain more Ca (as well as the related element Sr), and the elements Ni and Mn.

There is no clear pattern for U among plants, fungi or animals.

According to the pattern in Figure 3-17, fungi seem to be a heterogeneous group with respect to several trace elements. From this limited sample size, which represent spruce or mixed forests in the Forsmark area, it could not be determined if the variation is species dependent or a spatial effect. *Hypholoma capnoides*, which is growing on wood, represent the left end of the interval together with other species growing on the forest floor. Three species of *Cortinarius* (*C. armeniacus*, *C. odorifer* and *C. sp*) are present at both ends of the interval. Of the fungi fruit bodies included in the analysis most are edible but at least one is classified as inedible (*Lactarius scrobiculatus*). This analysis shows that it is not possible to divide the mushroom data set into further subgroups, although there is a large variation among the samples of fungi. The variation in chemical composition either mirrors natural variation between edible species within the same area or spatial variation among different habitats within the area.

If element concentrations in fungi and plants relative to carbon are compared in Figure 3-18, differences described above are further highlighted. In the radionuclide model used in SR-Site, the diet of herbivores is assumed to contain a certain amount of fungi, and depending on the concentration of an element in fungi and plants, the relative importance of fungi of the total food intake varies. From Figure 3-18 could be concluded that:

- Some nutrients occur at higher concentrations relative to carbon in fungi compared to plants: N, P, K, as well as Cs and Rb (which are analogues for K).
- Some metals also occur at highly elevated concentrations relative carbon in fungi compared to plants, which means that they potentially contribute significantly to the total intake of herbivores: e.g. Cd, Hg, Cu and Zn.
- Conversely, Ca and Sr (analogues) as well as Mn occur at higher concentrations relative carbon in green parts of plants, which means that intake via fungi is negligible for these elements compared to plant uptake, especially because most of the food is plant material.

3.4.3 Detailed comparisons among terrestrial plants from Forsmark and Laxemar-Simpevarp areas

If median values of the green parts of terrestrial plants are compared for the Forsmark and Laxemar-Simpevarp areas, there is a good agreement for most elements. According to Figure 3-19 the largest discrepancies from the 1:1-line are seen for Cl and some REE. A detailed analysis (ANOVA, cf. Table 8-2 in Appendix 3) reveals only some significant differences in element composition between the sites: The Cl contents relative to carbon is significantly higher in the Forsmark area compared to the Laxemar-Simpevarp area ($p<0.01$). The concentration of several REE is elevated in the Laxemar-Simpevarp area compared to the Forsmark area. This resembles the pattern seen in water when the sites are compared (cf. Section 3.2.2). Hg and I are also significantly higher in terrestrial plants from the Laxemar-Simpevarp area ($p<0.01$). The same pattern applies to fish from the limnic ecosystem (cf. Section 3.5.5).

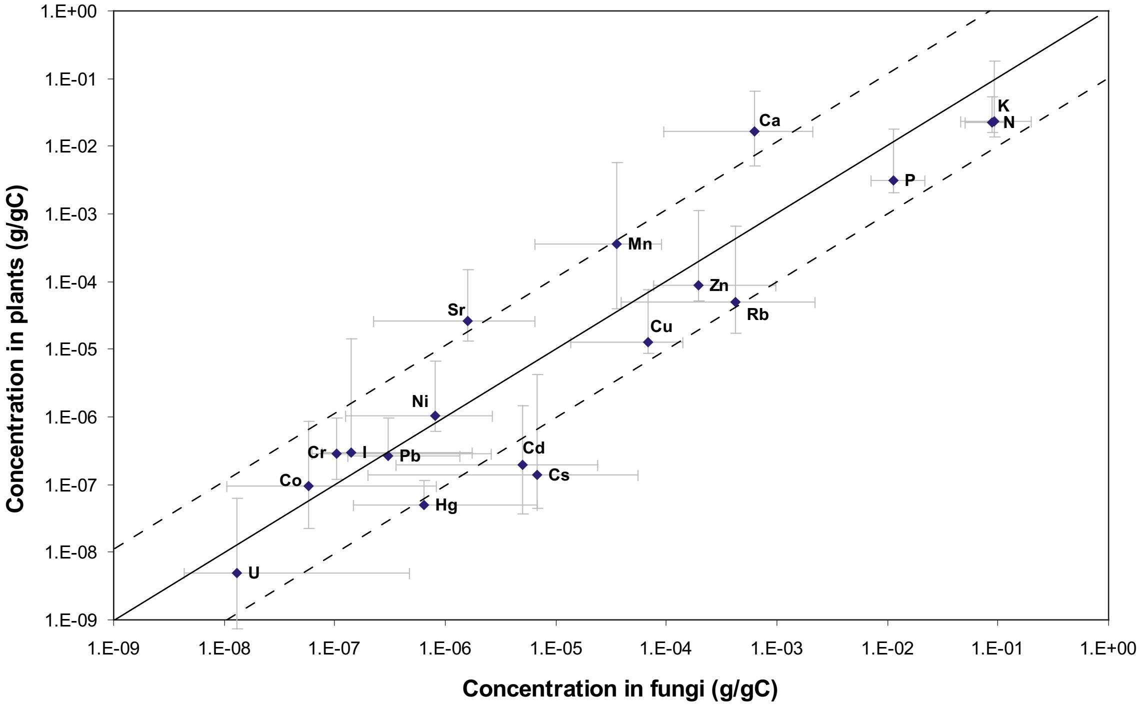

Figure 3-18. *Comparisons of elements contents relative to carbon for fungi and green parts of plants. Median values per category and min- and max values as error bars. Dashed lines mark 10-fold deviations from the 1:1-relationship (the solid line).*

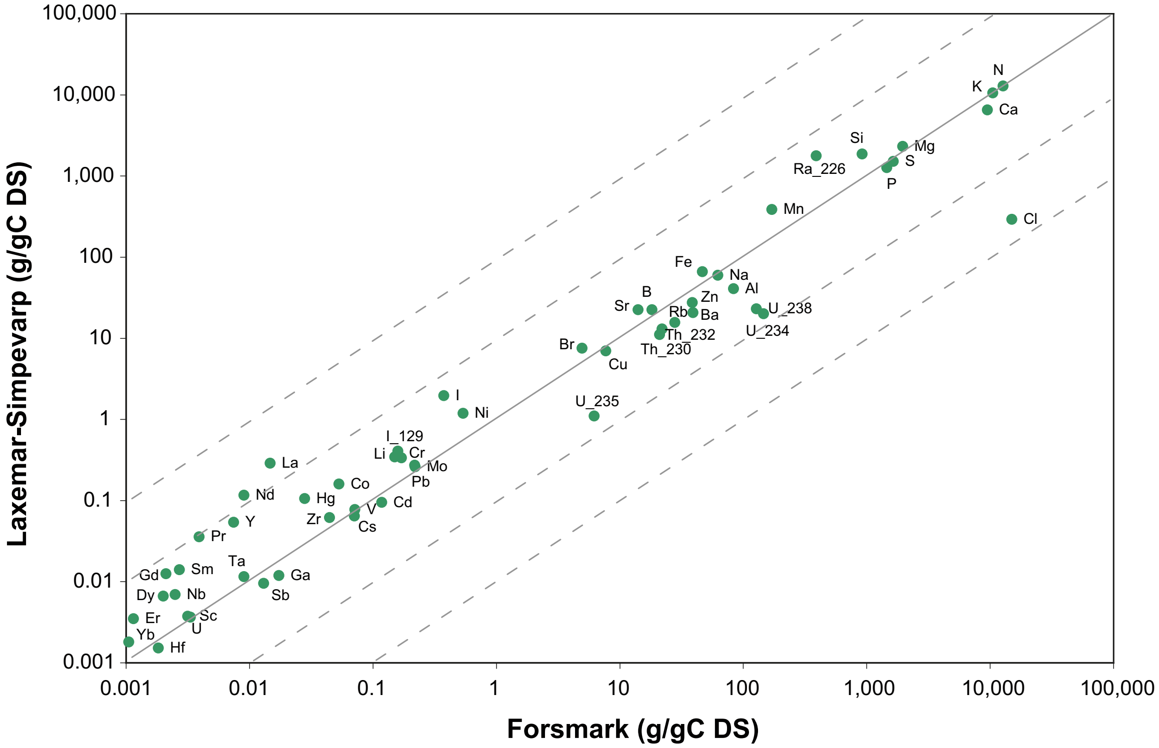

Figure 3-19. *Comparison between green parts of terrestrial plants from Forsmark and Laxemar-Simpevarp areas. Median values from both sites. Dashed lines mark 10-fold deviations from the 1:1-relationship (the solid line).*

The overall conclusion from this evaluation is that the composition of terrestrial plants is very similar at both sites. Major differences are instead seen among different parts of the plants irrespective of the site with exception for Cl where there is a significantly marked site specific difference.

Cl concentrations relative carbon is almost ten times elevated in the Forsmark area compared to the Laxemar-Simpevarp area. This difference is most pronounced for green parts of the plants but could be seen also among root and wood samples from higher plants according to Figure 3-20. There seem to be no difference regarding Cl between moss samples from both sites (bottom layer in Figure 3-21). The difference from higher plants could be explained by differing uptake mechanism (mosses have no root uptake).

There is no corresponding difference between the sites for the closely related element Br. The Cl/Br ratio could give indications of the origin of these elements, for example has the marine source a distinct Cl/Br ratio (cf. Figure 3-21). Br is not taken up actively by plants like Cl, but can to some extent substitute for Cl when taken up passively. Cl functions as a counter ion in the vacuoles of plants and perhaps could surplus uptake of Ca in the Forsmark area be a possible explanation.

3.4.4 Detailed comparisons among terrestrial animals from Forsmark and Laxemar-Simpevarp areas

The overview in Figure 3-15 shows that all terrestrial animal samples are very similar in elemental composition and that they differ from the composition of plants and fungi regarding many elements. If only animal samples are included in a PCA, this analysis reveals minor differences within the animal group. In Figure 3-22, which is based on individual animal samples from both sites, site specific differences as well as systematic differences between animal types are revealed:

In the horizontal direction there is a clear separation between larger herbivores (roe deer and moose) to the left and smaller herbivores to the right (rodents). Carnivores group in between these two extremes.

- Several elements occur in higher amounts in the muscle tissue of smaller herbivores compared to larger herbivores, e.g. Ca, Sr, Ba as well as several metals as La, Mn, Y, and Mo. These differences are supported by the element wise analysis in Table 8-3 in Appendix 3.
- Conversely Zn occurs in higher amounts relative to carbon in larger herbivores.

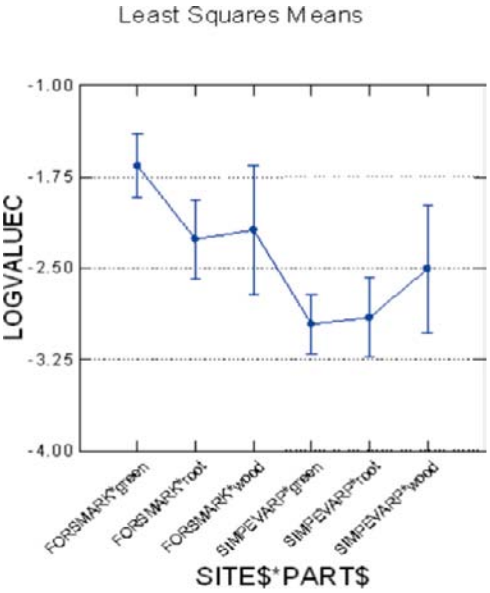

Figure 3-20. *Comparison of Cl concentrations relative to carbon of plant parts from Forsmark and Laxemar-Simpevarp areas. Green parts, wood and root samples.*

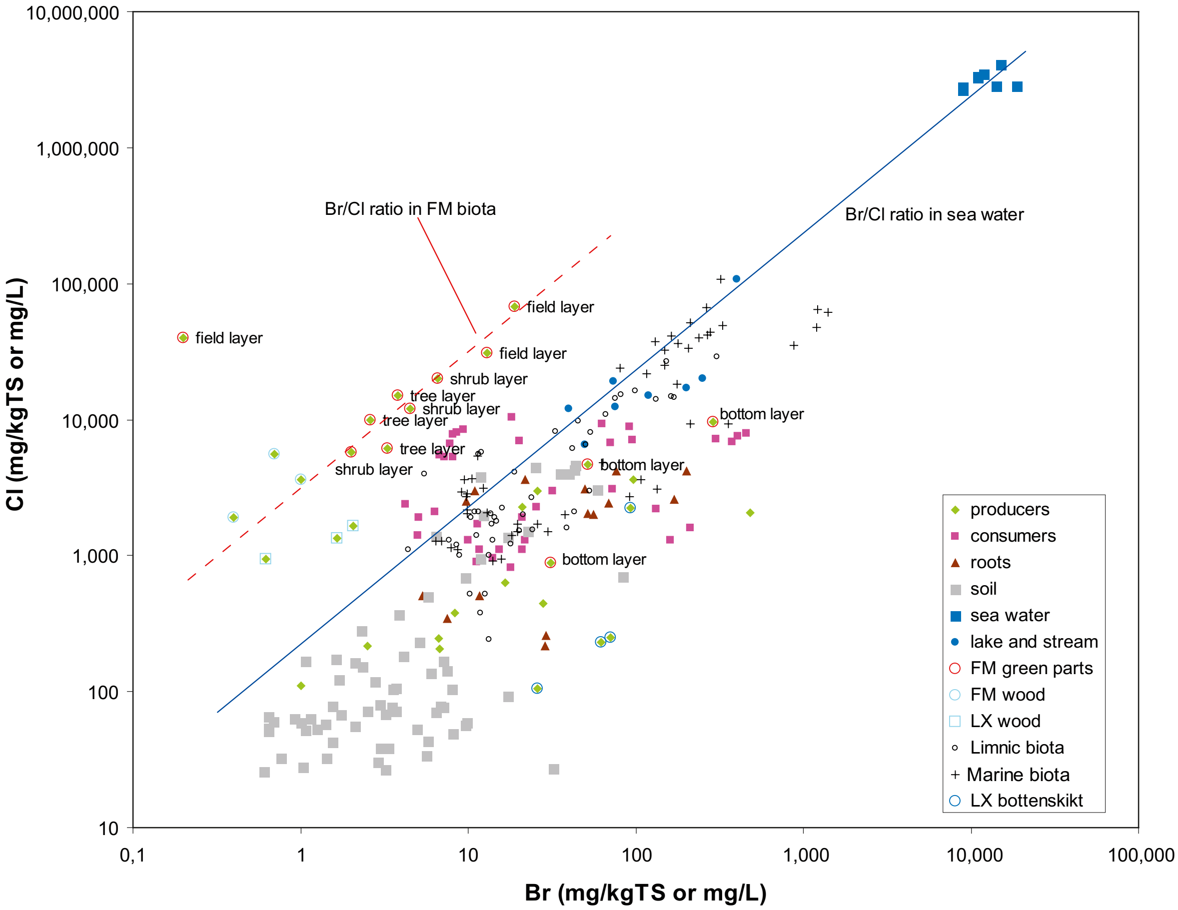

Figure 3-21. *Cl versus Br concentrations in biota, water and soil samples from Forsmark and Laxemar-Simpevarp areas.*

- Although muscle tissue is prepared from both small and large herbivores, this discrepancy could be methodological rather than real due to difficulties in preparing pure muscle tissue in small animals. The larger variation among samples from small herbivores perhaps supports this hypothesis.

There is also a systematic difference between the sites according to the separation in vertical direction.

- Some elements, e.g. Cs, Rb, Cu and Se, occur at higher amounts relative to carbon in the Laxemar-Simpevarp area compared to the Forsmark area. This pattern is evident for both small and large herbivores and most probably reflects site specific differences regarding the composition of the regolith or different mobility between the sites. These differences are supported by the element wise analysis in Table 8-4 in Appendix 3.
- Conversely, a few elements occur at higher amounts relative carbon in the Forsmark area, e.g. Li. This is most probably an artefact due to reporting limits.

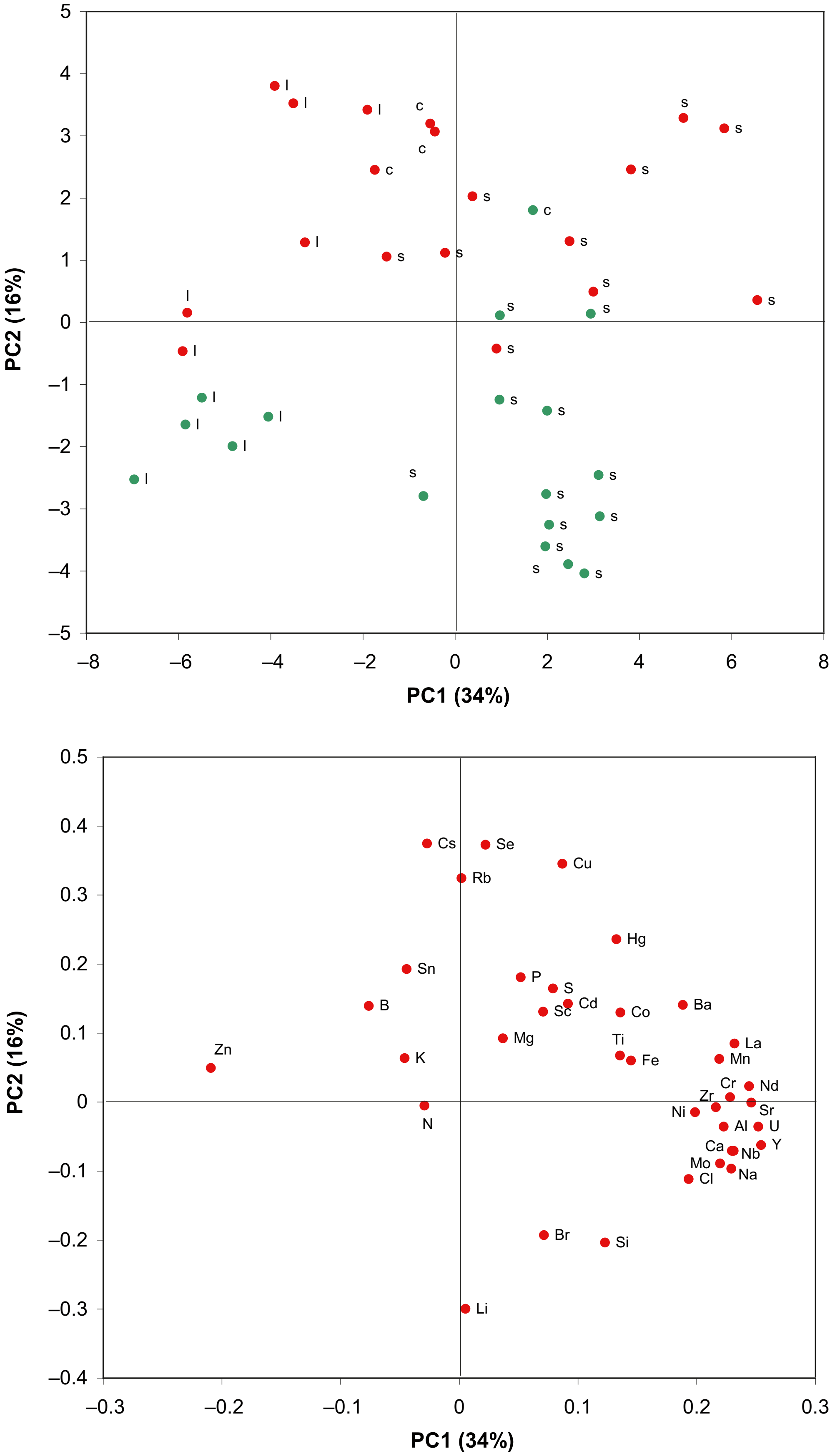

Figure 3-22. PCA based on individual samples of terrestrial animals from Forsmark and Laxemar-Simpevarp areas. Observations in the upper panel are coded as: Forsmark (green dot), Simpevarp (red dot) and animal type: small herbivore (s), large herbivore (l) and carnivore (c).

3.5 Aquatic biota (limnic and marine)

3.5.1 Overview of limnic biota

Limnic biota samples from Forsmark and Simpevarp areas are explored in Figure 3-23. Element contents relative to carbon of aquatic plants, fish and mussels are compared in this PCA which highlights differences in element composition among these samples. In this case, deviations from the origin could be interpreted as relative deviations from the average composition of all included samples approximately corresponding to plant tissue. In the score plot in the upper panel, four plant samples plot in the middle. Fish, mussels and two other plant samples ('SL_Nymphaeaceae sp_root' and 'FL_microphytobenthos') form three clusters apart from origin.

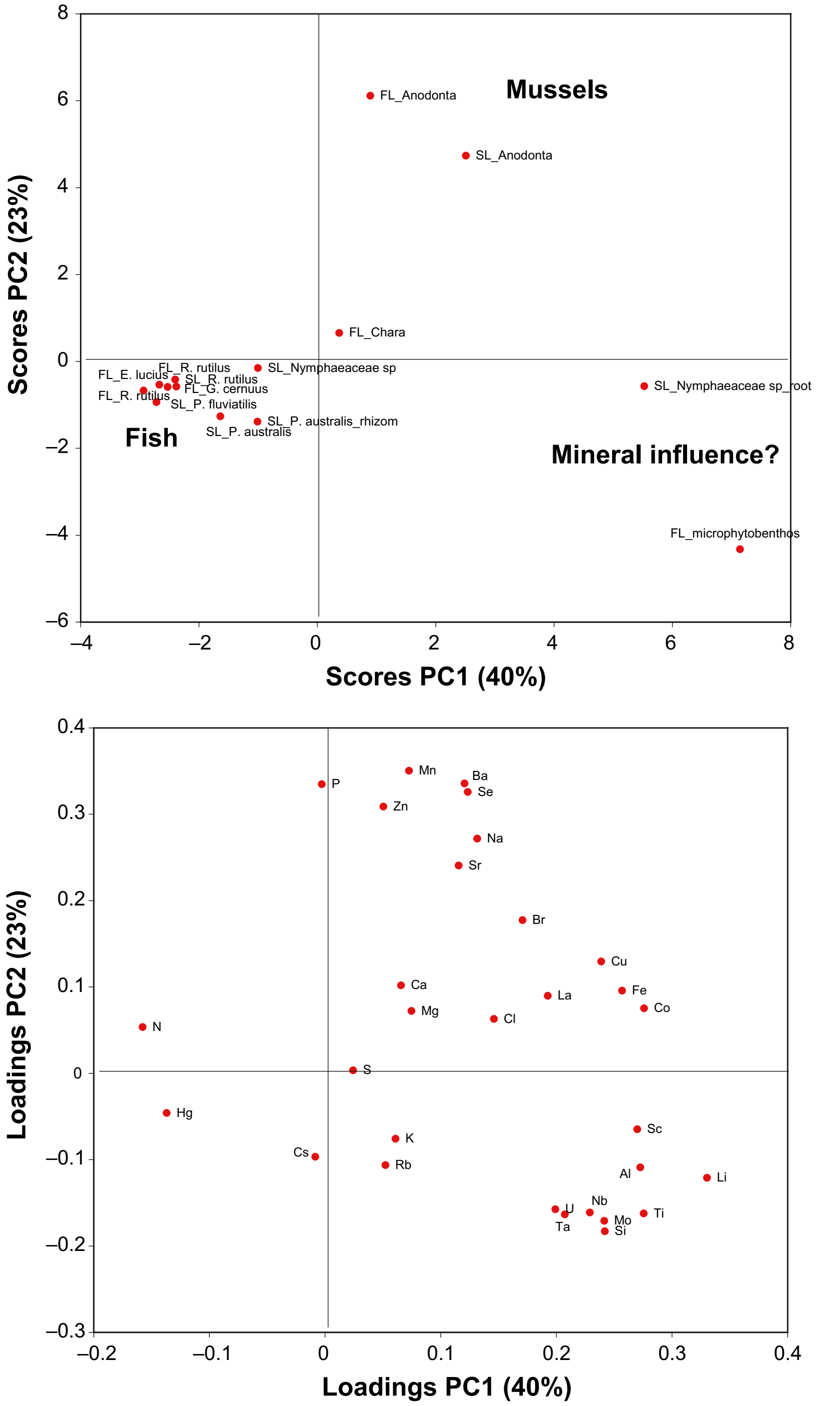

Figure 3-23. PCA showing the elements contents relative to carbon in all limnic biota samples from Forsmark and Laxemar-Simpevarp areas. Cf. Figure 3-10 for a description of the label notation.

Based on this assumption it could be concluded that fish contain more N and Hg relative to carbon compared to both mussels and plants. Mussels contain elevated amounts of P, Zn, Mn, Ba, Se, Na, and Sr relative to carbon compared to both fish and plants. Two samples, ‘SL_Nymphaeaceae sp_root’ and ‘FL_microphytobenthos’ are enriched in geogenic elements such as Si, Al, Ti, Sc, Zr. A possible explanation to this pattern is influence of mineral particles, e.g. clay material.

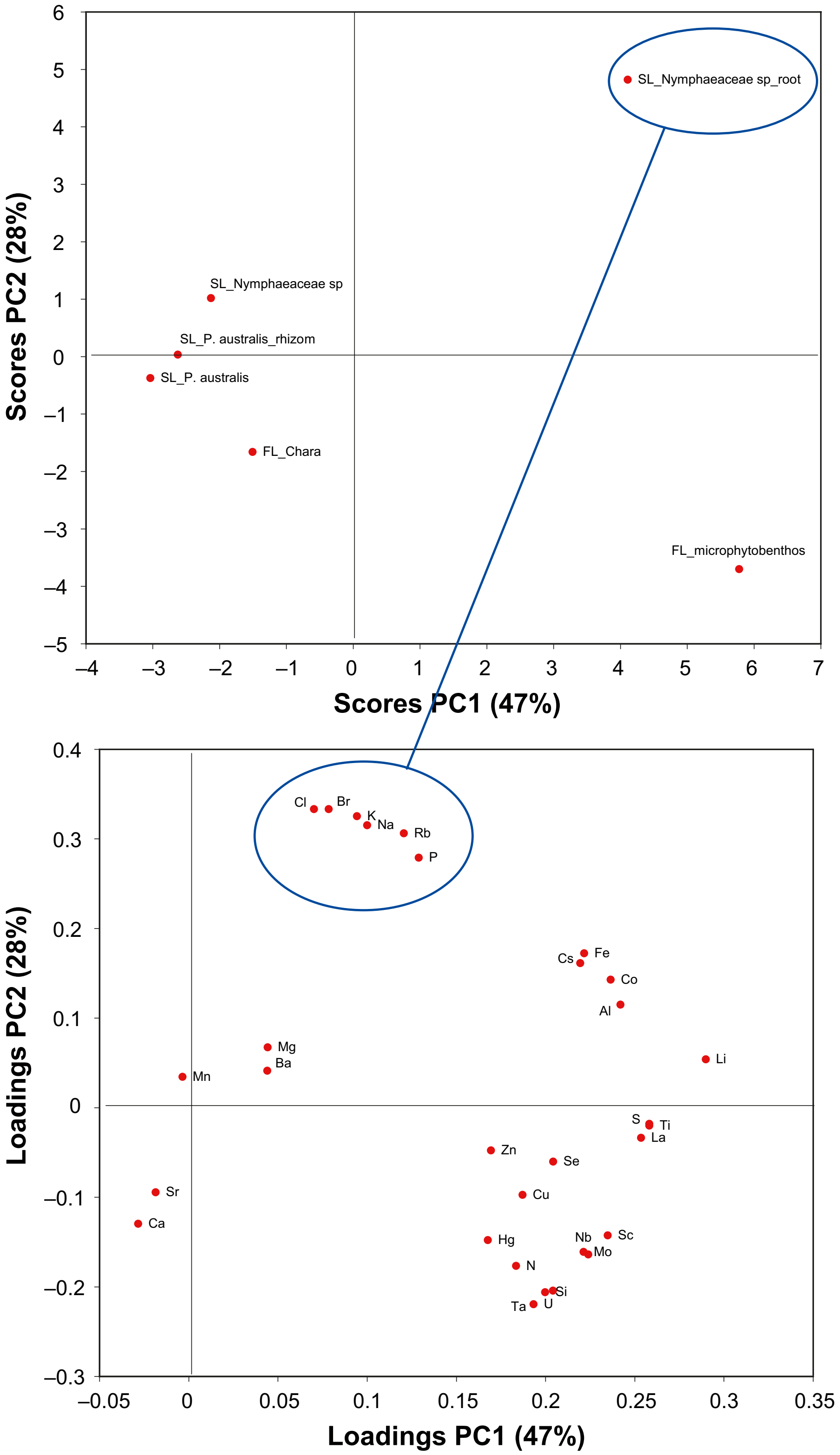

__Figure 3-24.__ PCA showing the elements contents relative to carbon in all limnic plant samples from Forsmark and Laxemar-Simpevarp areas. Cf. Figure 3-10 for a description of the label notation.

If only limnic plant samples are included in the PCA analysis, the deviating compositions of 'SL_Nymphaeaceae sp_root' and 'FL_microphytobenthos' are further enhanced (Figure 3-29). Besides the mineral influence which is seen for both these samples but most pronounced for 'FL_microphytobenthos', there is also a possible marine signature in 'SL_Nymphaeaceae sp_root'. Cl, Br Na, K, and Rb seem to be enriched together with P. The reason for this discrepancy is unclear since this sample originates from a fresh water lake.

3.5.2 Overview of marine biota

The marine dataset contains three outliers according to a first rough analysis, which were excluded in the following overall analysis of the marine biota.

Two of them are two samples of microphytobenthos 'Mikrofyter 1' and 'Mikrofyter 2' shown in Figure 3-25. Some element concentrations relative to carbon are 10 to 100 times higher in these samples compared to the average of 'FM_F.vesiculosus', 'FM_P.littoralis', 'FM_P.pectinatus', 'SM_F.vesiculosus', 'SM_Chara', 'SM_Potamogeton' and 'SM_green algae'. Some of them are metals used in steel alloys, e.g. Fe, V, Co, Ni, Mn and Mo, which could be in indication of contamination during sampling. Also geogenic elements indicating mineral contamination are enriched in the microphyte samples e.g. Al, Ti, and Zr.

The third possible outlier is the 'zooplankton' sample which compared to the average composition of fish shows more than a magnitude higher element concentrations compared to carbon. Only N and P are at the same level as in fish according to Figure 3-25. The high concentrations are discussed in the original study /Kumblad and Bradshaw 2008/ but no explanation is given. The authors instead argue that the C:N:P-ratio of this single sample is close to the Redfield ratio and that the CNP content of the sample is in the same range as the other organisms sampled in the study suggesting this sample to be representative.

Marine biota samples from Forsmark and Simpevarp areas are explored in Figure 3-26. Element contents relative to carbon of marine plants, fish and mussels are compared in this PCA which highlights differences in element composition among these samples.

There is a systematic difference between marine fish and marine plants. Relative to carbon, fish exhibit higher concentrations of N, P, Hg, and Se. K, S, Rb, and Zn occur in equal concentrations in both fish and plants, whereas a large number of elements occur in higher amounts relative to carbon in plants (e.g. Al, Si, Fe, Mn, Cl and several metals). This is also visualized in Figure 3-27. All fish samples form a distinct cluster which means that they show high resemblance regarding the elements included in the PCA analysis. There is a tendency of separation between Forsmark and Simpevarp areas within this cluster which is further discussed in Section 3.5.5.

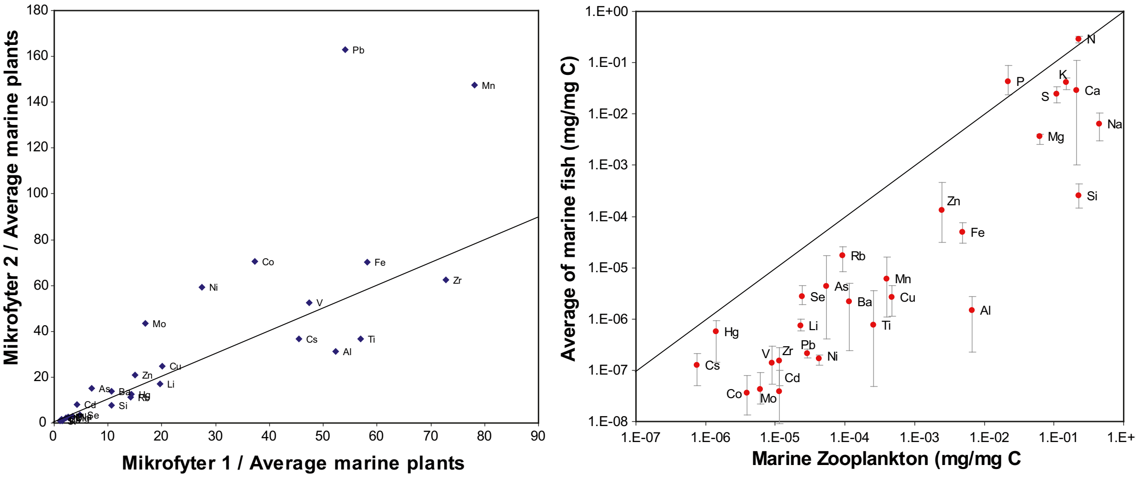

Figure 3-25. *Comparison between 'Mikrofyter' and average composition of plants (left) and comparison between marine zooplankton and the average composition of fish (right). The error bars show min and max values. The 1:1 line is marked in black.*

In mussels, Ca is enriched relative to carbon except for the sample 'SM_M.edulis' which only consists of muscle tissue.

There is a tendency that *Fucus vesiculosus* (as well as 'Phytoplankton' and 'FM_P. littoralis') exhibit higher concentrations of K, Rb, and S relative to carbon.

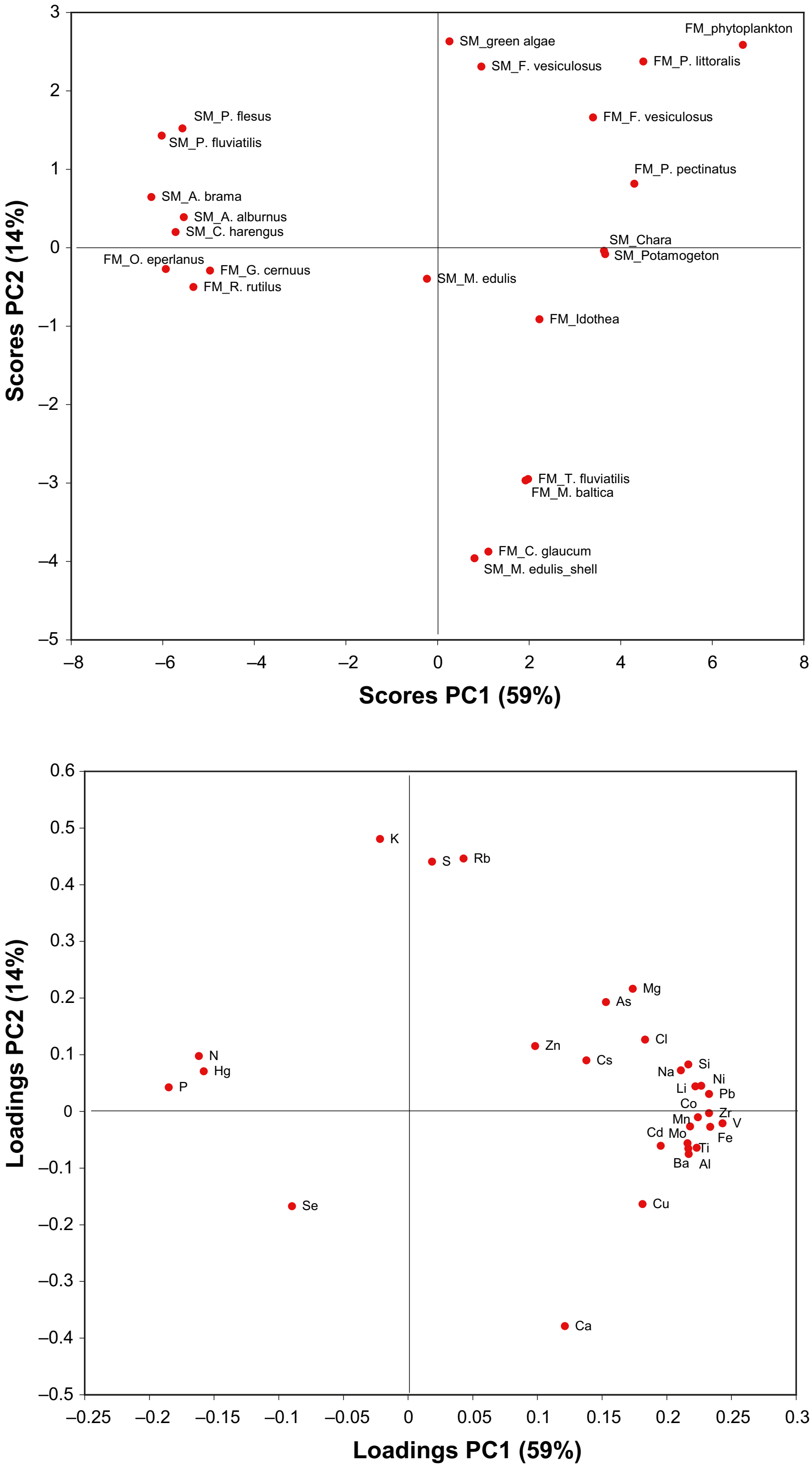

Figure 3-26. *PCA showing the elements contents relative to carbon in marine biota.*

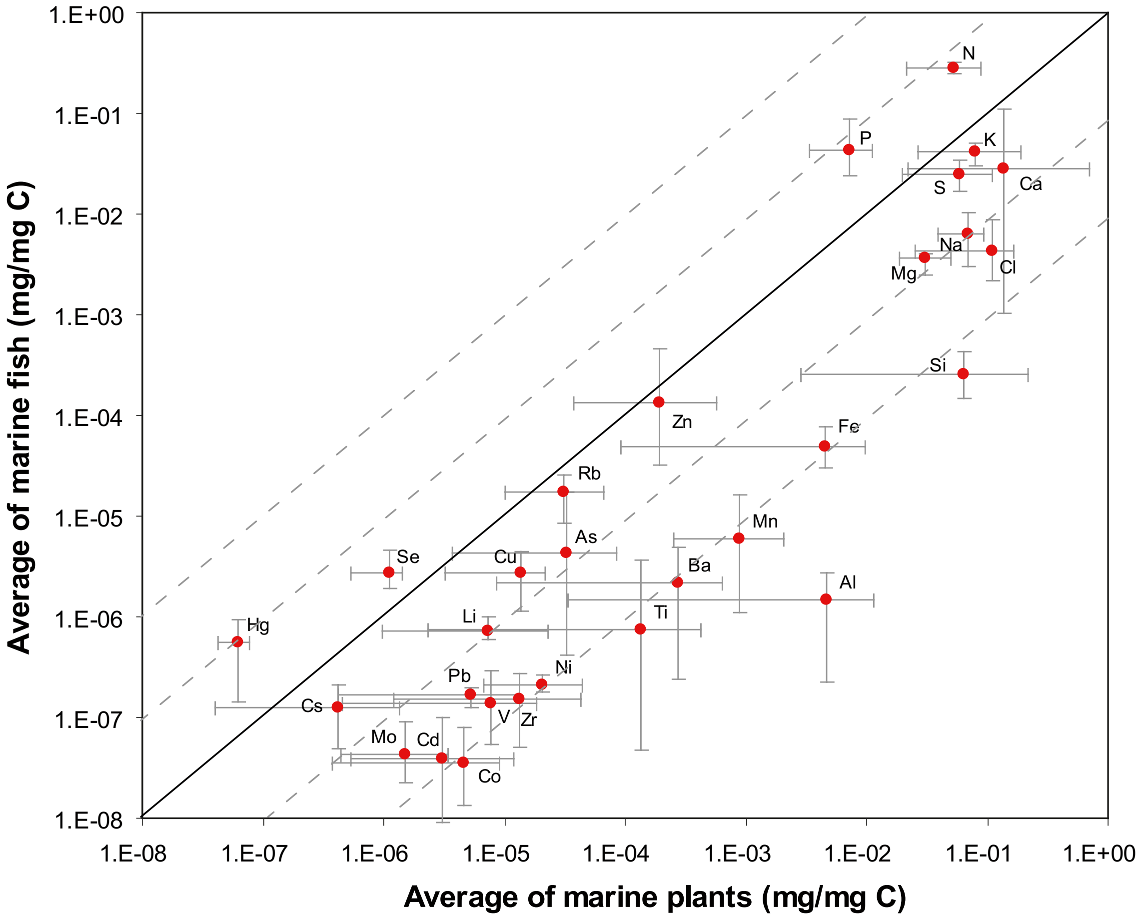

Figure 3-27. Comparison between the average composition of marine fish and marine plants. The error bars show min and max values of the sample. Dotted lines mark 10-fold deviations from the 1:1-relationship (the solid line).

Two marine plant species were sampled in both Forsmark and Laxemar-Simpevarp areas: *Fucus vesiculosis* and *Potamogeton sp*. A detailed comparison of these samples may reveal if there are site specific differences regarding element contents. The logarithmic plot in Figure 3-28 show that most elements scatter around the 1:1-line, which means that the element contents are similar at both sites for both species. There is however some discrepancies which are discussed below:

For *Fucus vesiculosis*, most elements agree with exception for e.g. Si, Al, Fe, Ti, Zr, Cr and Th. These elements occur at higher concentrations relative to carbon in the Forsmark area. Some of them, e.g. Si, Al, Ti and Zr, are associated with minerals and this discrepancy could either be an indication of incomplete dissolution prior to analysis or inclusion of mineral particles, rather than reflecting a real discrepancy in plant contents.

For *Potamogeton sp.* there is no corresponding discrepancy and most elements agree with exception of the REEs. For this group of elements, e.g. Ce, Nd, Pr, Sm, Gd, Dy, Yb, Er, Eu, Ho, Tb, Tm, Lu, concentrations relative to carbon are elevated about 100 times in the Laxemar-Simpevarp sample compared to the Forsmark sample. This systematic shift in composition for this group of elements is most probably an artefact coupled to analysis or data handling.

This limited comparison (only four samples were available for comparison) show that the chemical compositions of marine plants were similar at both sites, and that there are uncertainties related to the REE group.

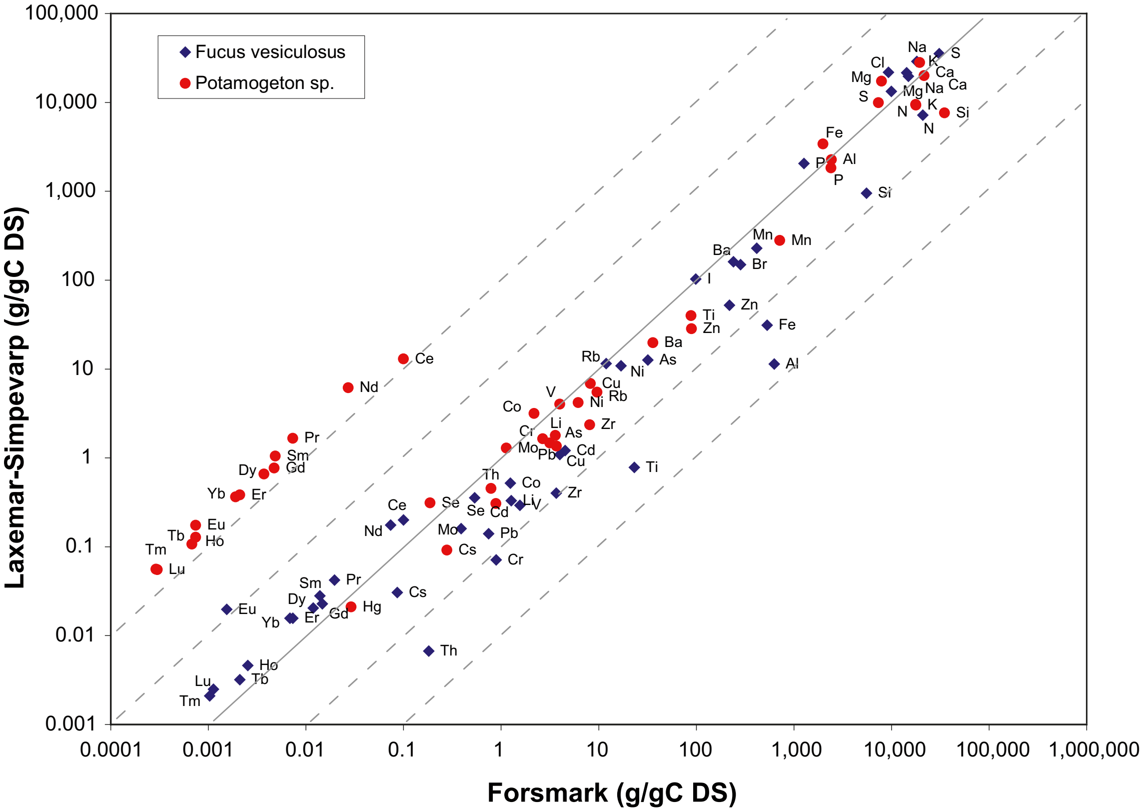

Figure 3-28. Comparison between marine plants from Forsmark and Laxemar-Simpevarp areas. Two species, Fucus vesiculosis and Potamogeton sp. were sampled once at each site giving a total of four samples for this comparison. Dotted lines mark 10-fold deviations from the 1:1-relationship (the solid line).

3.5.3 General comparisons between limnic and marine biota

If the marine and limnic datasets are merged, a PCA analysis reveals similarities and dissimilarities among corresponding organism groups in the limnic and marine ecosystems. In Figure 3-29 limnic and marine animals are compared, and in Figure 3-30 limnic plants are correlated against marine plants.

The following conclusions could be drawn if the compositions of limnic and marine animals are compared (same selection of elements as in Section 3.5.2):

Fish form a distinct group characterised by enrichment of N, K, Rb, Cs, S and Hg relative to carbon in Figure 3-29. Marine and limnic fish have similar compositions as do fish from Forsmark and Simpevarp areas. A detailed comparison is presented in Section 3.5.5.

The element composition of mussels and crustaceans differ from fish with respect to several elements that are enriched relative to carbon. There is also a difference between limnic and marine mussels according to the vertical separation in Figure 3-29. Marine crustaceans are most similar to marine mussels.

3.5.4 Detailed comparisons between marine and limnic plants

When marine and limnic plants are compared in Figure 3-30, there is a large variation within each group. This means that there are large differences among samples or species irrespective if they are marine or limnic, and that there seem to be no profound difference between limnic and marine plants. Elements such as Na, Cl, Mg, S, and Li, however, seem to occur at higher concentrations relative to carbon in marine plants. Mo perhaps seems to occur at higher concentrations relative to carbon in limnic plants.

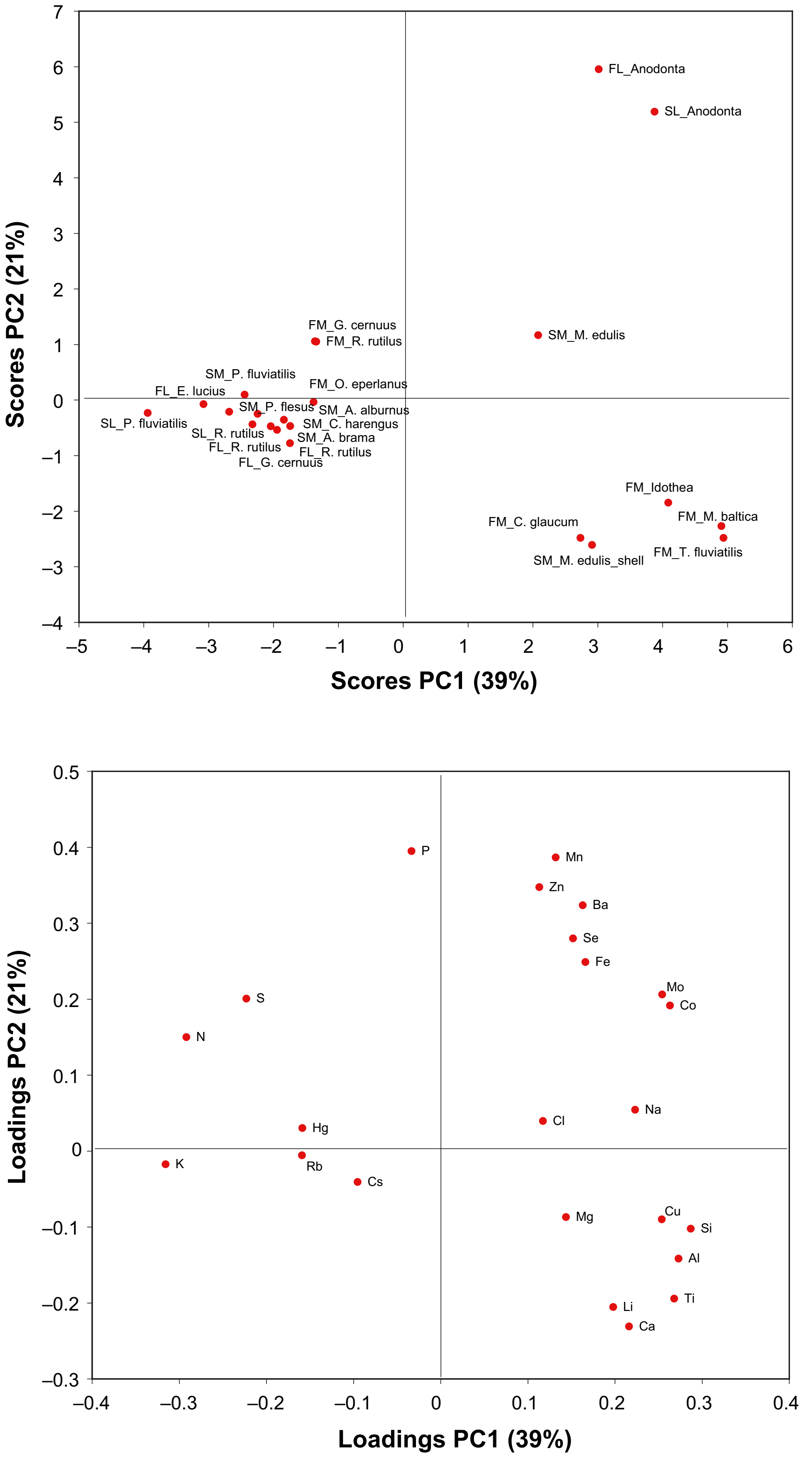

Figure 3-29. *PCA showing the elements contents relative to carbon in limnic and marine animals from Forsmark and Laxemar-Simpevarp areas. Cf. Figure 3-10 for a description of the label notation.*

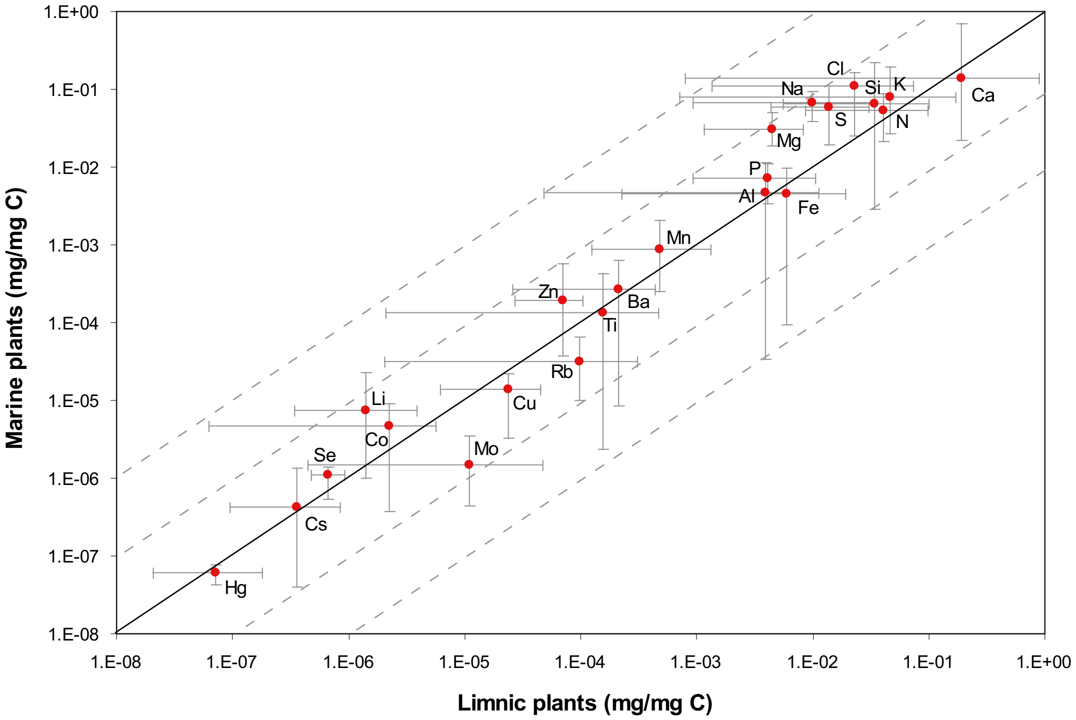

Figure 3-30. *Comparison between limnic and marine plants. Average concentration relative to C in limnic (FL_ microphytobenthos, FL_Chara , SL_ Nymphaeaceae sp , SL_P. australis , SL_ Nymphaeaceae sp_root, SL_P. australis_rhizom) and marine plants (FM_F. vesiculosus, FM_P. littoralis, FM_P. pectinatus, SM_F. vesiculosus, SM_Chara, SM_Potamogeton, SM_green algae). Error bars denote min and max values of included samples. Dotted lines mark 10-fold deviations from the 1:1-relationship (the solid line).*

3.5.5 Detailed comparisons between limnic and marine fish

A detailed comparison of limnic and marine fish samples from Forsmark and Laxemar-Simpevarp areas in Figure 3-31 show that there is a general agreement in chemical composition both between the ecosystems (upper panel) and the sites (lower panel). There are however some discrepancies of about tenfold from the 1:1-line (e.g. Ca and Ba) indicating that there may be systematic differences between limnic and marine fish.

The general comparison in Section 3.5.3 shows that all fish samples have a very similar composition irrespective if they are marine or limnic, or if the fish were from the Forsmark or Laxemar-Simpevarp areas. A separate analysis of fish data only however shows that there are systematic differences within the fish analyses (Figure 3-33).

Marine fish from the Forsmark area contain more Ca, P and Ba as well as several metals relative to carbon, compared to both marine fish from the Laxemar-Simpevarp area and all limnic fish samples (the horizontal pattern in the PCA). This discrepancy reflects a methodological difference: marine fish samples from the Forsmark area were samples from a whole fish (all organs had been removed from the body cavity) which also include skeleton tissue, whereas all other samples comprise only muscle tissue. Skeleton tissue is high in Ca (and P) relative to carbon which had a large influence on the total Ca contents according to Figure 3-32. It is unclear if the elevated contents of other elements originate from skeleton tissue or other tissues in the whole fish samples.

The detailed PCA in Figure 3-33 also show that some fish samples from lakes in the Laxemar-Simpevarp area are enriched in e.g. Cs, Rb and I which perhaps reflects a site specific condition. The same pattern is also seen among terrestrial animals in Section 3.4.1. Besides the above mentioned major patterns which also are regarded as significant in an ANOVA analysis, there are a few other significant relationships (cf. Table 8-5 in Appendix 3): Hg concentrations are elevated in fish from lakes compared to marine fish samples. This applies to both sites. The opposite holds for As, where concentrations relative carbon are elevated in marine fish samples from both sites compared to limnic samples.

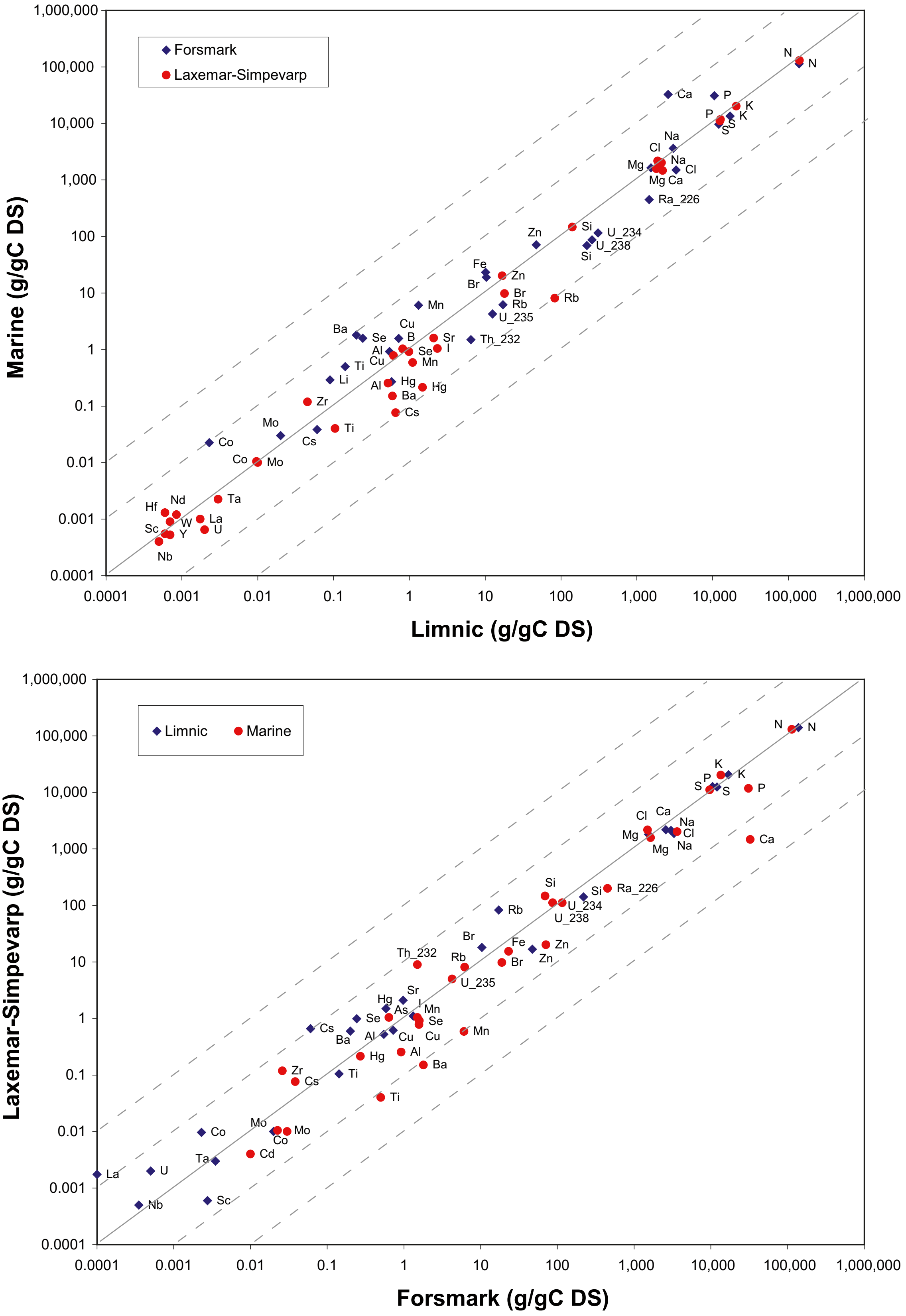

Figure 3-31. *Comparison between marine and limnic ecosystems (upper panel), and the sites (lower panel) regarding the chemical composition of fish. These figures are based on median values of available fish samples. Dotted lines mark 10-fold deviations from the 1:1-relationship (the solid line).*

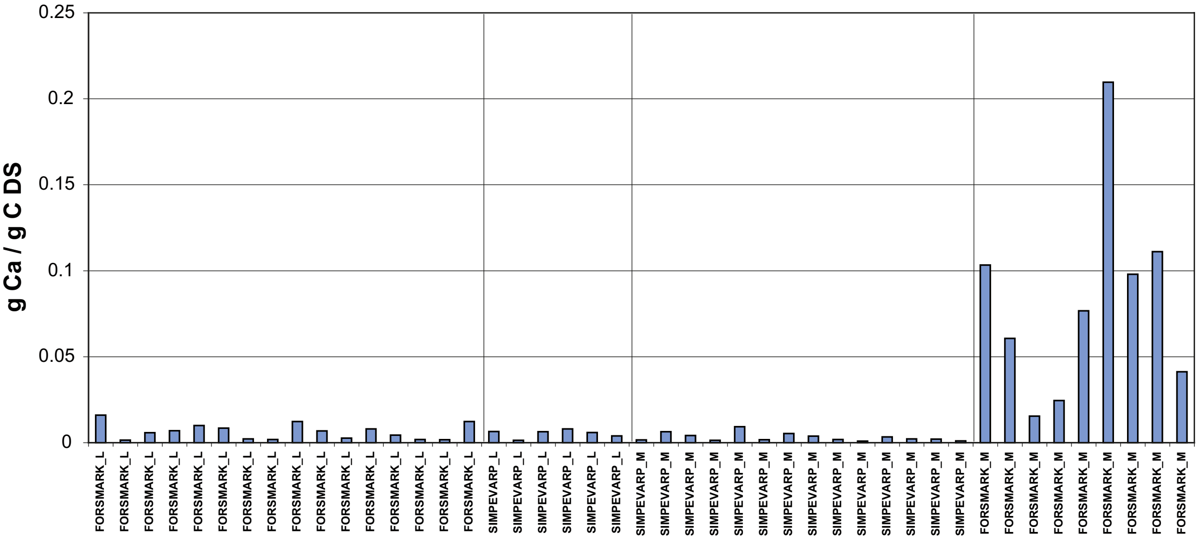

***Figure 3-32.** Calcium concentration, as part of total dry weight, in fish samples from limnic and marine ecosystems in the Forsmark and Laxemar-Simpevarp areas. Individual samples are displayed for the limnic, 'L', and marine, 'M', ecosystems.*

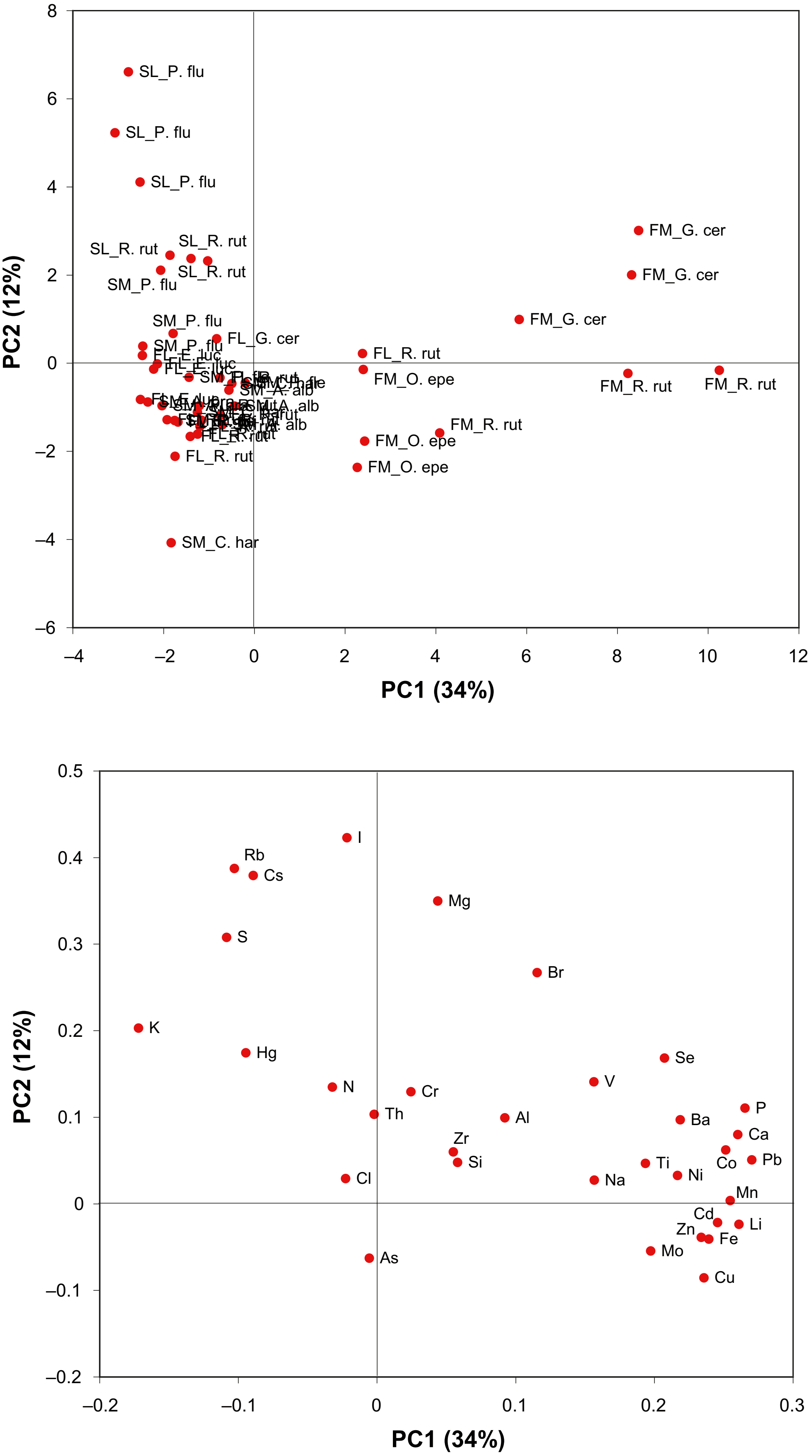

***Figure 3-33.** A PCA based on individual fish samples from Forsmark and Laxemar-Simpevarp areas. Some elements, e.g. REE, were excluded as the majority of the analyses were below reporting limits. Cf. Figure 3-10 for a description of the label notation.*

4 Selection of site data for use in SR-Site

The site specific chemistry data presented in Chapter 2 and explored and visualised in Chapter 3 is the base for the estimation of element specific model parameters used in the SR-Site radionuclide model /Andersson 2010/. Assumptions and considerations behind the selection of representative site data are presented in this chapter. Selected site specific data are further used in combination with generic data in the process of estimating values for model parameters (cf. /Nordén et al. 2010/). The selected data set is compiled in Appendix 2.

4.1 Regolith/water distribution coefficients (K_d)

In the radionuclide model used in SR-Site the assumed radionuclide release from the repository enters the biosphere from the rock to the regolith via deep groundwater discharge. The transport and retention of radionuclides within the regolith is modelled using hydrological flow rates and element specific distribution coefficients (K_d) which empirically describe the partitioning between the solid and liquid phase.

The radionuclide model used in SR-Site contains three ecosystem types; marine, limnic and terrestrial environments /Andersson 2010/. The terrestrial environment is mire with a tree layer which can be drained in order to enable cultivation of crops. In each ecosystem the deposits are divided into three layers (cf. Figure 4-1):

- In both terrestrial and aquatic ecosystems the deepest layer (regoLow) is defined as the inorganic layer of glacial till.
- The uppermost layer (regoUp) is in aquatic ecosystems defined as the uppermost bioturbated part of the organic layer (c. 5 cm depth /Andersson 2010/ in lakes and c. 10 cm depth /Aquilonius 2010/ in sea areas).
- In terrestrial areas the uppermost layer (regoUp) is defined as a peat layer /Löfgren 2010/.
- The intermediate layer (regoMid) is defined as the postglacial deposits (including gyttja, gyttja clay and clay) except for the upper organic part (regoUp) /Aquilonius 2010, Andersson 2010, Löfgren 2010/.

The regoLow layer is assumed to be similar in composition irrespective of which ecosystem it belong to (sea, lake or mire). The same is also valid for the regoMid layer. During the evolution of a marine bay through lacustrine and terrestrial phases, the same deposits are assumed to be situated at the same site, although the depth of sediment increases with time as a consequence of sedimentation processes. Characteristics such as porosity, grain size, organic contents and chemical composition of the solid phase change slowly during the land uplift and transformation process. The chemical composition of the pore water may change at a considerably faster rate, due to e.g. altered hydrological conditions. All changes are continuous and extending over different time scales depending on the processes.

In SR-Site, K_d for soil/sediment (related to pore water), or suspended matter (related to filtered water), were used in the modelling /Nordén et al. 2010/.

4.1.1 Considerations behind the selection of regolith and groundwater data

In the safety assessment, K_d is used as an empirical quantitative estimation of the mobility of an element in the environment. This concept contains several assumptions and methods which are discussed in /Nordén et al. 2010/.

The most suitable site data available for estimating K_d values are uncontaminated soil and sediment samples for which the element concentration in the solid phase and the porewater fractions were analysed separately. As an alternative, groundwater chemistry data from the monitoring of soil tubes could be used in combination with regolith samples collected when the groundwater sampling equipment was installed. The chemical composition of the groundwater sample will however reflect the overall

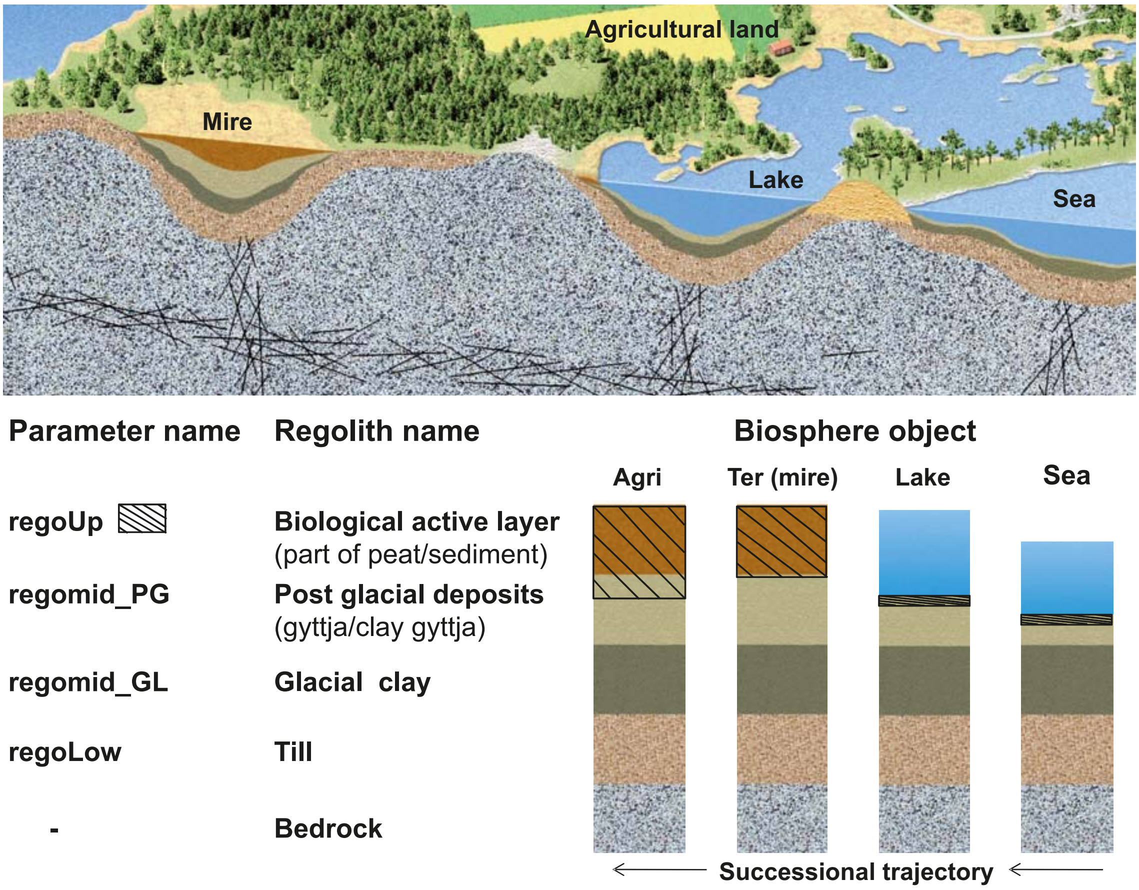

Figure 4-1. *The conceptual model of the generalized distribution of the regolith for different types of biosphere objects in SR-Site. The different depths of the various regolith layers in soil profiles are also seen in the landscape pictures, which represents a generalized succession from sea to mire that is later converted to agricultural land by draining. In the radionuclide model, the postglacial and the glacial clay deposits are mixed together in regard to the radionuclide inventory.*

equilibrium between regolith and groundwater within the sampled area and not necessary the close relation between the specific regolith sample and its porewater. Another shortcoming of these regolith data is that the solid fraction reflects the total elemental content rather than the sorbed fraction. This is a concern only for relatively mobile elements where K_d is low and numerically similar (in the same units) as the moisture content of the material. As discussed in Section 3.2.2, the concentrations of some elements also differ significantly between samples of porewater and groundwater probably reflecting the different methods used.

Another important factor is the choice of the extraction media used for dissolution of the solid phase of the samples. The degree of dissolution of the regolith matrix may have a large impact on the measured concentration of elements associated with the solid phase, particularly for sparingly soluble elements that are normally locked in mineral structures. As the K_d coefficient should reflect the equilibrium of reversible sorption processes, the elements in the regolith matrix are not always relevant. Using a strong extraction media could lead to overestimated K_d values for a few elements. No definitive protocol has been established for these elements.

Based on this information it was assumed that the porewater/regolith data from /Engdahl et al. 2008, Kumblad and Bradshaw 2008, Sheppard et al. 2009/ are most suitable for estimating site specific K_d values.

4.1.2 Selected site data for inorganic and organic deposits: *kD_regoLow, Ter_kD_regoUp, Ter_kD_regoMid, Lake_kD_regoUp, Lake_kD_regoMid, Sea_kD_regoUp* and *Sea_kD_regoMid*

Site specific data selected should be representative for the compartments used in the dose model /Andersson 2010, Avila et al. 2010/. At the same time, regolith samples grouped together to get the needed statistics for the model parameters (geometric mean and geometric standard deviation) should be comparable with respect to important processes modelled. As mentioned earlier, data from /Engdahl et al. 2008, Kumblad and Bradshaw 2008, Sheppard et al. 2009/ were considered most suitable to use. The rationale is that these studies contain chemical data for centrifugated soil/filtered sediment and corresponding porewater. Porewater data are not available in the other studies containing chemical data for regolith samples from the two sites /Johanson et al. 2004, Engdahl et al. 2006, Hannu and Karlsson 2006, Strömgren and Brunberg 2006, Roos et al. 2007, Grolander and Roos 2009/. The selection of representative regolith and porewater data is based on the following assumptions and considerations:

Since the K_d concept states that there is a relation between the solid and the soluble phases in a deposit it was considered important to match the two phases from the same deposit avoiding mixing between different samples. This was performed by matching samples of regolith and porewater by geographical location (idcode) and (in some cases) depth information.

All samples from Forsmark and Laxemar-Simpevarp areas are included. The rationale for this is that the present, as well as the future, Forsmark environment should be included as an important part of the probabilistic simulations. As discussed in /Tröjbom and Grolander 2010/ the Laxemar-Simpevarp area could in some respects serve as an analogue for the future Forsmark area with little influence from calcite and marine remnants:

- Regolith samples from Forsmark area show generally higher concentrations of Ca relative to Si compared to the Laxemar (cf. Section 3.3.1). In a Swedish perspective the calcite contents in the Forsmark region are significantly elevated /Tröjbom and Söderbäck 2006b/. When the calcite in the regolith has been dissolved in the future by the result of weathering processes, this Ca source will diminish and Ca concentrations are expected to be similar to the conditions in the present Laxemar-Simpevarp area.
- The hydrochemistry of shallow groundwater and fresh surface water in the present Forsmark area is also characterised by very high contents of Ca, as well as high alkalinity and high pH /Tröjbom and Söderbäck 2006b/. The present deviant hydrochemistry of Forsmark will probably move towards a more "normal" Swedish chemistry similar to the present conditions in the Laxemar-Simpevarp area.
- The expected future alteration of the Forsmark hydrochemistry will also affect other elements. At present some metals are elevated in the regolith relative to Si in the Forsmark area compared to the Laxemar-Simpevarp area, e.g. Sb, Pb, Se, U and Ba. Conversely, concentrations of REE, Th and Nb are elevated in the regolith of the Laxemar-Simpevarp area (cf. Section 3.3.1). It is not clear if these discrepancies are dependent on the presence of calcite or if they reflect other site specific minerals.

Samples from different depths of lake and sea surface sediments have not been separated. These samples represent the upper sediment depths of 0 and c. 20 cm. According to /Sheppard et al. 2009/ differences in element concentrations between sediment depths were statistically significant only for a few elements (Bi and Zn in our ANOVA analysis), whereas concentration differences due to sediment type (marine or limnic) were statistically significant for almost all elements.

The extraction media used when estimating the element concentration of the solid phase may have a significant effect on the results (cf. Section 2.1.1). The deposit samples used for estimating site specific K_d values were extracted with different methods; the terrestrial samples, in /Sheppard et al. 2009/, were treated with aqua regia whereas the sediment samples in /Engdahl et al. 2008/ were totally dissolved. The sediment samples in /Kumblad and Bradshaw 2008/ were extracted using a method which should give intermediate results. According to /Sheppard et al. 2009/ the less-than-total extraction of aqua regia is preferred when the aim is to estimate K_d values reflecting the sorbed fraction. For elements present at high amounts within the mineral matrix of the regolith, total digestion methods will overestimate K_d.

All regolith data (deposit data from terrestrial as well as aquatic environments) are divided into inorganic deposits (till and clay samples) and organic deposits (organic soils, and lake and sea sediments). The consequences of this categorisation are described below:

- For the solid phase, there is a clear difference between organic and mineral soil samples, as discussed in Section 3.3.1. The organic soil types show high carbon contents and contain low amounts of Si. The opposite holds for mineral soil and there is a continuous gradient between these soil types depending on the mixing proportions and ultimately the genesis of the sediment (Figure 3-10).
- Too few of the porewater samples were from inorganic sediments to make a relevant comparison between the porewater concentrations in inorganic and organic samples.
- An ANOVA analysis investigating differences in K_d between inorganic and organic deposits in marine and terrestrial environments showed significant differences ($p<0.05$) for 10 of the 55 elements which were included (Mo, Si, As, Li, Ge, S, Se, I, Cs, Na). In all cases the K_d values for organic deposits were higher than for inorganic ones. It should be kept in mind that the number of samples included in the ANOVA analysis were low (13) and highly unbalanced (e.g. no inorganic marine sediment samples from Laxemar-Simpevarp, only one organic marine sample from Forsmark, one organic terrestrial sample from Forsmark and one inorganic terrestrial sample from Laxemar-Simpevarp).

Organic regolith samples from the terrestrial and aquatic environments are handled as one group used for the estimation of the six K_d parameters used to describe organic deposits in the model (Ter_kD_regoUp, Ter_kD_regoMid, Lake_kD_regoUp, Lake_kD_regoMid, Sea_kD_regoUp and Sea_kD_regoMid). The amount of site specific data available for estimation of K_d values is restricted and too small to be usable if the data should be divided into these six categories. Early in the parameterisation process it was decided to divide the data set into inorganic and organic deposits, irrespective of from which ecosystem type they belong. Data concerning inorganic deposits was only available from terrestrial ecosystems whereas organic deposits had been sampled from aquatic as well as terrestrial environments. The decision of merging organic deposits from terrestrial and aquatic ecosystems was a theoretical assumption not based on site data. An ANOVA analysis showed significant differences for organic K_d values between different ecosystems for more than 70% of the tested elements. For most elements K_d from the aquatic environment is higher compared to K_d values from the terrestrial environment. These differences could reflect differing ecosystem properties, e.g. sorption processes, but may also partly be a consequence of the different extraction media used for terrestrial and aquatic samples as described earlier in Section 2.1.1. Additionally, the biological source of the organic materials is very different between terrestrial and aquatic ecosystems, and the post-depositional diagenesis is different. The consequence of merging terrestrial and aquatic data is increased uncertainties of the K_d used for modelling the regolith layer.

Site data selected for the estimation of the K_d parameters are compiled in Appendix 2:

- From the terrestrial system samples marked 'Centrifugated soil_rego_Up_0.3', 'Centrifugated soil_rego_Mid_0.3' and 'Centrifugated soil_rego_Low_0.3' were selected from both Forsmark and Laxemar-Simpevarp areas (cf. Figure 3-11 and Table 2-1). Compared to most other soil samples in the site investigation, these samples do not represent the total element contents of the soil but the exchangeable fraction dissolved by *aqua regia*. The median of all corresponding porewater samples are marked 'FT_Porewater' and 'ST_Porewater' in Figure 3-2 and Figure 3-3 (cf. Table 2-1). See /Sheppard et al. 2009/ for further details on these data.
- From the limnic system samples marked 'filtered sediment_0', 'filtered sediment_0.15, 'filtered sediment_0.20' and 'filtered sediment_0.25' were selected from both Forsmark and Laxemar-Simpevarp areas (cf. Figure 3-11 and Table 2-11). According to Figure 3-11, these samples represent the total elements contents of the sediments. The corresponding porewater samples are marked 'FL_Porewater_X' and 'SL_Porewater_X' in Figure 3-2 and Figure 3-3, where X denotes the depth in m (cf. Table 2-11).
- From the marine system samples marked 'filtered sediment_0', 'filtered sediment_0.20', 'filtered sediment_0.25', 'sediment_0–0.03' and 'sediment_0.03–0.06'. The former three represent the total element contents of the sediments, whereas the last two represent exchangeable fractions according to Figure 3-11 and Table 2-16. The corresponding porewater samples are marked 'FM_Porewater_X' and 'SM_Porewater_X' in Figure 3-2 and Figure 3-3, where X denotes the depth in m (cf. Table 2-16).

- K_d for the lower regolith layer (till) in all three ecosystems (terrestrial, limnic and marine) is represented by samples marked 'Centrifugated soil_rego_Low_0.3', which represent the exchangeable fractions of the till (cf. Table 2-1 and Figure 3-11). The median of all corresponding porewater samples are marked 'FT_Porewater' and 'ST_Porewater' in Figure 3-2 and Figure 3-3 (cf. Table 2-1). See /Sheppard et al. 2009/ for further details on these data.

4.1.3 Selected data for suspended matter in marine and limnic ecosystems: *Lake_kD_PM* and *Sea_kD_PM*.

K_d ratios for suspended matter reflects the partitioning between the dissolved fraction and the fraction of the element adsorbed onto particles.

The site specific data available for estimating K_d values for suspended matter in marine environments are /Engdahl et al. 2008/ (data from Forsmark and Laxemar) and /Kumblad and Bradshaw 2008/ (data from Forsmark only). The corresponding data for limnic environments is from /Engdahl et al. 2008/ (data from Forsmark and Laxemar-Simpevarp). Data of chemical composition of filtered sea and lake water are also available from the monitoring programmes of both sites but have not been used.

The selection of representative data for estimation of K_d of suspended matter is based on the following assumptions:

Samples with concomitant analyses of suspended matter and dissolved species were selected. This excludes monitoring data since chemical analyses of the corresponding suspended matter has not been performed in that programme. It was considered more valuable to use data for water and suspended matter sampled at the same site and time than to increase the amount of water chemistry data observations. The chemical compositions of the filtered water from these different data sets are very similar (cf. Figure 3-3).

It could be argued that including data from both sites broadens the selection if data represents similar processes. As concluded in Section 3.3.1, the chemical composition of suspended matter from both limnic and marine environments show similar patterns characterised by a high residual (i.e. the difference between total dissolution and the actual amounts measured). Figure 3-8 also shows that the rank of the relative amounts corresponds quite well between suspended matter from the two sites whereas the absolute levels differ. Suspended matter from the marine environment contains higher amounts of Cl, Br, Na, K, Mg and Li compared to the limnic environment. The chemical composition of filtered water from the two sites is relatively similar (see Figure 4-3 and also /Tröjbom et al. 2007, 2008/).

An ANOVA analysis showed significant site specific differences in K_d in suspended matter for 13 elements. For Al, Ce, K, La, Rb, Si, Th and Ti significantly higher values were found for marine environments in Forsmark compared to Laxemar-Simpevarp. The elements differing significantly in limnic environments were Sb, Bi, Br and N which had a higher K_d value in Forsmark and U which had a higher value in Laxemar-Simpevarp. As these elements are generally not critical to an assessment, these differences were not considered important enough to preclude combining the data from the two sites.

Site data selected for the estimation of the K_d of particulate matter are compiled in Appendix 2:

- For the limnic system samples marked 'FL_suspended matter' and 'SL_suspended matter' in Figure 3-14 and Figure 3-11 is selected. These samples resemble in many respects the composition of e.g. limnic sediments according to these figures. The corresponding water samples are marked 'FL_filtered water' and 'SL_filtered water' in Figure 3-2 and Figure 3-3 (cf. Table 2-11).
- For the marine system samples marked 'FM_suspended matter' and 'SM_suspended matter' in Figure 3-14 and Figure 3-11 is selected. These samples resemble in many respects the composition of e.g. limnic sediments. The corresponding water samples are marked 'FL_filtered water' and 'SL_filtered water' in Figure 3-2 and Figure 3-3 (cf. Table 2-16).

4.2 Concentration ratios for terrestrial biota (CR)

Concentration ratios for terrestrial vegetation, fungi and terrestrial herbivores are used in SR-Site to model uptake and distribution of elements in the terrestrial food web. The model estimates exposure to humans from the terrestrial ecosystem through edible products which are assumed to be fungi, berries, herbivores and crops. Only edible parts of plants and animals have therefore been considered. The CRs for crops, green vegetation, fungi and berry tissues are related to the soil concentrations, whereas the CRs for herbivore muscle are related to concentrations in their food, i.e. green vegetation and fungi. No site specific data concerning berries or crops are available and these food types are therefore not mentioned further in the text (cf. /Nordén et al. 2010/). Definitions and assumptions regarding the CR parameters are found in /Nordén et al. 2010/.

4.2.1 Selected site data for terrestrial vegetation and soil: *Ter_cR_pp*

Site specific data on element contents of terrestrial vegetation and corresponding soil data were used to estimate CR ratios for soil to terrestrial vegetation, Ter_cR_pp. This parameter reflects the uptake of elements from soil to terrestrial primary producers. For stable isotopes, vegetation data are compiled in /Hannu and Karlsson 2006/ and /Engdahl et al. 2006/ whereas data for a few radionuclides are present in /Roos et al. 2007/ and /Grolander and Roos 2009/. All studies contain data for green parts whereas the former two also include wood and root samples, see Section 2.1.4 and 2.1.5 in this report. Soil data used are described in Section 2.1.1 in this report and in /Hannu and Karlsson 2006, Engdahl et al. 2006, Roos et al. 2007, Grolander and Roos 2009/.

It was assumed that data for green vegetation best resemble the compartments and processes modelled within the SR-Site radionuclide model. Mosses, root samples and wood samples were excluded as they are not a central part of the herbivore diet, the next step in the food web. Another rationale for excluding mosses is that their element uptake mainly takes place via deposition and a concentration ratio between mosses and soil is therefore not relevant. Figure 3-15 also shows that moss samples are more chemically equal to roots due to the higher concentrations of elements associated with mineral particles. The reason for this accumulation is not further investigated here, but contamination during sampling or normal adsorption of dust are possible explanations of the pattern.

Data from both Forsmark and Laxemar-Simpevarp areas are included. As can be seen in Figure 3-15 the large differences between different vegetation parts and species overshadow differences between the two sites. A clear difference between the sites is only registered for a few elements, e.g. Cl (cf. Section 3.4.3). It was assumed that the variation covered by these two sites to some extent describes possible present and future conditions in the Forsmark area.

The selection of matching soil data is based on the following considerations and assumptions:

- There are several sources of site specific data concerning soils. It was considered necessary to use soil data from the root zone in order to describe the uptake process correctly. This statement precludes the till samples from the Forsmark area /Section 2.1.1/, that were not sampled along with vegetation or moss.
- It was considered an advantage if the soil samples were sampled in the same localities as the vegetation samples. This precludes the soil samples from /Johanson et al. 2004/ which were sampled in Forsmark but not in exactly the same localities as the vegetation.
- The soil samples from /Sheppard et al. 2009/ were included although two of the sampling sites were not the same as the vegetation sites. The rationales for this decision were that these soil samples were taken as composite samples from areas that were considered representative of most of the soil types at Forsmark and Simpevarp areas.
- Another difference regarding the samples from /Sheppard et al. 2009/ is the extraction method used (cf. Section 0). In this study, the samples were digested with a strong acid solution which dissolved all but the resistant silicate minerals, and this would lead to lower concentrations of several elements compared to total digestion (cf. Figure 3-11). It can be argued that the elements trapped in silicate structures will never be bio available to plants, so the partial digestion perhaps better represent the bio available amounts compared to total digestions which thus are less appropriate for CR estimations.

- Data from both sites were used**.** Although Forsmark and Laxemar-Simpevarp areas differ with respect to some basic geochemical conditions, e.g. calcite in the Forsmark area, it is assumed that CRs mainly reflect universal biochemical properties rather than the absolute level at a specific site. Using data from both sites broadens the perspective including the future chemical evolution of the Forsmark area /Lindborg 2010/.

Site data selected for the estimation of the Ter_cR_pp parameter are compiled in Appendix 2. These data are marked in Figure 4-2 in the upper panel for vegetation samples and in the lower panel for regolith samples in comparison with the complete dataset. In case of regolith, also the data from /Sheppard et al. 2009/ was included (cf. Table 2-1). As can be seen in Figure 3-11, these data denoted 'centrifugated soil' represent the exchangeable fraction of the soil sample instead of the total element contents, which is the case for the other samples selected.

4.2.2 Selected site data for fungi and soil: cR_soilToMush

The cR_soilToMush parameter reflects the uptake of elements from soil to fruit bodies of fungi, which in turn are eaten by humans or terrestrial herbivores. Site specific fungi data are available only in /Johanson et al. 2004/. This study also contains soil data from samples taken from the same localities as the fungi fruit bodies. Assumptions behind the selection of fungi and soil data from this dataset are summarised below:

As it was considered important to use fungi and soil data from the same localities, several other sources of site specific soil chemistry data were not used (cf. Section 2.1.1). These soil samples that were paired with fungi samples are comparable to other soil data from Forsmark (humus samples) in Figure 3-13, although the concentrations of e.g. Rb, Cs, K, Cr and Sr were somewhat lower in the samples from the fungi study.

In /Johanson et al. 2004/, the soil was divided into different fractions (cf. Section 2.1.1). The fraction used here is the fraction called "bulk soil" since this best corresponds to the conditions described by this parameter in the radionuclide model of SR-Site. According to Figure 3-13, bulk soil and rhizosphere soil samples are very similar chemically. Bulk soil samples were matched with fungi samples from the same locations (per idcode).

For some elements, there is a large variation in accumulation in fungi tissue among the studied fungi species studied, according to the analysis in Section 3.4.2. It could not be concluded if this variation is species dependent or if it is a function of habitat. The fact that all samples were collected in spruce or mixed forests in the Forsmark area points at the first alternative. It was therefore assumed that the variation in chemical composition among all sampled species reflects the natural variation among fungi species potentially eaten by humans and herbivores.

Selected fungi and corresponding soil data for the estimation of the CR_soilToMush parameter are compiled in Appendix 2. All fungi species sampled were selected for this parameter (cf. Figure 3-17 and Table 2-9). Only soil data taken from the same localities as the fungi samples was used (cf. /Johanson et al. 2004/ in Table 2-1).

4.2.3 Selected site data for terrestrial herbivores: *cR_foodToHerbiv*

The cR_foodToHerbiv parameter reflects the uptake and accumulation of elements in muscle tissue in terrestrial herbivores through food intake. Their diet was considered to include green vegetation and fruit bodies of fungi. All available site specific data were used /Hannu and Karlsson 2006, Engdahl et al. 2006, Roos et al. 2007, Grolander and Roos 2009, Johanson et al. 2004/. The selection of representative data is based on the following assumptions:

It was assumed that sampling at the same locations is not important for data of terrestrial herbivores, vegetation and fungi. The rationale for this assumption is that the herbivores are moving in the environment and consequently seek their food in a larger area approximately corresponding to the site.

Data from both sites were used. The rationale for this decision is to broaden the data set in order to reflect the future evolution in the Forsmark area (cf. Section 4.1.2). This has only consequences for a few elements where there is a clear difference between the sites, e.g. Cl (cf. Section 3.4.3).

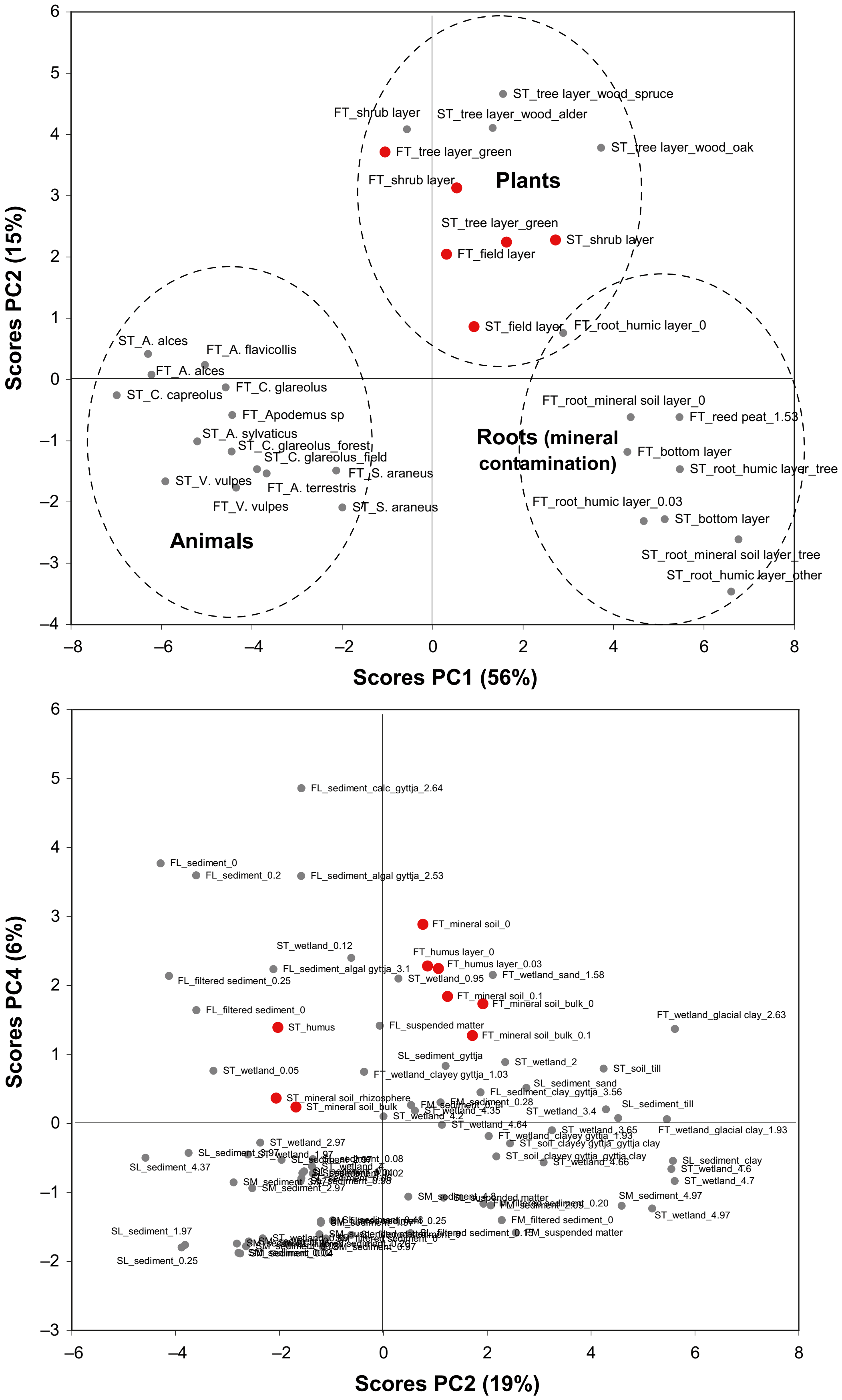

Figure 4‑2. *PCA plots showing terrestrial biota samples (upper panel, cf. Figure 3‑15) and regolith samples (lower panel, cf. Figure 3‑12). The data selected for the site data set for the parameter Ter_cR_pp is marked as red dots.*

The selection of representative vegetation and fungi data is based on the assumptions below. For vegetation and fungi samples, the same selection was used as for the Ter_cR_pp and cR_soilToMush parameters described above.

- For plants, this means that it was assumed that herbivores mainly consume vegetation from the field and shrub layer as well as green parts of the trees. As a simplification, they are assumed not to consume mosses or wood (cf. Table 4-8 in /Truvé and Cederlund 2005/ who states that the herbivore diet also includes wood from deciduous tree species). The exclusion of wood samples potentially leads to an underestimation of the uptake of e.g. Sr, Ni and Zr whereas the uptake of e.g. Cl may be somewhat overestimated (cf. Section 3.4.1).
- For fungi, it was assumed that all species are included in the diet equally.
- Furthermore, it was assumed that the diet of herbivores in the Forsmark area contain 6% fruit bodies of fungi and 94% green vegetation as a weighted average /Nordén et al. 2010/. In case of missing fungi data (this data set included fewer elements), it was assumed that the food consisted of 100% green vegetation. This may lead to a slight underestimation of uptake for elements which occur at higher concentrations in fungi. The element concentrations in fungi and green vegetation are compared for a restricted number of elements in Section 3.4.2. It is concluded that some metals (e.g. Cd, Hg, Cu and Zn) and also some nutrients (N, P, K) as well as Cs and Rb occur at higher concentrations in fungi, whereas Ca and Sr occur at higher levels in vegetation.

The selection of representative herbivore data is based on the following assumptions:

- In the dose model the terrestrial herbivore compartment reflects large herbivores such as moose and roe deer which are consumed by humans today. Since there is very little variation in composition among all animal samples (cf. Section 3.4.1), it was assumed appropriate to use chemistry data from all herbivores for this parameter (including small animals as rodents, but with omnivores and carnivores excluded).
- It was also assumed appropriate to use herbivore data from both sites. According to Section 3.4.4 there is no general difference in chemical composition among animals when the Forsmark and Simpevarp areas are compared, even though small differences can be seen for a limited number of elements. This indicates that it is reasonable to treat data from both sites as one data set.

Plant and herbivore data selected are marked in Figure 4-3. All fungi species sampled were selected for this parameter (cf. Figure 3-17). A compilation of data selected for this parameter is found in Appendix 2.

4.3 Concentration ratios for aquatic biota (CR)

Concentration ratios for aquatic biota are used in SR-Site to model uptake and distribution of elements between water, primary producers and consumers. The uptake in primary producers is part of the processes describing the turnover of radionuclides in the ecosystems, whereas uptake in edible fauna in the model is used for estimation of exposure to humans. The primary producers were divided into three different types; phytoplankton, microphytobenthos and macrophytes/macroalgae (for definitions see /Andersson 2010/ (freshwater ecosystems) and /Aquilonius 2010/ (marine ecosystems). Vegetation parts present below the sediment surface were not included when estimating the CRs. The edible fauna considered in the model are fish and crayfish from freshwater environments and fish and mussels from marine environments. The element concentrations in soft tissues were used when estimating the CRs for these fauna types.

4.3.1 Selected site data for freshwater primary producers: *Lake_cR_pp_plank, Lake_cR_pp_ubent* and *Lake_cR_pp_macro*

Site specific data of the chemical composition of freshwater primary producers and corresponding water concentration data were used to estimate CR ratios for water and limnic primary producers. Limnic primary producers were divided into three categories; phytoplankton, microphytobenthos and macrophytes/macroalgae, abbreviated Lake_cR_pp_plank, Lake_cR_pp_ubent and Lake_cR_pp_macro, respectively.

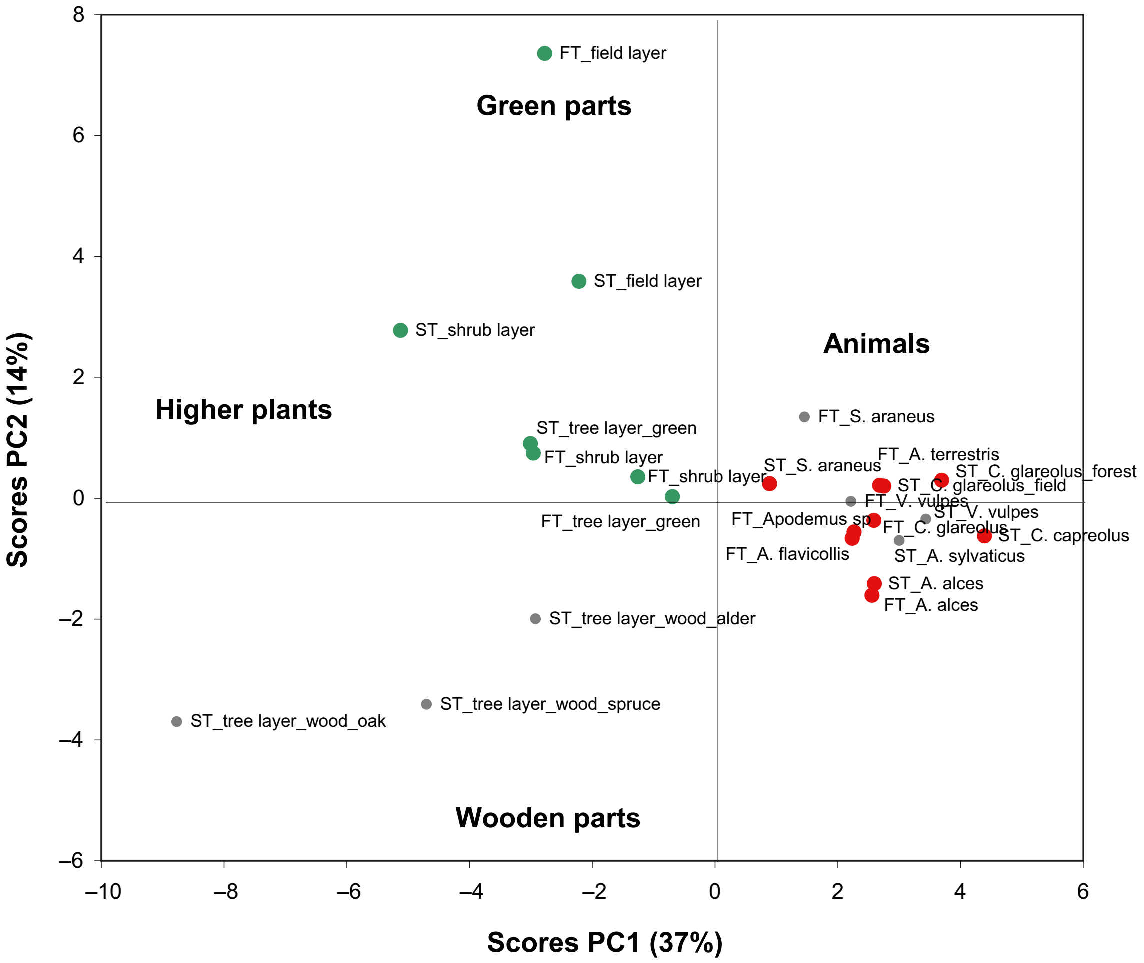

Figure 4-3. *The selection of plant and herbivore data for the CR_foodToHerbiv parameter marked as green dots (vegetation) and red dots to the right (herbivores). See Figure 3-16 for further explanations regarding this figure.*

Site specific chemistry data are available for microphytobenthos (Forsmark), macroalgae (Forsmark) and macrophytes (Laxemar) /Hannu and Karlsson 2006, Engdahl et al. 2006, Roos et al. 2007, Grolander and Roos 2009/. The lake water chemistry data available are from /Engdahl et al. 2008/, from the monitoring programme (see Section 2.2.2) and from /Grolander and Roos 2009/. The latter contains data on radionuclides only, which are missing in the other references so this source can not be included in a comparison.

In the radionuclide model used in SR-Site the aquatic primary producers are divided into phytoplankton, microphytobenthos and macrophytes (including macroalgae). In the explorative analysis in Section 3.5.1 limnic macroalgae and macrophytes have a similar composition, whereas microphytobenthos and macrophyte roots (reed) deviate from both other macrophytes.

The selection of representative data for limnic primary producers is based on the following assumptions:

- Root samples are excluded from the data set for estimation of CR for limnic biota since it is the green parts which are simulated in the dose model of SR-Site.
- Microphytobenthos is handled as a separate group. This group differs from the other primary producers mainly through the enrichment of geogenic elements such as Si, Al, Ti, Sc and Zr (cf. Section 3.5.1). It is appropriate to include the geogenic contributions for the CR although these geogenic elements may reflect mineral contamination as this mineral inclusion is also consumed in the food chain.
- Both macrophyte data from Laxemar-Simpevarp area and Forsmark are included. Site specific differences can not be investigated with the available samples. The PCA in Section 3.5.1 reveals

differences in composition between limnic phanerogams and macroalgae from the two sites, but this pattern is probably an effect of the two vegetation types (and/or species selected) rather than site specific general property. The phanerogams have root which macroalgae are lacking.

- Macrophytes are used as analogues for freshwater phytoplankton, for which site specific data are lacking. This assumption is based on the analysis of site specific data from a marine bay in Forsmark which showed that the composition of marine macrophytes were the best analogue to phytoplankton in marine environments and we assume that the same also is valid in limnic environments (cf. Section 3.5.2). Another possible analogue is suspended matter, but as evident in Figure 3-10 the analysed samples from marine as well as limnic environments from both sites contain very little carbon indicating that these samples contain significant amounts of mineral particles and are therefore less suitable for biotic CRs.

All available data for filtered freshwater were considered representative and were used based on the following assumptions and considerations:

- Data from lakes and streams from the monitoring program (see Section 2.2.2) as well as lake data from /Engdahl et al. 2008/ were used. The monitoring program represent a long-time mean values for freshwater at Forsmark and Laxemar respectively whereas the later are from one sampling campaign. As can be seen in Figure 3-3 data for lake and stream water as well as data from the two different studies are very close chemically.
- Data from both sites were used. A slight deviation in water chemistry is seen for Forsmark and Laxemar in Figure 3-3. The main difference is generally higher concentrations of V, Cr, Ni, Zn, Co, Mn, Pb and Fe as well geogenic elements as Al, Si, Ba and nutrients as N and P in waters from Laxemar whereas the Forsmark waters have higher concentrations of Ca and S. These patterns are most probably a consequence of the composition of the regolith and the general hydrochemical characteristics of each site. It was considered valid to include this variation since both sites represent possible chemical conditions at Forsmark today and in the future.

Selected freshwater primary producers are marked in Figure 4-4. A compilation of all data selected for these parameters is found in Appendix 2.

4.3.2 Selected site data for freshwater fauna: *cR_watToFish_Lake* and *cR_watToCray_Lake*

Site specific data of the chemical composition of freshwater animals and corresponding water concentration data are used to estimate CR ratios for freshwater fauna. The fauna types considered are fish and crayfish (cR_watToFish_Lake and cR_watToCray_Lake). These parameters reflect uptake and accumulation of elements from water to the tissues of the freshwater animals, assumed to be inclusive of the underlying food chain transfers.

Site specific chemistry data are available for mussels and fish (from both sites) /Hannu and Karlsson 2006, Engdahl et al. 2006/. The lake water chemistry data available are from /Engdahl et al. 2008/, from the monitoring programme (see Section 2.2.2) and from /Grolander and Roos 2009/.

As site specific data for freshwater crustaceans is not available, freshwater filter feeders were used as an analogue. An alternative would have been to use data for freshwater fish, but the filter feeders were considered more appropriate analogues for crawfish. This assumption is based on comparisons among marine crustaceans, fish and filter feeders in the PCA plot in Figure 3-20. This comparison revealed that marine filter feeders and crustaceans form a loose group deviating from marine fish, similar to fish and filter feeders in the limnic environments (cf. Section 3.5.1). It is therefore assumed that the composition of limnic crustaceans is more similar to limnic filter feeders than to limnic fish.

As the site specific differences in water as well as biota chemistry are small it was considered reasonable to treat data from Forsmark and Laxemar as one data set (limnic fish and mussels have similar composition at both sites according to Section 3.5.1).

The water chemistry data used are the same as for CR for limnic primary producers (see Section 4.3.1). Selected freshwater primary producers are marked in Figure 4-4. A compilation of all data selected for these parameters is found in Appendix 2.

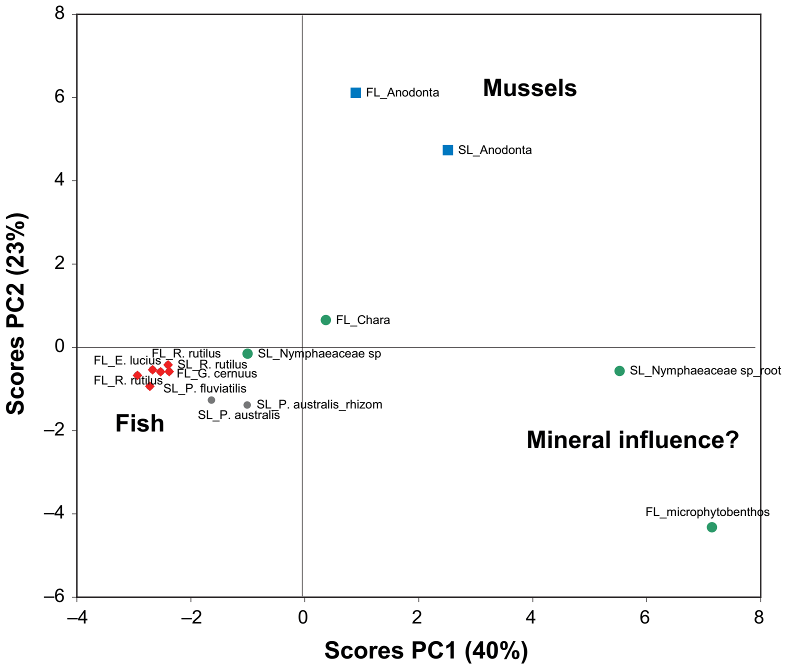

Figure 4-4. *Limnic primary producers selected for the Lake CR parameters are marked in green. Selected samples for the cR_watToFish parameter are marked in red, whereas selected samples representative for cR_watToCray are marked in blue (Cf. Figure 3-29).*

4.3.3 Selected site data for marine primary producers: *Sea_cR_pp_plank, Sea_cR_pp_ubent* and *Sea_cR_pp_macro*

Site specific data of the chemical composition of marine primary producers and corresponding water concentration data were used to estimate CR ratios for water and marine primary producers. These were divided, similarly to the limnic counterpart, into three categories; phytoplankton, microphytobenthos and macrophytes (Sea_cR_pp_plank, Sea_cR_pp_ubent and Sea_cR_pp_macro, respectively). These parameters reflect uptake and accumulation of elements from sea water to the tissues above the sediment surface of the marine primary producers.

Site specific chemistry data for marine primary producers are available for phytoplankton (Forsmark), microphytobenthos (Forsmark) and for macrophytes (both sites) /Kumblad and Bradshaw 2008, Engdahl et al. 2006/. Site specific chemistry data for marine water are available from /Engdahl et al. 2008/ (both sites), monitoring (both sites), /Kumblad and Bradshaw 2008/ (Forsmark), /Grolander and Roos 2009/ (Forsmark) and /HELCOM 2009/ (both sites). The latter two contain data on radionuclides only, which are missing in the other references so these sources can not be included in a comparison.

The selection of representative data for marine primary producers is based on the following assumptions and considerations:

- A comparison of the chemistry of marine biota is presented in Section 3.5.2 and microphytobenthos is identified as different from the other biota. The microphytobenthos differ from other marine primary producers mainly with much higher concentrations of a number of elements, mainly metals and geogenic elements. Some of these elements are found in higher concentrations also in limnic microphytobenthos. Macrophytes and phytoplankton form a loose group in Figure 3-26, separated from other marine biota. It is appropriate to include the geogenic contributions for the CR although these geogenic elements may reflect mineral contamination as this mineral inclusion is also consumed in the food chain.
- Data for macroalgae and macrophytes from Forsmark and Laxemar-Simpevarp were used. As discussed in Section 3.5.2, the chemical composition of marine plants is similar at both sites although there are some uncertainties related to the REE group.

All available data for filtered marine water were considered representative and were used based on the following assumptions and considerations:

- Data from the monitoring programme (see Section 2.3.2) as well as from /Engdahl et al. 2008/ (Forsmark and Laxemar) and /Kumblad and Bradshaw 2008/ (Forsmark) were used. The former represents long-time mean values for marine waters at Forsmark and Laxemar respectively whereas the later are from recent sampling campaigns. As can be seen in Figure 3-2 data from the different studies are very close chemically.
- Data from both sites were used in order to mirror both the present and a possible future hydrochemical situation in Forsmark. As can be seen in Figure 3-3 marine water from Forsmark and Laxemar are very similar chemically. As shown in Figure 3-4 the ratio between concentrations in Forsmark and Laxemar samples are for many elements about 0.8, a difference which could be explained by the salinity gradient in the Baltic Sea (slightly higher salinity in Laxemar). This implies that the source for these elements is mainly the sea. For other elements, e.g. As the main source is atmospheric deposition and for these elements the ratios between the sites are about 1.

A detailed compilation of data selected for marine primary producers data is found in Appendix 2.

4.3.4 Selected site data for marine fauna: *cR_watToFish_Sea*, *cR_watToCray_Sea* and *cR_watToFF_Sea*

Site specific data of the chemical composition of marine animals and corresponding sea water concentration data are used to estimate CR ratios for marine fauna. The fauna types considered are marine fish and filter feeders (cR_watToFish_Sea and cR_watToFF_Sea). These parameters reflect uptake and accumulation of elements from water to the tissues of the marine animals, assuming this includes the underlying food chain transfers.

Site specific chemistry data for marine fauna are available for zooplankton (Forsmark), filter feeders (muscles from both sites, shell from Laxemar), benthic grazers (Forsmark) and fish (for both sites) /Kumblad and Bradshaw 2008, Engdahl et al. 2006/. Site specific chemistry data for marine water are available from /Engdahl et al. 2008/ (both sites), monitoring (both sites), /Kumblad and Bradshaw 2008/ (Forsmark), /Grolander and Roos 2009/ (Forsmark) and /HELCOM 2009/ (both sites). The latter two contain data on radionuclides only, which are missing in the other references so these sources can not be included in a comparison.

The selection of representative data for marine fauna is based on the following assumptions and considerations:

- Only edible parts are of interest and data concerning mussel shells were not included in the data set.
- Data for marine filter feeders from both sites are merged. The filter feeder samples show some scattering in Figure 3-26. As different species were sampled from the two sites the chemical differences may be interpreted as species dependent as well as a site specific factor. The former is the most probable explanation and including data from both sites will therefore include a relevant variation.
- Marine fish samples from both sites are included in the dataset. All fish samples form a distinct cluster in Figure 3-29 meaning that they are chemically similar regarding the elements included in the PCA analysis. There is a tendency of separation between Forsmark and Simpevarp areas within this cluster. As discussed in Section 3.5.5 this difference mainly reflect discrepancies in methodology rather than differences due to differing site.
- In contrast to most other samples, the small data set from /HELCOM 2009/ contains data on activity levels of a few isotopes and could therefore not easily be included in the PCA:s in Section 4. As we see no distinct differences between marine biota samples from Forsmark and Laxemar which are situated in different basins of the Baltic Sea (Figure 3-31) it has been assumed that data from the same basins are representative for each of the site. As no large differences have been seen for different fish species and not even for fishes from different ecosystem types (Figure 3-33) it has been assumed of little importance if the species analysed in /HELCOM 2009/ is not exactly the one present in the areas close to Forsmark and Laxemar.

The water data used are the same as for CRs for marine primary producers (see Section 4.3.3). A detailed compilation of data selected for marine primary producers data is found in Appendix 2.

5 References

SKB's (Svensk Kärnbränslehantering AB) publications can be found at www.skb.se/publications.

Andersson E (ed), 2010. The limnic ecosystems at Forsmark and Laxemar-Simpevarp. SR-Site Biosphere. SKB TR-10-02, Svensk Kärnbränslehantering AB.

Aquilonius K (ed), 2010. The marine ecosystems at Forsmark and Laxemar-Simpevarp. SR-Site Biosphere. SKB TR-10-03, Svensk Kärnbränslehantering AB.

Avila R, Ekström P-A, Åstrand P-G, 2010. Landscape dose conversion factors used in the safety assessment SR-Site. SKB TR-10-06, Svensk Kärnbränslehantering AB.

Berg C, Harrström J, Nilsson A-C (ed), Nilsson K, Borgiel M, Qvarfordt S, 2009. Forsmark site investigation. Hydrochemical monitoring of groundwaters, surface waters and precipitation. Results from water sampling in the Forsmark area, January 2008 – December 2008. SKB P-09-51, Svensk Kärnbränslehantering AB.

Brun C, 2008. Major and trace elements in boreal forests: litter decomposition, plant-soil chemistry and aspects of pollution. Ph.D. thesis. University of Kalmar, Sweden.

Brunberg A-K, Blomqvist P, 2000. Post-glacial, land rise-induced formation and development of lakes in the Forsmark area, central Sweden. SKB TR-00-02, Svensk Kärnbränslehantering AB.

Brunberg A-K, Blomqvist P, Rydin E, 2002. Contrasting ontogeny among ephemeral hardwater lakes as revealed by sediment P-fractionation. Archive für Hydrobiologie, 153, pp 491–501.

Cederlund G, Hammarström A, Wallin K, 2005a. Forsmark site investigation. Surveys of mammal populations in Forsmark. Results from 2004. SKB P-05-151, Svensk Kärnbränslehantering AB.

Cederlund G, Hammarström A, Wallin K, 2005b. Oskarshamn site investigation. Survey of small rodent populations in the areas adjacent to Simpevarp. Results from 2004. SKB P-05-84, Svensk Kärnbränslehantering AB.

Claesson L-Å, Nilsson G, 2004. Forsmark site investigation. Drilling of five percussion boreholes, HFM11–12 and HFM17–19, on different lineaments. SKB P-04-106, Svensk Kärnbränslehnatering AB.

Engdahl A, Ternsell A, Hannu S, 2006. Oskarshamn site investigation. Chemical characterisation of deposits and biota. SKB P-06-320, Svensk Kärnbränslehantering AB.

Engdahl A, Rådén R, Borgiel M, Omberg L-G, 2008. Oskarshamn and Forsmark site investigation. Chemical composition of suspended material, sediment and pore water in lakes and sea bays. SKB P-08-81, Svensk Kärnbränslehantering AB.

Ericsson U, Engdahl A, 2008. Oskarshamn site investigation. Precipitation at Simpevarp 2006. SKB P-08-62, Svensk Kärnbränslehantering AB.

Grolander S, Roos P, 2009. Forsmark site investigation. Analysis of radioactive isotopes in near surface groundwater, surface water, biota and soil. SKB P-09-66, Svensk Kärnbränslehantering AB.

Hannu S, Karlsson S, 2006. Forsmark site investigation. Chemical characterisation of deposits and biota. SKB P-06-220, Svensk Kärnbränslehantering AB.

Hedenström A, 2004. Forsmark site investigation. Stratigraphical and analytical data of Quaternary deposits. SKB P-04-148, Svensk Kärnbränslehantering AB.

HELCOM, 2009. Radioactivity in the Baltic sea, 1999–2006. HELCOM thematic assessment. Helsinki: Helsinki Commission, Baltic Marine Environment Protection Commission. (Baltic Sea Environment Proceedings 117)

Johanson K J, Nikolova I, Taylor A F S, Vinichuk M M, 2004. Uptake of elements by fungi in the Forsmark area. SKB TR-04-26, Svensk Kärnbränslehantering AB.

Johansson P-O, 2003. Forsmark site investigation. Drilling and sampling in soil. Installation of groundwater monitoring wells and surface water gauges. SKB P-03-64, Svensk Kärnbränslehantering AB.

Kumblad L, Bradshaw C, 2008. Element composition of biota, water and sediment in the Forsmark area, Baltic Sea. Concentrations, bioconcentration factors and partitioning coefficients (K_d) of 48 elements. SKB TR-08-09, Svensk Kärnbränslehantering AB.

Lindborg T (ed), 2008. Surface system Forsmark. Site descriptive modelling SDM-Site Forsmark. SKB R-08-11, Svensk Kärnbränslehantering AB.

Lindborg T (ed), 2010. Landscape Forsmark – data, methodology and results for SR-Site. SKB TR-10-05, Svensk Kärnbränslehantering AB.

Löfgren A (ed), 2010. The terrestrial ecosystems at Forsmark and Laxemar-Simpevarp. SR-Site Biosphere. SKB TR-10-01, Svensk Kärnbränslehantering AB.

Mjöfors K, Johansson M-B, Nilsson Å, Hyvönen R, 2007. Input and turnover of forest tree litter in the Forsmark and Oskarshamn areas. SKB R-07-23, Svensk Kärnbränslehantering AB.

Nordén S, Avila R, de la Cruz I, Stenberg K, Grolander S, 2010. Element-specific and constant parameters used for dose calculations in SR-Site. SKB TR-10-07, Svensk Kärnbränslehantering AB.

Persson H, Stadenberg I, 2007. Distribution of fine roots in forest areas close to the Swedish Forsmark and Oskarshamn nuclear power plants. SKB R-07-01, Svensk Kärnbränslehantering AB.

Roos P, Engdahl A, Karlsson S, 2007. Oskarshamn and Forsmark site investigations. Analysis of radioisotopes in environmental samples. SKB P-07-32, Svensk Kärnbränslehantering AB.

Sheppard S, Long J, Sanipelli B, Sohlenius G, 2009. Solid/liquid partition coefficients (Kd) for selected soils and sediments at Forsmark and Laxemar-Simpevarp. SKB R-09-27, Svensk Kärnbränslehantering AB.

Sheppard S, Long J M, Sanipelli B, 2010. Plant/soil concentration ratios for paired field and garden crops, with emphasis on iodine and the role of soil adhesion. Journal of Environmental Radioactivity, 101, pp 1032–1037.

SKB, 2008. Site description of Forsmark at completion of the site investigation phase. SDM-Site Forsmark. SKB TR-08-05, Svensk Kärnbränslehantering AB.

SKB, 2009. Site description of Laxemar at completion of the site investigation phase – SDM-Site Laxemar. SKB TR-09-01, Svensk Kärnbränslehantering AB.

SKB, 2010a. Biosphere analyses for the safety assessment SR-Site – synthesis and summary of results. SKB TR-10-09, Svensk Kärnbränslehantering AB.

SKB, 2011a. Long-term safety for the final repository for spent nuclear fuel at Forsmark. Main report of the SR-Site project. SKB TR-11-01, Svensk Kärnbränslehantering AB.

SKB, 2011b. Miljökonsekvensbeskrivning. Mellanlagring, inkapsling och slutförvaring av använt kärnbränsle. Svensk Kärnbränslehantering AB. ISBN 978-91-978702-0-7.

Sohlenius G, Rudmark L, 2003. Forsmark site investigation. Mapping of unconsolidated Quaternary deposits. SKB P-03-14, Svensk Kärnbränslehantering AB.

Sonesten L, 2005. Chemical characteristics of surface waters in the Forsmark area. Evaluation of data from lakes, streams, and coastal sites. SKB R-05-41, Svensk Kärnbränslehantering AB.

Strömgren M, Brunberg A-K, 2006. Elemental composition of a deep sediment core from Lake Stocksjön in the Forsmark area. SKB R-06-96, Svensk Kärnbränslehantering AB.

Sundh M, Sohlenius G, Hedenström A, 2004. Forsmark site investigation. Stratigraphical investigation of till in machine cut tranches. SKB P-04-34, Svensk Kärnbränslehanteringn AB.

Truvé J, Cederlund G, 2005. Mammals in the areas adjacent to Forsmark and Oskarshamn. Population density, ecological data and carbon budget. SKB R-05-36, Svensk Kärnbränslehantering AB.

Tröjbom M, Grolander S, 2010. Chemical conditions in present and future ecosystems in Forsmark. Implications for selected radionuclides in the safety assessment SR-Site. SKB R-10-27, Svensk Kärnbränslehantering AB.

Tröjbom M, Söderbäck B, 2006a. Chemical characteristics of surface systems in the Simpevarp area. Visualisation and statistical evaluation of data from surface water, precipitation, shallow groundwater, and regolith. SKB R-06-18, Svensk Kärnbränslehantering AB.

Tröjbom M, Söderbäck B, 2006b. Chemical characteristics of surface systems in the Forsmark area. Visualisation and statistical evaluation of data from shallow groundwater, precipitation, and regolith. SKB R-06-19, Svensk Kärnbränslehantering AB.

Tröjbom M, Söderbäck B, Johansson P-O, 2007. Hydrochemistry in surface water and shallow groundwater. Site descriptive modelling, SDM-Site Forsmark. SKB R-07-55, Svensk Kärnbränslehantering AB.

Tröjbom M, Söderbäck B, Kalinowski B, 2008. Hydrochemistry of surface water and shallow groundwater. Site descriptive modelling, SDM-Site Laxemar. SKB R-08-46, Svensk Kärnbränslehantering AB.

Wijnbladh E, Aquilonius K, Floderus S, 2008. The marine ecosystems at Forsmark and Laxemar-Simpevarp. Site descriptive modelling, SDM-Site. SKB R-08-03, Svensk Kärnbränslehantering AB.

Appendix 1

Compilation of the total number of observations (Table A1-1) and the percentage of data below reporting limits (Table A1-2).

Table A1-1. Compilation of the total number of observations.

Ekosystem	SITE	sample_name_Sicada	Ag	Al	^{241}Am	As	Au	B	Ba	Be	^{7}Be	Bi	Br	Ca	Cd	Ce	Cl	Co	^{60}Co	Cr	Cs	^{134}Cs	^{137}Cs	Cu	Dy	Er	Eu	^{155}Eu	F	Fe	^{59}Fe	Ga	Gd	^{153}Gd	Ge	^{3}H	Hf	Hg	Ho	I	^{129}I	In	Ir	K	^{40}K	La	Li	Lu	Mg	Mn	^{54}Mn	Mo	N	Na	Nb	^{95}Nb
L	FORSMARK	algmatta, sjö																																								1															
L	FORSMARK	algmatta, sjö_0	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
L	FORSMARK	dammussla	3	3		3		3	3	3			3	3	3	3	3	3		3	3			3	3	3	3			3		3	3				3	3	3	3	1			3		3	3	3	3	3		3	3	3	3	
L	FORSMARK	filtered sediment_0	3	3		3	3	3	3	3		3	3	3	3	3	3	3		3	3			3	3	3	3		3	3		3	3		3		3	3	3	3		3	3	3		3	3	3	3	3		3	3	3	3	
L	FORSMARK	filtered sediment_25	3	3		3	3	3	3	3		3	3	3	3	3	3	3		3	3			3	3	3	3		3	3		3	3		3		3	3	3	3		3	3	3		3	3	3	3	3		3	3	3	3	
L	FORSMARK	filtered water_0.5	4	4		4	4	4	4	4		4	4	4	4	4	4	4		4	4			4	4	4	4		4	4		4	4		4		4	4	4	4		4	4	4		4	4	4	4	4		4	4	4	4	
L	FORSMARK	gädda	4	4		4		4	4	4			4	4	4		4	4		4	4			4	4	4	4			4		4	4				4	4	4	4				4		4	4	4	4	4		3	6	4	4	
L	FORSMARK	gärs	1	1		1		1		1			1	1	1		1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
L	FORSMARK	kransalger, sjö	4	4		4		4	4	4			4	4	4	4	4	4		4	4			4	4	4	4			4		4	4				4	4	4	4	1			4		4	4	4	4	4		4	4	4	4	
L	FORSMARK	Lake		1		1			1				1	1	1	1	1	1		1	1			1	1	1	1			1			1				1	1	1	1				1		1	1	1	1	1		1	1	1		
L	FORSMARK	mört	2	2		2		2	2	2			2	2	2		2	2		2	2			2	2	2	2			2		2	2				2	2	2	2				2		2	2	2	2	2		2	4	2	2	
L	FORSMARK	Porewater_0	3	3		3	3	3	3	3		3	3	3	3	3	3	3		3	3			3	3	3	3		3	3		3	3		3		3	3	3	3		3	3	3		3	3	3	3	3		3	3	3	3	
L	FORSMARK	Porewater_25	3	3		3	3	3	3	3		3	3	3	3	3	3	3		3	3			3	3	3	3		3	3		3	3		3		3	3	3	3		3	3	3		3	3	3	3	3		3	3	3	3	
L	FORSMARK	Sediment 0-5 cm																																							1															
L	FORSMARK	sjösed, alggyttja_2.53	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1		1	1	
L	FORSMARK	sjösed, alggyttja_3.1	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1		1	1	
L	FORSMARK	sjösed, kalkgyttja_2.64	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
L	FORSMARK	sjösed, lergyttja_3.56	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
L	FORSMARK	sjösediment; lera_3.87	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1		1	1	
L	FORSMARK	sjösediment; lera_4.02	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1		1	1	
L	FORSMARK	sjösediment; lera_4.2	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1		1	1	
L	FORSMARK	sjösediment_0	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
L	FORSMARK	sjösediment_0.2	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
L	FORSMARK	Stream		1		1			1				1	1	1	1	1	1		1	1			1	1	1	1			1			1				1	1	1	1				1		1	1	1	1	1		1	1	1		
L	FORSMARK	suspenderat material_0.5	4	4		4		4	4	4		4	4	4	4	4		4		4	4			4	4	4	4			4		4	4		4		4	4	4	4				4		4	4	4	4	4		4	4	4	4	
L	FORSMARK	sutare	9	9		9		9	9	9			9	9	9		9	9		9	9			9	9	9	9			9		9	9				9	9	9	9				9		9	9	9	9	9		9	11	9	9	
L	FORSMARK	Vass																																							1															
L	SIMPEVARP	abborre	3	3		3		3	2	3			3	3	3		3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
L	SIMPEVARP	abborre piscivor																																							1															
L	SIMPEVARP	abborre planktivor																																							1															
L	SIMPEVARP	dammussla	3	3		3		3	3	3			3	3	3	3	3	3		3	3			3	3	3	3			3		3	3				3	3	3	3	1			3		3	3	3	3	3		3	3	3	3	
L	SIMPEVARP	filtered sediment_0	2	2		2	2	2	2	2		2	2	2	2	2	2	2		2	2			2	2	2	2		2	2		2	2		2		2	2	2	2		2	2	2		2	2	2	2	2		2	2	2	2	
L	SIMPEVARP	filtered sediment_15	1	1		1	1	1	1	1		1	1	1	1	1	1	1		1	1			1	1	1	1		1	1		1	1		1		1	1	1	1		1	1	1		1	1	1	1	1		1	1	1	1	
L	SIMPEVARP	filtered sediment_20	1	1		1	1	1	1	1		1	1	1	1	1	1	1		1	1			1	1	1	1		1	1		1	1		1		1	1	1	1		1	1	1		1	1	1	1	1		1	1	1	1	
L	SIMPEVARP	filtered water	3	3		3	3	3	3	3		3	3	3	3	3	3	3		3	3			3	3	3	3		3	3		3	3		3		3	3	3	3		3	3	3		3	3	3	3	3		3	3	3	3	
L	SIMPEVARP	gyttja	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
L	SIMPEVARP	gyttja_0.9	1	1		1		1	1	1				1	1	1		1		1				1	1	1	1			1		1	1				1	1	1					1		1	1	1	1	1		1			1	
L	SIMPEVARP	Lake		1		1			1				1	1	1	1	1	1		1	1			1	1	1	1			1			1				1	1	1	1				1		1	1	1	1	1		1	1	1		
L	SIMPEVARP	Lera	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
L	SIMPEVARP	Lera_5.3	1	1		1		1	1	1				1	1	1		1		1				1	1	1	1			1		1	1				1	1	1					1		1	1	1	1	1		1			1	
L	SIMPEVARP	Morän I	2	2		2		2	2	2			1	2	2	2	1	2		2	2			2	2	2	2			2		2	2				2	2	2	1				2		2	2	2	2	2		2	1	1	2	
L	SIMPEVARP	mört	3	3		3		3	3	3			3	3	3		3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
L	SIMPEVARP	Näckros	3	3		3		3	3	3			3	3	3	3	3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
L	SIMPEVARP	näckros blad																																							1															
L	SIMPEVARP	Näckros rot	3	3		3		3	3	3			3	3	3	3	3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
L	SIMPEVARP	Porewater_0	2	2		2	2	2	2	2		2	2	2	2	2	2	2		2	2			2	2	2	2		2	2		2	2		2		2	2	2	2		2	2	2		2	2	2	2	2		2	2	2	2	
L	SIMPEVARP	Porewater_15	1	1		1	1	1	1	1		1	1	1	1	1	1	1		1	1			1	1	1	1		1	1		1	1		1		1	1	1	1		1	1	1		1	1	1	1	1		1	1	1	1	
L	SIMPEVARP	Porewater_20	1	1		1	1	1	1	1		1	1	1	1	1	1	1		1	1			1	1	1	1		1	1		1	1		1		1	1	1	1		1	1	1		1	1	1	1	1		1	1	1	1	
L	SIMPEVARP	Sand I	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
L	SIMPEVARP	Sand I_3	1	1		1			1	1				1	1	1		1		1				1	1	1	1			1		1	1				1	1	1					1		1	1	1	1	1		1			1	
L	SIMPEVARP	Sediment 0-5 cm																																							1															
L	SIMPEVARP	sjösediment_0	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
L	SIMPEVARP	Sjösediment_0.02	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
L	SIMPEVARP	Sjösediment_0.04	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
L	SIMPEVARP	Sjösediment_0.06	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
L	SIMPEVARP	Sjösediment_0.08	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
L	SIMPEVARP	Sjösediment_0.25	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
L	SIMPEVARP	Sjösediment_0.48	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
L	SIMPEVARP	Sjösediment_0.98	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
L	SIMPEVARP	Sjösediment_1.97	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
L	SIMPEVARP	Sjösediment_2.97	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
L	SIMPEVARP	Sjösediment_3.97	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
L	SIMPEVARP	Sjösediment_4.37	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
L	SIMPEVARP	Stream		1		1			1				1	1	1	1	1	1		1	1			1	1	1	1			1			1				1	1	1	1				1		1	1	1	1	1		1	1	1		
L	SIMPEVARP	suspenderat material_0	3	3		3		3	3	3		3	3	3	3	3		3		3	3			3	3	3	3			3		3	3		3		3	3	3	3				3		3	3	3	3	3		3	3	3	3	
L	SIMPEVARP	Vass	3	3		3		3	3	3			3	3	3	3	3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
L	SIMPEVARP	vass ovanveg																																							1															
L	SIMPEVARP	Vass rhizom	3	3		3		3	3	3			3	3	3	3	3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
M	FORSMARK	Betare Hyd																																																		1			
M	FORSMARK	Cerastoderma glaucum		2		2			2					2	2	2		2		2	2			2	2	2	2			2			2					2	2					2			2	2	2	2		2	2	2		
M	FORSMARK	filtered sediment_0	1	1		1	1	1	1	1		1	1	1	1	1	1	1		1	1			1	1	1	1		1	1		1	1		1		1	1	1	1		1	1	1		1	1	1	1	1		1	1	1	1	
M	FORSMARK	filtered sediment_20	1	1		1	1	1	1	1		1	1	1	1	1	1	1		1	1			1	1	1	1		1	1		1	1		1		1	1	1	1		1	1	1		1	1	1	1	1		1	1	1	1	
M	FORSMARK	filtered water_0.5	2	2		2	2	2	2	2		2	2	2	2	2	2	2		2	2			2	2	2	2		2	2		2	2		2		2	2	2	2		2	2	2		2	2	2	2	2		2	2	2	2	
M	FORSMARK	filtered water_Tix		3		3			3				2	3	3	3	2	3		3	3			3	3	3	3		2	3			3					3	3	2				3			3	3	3	3		3	3	3		
M	FORSMARK	fine sand and mud																				1	1																						1											
M	FORSMARK	Fucus																																																					
M	FORSMARK	Fucus vesiculosus		3		3			3		1		2	3	3	2	2	3	1	3	3	1	1	3	3	3	3	1	2	3			3	1				3	3	2				3	1		3	3	3	3	1	3	3	3		1
M	FORSMARK	gravel																	1			1	1																						1						1					1
M	FORSMARK	gärs		3		3			3				2	3	3		2	3		3	3			3	3	3	3		2	3			3					3	3	2				3			3	3	3	3		3	3	3		
M	FORSMARK	havssed; lera_2.34	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1		1	1	
M	FORSMARK	havssed; lera_2.6	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1		1	1	
M	FORSMARK	havssed; lera_2.8	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1		1	1	
M	FORSMARK	havssed; sand/grus_2.24	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1		1	1	
M	FORSMARK	havssediment_0.14	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
M	FORSMARK	havssediment_0.28	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
M	FORSMARK	havssediment_2.09	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
M	FORSMARK	Idothea spp		2		2			2					2	2			2		2	2			2	2	2	2			2			2					2	2					2			2	2	2	2		2	2	2		
M	FORSMARK	Macoma baltica		3		3			3		1		2	3	3	3	2	3	1	3	3		1	3	3	3	3		2	3			3					3	3	2				3	1		3	3	3	3		3	3	3		
M	FORSMARK	Mikrofyter MIK1		1		1			1				1	1	1	1	1	1		1	1			1	1	1	1		1	1			1					1	1	1				1			1	1	1	1		1	1	1		
M	FORSMARK	Mikrofyter MIK2		1		1			1				1	1	1	1	1	1		1	1			1	1	1	1		1	1			1					1	1	1				1			1	1	1	1		1	1	1		
M	FORSMARK	Mytilus edulis																																											1											
M	FORSMARK	mört		3		3			3				2	3	3		2	3		3	3			3	3	3	3		2	3			3					3	3	2				3			3	3	3	3		3	3	3		
M	FORSMARK	Nors		3		3			3				2	3	3		2	3		3	3			3	3	3	3		2	3			3					3	3	2				3			3	3	3	3		3	3	3		
M	FORSMARK	Pilayella littoralis		3		3			3				2	3	3	1	2	3		3	3			3	3	3	3		2	3			3					3	3	2				3			3	3	3	3		3	3	3		
M	FORSMARK	Porewater_0	1	1		1	1	1	1	1		1	1	1	1	1	1	1		1	1			1	1	1	1		1	1		1	1		1		1	1	1	1		1	1	1		1	1	1	1	1		1	1	1	1	
M	FORSMARK	Porewater_20	1	1		1	1	1	1	1		1	1	1	1	1	1	1		1	1			1	1	1	1		1	1		1	1		1		1	1	1	1		1	1	1		1	1	1	1	1		1	1	1	1	
M	FORSMARK	Porewater_Tix_0		3		3			3					3	3	3		3		3	3			3	3	3	3			3			3					3	3					3			3	3	3	3		3		3		

Ekosystem	SITE	sample_name_Sicada	Ag	Al	^{241}Am	As	Au	B	Ba	Be	^{7}Be	Bi	Br	Ca	Cd	Ce	Cl	Co	^{60}Co	Cr	Cs	^{134}Cs	^{137}Cs	Cu	Dy	Er	Eu	^{155}Eu	F	Fe	^{59}Fe	Ga	Gd	^{153}Gd	Ge	^{3}H	Hf	Hg	Ho	I	^{129}I	In	Ir	K	^{40}K	La	Li	Lu	Mg	Mn	^{54}Mn	Mo	N	Na	Nb	^{95}Nb
M	FORSMARK	Porewater_Tix_3		1		1			1					1	1	1		1		1	1			1	1	1	1			1			1					1	1					1			1	1	1	1		1		1		
M	FORSMARK	Potamogeton																																																					
M	FORSMARK	Potamogeton pectinatus		3		3			3					3	3	2		3		3	3			3	3	3	3			3			3					3	3					3			3	3	3	3		3	3	3		
M	FORSMARK	pure mud																	1			1	1																						1											
M	FORSMARK	Sea		1		1			1				1	1	1	1	1	1		1	1			1	1	1	1			1			1				1	1	1	1				1		1	1	1	1	1		1	1	1		
M	FORSMARK	Sea water																				1	1													1									1											
M	FORSMARK	Sediment 0-3 cm																																							1															
M	FORSMARK	Sediment 0-3 cm_0		3		3			3				2	3	3	3	2	3		3	3			3	3	3	3		2	3			3					3	3	2				3			3	3	3	3		3	3	3		
M	FORSMARK	Sediment 3-6 cm_3		3		3			3				2	3	3	3	2	3		3	3			3	3	3	3		2	3			3					3	3	2				3			3	3	3	3		3	3	3		
M	FORSMARK	soft clay																				1	1																						1											
M	FORSMARK	soft mud																				1	1																						1											
M	FORSMARK	suspended matter		3		3			3				3	3	3	3	2	3		3	3			3	3	3	3		2	3			3					3	3	3				3			3	3	3	3		3	3	3		
M	FORSMARK	suspenderat material_0.5	2	2		2		2	2	2		2	2	2	2	2		2		2	2			2	2	2	2			2		2	2		2		2	2	2	2				2		2	2	2	2	2		2	2	2	2	
M	FORSMARK	Theodoxus fluviatilis		2		2			2				2	2	2	2	2	2		2	2			2	2	2	2		2	2			2					2	2	2				2			2	2	2	2		2	2	2		
M	FORSMARK	Växtplankton		3		3			3				2	3	3		2	3		3	3			3	3	3	3		2	3			3					3	3	2				3			3	3	3	3		3	3	3		
M	FORSMARK	Zooplankton ZP		1		1			1				1	1	1	1		1		1	1			1	1	1	1			1			1					1	1	1				1			1	1	1	1		1	1	1		
M	SIMPEVARP	abborre	3	3		3		3		3			3	3	3		3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
M	SIMPEVARP	abborre piscivor																																							1															
M	SIMPEVARP	Blåmussla	2	2		2		2	2	2			2	2	2	2	2	2		2	2			2	2	2	2			2		2	2				2	2	2	2				2		2	2	2	2	2		2	2	2	2	
M	SIMPEVARP	blåmussla muskel																																							1															
M	SIMPEVARP	Blåmussla skal	2	2		2		2	2	2			2	2	2	2	2	2		2	2			2	2	2	2			2		2	2				2	2	2	2	1			2		2	2	2	2	2		2	2	2	2	
M	SIMPEVARP	Blåstång	3	3		3		3	3	3			3	3	3	3	3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
M	SIMPEVARP	braxen	2	2		2		2	2	2			2	2	2		2	2		2	2			2	2	2	2			2		2	2				2	2	2	2				2		2	2	2	2	2		2	2	2	2	
M	SIMPEVARP	Clupea harengus																					1																						1											
M	SIMPEVARP	filtered sediment_0	2	2		2	2	2	2	2		2	2	2	2	2	2	2		2	2			2	2	2	2		2	2		2	2		2		2	2	2	2		2	2	2		2	2	2	2	2		2	2	2	2	
M	SIMPEVARP	filtered sediment_25	2	2		2	2	2	2	2		2	2	2	2	2	2	2		2	2			2	2	2	2		2	2		2	2		2		2	2	2	2		2	2	2		2	2	2	2	2		2	2	2	2	
M	SIMPEVARP	filtered water	3	3		3	3	3	3	3		3	3	3	3	3	3	3		3	3			3	3	3	3		3	3		3	3		3		3	3	3	3		3	3	3		3	3	3	3	3		3	3	3	3	
M	SIMPEVARP	flundra	3	3		3		3	1	3			3	3	3		3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
M	SIMPEVARP	Fucus																																							1															
M	SIMPEVARP	Fucus vesiculosus									1											1	1																						1						1					
M	SIMPEVARP	Gadus morhua																					1																						1											
M	SIMPEVARP	gravel																	1				1																												1					
M	SIMPEVARP	Havssediment_0	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
M	SIMPEVARP	Havssediment_0.02	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
M	SIMPEVARP	Havssediment_0.04	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
M	SIMPEVARP	Havssediment_0.06	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
M	SIMPEVARP	Havssediment_0.08	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
M	SIMPEVARP	Havssediment_0.97	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
M	SIMPEVARP	Havssediment_1.97	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
M	SIMPEVARP	Havssediment_2.97	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
M	SIMPEVARP	Havssediment_3.97	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
M	SIMPEVARP	Havssediment_4.8	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
M	SIMPEVARP	Havssediment_4.97	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
M	SIMPEVARP	Kransalg	3	3		3		3	3	3			3	3	3	3	3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
M	SIMPEVARP	kransalger, sjö																																							1															
M	SIMPEVARP	löja	3	3		3		3	3	3			3	3	3		3	3		3	3			3	3	3	3			3		3	3				3	3	3	3	1			3		3	3	3	3	3		3	3	3	3	
M	SIMPEVARP	Macoma Baltica																					1								1														1											
M	SIMPEVARP	mud																					1																																	
M	SIMPEVARP	mud and fine sand																				1	1																						1											
M	SIMPEVARP	Mytilus edulis									1												1																						1											
M	SIMPEVARP	Nate	3	3		3		3	3	3			3	3	3	3	3	3		3	3			3	3	3	3			3		3	3				3	3	3	3	1			3		3	3	3	3	3		3	3	3	3	
M	SIMPEVARP	Porewater_0	2	2		2	2	2	2	2		2	2	2	2	2	2	2		2	2			2	2	2	2		2	2		2	2		2		2	2	2	2		2	2	2		2	2	2	2	2		2	2	2	2	
M	SIMPEVARP	Porewater_25	2	2		2	2	2	2	2		2	2	2	2	2	2	2		2	2			2	2	2	2		2	2		2	2		2		2	2	2	2		2	2	2		2	2	2	2	2		2	2	2	2	
M	SIMPEVARP	pure mud																				1	1																						1											
M	SIMPEVARP	sand																					1																																	
M	SIMPEVARP	Sea		1		1			1				1	1	1	1	1	1		1	1			1	1	1	1			1			1				1	1	1	1				1		1	1	1	1	1		1	1	1		
M	SIMPEVARP	Sea water			1																		1													1									1											
M	SIMPEVARP	Sediment 0-5 cm																																							1															
M	SIMPEVARP	soft mud																					1																						1											
M	SIMPEVARP	strömming	3	3		3		3		3			3	3	3		3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
M	SIMPEVARP	sulphidic mud																					1																						1											
M	SIMPEVARP	suspenderat material_0	3	3		3		3	3	3		3	3	3	3	3		3		3	3			3	3	3	3			3		3	3		3		3	3	3	3				3		3	3	3	3	3		3	2	3	3	
M	SIMPEVARP	Trådf.grönalg	3	3		3		3	3	3			3	3	3	3	3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
T	FORSMARK	blåbärsris	2	2		2		2	2	2			2	2	2		2	2		2	2			2	2	2	2			2		2	2				2	2	2	2				2		2	2	2	2	2		2	2	2	2	
T	FORSMARK	bottenskikt	3	3		3		3	3	3			3	3	3	3	3	3		3	3			3	3	3	3			3		3	3				3	3	3	3	1			3		3	3	3	3	3		3	3	3	3	
T	FORSMARK	bulkjord,min.j.sk._0	3	3		3		3	3	3			3	3	3	3	3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
T	FORSMARK	bulkjord,min.j.sk._0.1	3	3		3		3	3	3			3	3	3	3	3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
T	FORSMARK	buskskikt	1	1		1		1	1	1			1	1	1		1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	FORSMARK	Centrifugated soil_rego_Low_0.3	4	4		4	4	4	4	4		4		4	4	4	3	4		4	4			4	4	4	4			4		4	4		4		4		4	3		4		4		4	4	4	4	4		4		4	4	
T	FORSMARK	Centrifugated soil_rego_Up_0.3	2	2		2	2	2	2	2		2		2	2	2	2	2		2	2			2	2	2	2			2		2	2		2		2		2	2		2		2		2	2	2	2	2		2		2	2	
T	FORSMARK	fallförna, allöv_F2A-0	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, allöv_F2A-1	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, allöv_F2A-2	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, allöv_F2A-3	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, allöv_F2A-4	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, allöv_F2A-5	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, allöv_F2A-6	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, granbarr_F1S-0	1	1		1	1		1	1		1		1	1			1		1	1			1	1	1	1			1		1	1				1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, granbarr_F1S-1	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, granbarr_F1S-2	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, granbarr_F1S-3	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, granbarr_F1S-4	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, granbarr_F1S-5	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, granbarr_F1S-6	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, granbarr_F2S-0	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, granbarr_F2S-1	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, granbarr_F2S-2	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, granbarr_F2S-3	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, granbarr_F2S-4	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, granbarr_F2S-5	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, granbarr_F2S-6	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, granbarr_F3S-0	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1				1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, granbarr_F3S-2	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, granbarr_F3S-3	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, granbarr_F3S-4	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, granbarr_F3S-5	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	
T	FORSMARK	fallförna, granbarr_F3S-6	1	1		1	1		1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1		1	1	

Ekosystem	SITE	sample_name_Sicada	Ag	Al	^{241}Am	As	Au	B	Ba	Be	^{7}Be	Bi	Br	Ca	Cd	Ce	Cl	Co	^{60}Co	Cr	Cs	^{134}Cs	^{137}Cs	Cu	Dy	Er	Eu	^{155}Eu	F	Fe	^{59}Fe	Ga	Gd	^{153}Gd	Ge	^{3}H	Hf	Hg	Ho	I	^{129}I	In	Ir	K	^{40}K	La	Li	Lu	Mg	Mn	^{54}Mn	Mo	N	Na	Nb	^{95}Nb
T	Forsmark	Fungi_Boletus edulis				1								1	1			1		1	1			1														1		1				1						1			1			
T	Forsmark	fungi_Bulk_soil				9								8	9			9		9	9			9														9		9				9						9			5			
T	Forsmark	Fungi_Cantharellus tubaeformis				1								1	1			1		1	1			1														1		1				1						1			1			
T	Forsmark	Fungi_Collybia peronata				1								1	1			1		1	1			1														1		1				1						1			1			
T	Forsmark	Fungi_Cortinarius armeniacus				1								1	1			1		1	1			1														1		1				1						1			1			
T	Forsmark	Fungi_Cortinarius odorifer				1								1	1			1		1	1			1														1		1				1						1			1			
T	Forsmark	Fungi_Cortinarius sp.				1								1	1			1		1	1			1														1		1				1						1			1			
T	Forsmark	Fungi_Hypholoma capnoides				3								3	3			3		3	3			3														3		3				3						3			3			
T	Forsmark	Fungi_Lactarius deterrimus				1								1	1			1		1	1			1														1		1				1						1			1			
T	Forsmark	Fungi_Lactarius scrobiculatus				1								1	1			1		1	1			1														1		1				1						1			1			
T	Forsmark	Fungi_Lactarius trivialis				1								1	1			1		1	1			1														1		1				1						1			1			
T	Forsmark	Fungi_Mycelium				9								7	9			9		9	9			9														9		9				9						9			5			
T	Forsmark	Fungi_Rhizosphere				6								5	6			6		6	6			6														6		6				6						6			5			
T	Forsmark	Fungi_Sarcodon imbricatus				3								3	3			3		3	3			3														3		3				3						3			3			
T	Forsmark	Fungi_Soil_root				6								5	6			6		6	6			6														6		6				6						6			4			
T	Forsmark	Fungi_Suillus granulatus				1								1	1			1		1	1			1														1		1				1						1			1			
T	Forsmark	Fungi_Suillus varegatus				1								1	1			1		1	1			1														1		1				1						1			1			
T	Forsmark	Fungi_Suillus variegatus				2								2	2			2		2	2			2														2		2				2						2			2			
T	Forsmark	Fungi_Tricholoma equestre				3								3	3			3		3	3			3														3		3				3						3			3			
T	FORSMARK	fältskikt	3	3		3		3	3	3			3	3	3	1	3	3		3	3			3	3	3	3			3		3	3				3	3	3	3	1			3		3	3	3	3	3		3	3	3	3	
T	FORSMARK	humus																																							1															
T	FORSMARK	jord, humusskikt_0	5	5		5		5	5	5			5	5	5	5	5	5		5	5			5	5	5	5			5		5	5				5	5	5	5				5		5	5	5	5	5		5	5	5	5	
T	FORSMARK	jord, humusskikt_0.03	3	3		3		3	3	3			3	3	3	3	3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
T	FORSMARK	jord, min.j.skikt_0	3	3		3		3	3	3			3	3	3	3	3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
T	FORSMARK	jord, min.j.skikt_0.1	3	3		3		3	3	3			3	3	3	3	3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
T	FORSMARK	jord; moränlera_3.5	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1		1	1	
T	FORSMARK	jord; ospec morän_0.7	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1		1	1	
T	FORSMARK	jord; ospec morän_1	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1		1	1	
T	FORSMARK	jord; ospec morän_1.5	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1		1	1	
T	FORSMARK	NGW		1		1		1	1				1	1	1	1	1	1		1	1			1	1	1	1			1			1				1	1	1	1				1		1	1	1	1	1		1	1	1		
T	Forsmark	NGWsfm		30		26		13	30				59	59	30	30	57	30		30	30			30	30	30	30		57	29			30				30	30	30			26		59		30	59	30	59	30		30		59	6	
T	FORSMARK	näbbmus	1	1		1		1	1	1			1	1	1		1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	FORSMARK	Pore water_0.3	6	6		6	6		6	6		6	6	6	6	6	5	6		6	6			6	6	6	6			6		6	6		6		6	6	6	11		6		6		6	6	6	6	6		6		6	6	
T	FORSMARK	Quartenary deposit_0.4	2	2		2				2		2		2	2			2		2				2						2														2		2	2		2	2		2		2		
T	FORSMARK	Quartenary deposit_0.5	6	6		6				6		6		6	6			6		6				6						6														6		6	6		6	6		6		6		
T	FORSMARK	Quartenary deposit_1	4	4		4				4		4		4	4			4		4				4						4														4		4	4		4	4		4		4		
T	FORSMARK	Quartenary deposit_10.5	2	2		2				2		2		2	2			2		2				2						2														2		2	2		2	2		2		2		
T	FORSMARK	Quartenary deposit_3.5	2	2		2				2		2		2	2			2		2				2						2														2		2	2		2	2		2		2		
T	FORSMARK	Quaternary Deposit: Till_0.6	1	1		1	1	1	1			1		1	1			1		1				1						1		1						1						1		1			1	1		1		1		
T	FORSMARK	Quaternary Deposit: Till_1.4	1	1		1	1	1	1			1		1	1			1		1				1						1		1						1						1		1			1	1		1		1		
T	FORSMARK	Quaternary Deposit: Till_1.7	1	1		1	1	1	1			1		1	1			1		1				1						1		1						1						1		1			1	1		1		1		
T	FORSMARK	Quaternary Deposit: Till_2	1	1		1	1	1	1			1		1	1			1		1				1						1		1						1						1		1			1	1		1		1		
T	FORSMARK	Quaternary Deposit: Till_2.1	1	1		1	1	1	1			1		1	1			1		1				1						1		1						1						1		1			1	1		1		1		
T	FORSMARK	Quaternary Deposit: Till_2.4	1	1		1	1	1	1			1		1	1			1		1				1						1		1						1						1		1			1	1		1		1		
T	FORSMARK	Quaternary Deposit: Till_2.5	1	1		1	1	1	1			1		1	1			1		1				1						1		1						1						1		1			1	1		1		1		
T	FORSMARK	Quaternary Deposit: Till_2.8	2	2		2	2	2	2			2		2	2			2		2				2						2		2						2						2		2			2	2		2		2		
T	FORSMARK	Quaternary Deposit: Till_3	2	2		2	2	2	2			2		2	2			2		2				2						2		2						2						2		2			2	2		2		2		
T	FORSMARK	Quaternary Deposit: Till_4.5	1	1		1	1	1	1			1		1	1			1		1				1						1		1						1						1		1			1	1		1		1		
T	FORSMARK	Quaternary Deposit: Till_5	1	1		1	1	1	1			1		1	1			1		1				1						1		1						1						1		1			1	1		1		1		
T	FORSMARK	Quaternary Deposit: Till_5.1	1	1		1	1	1	1			1		1	1			1		1				1						1		1						1						1		1			1	1		1		1		
T	FORSMARK	Quaternary Deposit: Till1_0.8	2	2		2	2	2	2			2		2	2			2		2				2						2		2						2						2		2			2	2		2		2		
T	FORSMARK	Quaternary Deposit: Till1_1	8	8		8	8	8	8			8		8	8			8		8				8						8		8						8						8		8			8	8		8		8		
T	FORSMARK	Quaternary Deposit: Till1_1.2	1	1		1	1	1	1			1		1	1			1		1				1						1		1						1						1		1			1	1		1		1		
T	FORSMARK	Quaternary Deposit: Till1_1.5	3	3		3	3	3	3			3		3	3			3		3				3						3		3						3						3		3			3	3		3		3		
T	FORSMARK	Quaternary Deposit: Till1_2.3	1	1		1	1	1	1			1		1	1			1		1				1						1		1						1						1		1			1	1		1		1		
T	FORSMARK	Quaternary Deposit: Till1_3	2	2		2	2	2	2			2		2	2			2		2				2						2		2						2						2		2			2	2		2		2		
T	FORSMARK	Quaternary Deposit: Till1_3.7	1	1		1	1	1	1			1		1	1			1		1				1						1		1						1						1		1			1	1		1		1		
T	FORSMARK	Quaternary Deposit: Till1_4.5	2	2		2	2	2	2			2		2	2			2		2				2						2		2						2						2		2			2	2		2		2		
T	FORSMARK	Quaternary Deposit: Till1_5	1	1		1	1	1	1			1		1	1			1		1				1						1		1						1						1		1			1	1		1		1		
T	FORSMARK	Quaternary Deposit: Till1_6.6	2	2		2	2	2	2			2		2	2			2		2				2						2		2						2						2		2			2	2		2		2		
T	FORSMARK	Quaternary Deposit: Till2_1	4	4		4	4	4	4			4		4	4			4		4				4						4		4						4						4		4			4	4		4		4		
T	FORSMARK	Quaternary Deposit: Till2_5.5	2	2		2	2	2	2			2		2	2			2		2				2						2		2						2						2		2			2	2		2		2		
T	FORSMARK	rot, humusskikt_0	2	2		2		2	2	2			2	2	2	2	2	2		2	2			2	2	2	2			2		2	2				2	2	2	2				2		2	2	2	2	2		2	2	2	2	
T	FORSMARK	rot, humusskikt_0.03	2	2		2		2	2	2			2	2	2	2	2	2		2	2			2	2	2	2			2		2	2				2	2	2	2				2		2	2	2	2	2		2	2	2	2	
T	FORSMARK	rot, mineraljord_0	4	4		4		4	4	4			4	4	4	4	4	4		4	4			4	4	4	4			4		4	4				4	4	4	4				4		4	4	4	4	4		4	4	4	4	
T	FORSMARK	räv	1	1		1		1	1	1			1	1	1		1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	FORSMARK	skogsmus	1	1		1		1	1	1			1	1	1		1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	FORSMARK	större skogsmus	1	1		1		1	1	1			1	1	1		1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	3	1	1	
T	FORSMARK	torv_0.33	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	FORSMARK	torv_1.13	1	1		1		1	1				1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	FORSMARK	trädskikt	3	3		3		3	3	3			3	3	3		3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
T	FORSMARK	vasstorv_1.53	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	FORSMARK	vattensork	7	7		7		7	7	7			7	7	7		7	7		7	7			7	7	7	7			7		7	7				7	7	7	7				7		7	7	7	7	7		7	9	7	7	
T	FORSMARK	ved av gran	3	3		3		3	3	3			3	3	3		3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
T	FORSMARK	våtmark; alggyttja_1.73	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	FORSMARK	våtmark; glaciallera_1.93	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	FORSMARK	våtmark; glaciallera_2.63	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	FORSMARK	våtmark; gyttja_0.66	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1		1	1	
T	FORSMARK	våtmark; sand_1.58	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	FORSMARK	våtmark;lerig gyttja_1.03	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	FORSMARK	våtmark;lerig gyttja_1.93	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	FORSMARK	älg	5	5		5		5	5	5			5	5	5		5	5		5	5			5	5	5	5			5		5	5				5	5	5	5	1			5		5	5	5	5	5		5	7	5	5	
T	FORSMARK	ängssork	3	3		3		3	3	3			3	3	3		3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
T	SIMPEVARP	blåbärsris																																							1															
T	SIMPEVARP	bottenskikt	4	4		4		4	4	4			4	4	4	4	4	4		4	4			4	4	4	4			4		4	4				4	4	4	4				4		4	4	4	4	4		4	4	4	4	
T	SIMPEVARP	buskskikt	2	2		2		2	2	2			2	2	2	2	2	2		2	2			2	2	2	2			2		2	2				2	2	2	2				2		2	2	2	2	2		2	2	2	2	
T	SIMPEVARP	Centrifugated soil_rego_Low_0.3	2	2		2	2	2	2	2		2		2	2	2	2	2		2	2			2	2	2	2			2		2	2		2		2		2	2		2		2		2	2	2	2	2		2		2	2	
T	SIMPEVARP	Centrifugated soil_rego_Mid_0.3	4	4		4	4	4	4	4		4		4	4	4	4	4		4	4			4	4	4	4			4		4	4		4		4		4	4		4		4		4	4	4	4	4		4		4	4	
T	SIMPEVARP	Centrifugated soil_rego_Up_0.3	3	3		3	3	3	3	3		3		3	3	3	2	3		3	3			3	3	3	3			3		3	3		3		3		3	2		3		3		3	3	3	3	3		3		3	3	
T	SIMPEVARP	extraktion i ammoniumacetat_0		3		3		3	3	2				3	3	3		3		3	3			3	3	3	3			3		3	3				3	3	3					3		3	3	3	3	3		3		3	3	
T	SIMPEVARP	extraktion i ammoniumacetat_0.1		1		1		1	1					1	1	1		1		1	1			1	1	1	1			1		1	1				1	1	1					1		1	1	1	1	1		1		1	1	
T	SIMPEVARP	extraktion i ammoniumacetat_0.4		2		2		2	2	2				2	2	2		2		2	2			2	2	2	2			2		2	2				2	2	2					2		2	2	2	2	2		2		2	2	
T	SIMPEVARP	extraktion i ammoniumacetat_0.55		1		1		1	1					1	1	1		1		1	1			1	1	1	1			1		1	1				1	1	1					1		1	1	1	1	1				1	1	
T	SIMPEVARP	extraktion i ditionitcitrat_0		3		3		3	3	3				3	3	3		3		3	2			3	3	3	3			3		3	3				3	3	3							3	3	3	3	3		2		2	3	
T	SIMPEVARP	extraktion i ditionitcitrat_0.1		1		1		1	1	1				1	1	1		1		1				1	1	1	1			1		1	1				1	1	1							1	1	1	1	1		1		1	1	
T	SIMPEVARP	extraktion i ditionitcitrat_0.4		2		2		2	2	2				2	2	2		2		2	1			2	2	2	2			2		2	2				2	2	2							2	2	2	2	2		2		2	2	
T	SIMPEVARP	extraktion i ditionitcitrat_0.55		1		1		1	1	1				1	1	1		1		1				1	1	1	1			1		1	1				1	1	1							1	1	1	1	1		1		1	1	

Ekosystem	SITE	sample_name_Sicada	Ag	Al	^{241}Am	As	Au	B	Ba	Be	^{7}Be	Bi	Br	Ca	Cd	Ce	Cl	Co	^{60}Co	Cr	Cs	^{134}Cs	^{137}Cs	Cu	Dy	Er	Eu	^{155}Eu	F	Fe	^{59}Fe	Ga	Gd	^{153}Gd	Ge	^{3}H	Hf	Hg	Ho	I	^{129}I	In	Ir	K	^{40}K	La	Li	Lu	Mg	Mn	^{54}Mn	Mo	N	Na	Nb	^{95}Nb
T	SIMPEVARP	extraktion i kungsvatten_0		3		3		3	3	3				3	3	3		3		3	3			3	3	3	3			3		3	3				3	3	3					3		3	3	3	3	3		3		3	3	
T	SIMPEVARP	extraktion i kungsvatten_0.1		1		1		1	1	1				1	1	1		1		1	1			1	1	1	1			1		1	1				1	1	1					1		1	1	1	1	1		1		1	1	
T	SIMPEVARP	extraktion i kungsvatten_0.4		2		2		2	2	2				2	2	2		2		2	2			2	2	2	2			2		2	2				2	2	2					2		2	2	2	2	2		2		2	2	
T	SIMPEVARP	extraktion i kungsvatten_0.55		1		1		1	1	1				1	1	1		1		1	1			1	1	1	1			1		1	1				1	1	1					1		1	1	1	1	1		1		1	1	
T	SIMPEVARP	fallförna; eklöv_O1O-0	1			1	1	1	1	1		1		1	1	1		1		1	1			1	1	1	1					1	1		1			1	1			1		1		1	1	1	1	1		1			1	
T	SIMPEVARP	fallförna; eklöv_O1O-2	1			1	1	1	1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1			1	
T	SIMPEVARP	fallförna; eklöv_O1O-3	1			1	1	1	1	1		1		1	1	1		1		1	1			1	1	1	1					1	1		1			1	1			1		1		1	1	1	1	1		1			1	
T	SIMPEVARP	fallförna; eklöv_O1O-4	1			1	1	1	1	1		1		1	1	1		1		1	1			1	1	1	1					1	1		1			1	1			1		1		1	1	1	1	1		1			1	
T	SIMPEVARP	fallförna; eklöv_O1O-5	1			1	1	1	1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1		1	1	1			1		1		1	1	1	1	1		1			1	
T	SIMPEVARP	fallförna; eklöv_O1O-6	1			1	1	1	1	1		1		1	1	1		1		1	1			1	1	1	1			1		1	1		1			1	1			1		1		1	1	1	1	1		1			1	
T	SIMPEVARP	fallförna; granbarr_O3S-0	1			1	1	1	1	1		1		1	1	1		1		1	1			1	1	1	1					1	1		1			1	1			1		1		1	1	1	1	1		1			1	
T	SIMPEVARP	fallförna; granbarr_O3S-2	1			1	1	1	1	1		1		1	1	1		1		1	1			1	1	1	1					1	1		1			1	1			1		1		1	1	1	1	1		1			1	
T	SIMPEVARP	fallförna; granbarr_O3S-3	1			1	1	1	1	1		1		1	1	1		1		1	1			1	1	1	1					1	1		1			1	1			1		1		1	1	1	1	1		1			1	
T	SIMPEVARP	fallförna; granbarr_O3S-4	1			1	1	1	1	1		1		1	1	1		1		1	1			1	1	1	1					1	1		1			1	1			1		1		1	1	1	1	1		1			1	
T	SIMPEVARP	fallförna; granbarr_O3S-5	1			1	1	1	1	1		1		1	1	1		1		1	1			1	1	1	1					1	1		1			1	1			1		1		1	1	1	1	1		1			1	
T	SIMPEVARP	fallförna; granbarr_O3S-6	1			1	1	1	1	1		1		1	1	1		1		1	1			1	1	1	1					1	1		1			1	1			1		1		1	1	1	1	1		1			1	
T	SIMPEVARP	fallförna; tallbarr_O2P-0	1			1	1	1	1	1		1		1	1	1		1		1	1			1	1	1	1					1	1		1			1	1			1		1		1	1	1	1	1		1			1	
T	SIMPEVARP	fallförna; tallbarr_O2P-2	1			1	1	1	1	1		1		1	1	1		1		1	1			1	1	1	1					1	1		1			1	1			1		1		1	1	1	1	1		1			1	
T	SIMPEVARP	fallförna; tallbarr_O2P-3	1			1	1	1	1	1		1		1	1	1		1		1	1			1	1	1	1					1	1		1			1	1			1		1		1	1	1	1	1		1			1	
T	SIMPEVARP	fallförna; tallbarr_O2P-4	1			1	1	1	1	1		1		1	1	1		1		1	1			1	1	1	1					1	1		1			1	1			1		1		1	1	1	1	1		1			1	
T	SIMPEVARP	fallförna; tallbarr_O2P-5	1			1	1	1	1	1		1		1	1	1		1		1	1			1	1	1	1					1	1		1			1	1			1		1		1	1	1	1	1		1			1	
T	SIMPEVARP	fallförna; tallbarr_O2P-6	1			1	1	1	1	1		1		1	1	1		1		1	1			1	1	1	1					1	1		1			1	1			1		1		1	1	1	1	1		1			1	
T	SIMPEVARP	fältskikt	4	4		4		4	4	4			4	4	4	4	4	4		4	4			4	4	4	4			4		4	4				4	4	4	4				4		4	4	4	4	4		4	4	4	4	
T	SIMPEVARP	humus	6	6		6		6	6	6			6	6	6	6	6	6		6	6			6	6	6	6			6		6	6				6	6	6	6				6		6	6	6	6	6		6	6	6	6	
T	SIMPEVARP	jord 10 cm																																							1															
T	SIMPEVARP	Jord_rego_Low_1	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Jord_rego_Low_1.2	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Jord_rego_Low_1.3	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Jord_rego_Low_1.4	2	2		2		2	2	2			2	2	2	2	2	2		2	2			2	2	2	2			2		2	2				2	2	2	2				2		2	2	2	2	2		2	2	2	2	
T	SIMPEVARP	Jord_rego_Low_1.5	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Jord_rego_Low_1.8	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Jord_rego_Low_2.2	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Jord_rego_Low_2.3	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Jord_rego_Low_2.5	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Jord_rego_Low_3.2	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Jord_rego_Mid?_2	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Jord_rego_Mid_0.3	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Jord_rego_Mid_0.5	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Jord_rego_Mid_0.7	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Jord_rego_Mid_1	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Jord_rego_Mid_1.1	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Jord_rego_Mid_1.25	2	2		2		2	2	2			2	2	2	2	2	2		2	2			2	2	2	2			2		2	2				2	2	2	2				2		2	2	2	2	2		2	2	2	2	
T	SIMPEVARP	Jord_rego_Mid_12	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Lergyttja/gyttjelera I	2	2		2		2	2	2			1	2	2	2	1	2		2	1			2	2	2	2			2		2	2				2	2	2	1				2		2	2	2	2	2		2	1	1	2	
T	SIMPEVARP	Lergyttja/gyttjelera II	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Lergyttja/gyttjelera II_6	1	1		1		1	1	1				1	1	1		1		1				1	1	1	1			1		1	1				1	1	1					1		1	1	1	1	1		1			1	
T	SIMPEVARP	mindre skogsmus	3	3		3		3	3	3			3	3	3		3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
T	SIMPEVARP	mineral bulk	6	6		6		6	6	6			6	6	6	6	6	6		6	6			6	6	6	6			6		6	6				6	6	6	6				6		6	6	6	6	6		6	6	6	6	
T	SIMPEVARP	mineral rhizo	6	6		6		6	6	6			6	6	6	6	6	6		6	6			6	6	6	6			6		6	6				6	6	6	6				6		6	6	6	6	6		6	6	6	6	
T	SIMPEVARP	Morän II	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Morän II_12	1	1		1		1	1	1				1	1	1		1		1	1			1	1	1	1			1		1	1				1	1	1					1		1	1	1	1	1		1			1	
T	SIMPEVARP	NGW		1		1			1				1	1	1	1	1	1		1	1			1	1	1	1			1			1				1	1	1	1				1		1	1	1	1	1		1	1	1		
T	SIMPEVARP	näbbmus	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	peat	2	2		2		2	2	2			1	2	2	2	1	2		2	2			2	2	2	2			2		2	2				2	2	2	1				2		2	1	2	2	2		2	1	1	2	
T	SIMPEVARP	Pore water_0.3	9	9		9	9		9	9		9	9	9	9	9	8	9		9	9			9	9	9	9			9		9	9		9		9	9	9	17		9		9		9	9	9	9	9		9		9	9	
T	SIMPEVARP	rådjur	3	3		3		3	2	3			3	3	3		3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
T	SIMPEVARP	räv	3	3		3		3		3			3	3	3		3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
T	SIMPEVARP	större skogsmus																																							1															
T	SIMPEVARP	Torv- eller våtmark_0.05	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Torv- eller våtmark_0.12	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Torv- eller våtmark_0.65	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Torv- eller våtmark_0.95	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Torv- eller våtmark_1.97	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Torv- eller våtmark_2	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Torv- eller våtmark_2.97	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Torv- eller våtmark_3.4	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Torv- eller våtmark_3.65	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Torv- eller våtmark_4	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Torv- eller våtmark_4.2	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Torv- eller våtmark_4.35	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Torv- eller våtmark_4.6	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Torv- eller våtmark_4.64	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Torv- eller våtmark_4.66	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Torv- eller våtmark_4.7	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	Torv- eller våtmark_4.97	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	trädrot humus	3	3		3		3	3	3			3	3	3	3	3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
T	SIMPEVARP	trädrot mineraljord	4	4		4		4	4	4			4	4	4	4	4	4		4	4			4	4	4	4			4		4	4				4	4	4	4				4		4	4	4	4	4		4	4	4	4	
T	SIMPEVARP	trädskikt	4	4		4		4	4	4			4	4	4	4	4	4		4	4			4	4	4	4			4		4	4				4	4	4	4	1			4		4	4	4	4	4		4	4	4	4	
T	SIMPEVARP	ved av al	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	ved av ek	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	ved av gran	1	1		1		1	1	1			1	1	1		1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
T	SIMPEVARP	älg	3	3		3		3	1	3			3	3	3		3	3		3	3			3	3	3	3			3		3	3				3	3	3	3	1			3		3	3	3	3	3		3	3	3	3	
T	SIMPEVARP	ängssork skog	3	3		3		3	3	3			3	3	3		3	3		3	3			3	3	3	3			3		3	3				3	3	3	3				3		3	3	3	3	3		3	3	3	3	
T	SIMPEVARP	ängssork äng	2	2		2		2	2	2			2	2	2		2	2		2	2			2	2	2	2			2		2	2				2	2	2	2				2		2	2	2	2	2		2	2	2	2	
T	SIMPEVARP	övr rot humus	1	1		1		1	1	1			1	1	1	1	1	1		1	1			1	1	1	1			1		1	1				1	1	1	1				1		1	1	1	1	1		1	1	1	1	
L	FORSMARK	algmatta, sjö									1	1	1	1	1	1	1																					1	1	1					1	1	1	1	1							
L	FORSMARK	algmatta, sjö_0	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1	
L	FORSMARK	dammussla	3	3		3	3		3		1		1	1	1	1	1	3				3	3		3	3	3	3	3		3		3	3			3	1	1	1	3	3	3	3	1	1	1	1	1	3	3	3	3	3	3	
L	FORSMARK	filtered sediment_0	3	3	3	3	3	3	3	3								3	3	3	3	3	3		3	3	3	3	3		3		3	3		3	3				3	3	3	3						3	3	3	3	3	3	
L	FORSMARK	filtered sediment_25	3	3	3	3	3	3	3	3								3	3	3	3	3	3		3	3	3	3	3		3		3	3		3	3				3	3	3	3						3	3	3	3	3	3	
L	FORSMARK	filtered water_0.5	4	4	4	4	4	4	4	4								4	4	4	4	4	4		4	4	4	4	4		4		4	4		4	4				4	4	4	4						4	4	4	4	4	4	
L	FORSMARK	gädda	4	4		4	4		4		1		1	1	1	1	1	4				4	4		4	4	4	4	4		4		4	4			4	1	1	1	4	4	4	4	1	1	1	1	1	4	4	4	4	4	4	
L	FORSMARK	gärs	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1	
L	FORSMARK	kransalger, sjö	4	4		4	4		4		1	1	1	1	1	1	1	4				4	4		4	4	4	4	4		4		4	4			4	1	1	1	4	4	4	4	1	1	1	1	1	4	4	4	4	4	4	
L	FORSMARK	Lake	1	1		1	1		1								1	1				1	1		1		1	1			1			1			1					1	1	1						1		1	1	1	1	
L	FORSMARK	mört	2	2		2	2		2		1		1	1	1	1	1	2				2	2		2	2	2	2	2		2		2	2			2	1	1	1	2	2	2	2	1	1	1	1	1	2	2	2	2	2	2	

Ekosystem	SITE	sample_name_Sicada	Nd	Ni	Os	P	Pb	Pd	Pr	Pt	^{238}PU	^{238,239,240}PU	^{239}PU	^{239,240}Pu	^{240}Pu	^{242}PU	^{226}Ra	Rb	Re	Rh	Ru	S	Sb	^{124}Sb	Sc	Se	Si	Sm	Sn	^{133}Sn	Sr	^{90}Sr	Ta	Tb	^{99}TC	Te	Th	^{229}Th	^{230}Th	^{232}Th	Ti	Tl	Tm	U	^{233}U	^{234}U	^{235}U	^{236}U	^{238}U	V	W	Y	Yb	Zn	Zr
L	FORSMARK	Porewater_0	3	3	3	3	3	3	3	3								3	3	3	3	3	3		3	3	3	3	3		3		3	3		3	3				3	3	3	3						3	3	3	3	3	3
L	FORSMARK	Porewater_25	3	3	3	3	3	3	3	3								3	3	3	3	3	3		3	3	3	3	3		3		3	3		3	3				3	3	3	3						3	3	3	3	3	3
L	FORSMARK	Sediment 0-5 cm									1	1	1	1	1	1	1																					1	1	1					1	1	1	1	1						
L	FORSMARK	sjösed, alggyttja_2.53	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	FORSMARK	sjösed, alggyttja_3.1	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	FORSMARK	sjösed, kalkgyttja_2.64	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	FORSMARK	sjösed, lergyttja_3.56	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	FORSMARK	sjösediment; lera_3.87	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	FORSMARK	sjösediment; lera_4.02	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	FORSMARK	sjösediment; lera_4.2	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	FORSMARK	sjösediment_0	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	FORSMARK	sjösediment_0.2	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	FORSMARK	Stream	1	1		1	1		1									1				1	1		1		1	1			1			1			1					1	1	1						1		1	1	1	1
L	FORSMARK	suspenderat material_0.5	4	4		4	4		4									4	4			4	4		4	4	4	4	4		4		2	4		4	4				4	4	4	4						4	4	4	4	4	4
L	FORSMARK	sutare	9	9		9	9		9									9				9	9		9	9	9	9	9		9		9	9			9				9	9	9	9						9	9	9	9	9	9
L	FORSMARK	Vass									1		1	1	1	1	1																					1	1	1					1	1	1	1	1						
L	SIMPEVARP	abborre	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
L	SIMPEVARP	abborre piscivor									1		1	1	1	1	1																					1	1	1					1	1	1	1	1						
L	SIMPEVARP	abborre planktivor									1		1	1	1	1	1																					1	1	1					1	1	1	1	1						
L	SIMPEVARP	dammussla	3	3		3	3		3		1		1	1	1	1	1	3				3	3		3	3	3	3	3		3		3	3			3	1	1	1	3	3	3	3	1	1	1	1	1	3	3	3	3	3	3
L	SIMPEVARP	filtered sediment_0	2	2	2	2	2	2	2	2								2	2	2	2	2	2		2	2	2	2	2		2		2	2		2	2				2	2	2	2						2	2	2	2	2	2
L	SIMPEVARP	filtered sediment_15	1	1	1	1	1	1	1	1								1	1	1	1	1	1		1	1	1	1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
L	SIMPEVARP	filtered sediment_20	1	1	1	1	1	1	1	1								1	1	1	1	1	1		1	1	1	1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
L	SIMPEVARP	filtered water	3	3	3	3	3	3	3	3								3	3	3	3	3	3		3	3	3	3	3		3		3	3		3	3				3	3	3	3						3	3	3	3	3	3
L	SIMPEVARP	gyttja	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	SIMPEVARP	gyttja_0.9	1	1		1	1		1									1					1		1	1	1	1	1		1		1	1			1				1		1	1						1	1	1	1	1	1
L	SIMPEVARP	Lake	1	1		1	1		1								1	1				1	1		1		1	1			1			1			1					1	1	1						1		1	1	1	1
L	SIMPEVARP	Lera	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	SIMPEVARP	Lera_5.3	1	1		1	1		1									1					1		1		1	1	1		1		1	1			1				1		1	1						1	1	1	1	1	1
L	SIMPEVARP	Morän I	2	2		2	2		2									2				1	2		2	1	2	2	2		2		2	2			2				2	2	2	2						2	2	2	2	2	2
L	SIMPEVARP	mört	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
L	SIMPEVARP	Näckros	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
L	SIMPEVARP	näckros blad									1		1	1	1	1	1																					1	1	1					1	1	1	1	1						
L	SIMPEVARP	Näckros rot	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
L	SIMPEVARP	Porewater_0	2	2	2	2	2	2	2	2								2	2	2	2	2	2		2	2	2	2	2		2		2	2		2	2				2	2	2	2						2	2	2	2	2	2
L	SIMPEVARP	Porewater_15	1	1	1	1	1	1	1	1								1	1	1	1	1	1		1	1	1	1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
L	SIMPEVARP	Porewater_20	1	1	1	1	1	1	1	1								1	1	1	1	1	1		1	1	1	1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
L	SIMPEVARP	Sand I	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	SIMPEVARP	Sand I_3	1	1		1	1		1									1					1		1		1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	SIMPEVARP	Sediment 0-5 cm									1	1	1	1	1	1	1																					1	1	1					1	1	1	1	1						
L	SIMPEVARP	sjösediment_0	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	SIMPEVARP	Sjösediment_0.02	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	SIMPEVARP	Sjösediment_0.04	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	SIMPEVARP	Sjösediment_0.06	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	SIMPEVARP	Sjösediment_0.08	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	SIMPEVARP	Sjösediment_0.25	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	SIMPEVARP	Sjösediment_0.48	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	SIMPEVARP	Sjösediment_0.98	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	SIMPEVARP	Sjösediment_1.97	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	SIMPEVARP	Sjösediment_2.97	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	SIMPEVARP	Sjösediment_3.97	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	SIMPEVARP	Sjösediment_4.37	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
L	SIMPEVARP	Stream	1	1		1	1		1								1	1				1	1		1		1	1			1			1			1					1	1	1						1		1	1	1	1
L	SIMPEVARP	suspenderat material_0	3	3		3	3		3									3	3			3	3		3	3	3	3	3		3		3	3		3	3				3	3	3	3						3	3	3	3	3	3
L	SIMPEVARP	Vass	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
L	SIMPEVARP	vass ovanveg									1		1	1	1	1	1																					1	1	1					1	1	1	1	1						
L	SIMPEVARP	Vass rhizom	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
M	FORSMARK	Betare Hyd				1																																															
M	FORSMARK	Cerastoderma glaucum	2	2		2	2		2									2				2				2	2	2						2			2				2		2							2			2	2	2
M	FORSMARK	filtered sediment_0	1	1	1	1	1	1	1	1								1	1	1	1	1	1		1	1	1	1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
M	FORSMARK	filtered sediment_20	1	1	1	1	1	1	1	1								1	1	1	1	1	1		1	1	1	1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
M	FORSMARK	filtered water_0.5	2	2	2	2	2	2	2	2								2	2	2	2	2	2		2	2	2	2	2		2		2	2		2	2				2	2	2	2						2	2	2	2	2	2
M	FORSMARK	filtered water_Tix	3	3		3	3		3									3				3				3	3	3						3			3				3		3							3			3	3	3
M	FORSMARK	fine sand and mud																																																			
M	FORSMARK	Fucus									1	1	1	1	1	1	1																		1			1	1	1					1	1	1	1	1						
M	FORSMARK	Fucus vesiculosus	3	3		3	3		3									3				3		1		3	3	3						3			3				3		3							3			3	3	3
M	FORSMARK	gravel																						1								1																					
M	FORSMARK	gärs	3	3		3	3		3									3				3				3	3	3						3			3				3		3							3			3	3	3
M	FORSMARK	havssed; lera_2.34	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
M	FORSMARK	havssed; lera_2.6	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
M	FORSMARK	havssed; lera_2.8	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
M	FORSMARK	havssed; sand/grus_2.24	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
M	FORSMARK	havssediment_0.14	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
M	FORSMARK	havssediment_0.28	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
M	FORSMARK	havssediment_2.09	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
M	FORSMARK	Idothea spp	2	2		2	2		2									2				2				2	2	2						2			2				2		2							2			2	2	2
M	FORSMARK	Macoma baltica	3	3		3	3		3									3				3				3	3	3				1		3			3				3		3							3			3	3	3
M	FORSMARK	Mikrofyter MIK1	1	1		1	1		1									1				1				1	1	1						1			1				1		1							1			1	1	1
M	FORSMARK	Mikrofyter MIK2	1	1		1	1		1									1				1				1	1	1						1			1				1		1							1			1	1	1
M	FORSMARK	Mytilus edulis																																																			
M	FORSMARK	mört	3	3		3	3		3		1		1	1	1	1	1	3				3				3	3	3						3			3	1	1	1	3		3		1	1	1	1	1	3			3	3	3
M	FORSMARK	Nors	3	3		3	3		3		1		1	1	1	1	1	3				3				3	3	3						3			3	1	1	1	3		3		1	1	1	1	1	3			3	3	3
M	FORSMARK	Pilayella littoralis	3	3		3	3		3									3				3				3	3	3						3			3				3		3							3			3	3	3
M	FORSMARK	Porewater_0	1	1	1	1	1	1	1	1								1	1	1	1	1	1		1	1	1	1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
M	FORSMARK	Porewater_20	1	1	1	1	1	1	1	1								1	1	1	1	1	1		1	1	1	1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
M	FORSMARK	Porewater_Tix_0	3	3		3	3		3									3				3				3	3	3						3			3				3		3							3			3	3	3
M	FORSMARK	Porewater_Tix_3	1	1		1	1		1									1				1				1	1	1						1			1				1		1							1			1	1	1
M	FORSMARK	Potamogeton									1		1	1	1	1	1																					1	1	1					1	1	1	1	1						
M	FORSMARK	Potamogeton pectinatus	3	3		3	3		3									3				3				3	3	3						3			3				3		3							3			3	3	3
M	FORSMARK	pure mud																																																			
M	FORSMARK	Sea	1	1		1	1		1								1	1				1	1		1		1	1			1			1			1					1	1	1						1		1	1	1	1
M	FORSMARK	Sea water																														1																					
M	FORSMARK	Sediment 0-3 cm									1		1	1	1	1	1																		1			1	1	1					1	1	1	1	1						
M	FORSMARK	Sediment 0-3 cm_0	3	3		3	3		3									3				3				3	3	3						3			3				3		3							3			3	3	3
M	FORSMARK	Sediment 3-6 cm_3	3	3		3	3		3									3				3				3	3	3						3			3				3		3							3			3	3	3
M	FORSMARK	soft clay																																																			
M	FORSMARK	soft mud									1			1																																							

Ekosystem	SITE	sample_name_Sicada	Nd	Ni	Os	P	Pb	Pd	Pr	Pt	^{238}PU	^{238,239,240}PU	^{239}PU	^{239,240}Pu	^{240}Pu	^{242}PU	^{226}Ra	Rb	Re	Rh	Ru	S	Sb	^{124}Sb	Sc	Se	Si	Sm	Sn	^{133}Sn	Sr	^{90}Sr	Ta	Tb	^{99}TC	Te	Th	^{229}Th	^{230}Th	^{232}Th	Ti	Tl	Tm	U	^{233}U	^{234}U	^{235}U	^{236}U	^{238}U	V	W	Y	Yb	Zn	Zr
M	FORSMARK	suspended matter	3	3		3	3		3									3				3				3	3	3						3			3				3		3							3			3	3	3
M	FORSMARK	suspenderat material_0.5	2	2		2	2		2									2	2			2	2		2	2	2	2	2		2		2	2		2	2				2	2	2	2						2	2	2	2	2	2
M	FORSMARK	Theodoxus fluviatilis	2	2		2	2		2									2				2				2	2	2						2			2				2		2							2			2	2	2
M	FORSMARK	Växtplankton	3	3		3	3		3									3				3				3	3	3						3			3				3		3							3			3	3	3
M	FORSMARK	Zooplankton ZP	1	1		1	1		1									1				1				1	1	1						1			1				1		1							1			1	1	1
M	SIMPEVARP	abborre	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
M	SIMPEVARP	abborre piscivor									1		1	1	1	1	1																					1	1	1					1	1	1	1	1						
M	SIMPEVARP	Blåmussla	2	2		2	2		2									2				2	2		2	2	2	2	2		2		2	2			2				2	2	2	2						2	2	2	2	2	2
M	SIMPEVARP	blåmussla muskel									1		1	1	1	1	1																		1			1	1	1					1	1	1	1	1						
M	SIMPEVARP	Blåmussla skal	2	2		2	2		2		1		1	1	1	1	1	2				2	2		2	2	2	2	2		2		2	2	1		2	1	1	1	2	2	2	2	1	1	1	1	1	2	2	2	2	2	2
M	SIMPEVARP	Blåstång	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
M	SIMPEVARP	braxen	2	2		2	2		2									2				2	2		2	2	2	2	2		2		2	2			2				2	2	2	2						2	2	2	2	2	2
M	SIMPEVARP	Clupea harengus																																																					
M	SIMPEVARP	filtered sediment_0	2	2	2	2	2	2	2	2								2	2	2	2	2	2		2	2	2	2	2		2		2	2		2	2				2	2	2	2						2	2	2	2	2	2
M	SIMPEVARP	filtered sediment_25	2	2	2	2	2	2	2	2								2	2	2	2	2	2		2	2	2	2	2		2		2	2		2	2				2	2	2	2						2	2	2	2	2	2
M	SIMPEVARP	filtered water	3	3	3	3	3	3	3	3								3	3	3	3	3	3		3	3	3	3	3		3		3	3		3	3				3	3	3	3						3	3	3	3	3	3
M	SIMPEVARP	flundra	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
M	SIMPEVARP	Fucus									1		1	1	1	1	1																		1			1	1	1					1	1	1	1	1						
M	SIMPEVARP	Fucus vesiculosus																												1																									
M	SIMPEVARP	Gadus morhua																																																					
M	SIMPEVARP	gravel																																																					
M	SIMPEVARP	Havssediment_0	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
M	SIMPEVARP	Havssediment_0.02	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
M	SIMPEVARP	Havssediment_0.04	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
M	SIMPEVARP	Havssediment_0.06	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
M	SIMPEVARP	Havssediment_0.08	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
M	SIMPEVARP	Havssediment_0.97	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
M	SIMPEVARP	Havssediment_1.97	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
M	SIMPEVARP	Havssediment_2.97	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
M	SIMPEVARP	Havssediment_3.97	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
M	SIMPEVARP	Havssediment_4.8	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
M	SIMPEVARP	Havssediment_4.97	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
M	SIMPEVARP	Kransalg	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
M	SIMPEVARP	kransalger, sjö									1	1	1	1	1	1	1																					1	1	1					1	1	1	1	1						
M	SIMPEVARP	löja	3	3		3	3		3		1		1	1	1	1	1	3				3	3		3	3	3	3	3		3		3	3			3	1	1	1	3	3	3	3	1	1	1	1	1	3	3	3	3	3	3
M	SIMPEVARP	Macoma Baltica																																																					
M	SIMPEVARP	mud																														1																							
M	SIMPEVARP	mud and fine sand																																																					
M	SIMPEVARP	Mytilus edulis																																																					
M	SIMPEVARP	Nate	3	3		3	3		3		1	1	1	1	1	1	1	3				3	3		3	3	3	3	3		3		3	3			3	1	1	1	3	3	3	3	1	1	1	1	1	3	3	3	3	3	3
M	SIMPEVARP	Porewater_0	2	2	2	2	2	2	2	2								2	2	2	2	2	2		2	2	2	2	2		2		2	2		2	2				2	2	2	2						2	2	2	2	2	2
M	SIMPEVARP	Porewater_25	2	2	2	2	2	2	2	2								2	2	2	2	2	2		2	2	2	2	2		2		2	2		2	2				2	2	2	2						2	2	2	2	2	2
M	SIMPEVARP	pure mud																																																					
M	SIMPEVARP	sand																														1																							
M	SIMPEVARP	Sea	1	1		1	1		1								1	1				1	1		1		1	1			1			1			1					1	1	1						1		1	1	1	1
M	SIMPEVARP	Sea water									1			1																		1																							
M	SIMPEVARP	Sediment 0-5 cm									1	1	1	1	1	1	1																		1			1	1	1					1	1	1	1	1						
M	SIMPEVARP	soft mud									1			1																																									
M	SIMPEVARP	strömming	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
M	SIMPEVARP	sulphidic mud									1			1																																									
M	SIMPEVARP	suspenderat material_0	3	3		3	3		3									3	3			3	3		3	3	3	3	3		3		3	3		3	3				3	3	3	3						3	3	3	3	3	3
M	SIMPEVARP	Trådf.grönalg	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
T	FORSMARK	blåbärsris	2	2		2	2		2									2				2	2		2	2	2	2	2		2		2	2			2				2	2	2	2						2	2	2	2	2	2
T	FORSMARK	bottenskikt	3	3		3	3		3		1	2	1	1	1	1	1	3				3	3		3	3	3	3	3		3		3	3			3	1	1	1	3	3	3	3	1	1	1	1	1	3	3	3	3	3	3
T	FORSMARK	bulkjord,min.j.sk._0	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
T	FORSMARK	bulkjord,min.j.sk._0.1	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
T	FORSMARK	buskskikt	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	Centrifugated soil_rego_Low_0.3	4	4			4		4									4	4				4		4	4		4	4		4		4	4		4	4					4	4	4						4	4	4	4	4	4
T	FORSMARK	Centrifugated soil_rego_Up_0.3	2	2			2		2									2	2				2		2	2		2	2		2		2	2		2	2					2	2	2						2	2	2	2	2	2
T	FORSMARK	fallförna, allöv_F2A-0	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, allöv_F2A-1	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, allöv_F2A-2	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, allöv_F2A-3	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, allöv_F2A-4	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, allöv_F2A-5	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, allöv_F2A-6	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, granbarr_F1S-0	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, granbarr_F1S-1	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, granbarr_F1S-2	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, granbarr_F1S-3	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, granbarr_F1S-4	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, granbarr_F1S-5	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, granbarr_F1S-6	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, granbarr_F2S-0	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, granbarr_F2S-1	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, granbarr_F2S-2	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, granbarr_F2S-3	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, granbarr_F2S-4	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, granbarr_F2S-5	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, granbarr_F2S-6	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, granbarr_F3S-0	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, granbarr_F3S-2	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, granbarr_F3S-3	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, granbarr_F3S-4	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, granbarr_F3S-5	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	fallförna, granbarr_F3S-6	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1		1	1		1	1				1	1	1	1						1	1	1	1	1	1
T	Forsmark	Fungi_Boletus edulis		1		1	1											1													1						1							1										1	
T	Forsmark	fungi_Bulk_soil		9		8	9											9													9						9							9										9	
T	Forsmark	Fungi_Cantharellus tubaeformis		1		1	1											1													1						1							1										1	
T	Forsmark	Fungi_Collybia peronata		1		1	1											1													1						1							1										1	
T	Forsmark	Fungi_Cortinarius armeniacus		1		1	1											1													1						1							1										1	
T	Forsmark	Fungi_Cortinarius odorifer		1		1	1											1													1						1							1										1	
T	Forsmark	Fungi_Cortinarius sp.		1		1	1											1													1						1							1										1	
T	Forsmark	Fungi_Hypholoma capnoides		3		3	3											3													3						3							3										3	
T	Forsmark	Fungi_Lactarius deterrimus		1		1	1											1													1						1							1										1	
T	Forsmark	Fungi_Lactarius scrobiculatus		1		1	1											1													1						1							1										1	
T	Forsmark	Fungi_Lactarius trivialis		1		1	1											1													1						1							1										1	

Ekosystem	SITE	sample_name_Sicada	Nd	Ni	Os	P	Pb	Pd	Pr	Pt	^{238}PU	^{238,239,240}PU	^{239}PU	^{239,240}Pu	^{240}Pu	^{242}PU	^{226}Ra	Rb	Re	Rh	Ru	S	Sb	^{124}Sb	Sc	Se	Si	Sm	Sn	^{133}Sn	Sr	^{90}Sr	Ta	Tb	^{99}TC	Te	Th	^{229}Th	^{230}Th	^{232}Th	Ti	Tl	Tm	U	^{233}U	^{234}U	^{235}U	^{236}U	^{238}U	V	W	Y	Yb	Zn	Zr
T	Forsmark	Fungi_Mycelium		9		7	9											9													9						9							9										9	
T	Forsmark	Fungi_Rhizosphere		6		5	6											6													6						6							6										6	
T	Forsmark	Fungi_Sarcodon imbricatus		3		3	3											3													3						3							3										3	
T	Forsmark	Fungi_Soil_root		6		5	6											6													6						6							6										6	
T	Forsmark	Fungi_Suillus granulatus		1		1	1											1													1						1							1										1	
T	Forsmark	Fungi_Suillus varegatus		1		1	1											1													1						1							1										1	
T	Forsmark	Fungi_Suillus variegatus		2		2	2											2													2						2							2										2	
T	Forsmark	Fungi_Tricholoma equestre		3		3	3											3													3						3							3										3	
T	FORSMARK	fältskikt	3	3		3	3		3		1		1	1	1	1	1	3				3	3		3	3	3	3	3		3		3	3			3	1	1	1	3	3	3	3	1	1	1	1	1	3	3	3	3	3	3
T	FORSMARK	humus									1	2	1	1	1	1	1																					1	1	1					1	1	1	1	1						
T	FORSMARK	jord, humusskikt_0	5	5		5	5		5									5				5	5		5	5	5	5	5		5		5	5			5				5	5	5	5						5	5	5	5	5	5
T	FORSMARK	jord, humusskikt_0.03	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
T	FORSMARK	jord, min.j.skikt_0	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
T	FORSMARK	jord, min.j.skikt_0.1	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
T	FORSMARK	jord; moränlera_3.5	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	jord; ospec morän_0.7	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	jord; ospec morän_1	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	jord; ospec morän_1.5	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	NGW	1	1		1	1		1								1	1				1	1		1		1	1			1			1			1					1	1	1						1		1	1	1	1
T	Forsmark	NGWsfm	30	30		11	30		30									30				59	30		30		59	30			59			30			30		19	13		30	30	30		19	13		19	30		30	30	30	30
T	FORSMARK	näbbmus	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	Pore water_0.3	6	6	6		6	6	6	6								6	6		6		6		6	6	6	6	6		6		6	6		6	6				6	6	6	6						6	6	6	6	6	6
T	FORSMARK	Quartenary deposit_0.4		2		2	2											2								2			2		2						2				2	2		2						2	2	2		2	2
T	FORSMARK	Quartenary deposit_0.5		6		6	6											6								6			6		6						6				6	6		6						6	6	6		6	6
T	FORSMARK	Quartenary deposit_1		4		4	4											4								4			4		4						4				4	4		4						4	4	4		4	4
T	FORSMARK	Quartenary deposit_10.5		2		2	2											2								2			2		2						2				2	2		2						2	2	2		2	2
T	FORSMARK	Quartenary deposit_3.5		2		2	2											2								2			2		2						2				2	2		2						2	2	2		2	2
T	FORSMARK	Quaternary Deposit: Till_0.6		1		1	1															1	1		1	1					1					1	1				1	1		1						1	1			1	
T	FORSMARK	Quaternary Deposit: Till_1.4		1		1	1															1	1		1	1					1					1	1				1	1		1						1	1			1	
T	FORSMARK	Quaternary Deposit: Till_1.7		1		1	1															1	1		1	1					1					1	1				1	1		1						1	1			1	
T	FORSMARK	Quaternary Deposit: Till_2		1		1	1															1	1		1	1					1					1	1				1	1		1						1	1			1	
T	FORSMARK	Quaternary Deposit: Till_2.1		1		1	1															1	1		1	1					1					1	1				1	1		1						1	1			1	
T	FORSMARK	Quaternary Deposit: Till_2.4		1		1	1															1	1		1	1					1					1	1				1	1		1						1	1			1	
T	FORSMARK	Quaternary Deposit: Till_2.5		1		1	1															1	1		1	1					1					1	1				1	1		1						1	1			1	
T	FORSMARK	Quaternary Deposit: Till_2.8		2		2	2															1	2		2	2					2					2	2				2	2		2						2	2			2	
T	FORSMARK	Quaternary Deposit: Till_3		2		2	2															2	2		2	2					2					2	2				2	2		2						2	2			2	
T	FORSMARK	Quaternary Deposit: Till_4.5		1		1	1															1	1		1	1					1					1	1				1	1		1						1	1			1	
T	FORSMARK	Quaternary Deposit: Till_5		1		1	1															1	1		1	1					1					1	1				1	1		1						1	1			1	
T	FORSMARK	Quaternary Deposit: Till_5.1		1		1	1															1	1		1	1					1					1	1				1	1		1						1	1			1	
T	FORSMARK	Quaternary Deposit: Till1_0.8		2		2	2															2	2		2	2					2					2	2				2	2		2						2	2			2	
T	FORSMARK	Quaternary Deposit: Till1_1		8		8	8															8	8		8	8					8					8	8				8	8		8						8	8			8	
T	FORSMARK	Quaternary Deposit: Till1_1.2		1		1	1															1	1		1	1					1					1	1				1	1		1						1	1			1	
T	FORSMARK	Quaternary Deposit: Till1_1.5		3		3	3															3	3		3	3					3					3	3				3	3		3						3	3			3	
T	FORSMARK	Quaternary Deposit: Till1_2.3		1		1	1															1	1		1	1					1					1	1				1	1		1						1	1			1	
T	FORSMARK	Quaternary Deposit: Till1_3		2		2	2															2	2		2	2					2					2	2				2	2		2						2	2			2	
T	FORSMARK	Quaternary Deposit: Till1_3.7		1		1	1															1	1		1	1					1					1	1				1	1		1						1	1			1	
T	FORSMARK	Quaternary Deposit: Till1_4.5		2		2	2															2	2		2	2					2					2	2				2	2		2						2	2			2	
T	FORSMARK	Quaternary Deposit: Till1_5		1		1	1															1	1		1	1					1					1	1				1	1		1						1	1			1	
T	FORSMARK	Quaternary Deposit: Till1_6.6		2		2	2															2	2		2	2					2					2	2				2	2		2						2	2			2	
T	FORSMARK	Quaternary Deposit: Till2_1		4		4	4															4	4		4	4					4					4	4				4	4		4						4	4			4	
T	FORSMARK	Quaternary Deposit: Till2_5.5		2		2	2															2	2		2	2					2					2	2				2	2		2						2	2			2	
T	FORSMARK	rot, humusskikt_0	2	2		2	2		2									2				2	2		2	2	2	2	2		2		2	2			2				2	2	2	2						2	2	2	2	2	2
T	FORSMARK	rot, humusskikt_0.03	2	2		2	2		2									2				2	2		2	2	2	2	2		2		2	2			2				2	2	2	2						2	2	2	2	2	2
T	FORSMARK	rot, mineraljord_0	4	4		4	4		4									4				4	4		4	4	4	4	4		4		4	4			4				4	4	4	4						4	4	4	4	4	4
T	FORSMARK	räv	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	skogsmus	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	större skogsmus	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	torv_0.33	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	torv_1.13	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	trädskikt	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
T	FORSMARK	vasstorv_1.53	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	vattensork	7	7		7	7		7									7				7	7		7	7	7	7	7		7		7	7			7				7	7	7	7						7	7	7	7	7	7
T	FORSMARK	ved av gran	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
T	FORSMARK	våtmark; alggyttja_1.73	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	våtmark; glaciallera_1.93	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	våtmark; glaciallera_2.63	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	våtmark; gyttja_0.66	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	våtmark; sand_1.58	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	våtmark;lerig gyttja_1.03	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	våtmark;lerig gyttja_1.93	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	FORSMARK	älg	5	5		5	5		5		1		1	1	1	1	1	5				5	5		5	5	5	5	5		1		5	5			5	1	1	1	5	5	5	5	1	1	1		1	5	5	5	5	5	5
T	FORSMARK	ängssork	3	3		3	3		3		1		1	1	1	1	1	3				3	3		3	3	3	3	3		3		3	3			3	1	1	1	3	3	3	3	1	1	1	1	1	3	3	3	3	3	3
T	SIMPEVARP	blåbärsris									1		1	1	1	1	1																					1	1	1					1	1	1	1	1						
T	SIMPEVARP	bottenskikt	4	4		4	4		4									4				4	4		4	4	4	4	4		4		4	4			4				4	4	4	4						4	4	4	4	4	4
T	SIMPEVARP	buskskikt	2	2		2	2		2									2				2	2		2	2	2	2	2		2		2	2			2				2	2	2	2						2	2	2	2	2	2
T	SIMPEVARP	Centrifugated soil_rego_Low_0.3	2	2			2		2									2	2				2		2	2		2	2		2		2	2		2	2					2	2	2						2	2	2	2	2	2
T	SIMPEVARP	Centrifugated soil_rego_Mid_0.3	4	4			4		4									4	4				4		4	4		4	4		4		4	4		4	4					4	4	4						4	4	4	4	4	4
T	SIMPEVARP	Centrifugated soil_rego_Up_0.3	3	3			3		3									3	3				3		3	3		3	3		3		3	3		3	3					3	3	3						3	3	3	3	3	3
T	SIMPEVARP	extraktion i ammoniumacetat_0	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
T	SIMPEVARP	extraktion i ammoniumacetat_0.1	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	extraktion i ammoniumacetat_0.4	2	2		2	2		2									2				2	2		2	2	2	2	2		2		2	2			2				2	2	2	2						2	2	2	2	2	2
T	SIMPEVARP	extraktion i ammoniumacetat_0.55	1	1		1	1		1													1	1		1		1	1	1		1			1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	extraktion i ditionitcitrat_0	3	3		3	3		3									3					3		3		3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
T	SIMPEVARP	extraktion i ditionitcitrat_0.1	1	1		1	1		1									1					1		1		1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	extraktion i ditionitcitrat_0.4	2	2		2	2		2									2					2		2		2	2	2		2		2	2			2				2	1	2	2						2	2	2	2	2	2
T	SIMPEVARP	extraktion i ditionitcitrat_0.55	1	1		1	1		1														1		1		1	1	1		1		1	1			1				1		1	1						1	1	1	1	1	1
T	SIMPEVARP	extraktion i kungsvatten_0	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
T	SIMPEVARP	extraktion i kungsvatten_0.1	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	extraktion i kungsvatten_0.4	2	2		2	2		2									2				2	2		2	2	2	2	2		2		2	2			2				2	2	2	2						2	2	2	2	2	2
T	SIMPEVARP	extraktion i kungsvatten_0.55	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	fallförna; eklöv_O1O-0	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1			1		1	1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	fallförna; eklöv_O1O-2	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1			1		1	1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	fallförna; eklöv_O1O-3	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1			1		1	1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	fallförna; eklöv_O1O-4	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1			1		1	1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	fallförna; eklöv_O1O-5	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1			1		1	1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	fallförna; eklöv_O1O-6	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1			1		1	1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	fallförna; granbarr_O3S-0	1	1		1	1	1	1	1								1	1				1		1	1		1	1		1			1		1	1				1	1	1	1						1	1	1	1	1	1

Ekosystem	SITE	sample_name_Sicada	Nd	Ni	Os	P	Pb	Pd	Pr	Pt	^{238}PU	^{238,239,240}PU	^{239}PU	^{239,240}Pu	^{240}Pu	^{242}PU	^{226}Ra	Rb	Re	Rh	Ru	S	Sb	^{124}Sb	Sc	Se	Si	Sm	Sn	^{133}Sn	Sr	^{90}Sr	Ta	Tb	^{99}TC	Te	Th	^{229}Th	^{230}Th	^{232}Th	Ti	Tl	Tm	U	^{233}U	^{234}U	^{235}U	^{236}U	^{238}U	V	W	Y	Yb	Zn	Zr
T	SIMPEVARP	fallförna; granbarr_O3S-2	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1			1		1	1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	fallförna; granbarr_O3S-3	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1			1		1	1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	fallförna; granbarr_O3S-4	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1			1		1	1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	fallförna; granbarr_O3S-5	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1			1		1	1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	fallförna; granbarr_O3S-6	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1			1		1	1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	fallförna; tallbarr_O2P-0	1	1			1	1	1	1								1	1			1	1		1	1		1	1		1			1		1	1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	fallförna; tallbarr_O2P-2	1	1		1	1	1	1	1								1	1				1		1	1		1	1		1			1		1	1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	fallförna; tallbarr_O2P-3	1	1		1	1	1	1	1								1	1				1		1	1		1	1		1			1		1	1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	fallförna; tallbarr_O2P-4	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1			1		1	1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	fallförna; tallbarr_O2P-5	1	1		1	1	1	1	1								1	1				1		1	1		1	1		1			1		1	1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	fallförna; tallbarr_O2P-6	1	1		1	1	1	1	1								1	1			1	1		1	1		1	1		1			1		1	1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	fältskikt	4	4		4	4		4									4				4	4		4	4	4	4	4		4		4	4			4				4	4	4	4						4	4	4	4	4	4
T	SIMPEVARP	humus	6	6		6	6		6									6				6	6		6	6	6	6	6		6		6	6			6				6	6	6	6						6	6	6	6	6	6
T	SIMPEVARP	jord 10 cm									1	1	1	1	1	1	1																					1	1	1					1	1	1	1	1						
T	SIMPEVARP	Jord_rego_Low_1	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Jord_rego_Low_1.2	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Jord_rego_Low_1.3	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Jord_rego_Low_1.4	2	2		2	2		2									2				2	2		2	2	2	2	2		2		2	2			2				2	2	2	2						2	2	2	2	2	2
T	SIMPEVARP	Jord_rego_Low_1.5	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Jord_rego_Low_1.8	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Jord_rego_Low_2.2	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Jord_rego_Low_2.3	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Jord_rego_Low_2.5	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Jord_rego_Low_3.2	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Jord_rego_Mid?_2	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Jord_rego_Mid_0.3	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Jord_rego_Mid_0.5	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Jord_rego_Mid_0.7	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Jord_rego_Mid_1	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Jord_rego_Mid_1.1	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Jord_rego_Mid_1.25	2	2		2	2		2									2				2	2		2	2	2	2	2		2		2	2			2				2	2	2	2						2	2	2	2	2	2
T	SIMPEVARP	Jord_rego_Mid_12	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Lergyttja/gyttjelera I	2	2		2	2		2									2				1	2		2	2	2	2	2		2		2	2			2				2	1	2	2						2	2	2	2	2	2
T	SIMPEVARP	Lergyttja/gyttjelera II	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Lergyttja/gyttjelera II_6	1	1		1	1		1									1					1		1	1	1	1	1		1		1	1			1				1		1	1						1	1	1	1	1	1
T	SIMPEVARP	mindre skogsmus	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
T	SIMPEVARP	mineral bulk	6	6		6	6		6									6				6	6		6	6	6	6	6		6		6	6			6				6	6	6	6						6	6	6	6	6	6
T	SIMPEVARP	mineral rhizo	6	6		6	6		6									6				6	6		6	6	6	6	6		6		6	6			6				6	6	6	6						6	6	6	6	6	6
T	SIMPEVARP	Morän II	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Morän II_12	1	1		1	1		1									1					1		1		1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	NGW	1	1		1	1		1								1	1				1	1		1		1	1			1			1			1					1	1	1						1		1	1	1	1
T	SIMPEVARP	näbbmus	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	peat	2	2		2	2		2									2				1	2		2	2	2	2	2		2		2	2			2				2	2	2	2						2	2	2	2	2	2
T	SIMPEVARP	Pore water_0.3	9	9	9		9	9	9	9								9	9		9		9		9	9	9	9	9		9		9	9		9	9				9	9	9	9						9	9	9	9	9	9
T	SIMPEVARP	rådjur	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
T	SIMPEVARP	räv	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
T	SIMPEVARP	större skogsmus									1		1	1	1	1	1																					1	1	1					1	1	1	1	1						
T	SIMPEVARP	Torv- eller våtmark_0.05	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Torv- eller våtmark_0.12	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Torv- eller våtmark_0.65	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1					1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Torv- eller våtmark_0.95	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Torv- eller våtmark_1.97	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Torv- eller våtmark_2	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Torv- eller våtmark_2.97	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Torv- eller våtmark_3.4	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Torv- eller våtmark_3.65	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Torv- eller våtmark_4	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Torv- eller våtmark_4.2	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Torv- eller våtmark_4.35	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Torv- eller våtmark_4.6	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Torv- eller våtmark_4.64	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Torv- eller våtmark_4.66	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Torv- eller våtmark_4.7	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	Torv- eller våtmark_4.97	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	trädrot humus	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
T	SIMPEVARP	trädrot mineraljord	4	4		4	4		4									4				4	4		4	4	4	4	4		4		4	4			4				4	4	4	4						4	4	4	4	4	4
T	SIMPEVARP	trädskikt	4	4		4	4		4		1		1	1	1	1	1	4				4	4		4	4	4	4	4		4		4	4			4	1	1	1	4	4	4	4	1	1	1	1	1	4	4	4	4	4	4
T	SIMPEVARP	ved av al	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	ved av ek	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	ved av gran	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1
T	SIMPEVARP	älg	3	3		3	3		3		1		1	1	1	1	1	3				3	3		3	3	3	3	3		1		3	3			3	1	1	1	3	3	3	3	1	1	1	1	1	3	3	3	3	3	3
T	SIMPEVARP	ängssork skog	3	3		3	3		3									3				3	3		3	3	3	3	3		3		3	3			3				3	3	3	3						3	3	3	3	3	3
T	SIMPEVARP	ängssork äng	2	2		2	2		2									2				2	2		2	2	2	2	2		2		2	2			2				2	2	2	2						2	2	2	2	2	2
T	SIMPEVARP	övr rot humus	1	1		1	1		1									1				1	1		1	1	1	1	1		1		1	1			1				1	1	1	1						1	1	1	1	1	1

Table A1-2. Compilation of the percentage of data below reporting limits.

Ekosystem	SITE	sample_name_Sicada	Ag	Al	^{241}Am	As	Au	B	Ba	Be	^{7}Be	Bi	Br	Ca	Cd	Ce	Cl	Co	^{60}Co	Cr	Cs	^{134}Cs	^{137}Cs	Cu	Dy	Er	Eu	^{155}Eu	F	Fe	^{59}Fe	Ga	Gd	^{153}Gd	Ge	^{3}H	Hf	Hg	Ho	I	^{129}I	In	Ir	K	^{40}K	La	Li	Lu	Mg	Mn	^{54}Mn	Mo	N	Na	Nb	^{95}Nb
L	FORSMARK	algmatta, sjö	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
L	FORSMARK	algmatta, sjö_0	100	100	.	100	.	100	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	100	100	100	.	.	.	100	.	100	0	100	100	100	.	100	100	100	100	.
L	FORSMARK	dammussla	100	100	.	100	.	100	100	0	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	100	100	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
L	FORSMARK	filtered sediment_0	100	100	.	100	0	100	100	100	.	100	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	0	100	.	100	100	.	100	.	100	100	100	100	.	0	0	100	.	100	100	100	100	100	.	100	100	100	100	.
L	FORSMARK	filtered sediment_25	100	100	.	100	0	100	100	100	.	100	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	0	100	.	100	100	.	100	.	100	100	100	100	.	0	0	100	.	100	100	100	100	100	.	100	100	100	100	.
L	FORSMARK	filtered water_0.5	0	100	.	100	0	100	100	100	.	50	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	75	100	.	100	100	.	100	.	100	0	100	100	.	0	0	100	.	100	100	100	100	100	.	100	100	100	100	.
L	FORSMARK	gädda	0	50	.	25	.	0	100	0	.	.	100	100	0	.	100	50	.	0	100	.	.	100	0	0	0	.	.	100	.	0	0	.	.	.	0	100	0	25	.	.	.	100	.	50	100	0	100	100	.	100	100	100	100	.
L	FORSMARK	gärs	0	100	.	0	.	0	.	0	.	.	100	100	0	.	100	0	.	0	100	.	.	100	0	0	0	.	.	100	.	0	0	.	.	.	0	100	0	0	.	.	.	100	.	0	0	0	100	100	.	0	100	100	0	.
L	FORSMARK	kransalger, sjö	25	100	.	100	.	100	100	0	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	75	100	100	100	.	.	100	.	100	75	100	100	100	.	100	100	100	100	.
L	FORSMARK	Lake	.	100	.	100	.	.	100	.	.	.	100	100	100	100	100	100	.	100	0	.	.	100	100	100	0	.	.	100	.	.	100	.	.	.	100	0	0	100	.	.	.	100	.	100	100	0	100	100	.	100	100	100	.	.
L	FORSMARK	mört	0	100	.	50	.	50	100	0	.	.	100	100	0	.	100	50	.	0	100	.	.	100	0	0	0	.	.	100	.	0	0	.	.	.	50	100	0	0	.	.	.	100	.	0	0	0	100	100	.	100	100	100	0	.
L	FORSMARK	Porewater_0	100	100	.	100	0	100	100	100	.	100	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	100	100	.	100	100	.	100	.	100	67	100	100	.	0	0	100	.	100	100	100	100	100	.	100	100	100	100	.
L	FORSMARK	Porewater_25	100	100	.	100	0	100	100	100	.	100	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	100	100	.	100	100	.	100	.	100	67	100	100	.	0	0	100	.	100	100	100	100	100	.	100	100	100	100	.
L	FORSMARK	Sediment 0-5 cm	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
L	FORSMARK	sjösed, alggyttja_2.53	100	100	.	100	.	100	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	.	100	100	.
L	FORSMARK	sjösed, alggyttja_3.1	100	100	.	100	.	100	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	100	100	100	.	100	.	100	100	.
L	FORSMARK	sjösed, kalkgyttja_2.64	100	100	.	100	.	100	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
L	FORSMARK	sjösed, lergyttja_3.56	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
L	FORSMARK	sjösediment; lera_3.87	100	100	.	100	.	100	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	0	.	100	100	.
L	FORSMARK	sjösediment; lera_4.02	100	100	.	100	.	100	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	0	.	100	100	.
L	FORSMARK	sjösediment; lera_4.2	100	100	.	100	.	100	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	0	.	100	100	.
L	FORSMARK	sjösediment_0	100	100	.	100	.	100	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
L	FORSMARK	sjösediment_0.2	100	100	.	100	.	100	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
L	FORSMARK	Stream	.	100	.	100	.	.	100	.	.	.	100	100	100	100	100	100	.	100	0	.	.	100	100	100	0	.	.	100	.	.	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	0	100	100	.	100	100	100	.	.
L	FORSMARK	suspenderat material_0.5	100	100	.	100	.	75	100	100	.	100	100	100	100	100	.	100	.	75	100	.	.	100	100	100	100	.	.	100	.	100	100	.	75	.	100	100	100	75	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
L	FORSMARK	sutare	0	67	.	0	.	11	100	0	.	.	100	100	0	.	100	100	.	0	100	.	.	100	0	0	0	.	.	100	.	0	0	.	.	.	0	100	0	0	.	.	.	100	.	11	100	0	100	100	.	100	100	100	78	.
L	FORSMARK	Vass	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
L	SIMPEVARP	abborre	0	100	.	0	.	100	100	0	.	.	100	100	0	.	100	100	.	33	100	.	.	100	33	33	0	.	.	0	.	0	0	.	.	.	0	100	33	100	.	.	.	100	.	100	0	0	100	100	.	100	100	100	33	.
L	SIMPEVARP	abborre piscivor	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
L	SIMPEVARP	abborre planktivor	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
L	SIMPEVARP	dammussla	100	100	.	100	.	100	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	100	100	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
L	SIMPEVARP	filtered sediment_0	100	100	.	100	0	100	100	100	.	100	100	100	100	100	0	100	.	100	100	.	.	100	100	100	100	.	50	100	.	100	100	.	100	.	100	100	100	100	.	0	0	100	.	100	100	100	100	100	.	100	100	100	100	.
L	SIMPEVARP	filtered sediment_15	100	100	.	100	0	100	100	100	.	100	100	100	100	100	0	100	.	100	100	.	.	100	100	100	100	.	100	100	.	100	100	.	100	.	100	100	100	100	.	0	0	100	.	100	100	100	100	100	.	100	100	100	100	.
L	SIMPEVARP	filtered sediment_20	100	100	.	100	0	100	100	100	.	100	100	100	100	100	0	100	.	100	100	.	.	100	100	100	100	.	100	100	.	100	100	.	100	.	100	100	100	100	.	0	0	100	.	100	100	100	100	100	.	100	100	100	100	.
L	SIMPEVARP	filtered water	67	100	.	100	33	100	100	100	.	67	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	100	100	.	100	100	.	100	.	100	0	100	100	.	0	0	100	.	100	100	100	100	100	.	100	100	100	100	.
L	SIMPEVARP	gyttja	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
L	SIMPEVARP	gyttja_0.9	0	100	.	100	.	100	100	100	.	.	.	100	100	100	.	100	.	100	.	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	0	100	100	.	.	.	.	0	.	100	100	100	100	100	.	100	.	.	100	.
L	SIMPEVARP	Lake	.	100	.	100	.	.	100	.	.	.	0	100	100	100	100	100	.	100	0	.	.	100	100	100	100	.	.	100	.	.	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	.	.
L	SIMPEVARP	Lera	100	100	.	100	.	100	100	100	.	.	0	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
L	SIMPEVARP	Lera_5.3	0	100	.	100	.	100	100	100	.	.	.	100	100	100	.	100	.	100	.	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	0	100	100	.	.	.	.	0	.	100	100	100	100	100	.	100	.	.	100	.
L	SIMPEVARP	Morän I	50	100	.	100	.	100	100	100	.	.	0	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	50	50	100	0	.	.	.	50	.	100	100	100	50	100	.	100	0	100	100	.
L	SIMPEVARP	mört	0	100	.	33	.	100	100	0	.	.	100	100	0	.	100	100	.	0	100	.	.	100	0	0	0	.	.	0	.	0	0	.	.	.	100	100	0	100	.	.	.	100	.	100	0	0	100	100	.	100	100	100	100	.
L	SIMPEVARP	Näckros	0	100	.	100	.	100	100	67	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
L	SIMPEVARP	näckros blad	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
L	SIMPEVARP	Näckros rot	67	100	.	100	.	100	100	100	.	.	100	100	100	100	100	100	.	67	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
L	SIMPEVARP	Porewater_0	100	100	.	100	0	100	100	100	.	100	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	100	100	.	100	100	.	50	.	100	50	100	100	.	0	0	100	.	100	100	100	100	100	.	100	100	100	100	.
L	SIMPEVARP	Porewater_15	100	100	.	100	0	100	100	100	.	100	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	100	100	.	100	100	.	100	.	100	0	100	100	.	0	0	100	.	100	100	100	100	100	.	100	100	100	100	.
L	SIMPEVARP	Porewater_20	0	100	.	100	0	100	100	100	.	100	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	100	100	.	100	100	.	0	.	100	100	100	100	.	0	0	100	.	100	100	100	100	100	.	100	100	100	100	.
L	SIMPEVARP	Sand I	100	100	.	100	.	0	100	100	.	.	0	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	0	100	100	.
L	SIMPEVARP	Sand I_3	0	100	.	100	.	.	100	100	.	.	.	100	100	100	.	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	0	100	100	.	.	.	.	0	.	100	100	100	100	100	.	100	.	.	100	.
L	SIMPEVARP	Sediment 0-5 cm	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
L	SIMPEVARP	sjösediment_0	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	0	100	100	0	.
L	SIMPEVARP	Sjösediment_0.02	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	0	100	100	0	.
L	SIMPEVARP	Sjösediment_0.04	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	0	100	100	0	.
L	SIMPEVARP	Sjösediment_0.06	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	0	100	100	0	.
L	SIMPEVARP	Sjösediment_0.08	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	0	100	100	0	.
L	SIMPEVARP	Sjösediment_0.25	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	0	.
L	SIMPEVARP	Sjösediment_0.48	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	0	100	100	0	.
L	SIMPEVARP	Sjösediment_0.98	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	0	100	100	0	.
L	SIMPEVARP	Sjösediment_1.97	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	0	.
L	SIMPEVARP	Sjösediment_2.97	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	0	0	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	0	.
L	SIMPEVARP	Sjösediment_3.97	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	0	0	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	0	.
L	SIMPEVARP	Sjösediment_4.37	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	0	0	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	0	.
L	SIMPEVARP	Stream	.	100	.	100	.	.	100	.	.	.	0	100	100	100	100	100	.	100	0	.	.	100	100	100	100	.	.	100	.	.	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	.	.
L	SIMPEVARP	suspenderat material_0	100	100	.	100	.	100	100	100	.	100	100	100	67	100	.	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	100	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
L	SIMPEVARP	Vass	0	100	.	33	.	100	100	0	.	.	100	100	0	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	67	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
L	SIMPEVARP	vass ovanveg	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
L	SIMPEVARP	Vass rhizom	0	100	.	100	.	100	100	67	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	33	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
M	FORSMARK	Betare Hyd	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.
M	FORSMARK	Cerastoderma glaucum	.	100	.	100	.	.	100	.	.	.	.	100	100	100	.	100	.	100	100	.	.	100	100	100	100	.	.	100	.	.	100	.	.	.	.	100	100	.	.	.	.	100	.	.	100	100	100	100	.	100	100	100	.	.
M	FORSMARK	filtered sediment_0	100	100	.	100	0	100	100	100	.	100	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	0	100	.	100	100	.	100	.	100	100	100	100	.	0	0	100	.	100	100	100	100	100	.	100	100	100	100	.
M	FORSMARK	filtered sediment_20	100	100	.	100	0	100	100	100	.	100	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	0	100	.	100	100	.	100	.	100	100	100	100	.	0	0	100	.	100	100	100	100	100	.	100	100	100	100	.
M	FORSMARK	filtered water_0.5	0	100	.	100	0	100	100	100	.	100	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	0	100	.	100	100	.	100	.	100	0	100	100	.	0	0	100	.	100	100	100	100	100	.	100	100	100	100	.
M	FORSMARK	filtered water_Tix	.	100	.	0	.	.	100	.	.	.	100	100	100	33	100	33	.	100	0	.	.	100	0	0	0	.	0	100	.	.	0	.	.	.	.	0	0	100	.	.	.	100	.	.	100	0	100	100	.	100	100	100	.	.
M	FORSMARK	fine sand and mud	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.
M	FORSMARK	Fucus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M	FORSMARK	Fucus vesiculosus	.	100	.	100	.	.	100	.	100	.	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	0	100	.	.	100	100	.	.	.	100	100	100	.	.	.	100	100	.	100	100	100	100	100	100	100	100	.	100
M	FORSMARK	gravel	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	100	.	.	.	.	100
M	FORSMARK	gärs	.	100	.	100	.	.	100	.	.	.	100	100	100	.	100	100	.	33	100	.	.	100	0	0	0	.	0	100	.	.	0	.	.	.	.	100	0	100	.	.	.	100	.	.	100	0	100	100	.	100	100	100	.	.
M	FORSMARK	havssed; lera_2.34	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	.	100	100	.
M	FORSMARK	havssed; lera_2.6	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	0	.	100	100	.
M	FORSMARK	havssed; lera_2.8	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	.	100	100	.
M	FORSMARK	havssed; sand/grus_2.24	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	.	100	100	.
M	FORSMARK	havssediment_0.14	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
M	FORSMARK	havssediment_0.28	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	100	100	100	.	0	100	100	100	.
M	FORSMARK	havssediment_2.09	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
M	FORSMARK	Idothea spp	.	100	.	100	.	.	100	.	.	.	.	100	100	.	.	100	.	100	100	.	.	100	100	100	100	.	.	100	.	.	100	.	.	.	.	100	100	.	.	.	.	100	.	.	100	50	100	100	.	100	100	100	.	.
M	FORSMARK	Macoma baltica	.	100	.	100	.	.	100	.	100	.	100	100	100	100	100	100	100	100	100	.	100	100	100	100	100	.	0	100	.	.	100	.	.	.	.	100	100	100	.	.	.	100	100	.	100	100	100	100	.	100	100	100	.	.
M	FORSMARK	Mikrofyter MIK1	.	100	.	100	.	.	100	.	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	0	100	.	.	100	.	.	.	.	100	100	100	.	.	.	100	.	.	100	100	100	100	.	100	100	100	.	.
M	FORSMARK	Mikrofyter MIK2	.	100	.	100	.	.	100	.	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	0	100	.	.	100	.	.	.	.	100	100	100	.	.	.	100	.	.	100	100	100	100	.	100	100	100	.	.
M	FORSMARK	Mytilus edulis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.
M	FORSMARK	mört	.	100	.	67	.	.	100	.	.	.	100	100	100	.	100	100	.	0	100	.	.	100	0	0	0	.	0	100	.	.	0	.	.	.	.	100	0	0	.	.	.	100	.	.	100	0	100	100	.	100	100	100	.	.
M	FORSMARK	Nors	.	100	.	100	.	.	100	.	.	.	100	100	100	.	100	100	.	0	100	.	.	100	0	0	0	.	0	100	.	.	0	.	.	.	.	100	0	100	.	.	.	100	.	.	100	0	100	100	.	100	100	100	.	.
M	FORSMARK	Pilayella littoralis	.	100	.	100	.	.	100	.	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	100	100	.	.	100	.	.	.	.	100	100	100	.	.	.	100	.	.	100	33	100	100	.	100	100	100	.	.
M	FORSMARK	Porewater_0	0	100	.	100	0	100	100	100	.	100	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	100	100	.	100	100	.	100	.	100	100	100	100	.	0	0	100	.	100	100	100	100	100	.	100	100	100	100	.
M	FORSMARK	Porewater_20	100	100	.	100	0	100	100	100	.	100	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	100	100	.	100	100	.	100	.	100	100	100	100	.	0	0	100	.	100	100	100	100	100	.	100	100	100	100	.
M	FORSMARK	Porewater_Tix_0	.	100	.	33	.	.	100	.	.	.	.	100	100	100	.	100	.	100	100	.	.	100	100	67	33	.	.	100	.	.	100	.	.	.	.	67	0	.	.	.	.	100	.	.	100	0	100	100	.	100	.	100	.	.
M	FORSMARK	Porewater_Tix_3	.	100	.	100	.	.	100	.	.	.	.	100	100	100	.	100	.	100	0	.	.	100	0	0	0	.	.	100	.	.	0	.	.	.	.	0	0	.	.	.	.	100	.	.	100	0	100	100	.	100	.	100	.	.
M	FORSMARK	Potamogeton	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M	FORSMARK	Potamogeton pectinatus	.	100	.	100	.	.	100	.	.	.	.	100	100	100	.	100	.	100	100	.	.	100	100	100	100	.	.	100	.	.	100	.	.	.	.	100	100	.	.	.	.	100	.	.	100	100	100	100	.	100	100	100	.	.
M	FORSMARK	pure mud	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.
M	FORSMARK	Sea	.	100	.	100	.	.	100	.	.	.	100	100	0	100	100	0	.	100	0	.	.	100	0	0	0	.	.	100	.	.	0	.	.	.	0	0	0	100	.	.	.	100	.	100	100	0	100	100	.	100	100	100	.	.
M	FORSMARK	Sea water	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.
M	FORSMARK	Sediment 0-3 cm	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M	FORSMARK	Sediment 0-3 cm_0	.	100	.	100	.	.	100	.	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	0	100	.	.	100	.	.	.	.	33	100	100	.	.	.	100	.	.	100	100	100	100	.	100	100	100	.	.
M	FORSMARK	Sediment 3-6 cm_3	.	100	.	100	.	.	100	.	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	0	100	.	.	100	.	.	.	.	0	100	50	.	.	.	100	.	.	100	67	100	100	.	100	100	100	.	.
M	FORSMARK	soft clay	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.
M	FORSMARK	soft mud	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.
M	FORSMARK	suspended matter	.	100	.	0	.	.	100	.	.	.	0	100	100	100	50	100	.	100	100	.	.	100	100	100	0	.	0	100	.	.	100	.	.	.	.	0	100	0	.	.	.	100	.	.	100	100	100	100	.	100	100	100	.	.
M	FORSMARK	suspenderat material_0.5	100	100	.	100	.	100	100	100	.	100	100	100	100	100	.	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	100	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
M	FORSMARK	Theodoxus fluviatilis	.	100	.	100	.	.	100	.	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	0	100	.	.	100	.	.	.	.	100	100	100	.	.	.	100	.	.	100	100	100	100	.	100	100	100	.	.
M	FORSMARK	Växtplankton	.	100	.	100	.	.	100	.	.	.	100	100	100	.	100	100	.	100	100	.	.	100	100	100	0	.	100	100	.	.	100	.	.	.	.	100	0	100	.	.	.	100	.	.	100	0	100	100	.	100	100	100	.	.
M	FORSMARK	Zooplankton ZP	.	100	.	100	.	.	100	.	.	.	100	100	100	100	.	100	.	100	100	.	.	100	100	100	100	.	.	100	.	.	100	.	.	.	.	100	100	100	.	.	.	100	.	.	100	100	100	100	.	100	100	100	.	.
M	SIMPEVARP	abborre	0	100	.	100	.	100	.	0	.	.	100	100	0	.	100	100	.	0	100	.	.	100	0	0	0	.	.	0	.	0	0	.	.	.	100	100	0	100	.	.	.	100	.	33	0	0	100	100	.	100	100	100	0	.
M	SIMPEVARP	abborre piscivor	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	Blåmussla	100	100	.	100	.	100	100	0	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
M	SIMPEVARP	blåmussla muskel	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	Blåmussla skal	0	100	.	100	.	100	100	0	.	.	100	100	100	100	100	100	.	0	0	.	.	100	100	100	100	.	.	100	.	50	100	.	.	.	100	0	100	100	100	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
M	SIMPEVARP	Blåstång	33	100	.	100	.	100	100	0	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	33	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
M	SIMPEVARP	braxen	0	100	.	100	.	100	100	0	.	.	100	100	0	.	100	100	.	0	100	.	.	100	0	0	0	.	.	0	.	0	0	.	.	.	0	100	0	0	.	.	.	100	.	50	0	0	100	100	.	100	100	100	100	.
M	SIMPEVARP	Clupea harengus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	filtered sediment_0	100	100	.	100	0	100	100	100	.	100	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	0	100	.	100	100	.	100	.	100	100	100	100	.	0	0	100	.	100	100	100	100	100	.	100	100	100	100	.
M	SIMPEVARP	filtered sediment_25	100	100	.	100	0	100	100	100	.	100	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	0	100	.	100	100	.	100	.	100	100	100	100	.	0	0	100	.	100	100	100	100	100	.	100	100	100	100	.
M	SIMPEVARP	filtered water	0	100	.	100	0	100	100	100	.	100	100	100	100	100	100	100	.	100	100	.	.	100	100	100	67	.	100	100	.	100	100	.	100	.	100	0	100	100	.	0	0	100	.	100	100	100	100	100	.	100	100	100	100	.
M	SIMPEVARP	flundra	0	100	.	100	.	0	100	0	.	.	100	100	67	.	100	100	.	0	100	.	.	100	0	0	0	.	.	0	.	0	0	.	.	.	0	100	0	0	.	.	.	100	.	100	0	0	100	100	.	100	100	100	100	.
M	SIMPEVARP	Fucus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	Fucus vesiculosus	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.
M	SIMPEVARP	Gadus morhua	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.

Ekosystem	SITE	sample_name_Sicada	Ag	Al	^{241}Am	As	Au	B	Ba	Be	^{7}Be	Bi	Br	Ca	Cd	Ce	Cl	Co	^{60}Co	Cr	Cs	^{134}Cs	^{137}Cs	Cu	Dy	Er	Eu	^{155}Eu	F	Fe	^{59}Fe	Ga	Gd	^{153}Gd	Ge	^{3}H	Hf	Hg	Ho	I	^{129}I	In	Ir	K	^{40}K	La	Li	Lu	Mg	Mn	^{54}Mn	Mo	N	Na	Nb	^{95}Nb
M	SIMPEVARP	gravel	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.
M	SIMPEVARP	Havssediment_0	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	0	100	100	0	.
M	SIMPEVARP	Havssediment_0.02	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	0	100	100	0	.
M	SIMPEVARP	Havssediment_0.04	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	0	.
M	SIMPEVARP	Havssediment_0.06	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	0	.
M	SIMPEVARP	Havssediment_0.08	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	0	.
M	SIMPEVARP	Havssediment_0.97	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	100	100	100	.	0	100	100	0	.
M	SIMPEVARP	Havssediment_1.97	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	0	.
M	SIMPEVARP	Havssediment_2.97	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	100	100	100	.	0	100	100	0	.
M	SIMPEVARP	Havssediment_3.97	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	0	.
M	SIMPEVARP	Havssediment_4.8	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	100	100	100	.	0	100	100	100	.
M	SIMPEVARP	Havssediment_4.97	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	100	100	100	.	0	100	100	100	.
M	SIMPEVARP	Kransalg	0	100	.	100	.	100	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
M	SIMPEVARP	kransalger, sjö	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	löja	0	100	.	100	.	100	100	0	.	.	100	100	33	.	100	100	.	0	100	.	.	100	33	0	0	.	.	67	.	0	33	.	.	.	0	100	0	0	100	.	.	100	.	100	0	0	100	100	.	100	100	100	67	.
M	SIMPEVARP	Macoma Baltica	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	mud	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	mud and fine sand	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	Mytilus edulis	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	Nate	33	100	.	100	.	100	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	100	100	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
M	SIMPEVARP	Porewater_0	50	100	.	100	0	100	100	100	.	100	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	100	100	.	100	100	.	50	.	100	100	100	100	.	0	0	100	.	100	100	100	100	100	.	100	100	100	100	.
M	SIMPEVARP	Porewater_25	0	100	.	100	0	100	100	100	.	100	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	100	100	.	100	100	.	50	.	100	100	100	100	.	0	0	100	.	100	100	100	100	100	.	100	100	100	100	.
M	SIMPEVARP	pure mud	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	sand	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	Sea	.	100	.	100	.	.	100	.	.	.	100	100	0	100	100	100	.	100	0	.	.	100	0	0	0	.	.	100	.	.	0	.	.	.	0	0	0	100	.	.	.	100	.	100	100	0	100	100	.	100	100	100	.	.
M	SIMPEVARP	Sea water	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	Sediment 0-5 cm	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	soft mud	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	strömming	0	100	.	100	.	100	.	0	.	.	100	100	33	.	100	100	.	0	100	.	.	100	0	0	0	.	.	0	.	0	0	.	.	.	0	100	0	0	.	.	.	100	.	33	0	0	100	100	.	100	100	100	0	.
M	SIMPEVARP	sulphidic mud	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	suspenderat material_0	100	100	.	100	.	100	100	100	.	100	100	100	100	100	.	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	100	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
M	SIMPEVARP	Trådf.grönalg	0	100	.	100	.	100	100	0	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	33	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	FORSMARK	blåbärsris	0	100	.	0	.	100	100	0	.	.	100	100	100	.	100	100	.	100	100	.	.	100	100	100	0	.	.	100	.	0	100	.	.	.	100	50	0	50	.	.	.	100	.	100	50	0	100	100	.	100	100	100	100	.
T	FORSMARK	bottenskikt	33	100	.	100	.	100	100	0	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	100	100	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	FORSMARK	bulkjord,min.j.sk._0	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	67	100	.	.	.	100	33	100	100	.	.	.	100	.	100	100	100	100	100	.	0	100	100	100	.
T	FORSMARK	bulkjord,min.j.sk._0.1	100	100	.	100	.	0	100	100	.	.	100	100	100	100	33	100	.	100	100	.	.	100	100	100	100	.	.	100	.	67	100	.	.	.	100	33	100	100	.	.	.	100	.	100	100	100	100	100	.	33	100	100	100	.
T	FORSMARK	buskskikt	0	0	.	0	.	100	100	0	.	.	100	100	100	.	100	100	.	100	100	.	.	100	0	0	0	.	.	100	.	0	100	.	.	.	0	100	0	100	.	.	.	100	.	100	100	0	100	100	.	100	100	100	100	.
T	FORSMARK	Centrifugated soil_rego_Low_0.3	75	100	.	100	50	100	100	100	.	0	.	100	100	100	67	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	100	.	100	.	100	100	.	100	.	100	.	100	100	100	100	100	.	100	.	100	100	.
T	FORSMARK	Centrifugated soil_rego_Up_0.3	0	100	.	100	100	100	100	0	.	0	.	100	100	100	100	100	.	100	100	.	.	100	100	50	0	.	.	100	.	100	100	.	0	.	0	.	0	0	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, allöv_F2A-0	100	0	.	0	100	.	100	0	.	0	.	100	0	100	.	100	.	100	100	.	.	100	0	0	0	.	.	100	.	0	0	.	100	.	0	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, allöv_F2A-1	100	0	.	0	100	.	100	0	.	100	.	100	100	100	.	100	.	100	100	.	.	100	0	0	0	.	.	100	.	0	0	.	100	.	0	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, allöv_F2A-2	100	100	.	0	100	.	100	0	.	100	.	100	100	100	.	100	.	100	100	.	.	100	100	0	0	.	.	100	.	100	100	.	100	.	0	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, allöv_F2A-3	100	100	.	100	100	.	100	0	.	100	.	100	100	100	.	100	.	100	100	.	.	100	100	0	0	.	.	100	.	100	100	.	100	.	0	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, allöv_F2A-4	100	100	.	100	100	.	100	0	.	100	.	100	100	100	.	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	100	.	100	100	100	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, allöv_F2A-5	100	100	.	100	100	.	100	100	.	100	.	100	100	100	.	100	.	100	100	.	.	100	100	0	0	.	.	100	.	100	100	.	100	.	100	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, allöv_F2A-6	100	100	.	0	100	.	100	0	.	100	.	100	100	100	.	100	.	100	100	.	.	100	100	100	0	.	.	100	.	100	100	.	100	.	100	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, granbarr_F1S-0	0	0	.	0	100	.	100	0	.	0	.	100	100	.	.	100	.	100	100	.	.	100	0	0	0	.	.	100	.	0	0	.	.	.	0	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	0	.
T	FORSMARK	fallförna, granbarr_F1S-1	100	0	.	0	100	.	100	0	.	100	.	100	100	100	.	100	.	100	100	.	.	100	0	0	0	.	.	100	.	100	0	.	100	.	0	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, granbarr_F1S-2	100	0	.	0	100	.	100	0	.	0	.	100	100	100	.	100	.	100	100	.	.	100	0	0	0	.	.	100	.	100	0	.	100	.	0	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	0	.
T	FORSMARK	fallförna, granbarr_F1S-3	100	0	.	100	100	.	100	0	.	0	.	100	100	100	.	100	.	100	100	.	.	100	0	0	0	.	.	100	.	0	100	.	100	.	0	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, granbarr_F1S-4	100	100	.	0	100	.	100	0	.	0	.	100	100	100	.	100	.	100	100	.	.	100	100	100	0	.	.	100	.	100	100	.	100	.	0	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, granbarr_F1S-5	100	100	.	100	100	.	100	100	.	100	.	100	100	100	.	100	.	100	100	.	.	100	100	0	0	.	.	100	.	100	0	.	100	.	100	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, granbarr_F1S-6	100	100	.	0	100	.	100	0	.	100	.	100	100	100	.	100	.	100	100	.	.	100	100	0	0	.	.	100	.	0	100	.	100	.	100	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, granbarr_F2S-0	100	0	.	0	100	.	100	0	.	0	.	100	100	100	.	100	.	100	100	.	.	100	0	0	0	.	.	100	.	0	0	.	100	.	100	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	0	.
T	FORSMARK	fallförna, granbarr_F2S-1	100	0	.	0	100	.	100	0	.	0	.	100	100	100	.	100	.	100	100	.	.	100	0	0	0	.	.	100	.	0	0	.	100	.	100	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, granbarr_F2S-2	100	0	.	100	100	.	100	100	.	0	.	100	100	100	.	100	.	100	100	.	.	100	100	0	0	.	.	100	.	0	0	.	100	.	100	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, granbarr_F2S-3	100	0	.	0	100	.	100	100	.	0	.	100	100	100	.	100	.	100	100	.	.	100	100	0	0	.	.	100	.	0	0	.	100	.	100	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, granbarr_F2S-4	100	0	.	100	100	.	100	0	.	0	.	100	100	100	.	100	.	100	100	.	.	100	0	0	0	.	.	100	.	100	100	.	100	.	100	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, granbarr_F2S-5	100	0	.	100	100	.	100	0	.	0	.	100	100	100	.	100	.	100	100	.	.	100	0	0	0	.	.	100	.	0	0	.	100	.	0	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, granbarr_F2S-6	100	100	.	0	100	.	100	0	.	100	.	100	100	100	.	100	.	100	100	.	.	100	0	0	0	.	.	100	.	0	100	.	100	.	0	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, granbarr_F3S-0	100	0	.	0	100	.	100	100	.	0	.	100	100	100	.	100	.	100	100	.	.	100	0	0	0	.	.	100	.	100	0	.	.	.	100	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, granbarr_F3S-2	100	0	.	100	100	.	100	0	.	0	.	100	100	100	.	100	.	100	100	.	.	100	0	0	0	.	.	100	.	100	0	.	100	.	100	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, granbarr_F3S-3	100	0	.	0	100	.	100	0	.	0	.	100	100	100	.	100	.	100	100	.	.	100	0	0	0	.	.	100	.	100	0	.	100	.	100	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, granbarr_F3S-4	100	0	.	100	100	.	100	0	.	0	.	100	100	100	.	100	.	100	100	.	.	100	0	0	0	.	.	100	.	100	0	.	100	.	100	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, granbarr_F3S-5	100	100	.	0	100	.	100	100	.	100	.	100	100	100	.	100	.	100	100	.	.	100	100	0	0	.	.	100	.	100	0	.	100	.	100	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	FORSMARK	fallförna, granbarr_F3S-6	100	100	.	100	100	.	100	0	.	100	.	100	100	100	.	100	.	100	100	.	.	100	0	0	0	.	.	100	.	100	100	.	100	.	0	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	100	100	.
T	Forsmark	Fungi_Boletus edulis	.	.	.	100	.	.	.	.	.	.	.	100	100	.	.	100	.	100	100	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	100	.	.	.
T	Forsmark	fungi_Bulk_soil	.	.	.	100	.	.	.	.	.	.	.	100	100	.	.	100	.	100	100	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	100	.	.	.
T	Forsmark	Fungi_Cantharellus tubaeformis	.	.	.	100	.	.	.	.	.	.	.	100	100	.	.	100	.	100	100	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	100	.	.	.
T	Forsmark	Fungi_Collybia peronata	.	.	.	100	.	.	.	.	.	.	.	100	100	.	.	100	.	100	100	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	100	.	.	.
T	Forsmark	Fungi_Cortinarius armeniacus	.	.	.	100	.	.	.	.	.	.	.	100	100	.	.	100	.	100	100	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	100	.	.	.
T	Forsmark	Fungi_Cortinarius odorifer	.	.	.	100	.	.	.	.	.	.	.	100	100	.	.	100	.	100	100	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	100	.	.	.
T	Forsmark	Fungi_Cortinarius sp.	.	.	.	100	.	.	.	.	.	.	.	100	100	.	.	100	.	100	100	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	100	.	.	.
T	Forsmark	Fungi_Hypholoma capnoides	.	.	.	100	.	.	.	.	.	.	.	100	100	.	.	100	.	100	100	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	100	.	.	.
T	Forsmark	Fungi_Lactarius deterrimus	.	.	.	100	.	.	.	.	.	.	.	100	100	.	.	100	.	100	100	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	100	.	.	.
T	Forsmark	Fungi_Lactarius scrobiculatus	.	.	.	100	.	.	.	.	.	.	.	100	100	.	.	100	.	100	100	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	100	.	.	.
T	Forsmark	Fungi_Lactarius trivialis	.	.	.	100	.	.	.	.	.	.	.	100	100	.	.	100	.	100	100	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	100	.	.	.
T	Forsmark	Fungi_Mycelium	.	.	.	100	.	.	.	.	.	.	.	100	100	.	.	100	.	100	100	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	100	.	.	.
T	Forsmark	Fungi_Rhizosphere	.	.	.	100	.	.	.	.	.	.	.	100	100	.	.	100	.	100	100	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	100	.	.	.
T	Forsmark	Fungi_Sarcodon imbricatus	.	.	.	100	.	.	.	.	.	.	.	100	100	.	.	100	.	100	100	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	100	.	.	.
T	Forsmark	Fungi_Soil_root	.	.	.	100	.	.	.	.	.	.	.	100	100	.	.	100	.	100	100	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	100	.	.	.
T	Forsmark	Fungi_Suillus granulatus	.	.	.	100	.	.	.	.	.	.	.	100	100	.	.	100	.	100	100	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	100	.	.	.
T	Forsmark	Fungi_Suillus varegatus	.	.	.	100	.	.	.	.	.	.	.	100	100	.	.	100	.	100	100	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	100	.	.	.
T	Forsmark	Fungi_Suillus variegatus	.	.	.	100	.	.	.	.	.	.	.	100	100	.	.	100	.	100	100	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	100	.	.	.
T	Forsmark	Fungi_Tricholoma equestre	.	.	.	100	.	.	.	.	.	.	.	100	100	.	.	100	.	100	100	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	100	.	.	.
T	FORSMARK	fältskikt	33	67	.	0	.	100	100	0	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	0	.	.	100	.	100	100	.	.	.	100	100	0	100	100	.	.	100	.	100	67	33	100	100	.	100	100	33	100	.
T	FORSMARK	humus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
T	FORSMARK	jord, humusskikt_0	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	80	100	100	.	.	.	100	.	100	100	100	100	100	.	40	100	100	100	.
T	FORSMARK	jord, humusskikt_0.03	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	67	100	100	100	.
T	FORSMARK	jord, min.j.skikt_0	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	33	100	100	.	.	.	100	.	100	100	100	100	100	.	0	100	100	100	.
T	FORSMARK	jord, min.j.skikt_0.1	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	33	100	100	100	.
T	FORSMARK	jord; moränlera_3.5	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	0	.	100	100	.
T	FORSMARK	jord; ospec morän_0.7	100	100	.	100	.	0	100	100	.	.	0	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	0	.	100	100	.
T	FORSMARK	jord; ospec morän_1	100	100	.	100	.	0	100	100	.	.	0	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	0	.	100	100	.
T	FORSMARK	jord; ospec morän_1.5	100	100	.	100	.	0	100	100	.	.	0	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	0	.	100	100	.
T	FORSMARK	NGW	.	100	.	100	.	100	100	.	.	.	100	100	100	100	100	100	.	100	0	.	.	100	100	100	100	.	.	100	.	.	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	.	.
T	Forsmark	NGWsfm	.	93	.	73	.	100	100	.	.	.	93	100	83	90	100	100	.	90	17	.	.	83	87	83	67	.	84	93	.	.	87	.	.	.	90	7	77	.	.	4	.	100	.	90	90	63	100	100	.	97	.	100	100	.
T	FORSMARK	näbbmus	0	100	.	0	.	0	100	0	.	.	100	100	100	.	100	100	.	0	100	.	.	100	0	0	0	.	.	100	.	0	0	.	.	.	0	100	0	100	.	.	.	100	.	100	0	0	100	100	.	100	100	100	100	.
T	FORSMARK	Pore water_0.3	0	100	.	100	33	.	100	0	.	0	100	67	100	100	100	100	.	100	67	.	.	100	100	83	83	.	.	100	.	100	100	.	50	.	100	0	67	36	.	0	.	100	.	100	33	17	100	100	.	83	.	100	17	.
T	FORSMARK	Quaternary deposit_0.4	100	100	.	100	.	.	.	100	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	100	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary deposit_0.5	100	100	.	100	.	.	.	100	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	100	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary deposit_1	100	100	.	100	.	.	.	100	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	100	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary deposit_10.5	100	100	.	100	.	.	.	100	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	100	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary deposit_3.5	100	100	.	100	.	.	.	100	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	100	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till_0.6	100	100	.	100	100	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	100	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till_1.4	100	100	.	100	0	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	100	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till_1.7	100	100	.	100	0	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	0	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till_2	100	100	.	100	100	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	100	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till_2.1	100	100	.	100	100	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	0	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till_2.4	100	100	.	100	100	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	0	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till_2.5	100	100	.	100	100	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	100	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till_2.8	100	100	.	100	50	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	100	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till_3	100	100	.	100	100	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	0	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till_4.5	100	100	.	100	100	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	100	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till_5	100	100	.	100	0	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	0	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till_5.1	100	100	.	100	0	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	0	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till1_0.8	100	100	.	100	50	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	100	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till1_1	100	100	.	100	88	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	75	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till1_1.2	100	100	.	100	100	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	100	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till1_1.5	100	100	.	100	0	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	67	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till1_2.3	100	100	.	100	0	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	100	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till1_3	100	100	.	100	50	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	0	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till1_3.7	100	100	.	100	0	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	0	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till1_4.5	100	100	.	100	50	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	100	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till1_5	100	100	.	100	0	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	0	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till1_6.6	100	100	.	100	100	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	50	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till2_1	100	100	.	100	75	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	100	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.
T	FORSMARK	Quaternary Deposit: Till2_5.5	100	100	.	100	50	100	100	.	.	100	.	100	100	.	.	100	.	100	.	.	.	100	.	.	.	.	.	100	.	100	.	.	.	.	.	100	.	.	.	.	.	100	.	100	.	.	100	100	.	100	.	100	.	.

Ekosystem	SITE	sample_name_Sicada	Ag	Al	^{241}Am	As	Au	B	Ba	Be	^{7}Be	Bi	Br	Ca	Cd	Ce	Cl	Co	^{60}Co	Cr	Cs	^{134}Cs	^{137}Cs	Cu	Dy	Er	Eu	^{155}Eu	F	Fe	^{59}Fe	Ga	Gd	^{153}Gd	Ge	^{3}H	Hf	Hg	Ho	I	^{129}I	In	Ir	K	^{40}K	La	Li	Lu	Mg	Mn	^{54}Mn	Mo	N	Na	Nb	^{95}Nb
T	FORSMARK	rot, humusskikt_0	50	100	.	50	.	100	100	0	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	50	.	.	100	.	50	100	.	.	.	100	100	100	100	.	.	.	100	.	100	50	100	100	100	.	100	100	100	100	.
T	FORSMARK	rot, humusskikt_0.03	50	100	.	100	.	100	100	0	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	FORSMARK	rot, mineraljord_0	75	100	.	75	.	100	100	25	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	75	100	100	.	.	.	100	.	100	75	100	100	100	.	100	100	100	100	.
T	FORSMARK	räv	0	100	.	100	.	100	100	0	.	.	100	100	0	.	100	100	.	100	100	.	.	100	0	0	0	.	.	100	.	0	0	.	.	.	100	100	0	0	.	.	.	100	.	100	0	0	100	100	.	100	100	100	100	.
T	FORSMARK	skogsmus	0	100	.	0	.	100	100	0	.	.	100	100	100	.	100	100	.	100	100	.	.	100	0	0	0	.	.	100	.	0	0	.	.	.	0	100	0	0	.	.	.	100	.	100	0	0	100	100	.	100	100	100	0	.
T	FORSMARK	större skogsmus	0	100	.	0	.	100	100	0	.	.	100	100	0	.	100	100	.	0	100	.	.	100	0	0	0	.	.	100	.	0	0	.	.	.	0	0	0	0	.	.	.	100	.	0	0	0	100	100	.	100	100	100	0	.
T	FORSMARK	torv_0.33	0	100	.	100	.	100	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	100	.	.	.	0	.	100	100	0	100	100	.	100	100	100	100	.
T	FORSMARK	torv_1.13	0	100	.	100	.	100	100	.	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	100	.	.	.	0	.	100	100	0	100	100	.	100	100	100	100	.
T	FORSMARK	trädskikt	0	0	.	0	.	100	100	0	.	.	100	100	100	.	100	100	.	100	100	.	.	100	0	0	0	.	.	100	.	0	0	.	.	.	0	67	0	33	.	.	.	100	.	100	67	0	100	100	.	100	100	0	67	.
T	FORSMARK	vasstorv_1.53	0	100	.	100	.	100	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	FORSMARK	vattensork	0	100	.	0	.	100	100	0	.	.	100	100	0	.	100	43	.	0	100	.	.	100	0	0	0	.	.	100	.	0	0	.	.	.	86	0	0	0	.	.	.	100	.	100	43	0	100	100	.	100	100	100	100	.
T	FORSMARK	ved av gran	100	0	.	0	.	100	100	0	.	.	100	100	67	.	100	67	.	67	67	.	.	100	0	0	0	.	.	0	.	0	0	.	.	.	0	0	0	0	.	.	.	100	.	100	0	0	100	100	.	100	100	0	33	.
T	FORSMARK	våtmark; alggyttja_1.73	0	100	.	100	.	0	100	0	.	.	100	100	100	100	100	100	.	0	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	0	0	100	100	.	.	.	100	.	100	100	0	100	100	.	0	100	100	100	.
T	FORSMARK	våtmark; glaciallera_1.93	100	100	.	100	.	0	100	100	.	.	0	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	0	100	100	100	.
T	FORSMARK	våtmark; glaciallera_2.63	100	100	.	100	.	0	100	100	.	.	0	100	100	100	0	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	0	100	100	100	.
T	FORSMARK	våtmark; gyttja_0.66	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	.	100	100	.
T	FORSMARK	våtmark; sand_1.58	0	100	.	100	.	0	100	100	.	.	0	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	0	100	100	100	.
T	FORSMARK	våtmark;lerig gyttja_1.03	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	FORSMARK	våtmark;lerig gyttja_1.93	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	FORSMARK	älg	0	100	.	0	.	100	100	0	.	.	100	100	100	.	100	100	.	20	100	.	.	100	0	0	0	.	.	100	.	0	0	.	.	.	0	80	0	0	100	.	.	100	.	80	100	0	100	100	.	100	100	100	100	.
T	FORSMARK	ängssork	0	100	.	33	.	100	100	0	.	.	100	100	100	.	100	100	.	33	100	.	.	100	0	0	0	.	.	100	.	0	0	.	.	.	33	67	0	0	.	.	.	100	.	67	0	0	100	100	.	100	100	100	0	.
T	SIMPEVARP	blåbärsris	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
T	SIMPEVARP	bottenskikt	75	100	.	100	.	100	100	50	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	buskskikt	0	100	.	100	.	100	100	0	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	0	100	100	.	100	100	100	100	.
T	SIMPEVARP	Centrifugated soil_rego_Low_0.3	0	100	.	50	100	100	100	100	.	0	.	100	100	100	50	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	100	.	100	.	100	50	.	0	.	100	.	100	100	100	100	100	.	100	.	100	100	.
T	SIMPEVARP	Centrifugated soil_rego_Mid_0.3	50	100	.	100	100	100	100	100	.	25	.	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	100	.	100	.	100	100	.	50	.	100	.	100	100	100	100	100	.	100	.	100	100	.
T	SIMPEVARP	Centrifugated soil_rego_Up_0.3	33	100	.	100	100	100	100	100	.	0	.	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	100	.	67	.	100	100	.	0	.	100	.	100	100	100	100	100	.	100	.	100	100	.
T	SIMPEVARP	extraktion i ammoniumacetat_0	.	100	.	100	.	0	100	100	.	.	.	100	100	100	.	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	33	0	100	.	.	.	.	100	.	100	100	67	100	100	.	100	.	100	100	.
T	SIMPEVARP	extraktion i ammoniumacetat_0.1	.	100	.	100	.	0	100	.	.	.	.	100	100	100	.	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	.	.	.	.	100	.	100	100	100	100	100	.	100	.	100	100	.
T	SIMPEVARP	extraktion i ammoniumacetat_0.4	.	100	.	100	.	50	100	100	.	.	.	100	100	100	.	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	50	0	100	.	.	.	.	50	.	100	100	100	100	100	.	100	.	100	100	.
T	SIMPEVARP	extraktion i ammoniumacetat_0.55	.	100	.	0	.	0	100	.	.	.	.	100	100	100	.	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	.	.	.	.	100	.	100	100	100	100	100	.	.	.	100	100	.
T	SIMPEVARP	extraktion i ditionitcitrat_0	.	100	.	100	.	100	100	100	.	.	.	100	100	100	.	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	67	100	.	.	.	.	.	.	100	100	100	100	100	.	100	.	100	100	.
T	SIMPEVARP	extraktion i ditionitcitrat_0.1	.	100	.	100	.	100	100	100	.	.	.	100	100	100	.	100	.	100	.	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	.	.	.	.	.	.	100	100	100	100	100	.	100	.	100	100	.
T	SIMPEVARP	extraktion i ditionitcitrat_0.4	.	100	.	100	.	100	100	100	.	.	.	100	100	100	.	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	.	.	.	.	.	.	100	100	100	50	100	.	100	.	100	100	.
T	SIMPEVARP	extraktion i ditionitcitrat_0.55	.	100	.	100	.	100	100	100	.	.	.	0	100	100	.	100	.	100	.	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	.	.	.	.	.	.	100	100	100	0	100	.	100	.	100	100	.
T	SIMPEVARP	extraktion i kungsvatten_0	.	100	.	67	.	67	100	100	.	.	.	100	100	100	.	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	67	67	100	.	.	.	.	67	.	100	100	100	100	100	.	100	.	100	100	.
T	SIMPEVARP	extraktion i kungsvatten_0.1	.	100	.	100	.	0	100	100	.	.	.	100	100	100	.	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	.	.	.	.	100	.	100	100	100	100	100	.	100	.	100	100	.
T	SIMPEVARP	extraktion i kungsvatten_0.4	.	100	.	100	.	50	100	100	.	.	.	100	100	100	.	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	.	.	.	.	100	.	100	100	100	100	100	.	100	.	100	100	.
T	SIMPEVARP	extraktion i kungsvatten_0.55	.	100	.	100	.	100	100	100	.	.	.	100	100	100	.	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	.	.	.	.	100	.	100	100	100	100	100	.	100	.	100	100	.
T	SIMPEVARP	fallförna; eklöv_O1O-0	100	.	.	0	100	100	100	0	.	0	.	100	100	100	.	100	.	100	100	.	.	100	100	0	0	.	.	.	.	100	100	.	0	.	.	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	.	0	.
T	SIMPEVARP	fallförna; eklöv_O1O-2	100	.	.	100	100	100	100	0	.	100	.	100	100	100	.	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	100	.	100	100	100	.	.	0	.	100	.	100	100	0	100	100	.	100	.	.	100	.
T	SIMPEVARP	fallförna; eklöv_O1O-3	100	.	.	0	100	100	100	100	.	100	.	100	100	100	.	100	.	100	100	.	.	100	100	100	100	.	.	.	.	100	100	.	100	.	.	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	.	100	.
T	SIMPEVARP	fallförna; eklöv_O1O-4	100	.	.	0	100	100	100	100	.	100	.	100	100	100	.	100	.	100	100	.	.	100	100	0	100	.	.	.	.	100	100	.	100	.	.	100	100	.	.	0	.	100	.	100	100	0	100	100	.	100	.	.	100	.
T	SIMPEVARP	fallförna; eklöv_O1O-5	100	.	.	100	100	100	100	0	.	100	.	100	100	100	.	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	100	.	100	100	100	.	.	100	.	100	.	100	100	0	100	100	.	100	.	.	100	.
T	SIMPEVARP	fallförna; eklöv_O1O-6	100	.	.	100	100	100	100	0	.	100	.	100	100	100	.	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	100	.	.	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	.	100	.
T	SIMPEVARP	fallförna; granbarr_O3S-0	100	.	.	0	100	100	100	100	.	100	.	100	100	100	.	100	.	100	100	.	.	100	0	0	0	.	.	.	.	0	0	.	100	.	.	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	.	0	.
T	SIMPEVARP	fallförna; granbarr_O3S-2	100	.	.	0	100	100	100	100	.	100	.	100	100	100	.	100	.	100	100	.	.	100	100	0	0	.	.	.	.	100	0	.	100	.	.	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	.	100	.
T	SIMPEVARP	fallförna; granbarr_O3S-3	100	.	.	100	100	100	100	0	.	100	.	100	100	100	.	100	.	100	100	.	.	100	100	0	0	.	.	.	.	0	100	.	100	.	.	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	.	100	.
T	SIMPEVARP	fallförna; granbarr_O3S-4	100	.	.	0	100	100	100	100	.	0	.	100	100	100	.	100	.	100	100	.	.	100	100	0	0	.	.	.	.	0	0	.	100	.	.	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	.	0	.
T	SIMPEVARP	fallförna; granbarr_O3S-5	100	.	.	0	100	100	100	0	.	100	.	100	100	100	.	100	.	100	100	.	.	100	100	0	0	.	.	.	.	100	100	.	100	.	.	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	.	100	.
T	SIMPEVARP	fallförna; granbarr_O3S-6	100	.	.	0	100	100	100	0	.	100	.	100	100	100	.	100	.	100	100	.	.	100	100	100	0	.	.	.	.	0	100	.	100	.	.	100	100	.	.	0	.	100	.	100	100	0	100	100	.	100	.	.	100	.
T	SIMPEVARP	fallförna; tallbarr_O2P-0	100	.	.	100	100	100	100	100	.	0	.	100	100	100	.	100	.	100	100	.	.	100	0	0	0	.	.	.	.	100	0	.	100	.	.	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	.	100	.
T	SIMPEVARP	fallförna; tallbarr_O2P-2	100	.	.	100	100	100	100	0	.	0	.	100	100	100	.	100	.	100	100	.	.	100	0	0	0	.	.	.	.	0	100	.	100	.	.	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	.	100	.
T	SIMPEVARP	fallförna; tallbarr_O2P-3	100	.	.	0	100	100	100	0	.	0	.	100	100	100	.	100	.	100	100	.	.	100	0	0	0	.	.	.	.	0	0	.	100	.	.	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	.	100	.
T	SIMPEVARP	fallförna; tallbarr_O2P-4	100	.	.	0	100	100	100	100	.	0	.	100	100	100	.	100	.	100	100	.	.	100	0	0	0	.	.	.	.	0	100	.	100	.	.	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	.	100	.
T	SIMPEVARP	fallförna; tallbarr_O2P-5	100	.	.	100	100	100	100	0	.	100	.	100	100	100	.	100	.	100	100	.	.	100	100	0	0	.	.	.	.	0	0	.	100	.	.	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	.	100	.
T	SIMPEVARP	fallförna; tallbarr_O2P-6	100	.	.	100	100	100	100	0	.	100	.	100	100	100	.	100	.	100	100	.	.	100	0	0	0	.	.	.	.	100	0	.	100	.	.	100	0	.	.	0	.	100	.	100	100	0	100	100	.	100	.	.	100	.
T	SIMPEVARP	fältskikt	0	100	.	25	.	100	100	0	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	75	.	.	100	.	50	100	.	.	.	25	100	25	100	.	.	.	100	.	100	100	0	100	100	.	100	100	75	100	.
T	SIMPEVARP	humus	100	100	.	100	.	17	100	100	.	.	100	100	100	100	100	100	.	67	100	.	.	100	100	100	100	.	.	100	.	100	83	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	67	100	67	100	.
T	SIMPEVARP	jord 10 cm	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
T	SIMPEVARP	Jord_rego_Low_1	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Jord_rego_Low_1.2	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Jord_rego_Low_1.3	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Jord_rego_Low_1.4	100	100	.	100	.	50	100	100	.	.	100	100	100	100	50	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Jord_rego_Low_1.5	100	100	.	100	.	100	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Jord_rego_Low_1.8	100	100	.	100	.	0	100	100	.	.	0	100	100	100	0	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Jord_rego_Low_2.2	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Jord_rego_Low_2.3	100	100	.	100	.	100	100	100	.	.	0	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Jord_rego_Low_2.5	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Jord_rego_Low_3.2	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Jord_rego_Mid?_2	100	100	.	100	.	100	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Jord_rego_Mid_0.3	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Jord_rego_Mid_0.5	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Jord_rego_Mid_0.7	100	100	.	100	.	0	100	100	.	.	100	100	100	100	0	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Jord_rego_Mid_1	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Jord_rego_Mid_1.1	100	100	.	100	.	100	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	0	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Jord_rego_Mid_1.25	100	100	.	100	.	50	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Jord_rego_Mid_12	100	100	.	100	.	0	100	100	.	.	0	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Lergyttja/gyttjelera I	50	100	.	100	.	50	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	50	50	100	100	.	.	.	50	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Lergyttja/gyttjelera II	100	100	.	100	.	100	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Lergyttja/gyttjelera II_6	0	100	.	100	.	100	100	100	.	.	.	100	0	100	.	100	.	100	.	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	0	100	100	.	.	.	.	0	.	100	100	100	100	100	.	100	.	.	100	.
T	SIMPEVARP	mindre skogsmus	0	100	.	0	.	100	100	0	.	.	100	100	100	.	100	100	.	67	100	.	.	100	0	0	0	.	.	100	.	0	0	.	.	.	100	100	0	0	.	.	.	100	.	100	33	67	100	100	.	100	100	100	100	.
T	SIMPEVARP	mineral bulk	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	83	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	83	50	100	100	.	.	.	100	.	100	100	100	100	83	.	100	100	83	100	.
T	SIMPEVARP	mineral rhizo	83	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	83	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	83	67	100	100	.	.	.	100	.	100	100	100	100	83	.	100	100	100	100	.
T	SIMPEVARP	Morän II	100	100	.	100	.	0	100	100	.	.	0	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	0	100	100	.
T	SIMPEVARP	Morän II_12	0	100	.	0	.	100	100	100	.	.	.	100	100	100	.	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	0	100	100	.	.	.	.	0	.	100	100	100	0	100	.	100	.	.	100	.
T	SIMPEVARP	NGW	.	100	.	100	.	.	100	.	.	.	0	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	.	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	.	.
T	SIMPEVARP	näbbmus	0	100	.	0	.	100	100	0	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	0	.	.	100	.	0	100	.	.	.	100	100	0	0	.	.	.	100	.	100	0	0	100	100	.	100	100	100	100	.
T	SIMPEVARP	peat	50	100	.	100	.	50	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	100	.	.	.	50	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Pore water_0.3	0	100	.	100	0	.	100	56	.	0	100	89	100	100	100	100	.	100	67	.	.	100	100	100	100	.	.	78	.	89	100	.	89	.	100	0	100	47	.	0	.	100	.	100	56	100	100	100	.	89	.	100	67	.
T	SIMPEVARP	rådjur	0	100	.	0	.	100	100	0	.	.	100	100	100	.	100	100	.	0	100	.	.	100	0	0	0	.	.	100	.	0	0	.	.	.	0	100	0	0	.	.	.	100	.	100	33	0	100	100	.	100	100	100	100	.
T	SIMPEVARP	räv	0	100	.	0	.	100	.	0	.	.	100	100	100	.	100	100	.	33	100	.	.	100	100	0	0	.	.	100	.	0	67	.	.	.	33	100	0	0	.	.	.	100	.	100	0	0	100	100	.	100	100	100	100	.
T	SIMPEVARP	större skogsmus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
T	SIMPEVARP	Torv- eller våtmark_0.05	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Torv- eller våtmark_0.12	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	0	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Torv- eller våtmark_0.65	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Torv- eller våtmark_0.95	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Torv- eller våtmark_1.97	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Torv- eller våtmark_2	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	0	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Torv- eller våtmark_2.97	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Torv- eller våtmark_3.4	0	100	.	100	.	0	100	100	.	.	0	100	100	100	0	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Torv- eller våtmark_3.65	0	100	.	100	.	0	100	100	.	.	0	100	100	100	0	100	.	100	0	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Torv- eller våtmark_4	0	100	.	100	.	0	100	100	.	.	100	100	100	100	0	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Torv- eller våtmark_4.2	0	100	.	100	.	0	100	100	.	.	100	100	100	100	0	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Torv- eller våtmark_4.35	0	100	.	100	.	0	100	100	.	.	100	100	100	100	0	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Torv- eller våtmark_4.6	0	100	.	100	.	0	100	100	.	.	0	100	100	100	0	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	0	100	100	100	.
T	SIMPEVARP	Torv- eller våtmark_4.64	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	Torv- eller våtmark_4.66	0	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	0	100	100	100	.
T	SIMPEVARP	Torv- eller våtmark_4.7	100	100	.	100	.	0	100	100	.	.	0	100	100	100	0	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	0	100	100	100	.
T	SIMPEVARP	Torv- eller våtmark_4.97	100	100	.	100	.	0	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	100	100	100	.	0	100	100	100	.
T	SIMPEVARP	trädrot humus	100	100	.	100	.	100	100	67	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	100	.	.	.	100	.	100	67	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	trädrot mineraljord	100	100	.	100	.	100	100	75	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	75	100	100	.	.	.	100	.	100	50	100	100	100	.	100	100	100	100	.
T	SIMPEVARP	trädskikt	0	100	.	25	.	100	100	0	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	25	100	.	.	.	75	100	75	100	100	.	.	100	.	100	100	0	100	100	.	100	100	100	100	.
T	SIMPEVARP	ved av al	0	100	.	0	.	100	100	0	.	.	100	100	100	100	100	100	.	0	100	.	.	100	100	100	0	.	.	100	.	0	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	0	100	100	.	100	100	100	100	.
T	SIMPEVARP	ved av ek	0	100	.	0	.	100	100	0	.	.	100	100	100	100	100	100	.	0	100	.	.	100	100	100	0	.	.	100	.	0	100	.	.	.	100	0	100	0	.	.	.	100	.	100	100	0	100	100	.	100	100	100	100	.
T	SIMPEVARP	ved av gran	100	100	.	100	.	100	100	0	.	.	100	100	100	.	100	100	.	0	100	.	.	100	100	0	0	.	.	100	.	0	100	.	.	.	100	100	0	0	.	.	.	100	.	100	0	0	100	100	.	100	100	0	100	.
T	SIMPEVARP	älg	0	100	.	0	.	100	100	0	.	.	100	100	100	.	100	100	.	0	100	.	.	100	0	0	0	.	.	100	.	0	0	.	.	.	33	100	0	0	100	.	.	100	.	100	67	0	100	100	.	100	100	100	100	.
T	SIMPEVARP	ängssork skog	0	100	.	0	.	33	100	0	.	.	100	100	100	.	100	100	.	100	100	.	.	100	67	33	33	.	.	100	.	0	67	.	.	.	100	100	33	0	.	.	.	100	.	100	67	33	100	100	.	100	100	100	100	.
T	SIMPEVARP	ängssork äng	0	100	.	0	.	100	100	0	.	.	100	100	50	.	100	100	.	50	100	.	.	100	50	0	0	.	.	100	.	0	100	.	.	.	100	50	0	0	.	.	.	100	.	100	50	50	100	100	.	100	100	100	100	.
T	SIMPEVARP	övr rot humus	100	100	.	100	.	100	100	100	.	.	100	100	100	100	100	100	.	100	100	.	.	100	100	100	100	.	.	100	.	100	100	.	.	.	100	100	100	100	.	.	.	100	.	100	100	100	100	100	.	100	100	100	100	.

Ekosystem	SITE	sample_name_Sicada	Nd	Ni	Os	P	Pb	Pd	Pr	Pt	^{238}PU	^{238,239,240}PU	^{239}PU	^{239,240}Pu	^{240}Pu	^{242}PU	^{226}Ra	Rb	Re	Rh	Ru	S	Sb	^{124}Sb	Sc	Se	Si	Sm	Sn	^{133}Sn	Sr	^{90}Sr	Ta	Tb	^{99}TC	Te	Th	^{229}Th	^{230}Th	^{232}Th	Ti	Tl	Tm	U	^{233}U	^{234}U	^{235}U	^{236}U	^{238}U	V	W	Y	Yb	Zn	Zr	
L	FORSMARK	algmatta, sjö	.	.	.	.	.	.	.	.	100	100	100	100	100	0	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	100	100	.	.	.	.	0	100	100	0	100	.	.	.	.	.	.	.
L	FORSMARK	algmatta, sjö_0	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	.
L	FORSMARK	dammussla	100	100	.	100	100	.	100	.	0	.	100	100	100	0	100	100	.	.	.	100	100	.	100	100	100	100	100	.	100	.	100	100	.	.	100	0	100	100	100	100	100	100	0	100	100	0	100	100	100	100	100	100	100	.
L	FORSMARK	filtered sediment_0	100	100	0	100	100	0	100	33	.	.	.	.	.	.	.	100	0	0	0	100	100	.	100	100	100	100	100	.	100	.	100	100	.	100	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	.
L	FORSMARK	filtered sediment_25	100	100	0	100	100	0	100	67	.	.	.	.	.	.	.	100	0	0	0	100	100	.	100	100	100	100	100	.	100	.	100	100	.	100	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	.
L	FORSMARK	filtered water_0.5	100	100	0	100	100	0	100	25	.	.	.	.	.	.	.	100	100	0	0	100	100	.	100	100	100	100	0	.	100	.	0	100	.	50	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	.
L	FORSMARK	gädda	0	0	.	100	0	.	0	.	0	.	0	0	0	0	100	100	.	.	.	100	0	.	100	100	100	0	0	.	100	.	100	25	.	.	0	0	0	100	100	25	0	100	0	100	100	0	100	0	0	0	0	100	0	.
L	FORSMARK	gärs	0	0	.	100	0	.	0	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	0	100	100	0	0	.	100	.	0	0	.	.	0	.	.	.	100	0	0	0	.	.	.	.	.	0	0	0	0	100	0	.
L	FORSMARK	kransalger, sjö	100	100	.	100	100	.	100	.	100	100	100	100	100	0	100	100	.	.	.	100	75	.	100	75	100	100	100	.	100	.	100	100	.	.	100	0	100	100	100	100	100	100	0	100	100	0	100	100	100	100	100	100	100	.
L	FORSMARK	Lake	100	100	.	100	100	.	100	.	.	.	.	.	.	.	0	100	.	.	.	100	100	.	0	.	100	100	.	.	100	.	.	0	.	.	0	.	.	.	.	0	0	100	.	.	.	.	.	100	.	100	100	100	100	.
L	FORSMARK	mört	0	0	.	100	0	.	0	.	0	.	0	0	0	0	100	100	.	.	.	100	50	.	0	100	100	0	0	.	100	.	0	0	.	.	0	0	0	100	100	0	0	50	0	100	100	0	100	0	0	50	0	100	50	.
L	FORSMARK	Porewater_0	100	100	0	100	100	0	100	100	.	.	.	.	.	.	.	100	100	0	0	100	100	.	100	100	100	100	100	.	100	.	100	100	.	67	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	.
L	FORSMARK	Porewater_25	100	100	0	100	100	0	100	100	.	.	.	.	.	.	.	100	100	0	0	100	100	.	100	100	100	100	100	.	100	.	100	100	.	100	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	.
L	FORSMARK	Sediment 0-5 cm	.	.	.	.	.	.	.	.	100	100	100	100	100	0	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	100	100	.	.	.	.	0	100	100	0	100	.	.	.	.	.	.	.
L	FORSMARK	sjösed, alggyttja_2.53	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	.
L	FORSMARK	sjösed, alggyttja_3.1	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	.
L	FORSMARK	sjösed, kalkgyttja_2.64	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	0	.	.	100	.	.	.	100	100	0	100	.	.	.	.	.	100	100	100	100	100	100	.
L	FORSMARK	sjösed, lergyttja_3.56	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	.
L	FORSMARK	sjösediment; lera_3.87	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	.
L	FORSMARK	sjösediment; lera_4.02	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	.
L	FORSMARK	sjösediment; lera_4.2	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	.
L	FORSMARK	sjösediment_0	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	.
L	FORSMARK	sjösediment_0.2	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	.
L	FORSMARK	Stream	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	0	.	100	100	.	.	100	.	.	0	.	.	0	.	.	.	.	0	0	100	.	.	.	.	.	100	.	100	100	100	100	.
L	FORSMARK	suspenderat material_0.5	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	100	.	.	100	100	.	100	100	100	100	75	.	100	.	0	100	.	100	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	.
L	FORSMARK	sutare	0	0	.	100	0	.	0	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	100	100	0	0	.	100	.	100	0	.	.	0	.	.	.	100	0	0	100	.	.	.	.	.	11	0	11	0	100	0	.
L	FORSMARK	Vass	.	.	.	.	.	.	.	.	0	.	0	100	0	0	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	100	100	.	.	.	.	0	100	100	0	100	.	.	.	.	.	.	.
L	SIMPEVARP	abborre	100	0	.	100	0	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	100	100	33	0	.	100	.	100	33	.	.	0	.	.	.	100	67	33	33	.	.	.	.	.	0	100	100	33	100	0	.
L	SIMPEVARP	abborre piscivor	.	.	.	.	.	.	.	.	0	.	0	100	0	0	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	100	100	.	.	.	.	0	100	100	0	100	.	.	.	.	.	.	.
L	SIMPEVARP	abborre planktivor	.	.	.	.	.	.	.	.	0	.	0	0	0	0	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	100	100	.	.	.	.	0	100	100	0	100	.	.	.	.	.	.	.
L	SIMPEVARP	dammussla	100	100	.	100	100	.	100	.	0	.	100	100	100	0	100	100	.	.	.	100	100	.	100	100	100	100	100	.	100	.	100	100	.	.	100	0	100	100	100	0	100	100	0	100	100	0	100	100	100	100	100	100	100	.
L	SIMPEVARP	filtered sediment_0	100	100	0	100	100	0	100	100	.	.	.	.	.	.	.	100	0	0	0	100	100	.	100	100	100	100	100	.	100	.	100	100	.	100	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	.
L	SIMPEVARP	filtered sediment_15	100	100	0	100	100	0	100	100	.	.	.	.	.	.	.	100	0	0	0	100	100	.	100	100	100	100	100	.	100	.	100	100	.	100	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	.
L	SIMPEVARP	filtered sediment_20	100	100	0	100	100	0	100	100	.	.	.	.	.	.	.	100	0	0	0	100	100	.	100	100	100	100	100	.	100	.	100	100	.	100	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	.
L	SIMPEVARP	filtered water	100	100	0	100	100	0	100	100	.	.	.	.	.	.	.	100	100	0	0	100	100	.	100	100	100	100	0	.	100	.	67	100	.	0	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
L	SIMPEVARP	gyttja	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
L	SIMPEVARP	gyttja_0.9	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	.	100	.	100	100	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	.	100	100	.	.	.	.	.	100	100	100	100	100	100	
L	SIMPEVARP	Lake	100	100	.	100	100	.	100	.	.	.	.	.	.	.	0	100	.	.	.	100	100	.	100	.	100	100	.	.	100	.	.	100	.	.	100	.	.	.	.	100	100	100	.	.	.	.	.	100	.	100	100	100	100	
L	SIMPEVARP	Lera	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
L	SIMPEVARP	Lera_5.3	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	.	100	.	100	.	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	.	100	100	.	.	.	.	.	100	100	100	100	100	100	
L	SIMPEVARP	Morän I	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
L	SIMPEVARP	mört	100	33	.	100	0	.	0	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	100	100	0	0	.	100	.	33	0	.	.	0	.	.	.	100	0	0	100	.	.	.	.	.	100	100	100	0	100	100	
L	SIMPEVARP	Näckros	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
L	SIMPEVARP	näckros blad	.	.	.	.	.	.	.	.	0	.	100	100	100	0	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	100	100	.	.	.	.	0	100	100	0	100	.	.	.	.	.	.	
L	SIMPEVARP	Näckros rot	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
L	SIMPEVARP	Porewater_0	100	100	0	100	100	0	100	50	.	.	.	.	.	.	.	100	100	0	0	100	100	.	100	100	100	100	100	.	100	.	50	100	.	50	100	.	.	.	100	50	100	100	.	.	.	.	.	100	100	100	100	100	100	
L	SIMPEVARP	Porewater_15	100	100	0	100	100	0	100	100	.	.	.	.	.	.	.	100	100	0	0	100	100	.	100	100	100	100	100	.	100	.	100	100	.	100	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
L	SIMPEVARP	Porewater_20	100	100	0	100	100	0	100	0	.	.	.	.	.	.	.	100	100	0	0	100	100	.	100	0	100	100	100	.	100	.	0	100	.	100	100	.	.	.	100	0	100	100	.	.	.	.	.	100	100	100	100	100	100	
L	SIMPEVARP	Sand I	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
L	SIMPEVARP	Sand I_3	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	.	100	.	100	.	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100	
L	SIMPEVARP	Sediment 0-5 cm	.	.	.	.	.	.	.	.	100	100	100	100	100	0	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	100	100	.	.	.	.	0	100	100	0	100	.	.	.	.	.	.	
L	SIMPEVARP	sjösediment_0	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	0	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100	
L	SIMPEVARP	Sjösediment_0.02	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	0	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100	
L	SIMPEVARP	Sjösediment_0.04	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100	
L	SIMPEVARP	Sjösediment_0.06	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100	
L	SIMPEVARP	Sjösediment_0.08	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100	
L	SIMPEVARP	Sjösediment_0.25	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	0	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100	
L	SIMPEVARP	Sjösediment_0.48	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	0	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100	
L	SIMPEVARP	Sjösediment_0.98	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100	
L	SIMPEVARP	Sjösediment_1.97	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	0	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100	
L	SIMPEVARP	Sjösediment_2.97	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	0	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100	
L	SIMPEVARP	Sjösediment_3.97	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	0	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100	
L	SIMPEVARP	Sjösediment_4.37	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	0	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100	
L	SIMPEVARP	Stream	100	100	.	100	100	.	100	.	.	.	.	.	.	.	100	100	.	.	.	100	100	.	100	.	100	100	.	.	100	.	.	100	.	.	100	.	.	.	.	100	100	100	.	.	.	.	.	100	.	100	100	100	100	
L	SIMPEVARP	suspenderat material_0	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	67	.	.	100	100	.	100	100	100	100	100	.	100	.	100	100	.	100	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
L	SIMPEVARP	Vass	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	67	100	100	100	.	100	.	67	100	.	.	100	.	.	.	100	0	100	100	.	.	.	.	.	100	67	100	100	100	100	
L	SIMPEVARP	vass ovanveg	.	.	.	.	.	.	.	.	0	.	0	100	0	0	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	100	100	.	.	.	.	0	100	100	0	100	.	.	.	.	.	.	
L	SIMPEVARP	Vass rhizom	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	67	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	67	100	100	.	.	.	.	.	100	100	100	100	100	100	
M	FORSMARK	Betare Hyd	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
M	FORSMARK	Cerastoderma glaucum	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	.	.	.	100	100	100	.	.	.	.	.	100	.	.	100	.	.	.	100	.	100	.	.	.	.	.	.	100	.	.	100	100	100	
M	FORSMARK	filtered sediment_0	100	100	0	100	100	0	100	100	.	.	.	.	.	.	.	100	0	0	0	100	100	.	100	100	100	100	100	.	100	.	100	100	.	100	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
M	FORSMARK	filtered sediment_20	100	100	0	100	100	0	100	100	.	.	.	.	.	.	.	100	0	0	0	100	100	.	100	100	100	100	100	.	100	.	100	100	.	100	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
M	FORSMARK	filtered water_0.5	100	100	0	100	100	0	100	100	.	.	.	.	.	.	.	100	100	0	0	100	100	.	100	100	100	100	0	.	100	.	0	100	.	100	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
M	FORSMARK	filtered water_Tix	100	100	.	100	100	.	0	.	.	.	.	.	.	.	.	100	.	.	.	100	.	.	.	33	100	0	.	.	.	.	.	0	.	.	0	.	.	.	100	.	0	.	.	.	.	.	.	100	.	.	0	100	0	
M	FORSMARK	fine sand and mud	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
M	FORSMARK	Fucus	.	.	.	.	.	.	.	.	100	100	0	100	0	0	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	0	100	100	.	.	.	.	0	100	100	0	100	.	.	.	.	.	.	
M	FORSMARK	Fucus vesiculosus	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	.	100	.	100	100	100	.	.	.	.	.	100	.	.	100	.	.	.	100	.	100	.	.	.	.	.	.	100	.	.	100	100	100	
M	FORSMARK	gravel	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
M	FORSMARK	gärs	0	100	.	100	100	.	0	.	.	.	.	.	.	.	.	100	.	.	.	100	.	.	.	100	100	0	.	.	.	.	.	0	.	.	33	.	.	.	100	.	0	.	.	.	.	.	.	100	.	.	0	100	100	
M	FORSMARK	havssed; lera_2.34	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
M	FORSMARK	havssed; lera_2.6	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
M	FORSMARK	havssed; lera_2.8	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
M	FORSMARK	havssed; sand/grus_2.24	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
M	FORSMARK	havssediment_0.14	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
M	FORSMARK	havssediment_0.28	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
M	FORSMARK	havssediment_2.09	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
M	FORSMARK	Idothea spp	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	.	.	.	100	100	100	.	.	.	.	.	100	.	.	100	.	.	.	100	.	50	.	.	.	.	.	.	100	.	.	100	100	100	
M	FORSMARK	Macoma baltica	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	.	.	.	100	100	100	.	.	.	100	.	100	.	.	100	.	.	.	100	.	100	.	.	.	.	.	.	100	.	.	100	100	100	
M	FORSMARK	Mikrofyter MIK1	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	.	.	.	100	100	100	.	.	.	.	.	100	.	.	100	.	.	.	100	.	100	.	.	.	.	.	.	100	.	.	100	100	100	
M	FORSMARK	Mikrofyter MIK2	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	.	.	.	100	100	100	.	.	.	.	.	100	.	.	100	.	.	.	100	.	100	.	.	.	.	.	.	100	.	.	100	100	100	
M	FORSMARK	Mytilus edulis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
M	FORSMARK	mört	0	100	.	100	100	.	0	.	0	.	0	0	0	0	100	100	.	.	.	100	.	.	.	100	100	0	.	.	.	.	.	0	.	.	0	0	0	100	100	.	0	.	0	100	100	0	100	100	.	.	0	100	100	
M	FORSMARK	Nors	0	100	.	100	100	.	0	.	0	.	0	0	0	0	100	100	.	.	.	100	.	.	.	100	100	0	.	.	.	.	.	0	.	.	0	0	0	100	100	.	0	.	0	100	100	0	100	100	.	.	0	100	100	
M	FORSMARK	Pilayella littoralis	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	.	.	.	33	100	100	.	.	.	.	.	100	.	.	100	.	.	.	100	.	33	.	.	.	.	.	.	100	.	.	100	100	100	
M	FORSMARK	Porewater_0	100	100	0	100	100	0	100	100	.	.	.	.	.	.	.	100	100	0	0	100	100	.	100	100	100	100	100	.	100	.	100	100	.	100	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
M	FORSMARK	Porewater_20	100	100	0	100	100	0	100	100	.	.	.	.	.	.	.	100	100	0	0	100	100	.	100	100	100	100	100	.	100	.	100	100	.	100	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
M	FORSMARK	Porewater_Tix_0	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	.	.	.	100	100	100	.	.	.	.	.	0	.	.	0	.	.	.	100	.	0	.	.	.	.	.	.	100	.	.	100	100	33	
M	FORSMARK	Porewater_Tix_3	0	100	.	100	100	.	0	.	.	.	.	.	.	.	.	100	.	.	.	100	.	.	.	100	100	0	.	.	.	.	.	0	.	.	0	.	.	.	100	.	0	.	.	.	.	.	.	100	.	.	0	100	0	
M	FORSMARK	Potamogeton	.	.	.	.	.	.	.	.	0	.	0	100	0	0	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	100	100	.	.	.	.	0	100	100	0	100	.	.	.	.	.	.	
M	FORSMARK	Potamogeton pectinatus	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	.	.	.	100	100	100	.	.	.	.	.	100	.	.	100	.	.	.	100	.	100	.	.	.	.	.	.	100	.	.	100	100	100	
M	FORSMARK	pure mud	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
M	FORSMARK	Sea	100	100	.	100	0	.	0	.	.	.	.	.	.	.	0	100	.	.	.	100	100	.	0	.	100	0	.	.	100	.	.	0	.	.	0	.	.	.	.	0	0	100	.	.	.	.	.	100	.	100	0	100	0	
M	FORSMARK	Sea water	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
M	FORSMARK	Sediment 0-3 cm	.	.	.	.	.	.	.	.	0	.	100	100	100	0	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	.	.	0	100	100	.	.	.	.	0	100	100	0	100	.	.	.	.	.	.	
M	FORSMARK	Sediment 0-3 cm_0	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	.	.	.	100	100	100	.	.	.	.	.	100	.	.	100	.	.	.	100	.	100	.	.	.	.	.	.	100	.	.	100	100	100	
M	FORSMARK	Sediment 3-6 cm_3	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	.	.	.	100	100	100	.	.	.	.	.	100	.	.	100	.	.	.	100	.	100	.	.	.	.	.	.	100	.	.	100	100	100	
M	FORSMARK	soft clay	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
M	FORSMARK	soft mud	.	.	.	.	.	.	.	.	100	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
M	FORSMARK	suspended matter	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	.	.	.	0	100	100	.	.	.	.	.	100	.	.	100	.	.	.	100	.	100	.	.	.	.	.	.	100	.	.	100	100	100	
M	FORSMARK	suspenderat material_0.5	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	100	.	.	100	100	.	100	100	100	100	100	.	100	.	50	100	.	100	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
M	FORSMARK	Theodoxus fluviatilis	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	.	.	.	100	100	100	.	.	.	.	.	100	.	.	100	.	.	.	100	.	100	.	.	.	.	.	.	100	.	.	100	100	100	
M	FORSMARK	Växtplankton	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	.	.	.	100	100	100	.	.	.	.	.	0	.	.	100	.	.	.	100	.	0	.	.	.	.	.	.	100	.	.	100	100	100	
M	FORSMARK	Zooplankton ZP	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	.	.	.	100	100	100	.	.	.	.	.	100	.	.	100	.	.	.	100	.	100	.	.	.	.	.	.	100	.	.	100	100	100	
M	SIMPEVARP	abborre	33	0	.	100	0	.	0	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	100	100	0	100	.	100	.	33	0	.	.	100	.	.	.	100	0	0	0	.	.	.	.	.	0	100	0	0	100	100	
M	SIMPEVARP	abborre piscivor	.	.	.	.	.	.	.	.	0	.	0	100	0	0	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	100	100	.	.	.	.	0	100	100	0	100	.	.	.	.	.	.	
M	SIMPEVARP	Blåmussla	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	0	100	100	.	.	.	.	.	100	100	100	100	100	100	
M	SIMPEVARP	blåmussla muskel	.	.	.	.	.	.	.	.	0	.	0	100	0	0	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	0	100	100	.	.	.	.	0	100	100	0	100	.	.	.	.	.	.	
M	SIMPEVARP	Blåmussla skal	100	100	.	100	100	.	100	.	0	.	0	100	0	0	100	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	0	100	100	.	0	0	100	100	100	0	100	100	0	100	100	0	100	100	0	100	100	100	100	
M	SIMPEVARP	Blåstång	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	100	.	100	.	100	100	.	.	67	.	.	.	100	0	100	100	.	.	.	.	.	100	100	100	100	100	100	
M	SIMPEVARP	braxen	50	50	.	100	0	.	0	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	50	100	100	0	100	.	100	.	100	0	.	.	0	.	.	.	100	0	0	100	.	.	.	.	.	0	100	100	0	100	0	
M	SIMPEVARP	Clupea harengus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
M	SIMPEVARP	filtered sediment_0	100	100	0	100	100	0	100	50	.	.	.	.	.	.	.	100	0	0	0	100	100	.	100	100	100	100	100	.	100	.	100	100	.	100	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
M	SIMPEVARP	filtered sediment_25	100	100	0	100	100	0	100	50	.	.	.	.	.	.	.	100	0	0	0	100	100	.	100	100	100	100	100	.	100	.	100	100	.	100	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
M	SIMPEVARP	filtered water	100	100	0	100	100	0	100	100	.	.	.	.	.	.	.	100	100	0	0	100	100	.	100	100	100	100	100	.	100	.	0	100	.	100	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100	
M	SIMPEVARP	flundra	33	33	.	100	33	.	0	.	.	.	.	.	.	.	.	100	.	.	.	100	33	.	100	100	100	0	0	.	100	.	67	0	.	.	0	.	.	.	100	0	0	100	.	.	.	.	.	33	100	67	0	100	33	
M	SIMPEVARP	Fucus	.	.	.	.	.	.	.	.	0	.	100	100	100	0	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	0	100	100	.	.	.	.	0	100	100	0	100	.	.	.	.	.	.	
M	SIMPEVARP	Fucus vesiculosus	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
M	SIMPEVARP	Gadus morhua	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	

Ekosystem	SITE	sample_name_Sicada	Nd	Ni	Os	P	Pb	Pd	Pr	Pt	^{238}PU	^{238,239,240}PU	^{239}PU	^{239,240}Pu	^{240}Pu	^{242}PU	^{226}Ra	Rb	Re	Rh	Ru	S	Sb	^{124}Sb	Sc	Se	Si	Sm	Sn	^{133}Sn	Sr	^{90}Sr	Ta	Tb	^{99}TC	Te	Th	^{229}Th	^{230}Th	^{232}Th	Ti	Tl	Tm	U	^{233}U	^{234}U	^{235}U	^{236}U	^{238}U	V	W	Y	Yb	Zn	Zr
M	SIMPEVARP	gravel	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	Havssediment_0	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	0	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100
M	SIMPEVARP	Havssediment_0.02	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100
M	SIMPEVARP	Havssediment_0.04	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100
M	SIMPEVARP	Havssediment_0.06	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100
M	SIMPEVARP	Havssediment_0.08	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100
M	SIMPEVARP	Havssediment_0.97	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100
M	SIMPEVARP	Havssediment_1.97	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100
M	SIMPEVARP	Havssediment_2.97	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100
M	SIMPEVARP	Havssediment_3.97	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100
M	SIMPEVARP	Havssediment_4.8	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100
M	SIMPEVARP	Havssediment_4.97	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100
M	SIMPEVARP	Kransalg	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
M	SIMPEVARP	kransalger, sjö	.	.	.	.	.	.	.	.	100	100	100	100	100	0	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	100	100	.	.	.	.	0	100	100	0	100	.	.	.	.	.	.
M	SIMPEVARP	löja	100	0	.	100	0	.	33	.	0	.	0	100	0	0	100	100	.	.	.	100	0	.	67	100	100	33	33	.	100	.	100	0	.	.	0	0	100	100	100	0	0	100	0	100	100	0	100	33	67	33	0	100	33
M	SIMPEVARP	Macoma Baltica	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	mud	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	mud and fine sand	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	Mytilus edulis	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	Nate	100	100	.	100	100	.	100	.	100	100	100	100	100	0	100	100	.	.	.	100	100	.	100	100	100	100	100	.	100	.	100	100	.	.	100	0	100	100	100	100	100	100	0	100	100	0	100	100	100	100	100	100	100
M	SIMPEVARP	Porewater_0	100	100	0	100	100	0	100	0	.	.	.	.	.	.	.	100	100	0	0	100	100	.	100	100	100	100	100	.	100	.	100	100	.	100	100	.	.	.	100	0	100	100	.	.	.	.	.	100	100	100	100	100	100
M	SIMPEVARP	Porewater_25	100	100	0	100	100	0	100	0	.	.	.	.	.	.	.	100	100	0	0	100	100	.	100	100	100	100	100	.	100	.	100	100	.	100	100	.	.	.	100	0	100	100	.	.	.	.	.	100	100	100	100	100	100
M	SIMPEVARP	pure mud	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	sand	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	Sea	100	100	.	100	0	.	0	.	.	.	.	.	.	.	100	100	.	.	.	100	100	.	0	.	100	0	.	.	100	.	.	0	.	.	0	.	.	.	.	0	0	100	.	.	.	.	.	100	.	100	0	100	100
M	SIMPEVARP	Sea water	.	.	.	.	.	.	.	.	0	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	Sediment 0-5 cm	.	.	.	.	.	.	.	.	100	100	100	100	100	0	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	0	100	100	.	.	.	.	0	100	100	0	100	.	.	.	.	.	.
M	SIMPEVARP	soft mud	.	.	.	.	.	.	.	.	100	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	strömming	0	0	.	100	0	.	0	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	100	100	0	100	.	100	.	100	0	.	.	0	.	.	.	67	0	0	100	.	.	.	.	.	0	100	33	0	100	0
M	SIMPEVARP	sulphidic mud	.	.	.	.	.	.	.	.	0	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
M	SIMPEVARP	suspenderat material_0	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	100	.	.	100	100	.	100	100	100	100	100	.	100	.	67	100	.	100	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
M	SIMPEVARP	Trådf.grönalg	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	67	.	100	.	67	100	.	.	100	.	.	.	100	33	100	100	.	.	.	.	.	100	100	100	100	100	100
T	FORSMARK	blåbärsris	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	0	.	.	0	.	.	.	0	0	0	100	.	.	.	.	.	100	0	100	100	100	100
T	FORSMARK	bottenskikt	100	100	.	100	100	.	100	.	100	100	100	100	100	0	100	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	0	100	100	100	100	100	100	0	100	100	0	100	100	100	100	100	100	100
T	FORSMARK	bulkjord,min.j.sk._0	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	FORSMARK	bulkjord,min.j.sk._0.1	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	FORSMARK	buskskikt	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	0	100	100	0	.	100	.	100	0	.	.	0	.	.	.	0	0	0	100	.	.	.	.	.	100	0	100	0	100	100
T	FORSMARK	Centrifugated soil_rego_Low_0.3	100	100	.	.	100	.	100	.	.	.	.	.	.	.	.	100	50	.	.	.	100	.	100	100	.	100	100	.	100	.	0	100	.	0	100	.	.	.	.	100	100	100	.	.	.	.	.	100	0	100	100	100	100
T	FORSMARK	Centrifugated soil_rego_Up_0.3	100	100	.	.	100	.	100	.	.	.	.	.	.	.	.	100	50	.	.	.	100	.	50	50	.	100	100	.	100	.	0	0	.	0	100	.	.	.	.	100	0	100	.	.	.	.	.	100	100	100	50	100	100
T	FORSMARK	fallförna, allöv_F2A-0	0	100	.	100	100	0	0	100	.	.	.	.	.	.	.	100	0	.	.	100	0	.	100	100	.	0	100	.	100	.	100	0	.	100	0	.	.	.	100	0	0	100	.	.	.	.	.	100	0	100	0	100	100
T	FORSMARK	fallförna, allöv_F2A-1	100	100	.	100	100	0	0	0	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	100	100	.	100	.	0	0	.	0	100	.	.	.	100	0	0	100	.	.	.	.	.	0	0	100	100	100	100
T	FORSMARK	fallförna, allöv_F2A-2	100	100	.	100	100	100	100	0	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	100	100	.	100	.	100	100	.	0	100	.	.	.	100	0	0	100	.	.	.	.	.	100	0	100	100	100	100
T	FORSMARK	fallförna, allöv_F2A-3	100	100	.	100	100	0	100	100	.	.	.	.	.	.	.	100	100	.	.	100	100	.	100	100	.	100	100	.	100	.	100	0	.	0	100	.	.	.	100	0	0	100	.	.	.	.	.	100	0	100	100	100	100
T	FORSMARK	fallförna, allöv_F2A-4	100	100	.	100	100	0	100	100	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	100	100	.	100	.	100	100	.	0	100	.	.	.	100	100	100	100	.	.	.	.	.	0	0	100	100	100	100
T	FORSMARK	fallförna, allöv_F2A-5	100	100	.	100	100	100	100	0	.	.	.	.	.	.	.	100	100	.	.	100	100	.	100	100	.	100	100	.	100	.	100	100	.	0	100	.	.	.	100	100	100	100	.	.	.	.	.	0	0	100	100	100	100
T	FORSMARK	fallförna, allöv_F2A-6	100	100	.	100	100	0	100	100	.	.	.	.	.	.	.	100	100	.	.	100	100	.	100	100	.	100	100	.	100	.	100	100	.	100	100	.	.	.	100	100	0	100	.	.	.	.	.	100	0	100	100	100	100
T	FORSMARK	fallförna, granbarr_F1S-0	0	0	.	100	100	100	0	0	.	.	.	.	.	.	.	100	100	.	.	100	0	.	100	100	.	0	0	.	100	.	0	0	.	0	0	.	.	.	100	100	0	0	.	.	.	.	.	0	0	100	0	100	100
T	FORSMARK	fallförna, granbarr_F1S-1	100	0	.	100	100	0	0	100	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	0	100	.	100	.	100	0	.	100	0	.	.	.	100	100	0	0	.	.	.	.	.	0	0	100	0	100	100
T	FORSMARK	fallförna, granbarr_F1S-2	100	0	.	100	100	0	0	100	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	0	100	.	100	.	0	0	.	0	0	.	.	.	100	100	0	0	.	.	.	.	.	0	0	100	100	100	100
T	FORSMARK	fallförna, granbarr_F1S-3	100	100	.	100	100	100	100	0	.	.	.	.	.	.	.	100	0	.	.	0	100	.	100	100	.	0	100	.	100	.	0	100	.	0	100	.	.	.	100	100	0	0	.	.	.	.	.	100	0	100	0	100	100
T	FORSMARK	fallförna, granbarr_F1S-4	100	100	.	100	100	0	100	100	.	.	.	.	.	.	.	100	100	.	.	100	100	.	100	100	.	100	100	.	100	.	0	100	.	0	100	.	.	.	100	100	0	100	.	.	.	.	.	100	0	100	100	100	100
T	FORSMARK	fallförna, granbarr_F1S-5	100	100	.	100	100	0	100	100	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	100	100	.	100	.	100	0	.	100	100	.	.	.	100	100	0	100	.	.	.	.	.	0	0	100	100	100	100
T	FORSMARK	fallförna, granbarr_F1S-6	100	100	.	100	100	100	100	0	.	.	.	.	.	.	.	100	0	.	.	0	100	.	100	100	.	100	100	.	100	.	100	100	.	0	100	.	.	.	100	100	0	100	.	.	.	.	.	0	0	100	100	100	100
T	FORSMARK	fallförna, granbarr_F2S-0	100	100	.	100	100	100	0	0	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	0	0	.	100	.	0	0	.	0	0	.	.	.	100	100	0	0	.	.	.	.	.	100	0	100	0	100	100
T	FORSMARK	fallförna, granbarr_F2S-1	0	0	.	100	100	0	0	0	.	.	.	.	.	.	.	100	100	.	.	100	100	.	100	100	.	0	100	.	100	.	0	0	.	0	0	.	.	.	100	0	0	0	.	.	.	.	.	100	0	100	0	100	100
T	FORSMARK	fallförna, granbarr_F2S-2	100	100	.	100	100	100	0	100	.	.	.	.	.	.	.	100	100	.	.	100	100	.	100	100	.	100	100	.	100	.	0	100	.	100	0	.	.	.	100	100	0	100	.	.	.	.	.	0	0	100	0	100	100
T	FORSMARK	fallförna, granbarr_F2S-3	100	100	.	100	100	0	0	100	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	0	100	.	100	.	0	0	.	100	100	.	.	.	100	0	0	100	.	.	.	.	.	100	0	100	0	100	100
T	FORSMARK	fallförna, granbarr_F2S-4	100	100	.	100	100	100	100	100	.	.	.	.	.	.	.	100	100	.	.	100	100	.	100	0	.	100	100	.	100	.	100	0	.	0	100	.	.	.	100	100	0	100	.	.	.	.	.	0	0	100	100	100	100
T	FORSMARK	fallförna, granbarr_F2S-5	100	100	.	100	100	100	100	0	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	100	100	.	100	.	0	0	.	0	100	.	.	.	100	0	0	100	.	.	.	.	.	0	0	100	100	100	100
T	FORSMARK	fallförna, granbarr_F2S-6	100	100	.	100	100	100	100	0	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	100	100	.	100	.	100	0	.	100	0	.	.	.	100	0	100	100	.	.	.	.	.	100	0	100	0	100	100
T	FORSMARK	fallförna, granbarr_F3S-0	100	100	.	100	100	0	0	100	.	.	.	.	.	.	.	100	0	.	.	100	0	.	100	100	.	100	100	.	100	.	0	0	.	100	0	.	.	.	100	100	0	0	.	.	.	.	.	0	0	100	0	100	100
T	FORSMARK	fallförna, granbarr_F3S-2	100	100	.	100	100	0	100	100	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	0	.	100	100	.	100	.	0	0	.	100	100	.	.	.	100	100	0	0	.	.	.	.	.	100	0	100	100	100	100
T	FORSMARK	fallförna, granbarr_F3S-3	100	100	.	100	100	0	100	0	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	0	100	.	100	.	100	0	.	0	0	.	.	.	100	100	0	0	.	.	.	.	.	100	0	100	0	100	100
T	FORSMARK	fallförna, granbarr_F3S-4	100	100	.	100	100	0	100	100	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	0	100	.	100	.	0	0	.	100	100	.	.	.	100	100	0	100	.	.	.	.	.	100	0	100	0	100	100
T	FORSMARK	fallförna, granbarr_F3S-5	100	100	.	100	100	0	100	0	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	100	100	.	100	.	100	0	.	0	100	.	.	.	100	100	0	100	.	.	.	.	.	0	0	100	100	100	100
T	FORSMARK	fallförna, granbarr_F3S-6	100	100	.	100	100	0	100	100	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	100	100	.	100	.	100	100	.	100	100	.	.	.	100	100	0	100	.	.	.	.	.	0	0	100	100	100	100
T	Forsmark	Fungi_Boletus edulis	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	100	.
T	Forsmark	fungi_Bulk_soil	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	100	.
T	Forsmark	Fungi_Cantharellus tubaeformis	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	100	.
T	Forsmark	Fungi_Collybia peronata	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	100	.
T	Forsmark	Fungi_Cortinarius armeniacus	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	100	.
T	Forsmark	Fungi_Cortinarius odorifer	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	100	.
T	Forsmark	Fungi_Cortinarius sp.	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	100	.
T	Forsmark	Fungi_Hypholoma capnoides	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	100	.
T	Forsmark	Fungi_Lactarius deterrimus	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	100	.
T	Forsmark	Fungi_Lactarius scrobiculatus	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	100	.
T	Forsmark	Fungi_Lactarius trivialis	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	100	.
T	Forsmark	Fungi_Mycelium	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	100	.
T	Forsmark	Fungi_Rhizosphere	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	100	.
T	Forsmark	Fungi_Sarcodon imbricatus	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	100	.
T	Forsmark	Fungi_Soil_root	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	100	.
T	Forsmark	Fungi_Suillus granulatus	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	100	.
T	Forsmark	Fungi_Suillus varegatus	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	100	.
T	Forsmark	Fungi_Suillus variegatus	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	100	.
T	Forsmark	Fungi_Tricholoma equestre	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	100	.	.	.	.	.	.	100	.	.	.	.	.	.	.	.	.	100	.
T	FORSMARK	fältskikt	100	100	.	100	100	.	100	.	0	.	0	0	0	0	100	100	.	.	.	100	100	.	100	0	100	100	33	.	100	.	100	0	.	.	0	0	100	100	0	33	0	100	0	100	100	0	100	100	67	100	67	100	100
T	FORSMARK	humus	.	.	.	.	.	.	.	.	100	100	100	100	100	0	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	100	100	.	.	.	.	0	100	100	0	100	.	.	.	.	.	.
T	FORSMARK	jord, humusskikt_0	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	60	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	FORSMARK	jord, humusskikt_0.03	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	FORSMARK	jord, min.j.skikt_0	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	67	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	FORSMARK	jord, min.j.skikt_0.1	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	67	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	FORSMARK	jord; moränlera_3.5	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	FORSMARK	jord; ospec morän_0.7	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	FORSMARK	jord; ospec morän_1	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	FORSMARK	jord; ospec morän_1.5	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	FORSMARK	NGW	100	100	.	100	100	.	100	.	.	.	.	.	.	.	100	100	.	.	.	100	100	.	100	.	100	100	.	.	100	.	.	100	.	.	100	.	.	.	.	0	100	100	.	.	.	.	.	100	.	100	100	100	100
T	Forsmark	NGWsfm	90	97	.	100	87	.	87	.	.	.	.	.	.	.	.	100	.	.	.	100	90	.	43	.	100	87	.	.	100	.	.	67	.	.	47	.	42	38	.	10	63	100	.	95	38	.	95	97	.	93	83	90	90
T	FORSMARK	näbbmus	100	0	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	0	0	.	100	.	100	0	.	.	0	.	.	.	100	0	0	100	.	.	.	.	.	0	0	100	0	100	100
T	FORSMARK	Pore water_0.3	100	50	0	.	100	33	100	0	.	.	.	.	.	.	.	100	17	.	0	.	83	.	0	67	100	83	0	.	100	.	0	50	.	0	100	.	.	.	100	33	0	100	.	.	.	.	.	100	67	100	100	100	100
T	FORSMARK	Quartenary deposit_0.4	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	100	.	.	100	.	100	.	.	.	.	.	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	100	.	100	100
T	FORSMARK	Quartenary deposit_0.5	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	100	.	.	100	.	100	.	.	.	.	.	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	100	.	100	100
T	FORSMARK	Quartenary deposit_1	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	100	.	.	100	.	100	.	.	.	.	.	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	100	.	100	100
T	FORSMARK	Quartenary deposit_10.5	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	100	.	.	100	.	100	.	.	.	.	.	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	100	.	100	100
T	FORSMARK	Quartenary deposit_3.5	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	100	.	.	.	.	.	.	.	100	.	.	100	.	100	.	.	.	.	.	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	100	.	100	100
T	FORSMARK	Quaternary Deposit: Till_0.6	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	100	100	.	.	.	.	100	.	.	.	.	100	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	.	.	100	.
T	FORSMARK	Quaternary Deposit: Till_1.4	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	100	.	100	100	.	.	.	.	100	.	.	.	.	0	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	.	.	100	.
T	FORSMARK	Quaternary Deposit: Till_1.7	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	100	100	.	.	.	.	100	.	.	.	.	0	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	.	.	100	.
T	FORSMARK	Quaternary Deposit: Till_2	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	100	100	.	.	.	.	100	.	.	.	.	0	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	.	.	100	.
T	FORSMARK	Quaternary Deposit: Till_2.1	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	100	100	.	.	.	.	100	.	.	.	.	0	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	.	.	100	.
T	FORSMARK	Quaternary Deposit: Till_2.4	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	100	100	.	.	.	.	100	.	.	.	.	0	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	.	.	100	.
T	FORSMARK	Quaternary Deposit: Till_2.5	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	100	100	.	.	.	.	100	.	.	.	.	0	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	.	.	100	.
T	FORSMARK	Quaternary Deposit: Till_2.8	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	100	100	.	.	.	.	100	.	.	.	.	0	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	.	.	100	.
T	FORSMARK	Quaternary Deposit: Till_3	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	100	100	.	.	.	.	100	.	.	.	.	0	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	.	.	100	.
T	FORSMARK	Quaternary Deposit: Till_4.5	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	100	100	.	.	.	.	100	.	.	.	.	0	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	.	.	100	.
T	FORSMARK	Quaternary Deposit: Till_5	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	100	100	.	.	.	.	100	.	.	.	.	0	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	.	.	100	.
T	FORSMARK	Quaternary Deposit: Till_5.1	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	100	100	.	.	.	.	100	.	.	.	.	0	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	.	.	100	.
T	FORSMARK	Quaternary Deposit: Till1_0.8	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	50	100	.	100	100	.	.	.	.	100	.	.	.	.	50	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	.	.	100	.
T	FORSMARK	Quaternary Deposit: Till1_1	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	88	100	.	100	100	.	.	.	.	100	.	.	.	.	13	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	.	.	100	.
T	FORSMARK	Quaternary Deposit: Till1_1.2	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	100	100	.	.	.	.	100	.	.	.	.	100	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	.	.	100	.
T	FORSMARK	Quaternary Deposit: Till1_1.5	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	100	100	.	.	.	.	100	.	.	.	.	0	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	.	.	100	.
T	FORSMARK	Quaternary Deposit: Till1_2.3	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	100	100	.	.	.	.	100	.	.	.	.	0	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	.	.	100	.
T	FORSMARK	Quaternary Deposit: Till1_3	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	100	100	.	.	.	.	100	.	.	.	.	0	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	.	.	100	.
T	FORSMARK	Quaternary Deposit: Till1_3.7	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	100	100	.	.	.	.	100	.	.	.	.	0	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	.	.	100	.
T	FORSMARK	Quaternary Deposit: Till1_4.5	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	100	100	.	.	.	.	100	.	.	.	.	0	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	.	.	100	.
T	FORSMARK	Quaternary Deposit: Till1_5	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	100	100	.	.	.	.	100	.	.	.	.	0	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	.	.	100	.
T	FORSMARK	Quaternary Deposit: Till1_6.6	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	100	50	.	.	.	.	100	.	.	.	.	0	100	.	.	.	100	100	.	100	.	.	.	.	.	100	0	.	.	100	.
T	FORSMARK	Quaternary Deposit: Till2_1	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	25	100	.	100	100	.	.	.	.	100	.	.	.	.	50	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	.	.	100	.
T	FORSMARK	Quaternary Deposit: Till2_5.5	.	100	.	100	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	100	100	.	.	.	.	100	.	.	.	.	50	100	.	.	.	100	100	.	100	.	.	.	.	.	100	100	.	.	100	.

Ekosystem	SITE	sample_name_Sicada	Nd	Ni	Os	P	Pb	Pd	Pr	Pt	^{238}PU	^{238,239,240}PU	^{239}PU	^{239,240}Pu	^{240}Pu	^{242}PU	^{226}Ra	Rb	Re	Rh	Ru	S	Sb	^{124}Sb	Sc	Se	Si	Sm	Sn	^{133}Sn	Sr	^{90}Sr	Ta	Tb	^{99}TC	Te	Th	^{229}Th	^{230}Th	^{232}Th	Ti	Tl	Tm	U	^{233}U	^{234}U	^{235}U	^{236}U	^{238}U	V	W	Y	Yb	Zn	Zr
T	FORSMARK	rot, humusskikt_0	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	50	100	100	100	.	.	.	.	.	100	50	100	100	100	100
T	FORSMARK	rot, humusskikt_0.03	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	FORSMARK	rot, mineraljord_0	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	75	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	75	100	100	100	100
T	FORSMARK	räv	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	0	100	.	100	.	100	0	.	.	0	.	.	.	100	0	0	100	.	.	.	.	.	100	100	100	0	100	100
T	FORSMARK	skogsmus	100	100	.	100	0	.	0	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	100	100	0	0	.	100	.	0	0	.	.	0	.	.	.	100	0	0	100	.	.	.	.	.	0	0	100	0	100	100
T	FORSMARK	större skogsmus	0	100	.	100	0	.	0	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	0	100	100	0	0	.	100	.	0	0	.	.	0	.	.	.	100	0	0	0	.	.	.	.	.	0	0	100	0	100	0
T	FORSMARK	torv_0.33	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	100	.	100	.	100	100	.	.	0	.	.	.	100	0	0	100	.	.	.	.	.	100	100	100	100	100	100
T	FORSMARK	torv_1.13	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	100	.	100	.	100	100	.	.	0	.	.	.	100	0	0	100	.	.	.	.	.	100	0	100	100	100	100
T	FORSMARK	trädskikt	100	100	.	100	0	.	0	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	0	0	100	0	0	.	100	.	100	0	.	.	0	.	.	.	0	0	0	100	.	.	.	.	.	33	0	100	0	100	33
T	FORSMARK	vasstorv_1.53	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	0	100	100	.	.	.	.	.	100	100	100	100	100	100
T	FORSMARK	vattensork	100	0	.	100	0	.	43	.	.	.	.	.	.	.	.	100	.	.	.	100	43	.	71	100	100	14	0	.	100	.	14	0	.	.	0	.	.	.	100	0	0	100	.	.	.	.	.	0	0	100	0	100	100
T	FORSMARK	ved av gran	100	67	.	100	67	.	0	.	.	.	.	.	.	.	.	100	.	.	.	100	33	.	33	0	100	0	0	.	100	.	100	0	.	.	0	.	.	.	0	0	0	0	.	.	.	.	.	0	0	33	0	100	0
T	FORSMARK	våtmark; alggyttja_1.73	100	100	.	100	100	.	0	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	0	0	100	100	0	.	100	.	0	0	.	.	100	.	.	.	100	100	0	100	.	.	.	.	.	100	0	0	100	100	100
T	FORSMARK	våtmark; glaciallera_1.93	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	FORSMARK	våtmark; glaciallera_2.63	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	FORSMARK	våtmark; gyttja_0.66	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	0	100	.	.	.	.	.	100	100	100	100	100	100
T	FORSMARK	våtmark; sand_1.58	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	FORSMARK	våtmark;lerig gyttja_1.03	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	FORSMARK	våtmark;lerig gyttja_1.93	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	FORSMARK	älg	40	0	.	100	0	.	0	.	0	.	0	100	0	0	100	100	.	.	.	100	0	.	100	100	100	0	20	.	100	.	100	0	.	.	0	0	100	100	100	0	0	40	0	100	100	.	100	0	0	40	0	100	0
T	FORSMARK	ängssork	33	100	.	100	0	.	0	.	0	.	0	0	0	0	100	100	.	.	.	100	0	.	0	100	100	0	0	.	100	.	0	0	.	.	0	0	100	100	100	0	0	0	0	100	100	0	100	0	0	100	0	100	33
T	SIMPEVARP	blåbärsris	.	.	.	.	.	.	.	.	0	.	0	0	0	0	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	100	100	.	.	.	.	0	100	100	0	100	.	.	.	.	.	.
T	SIMPEVARP	bottenskikt	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	50	100	100	75	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	buskskikt	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	0	.	.	.	100	0	0	100	.	.	.	.	.	100	0	100	100	100	100
T	SIMPEVARP	Centrifugated soil_rego_Low_0.3	100	100	.	.	100	.	100	.	.	.	.	.	.	.	.	100	0	.	.	.	100	.	100	100	.	100	100	.	100	.	0	100	.	0	100	.	.	.	.	100	100	100	.	.	.	.	.	100	0	100	100	100	100
T	SIMPEVARP	Centrifugated soil_rego_Mid_0.3	100	100	.	.	100	.	100	.	.	.	.	.	.	.	.	100	75	.	.	.	100	.	100	100	.	100	100	.	100	.	0	100	.	0	100	.	.	.	.	100	100	100	.	.	.	.	.	100	0	100	100	100	100
T	SIMPEVARP	Centrifugated soil_rego_Up_0.3	100	100	.	.	100	.	100	.	.	.	.	.	.	.	.	100	67	.	.	.	100	.	100	100	.	100	100	.	100	.	0	100	.	0	100	.	.	.	.	100	100	100	.	.	.	.	.	100	33	100	100	100	100
T	SIMPEVARP	extraktion i ammoniumacetat_0	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	0	.	100	.	0	100	.	.	100	.	.	.	100	100	67	100	.	.	.	.	.	100	0	100	100	100	100
T	SIMPEVARP	extraktion i ammoniumacetat_0.1	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100
T	SIMPEVARP	extraktion i ammoniumacetat_0.4	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	0	.	100	.	0	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	50	100	100	100	100
T	SIMPEVARP	extraktion i ammoniumacetat_0.55	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	.	.	.	.	100	100	.	100	.	100	100	0	.	100	.	.	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100
T	SIMPEVARP	extraktion i ditionitcitrat_0	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	.	100	.	100	.	100	100	67	.	100	.	67	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	67	100	100	100	100
T	SIMPEVARP	extraktion i ditionitcitrat_0.1	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	.	100	.	100	.	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	extraktion i ditionitcitrat_0.4	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	.	100	.	100	.	100	100	50	.	100	.	50	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	extraktion i ditionitcitrat_0.55	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	.	.	.	.	.	100	.	100	.	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	.	100	100	.	.	.	.	.	100	0	100	100	100	100
T	SIMPEVARP	extraktion i kungsvatten_0	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	100	.	100	.	0	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	33	100	100	100	100
T	SIMPEVARP	extraktion i kungsvatten_0.1	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	extraktion i kungsvatten_0.4	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	100	.	100	.	0	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	extraktion i kungsvatten_0.55	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	100	.	100	.	0	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	fallförna; eklöv_O1O-0	100	100	.	100	100	0	100	100	.	.	.	.	.	.	.	100	100	.	.	100	0	.	100	100	.	100	100	.	100	.	.	100	.	0	0	.	.	.	100	0	0	0	.	.	.	.	.	100	0	100	0	100	100
T	SIMPEVARP	fallförna; eklöv_O1O-2	100	100	.	100	100	0	100	100	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	100	100	.	100	.	.	100	.	100	100	.	.	.	100	0	100	100	.	.	.	.	.	0	0	100	100	100	100
T	SIMPEVARP	fallförna; eklöv_O1O-3	100	100	.	100	100	0	100	0	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	100	100	.	100	.	.	100	.	0	100	.	.	.	100	0	100	100	.	.	.	.	.	100	0	100	100	100	100
T	SIMPEVARP	fallförna; eklöv_O1O-4	100	100	.	100	100	0	100	0	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	100	100	.	100	.	.	100	.	0	100	.	.	.	100	0	0	100	.	.	.	.	.	0	0	100	100	100	100
T	SIMPEVARP	fallförna; eklöv_O1O-5	100	100	.	100	100	0	100	0	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	0	.	100	100	.	100	.	.	100	.	0	100	.	.	.	100	0	100	100	.	.	.	.	.	0	100	100	100	100	100
T	SIMPEVARP	fallförna; eklöv_O1O-6	100	100	.	100	100	0	100	100	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	100	100	.	100	.	.	100	.	0	100	.	.	.	100	100	100	100	.	.	.	.	.	100	0	100	100	100	100
T	SIMPEVARP	fallförna; granbarr_O3S-0	100	100	.	100	100	0	0	0	.	.	.	.	.	.	.	100	100	.	.	.	0	.	100	100	.	0	0	.	100	.	.	0	.	0	0	.	.	.	100	100	0	0	.	.	.	.	.	0	0	100	0	100	100
T	SIMPEVARP	fallförna; granbarr_O3S-2	100	100	.	100	100	0	100	100	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	100	100	.	100	.	.	0	.	0	0	.	.	.	100	100	0	0	.	.	.	.	.	100	0	100	0	100	100
T	SIMPEVARP	fallförna; granbarr_O3S-3	100	100	.	100	100	0	100	100	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	0	100	.	100	.	.	0	.	0	0	.	.	.	100	100	0	100	.	.	.	.	.	0	0	100	100	100	100
T	SIMPEVARP	fallförna; granbarr_O3S-4	100	100	.	100	100	0	100	0	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	0	100	.	100	.	.	100	.	100	0	.	.	.	100	100	0	100	.	.	.	.	.	0	0	100	0	100	100
T	SIMPEVARP	fallförna; granbarr_O3S-5	100	100	.	100	100	0	100	100	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	100	100	.	100	.	.	0	.	0	100	.	.	.	100	100	0	100	.	.	.	.	.	0	0	100	100	100	100
T	SIMPEVARP	fallförna; granbarr_O3S-6	100	100	.	100	100	0	100	0	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	100	100	.	100	.	.	100	.	100	100	.	.	.	100	100	0	100	.	.	.	.	.	0	0	100	100	100	100
T	SIMPEVARP	fallförna; tallbarr_O2P-0	100	100	.	.	100	0	0	100	.	.	.	.	.	.	.	100	0	.	.	100	0	.	100	100	.	100	100	.	100	.	.	0	.	0	0	.	.	.	100	100	0	0	.	.	.	.	.	100	0	100	0	100	100
T	SIMPEVARP	fallförna; tallbarr_O2P-2	100	100	.	100	100	100	0	0	.	.	.	.	.	.	.	100	0	.	.	.	100	.	100	100	.	0	100	.	100	.	.	0	.	0	0	.	.	.	100	100	0	0	.	.	.	.	.	0	0	100	100	100	100
T	SIMPEVARP	fallförna; tallbarr_O2P-3	100	100	.	100	100	100	100	0	.	.	.	.	.	.	.	100	0	.	.	.	100	.	100	100	.	0	100	.	100	.	.	0	.	0	0	.	.	.	100	100	0	0	.	.	.	.	.	0	0	100	100	100	100
T	SIMPEVARP	fallförna; tallbarr_O2P-4	100	100	.	100	100	100	100	0	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	0	100	.	100	.	.	0	.	100	100	.	.	.	100	100	0	0	.	.	.	.	.	0	0	100	100	100	100
T	SIMPEVARP	fallförna; tallbarr_O2P-5	100	100	.	100	100	100	100	0	.	.	.	.	.	.	.	100	0	.	.	.	100	.	100	100	.	0	100	.	100	.	.	0	.	0	100	.	.	.	100	100	0	0	.	.	.	.	.	0	0	100	0	100	100
T	SIMPEVARP	fallförna; tallbarr_O2P-6	100	100	.	100	100	100	100	100	.	.	.	.	.	.	.	100	0	.	.	100	100	.	100	100	.	100	100	.	100	.	.	0	.	100	100	.	.	.	100	100	0	0	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	fältskikt	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	25	.	.	0	.	.	.	50	50	0	100	.	.	.	.	.	75	0	100	100	100	100
T	SIMPEVARP	humus	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	83	.	.	.	100	100	.	67	33	100	100	0	.	100	.	100	100	.	.	67	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	83	100	67
T	SIMPEVARP	jord 10 cm	.	.	.	.	.	.	.	.	100	100	100	100	100	0	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	100	100	.	.	.	.	0	100	100	0	100	.	.	.	.	.	.
T	SIMPEVARP	Jord_rego_Low_1	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Jord_rego_Low_1.2	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Jord_rego_Low_1.3	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Jord_rego_Low_1.4	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Jord_rego_Low_1.5	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Jord_rego_Low_1.8	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Jord_rego_Low_2.2	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Jord_rego_Low_2.3	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Jord_rego_Low_2.5	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Jord_rego_Low_3.2	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Jord_rego_Mid?_2	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Jord_rego_Mid_0.3	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Jord_rego_Mid_0.5	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	0	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Jord_rego_Mid_0.7	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Jord_rego_Mid_1	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Jord_rego_Mid_1.1	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Jord_rego_Mid_1.25	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Jord_rego_Mid_12	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Lergyttja/gyttjelera I	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	50	100	100	50	.	100	.	50	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Lergyttja/gyttjelera II	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Lergyttja/gyttjelera II_6	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	.	100	.	100	100	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	.	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	mindre skogsmus	100	33	.	100	0	.	67	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	100	100	0	100	.	100	.	100	0	.	.	100	.	.	.	100	33	0	100	.	.	.	.	.	0	0	100	0	100	100
T	SIMPEVARP	mineral bulk	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	83
T	SIMPEVARP	mineral rhizo	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	83
T	SIMPEVARP	Morän II	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Morän II_12	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	.	100	.	100	.	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	NGW	100	100	.	100	100	.	100	.	.	.	.	.	.	.	100	100	.	.	.	100	100	.	100	.	100	100	.	.	100	.	.	100	.	.	100	.	.	.	.	100	100	100	.	.	.	.	.	100	.	100	100	100	100
T	SIMPEVARP	näbbmus	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	100	.	100	.	100	0	.	.	100	.	.	.	100	100	0	100	.	.	.	.	.	100	0	100	100	100	100
T	SIMPEVARP	peat	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Pore water_0.3	100	100	0	.	89	44	100	0	.	.	.	.	.	.	.	100	100	.	0	.	89	.	22	100	100	100	0	.	100	.	22	100	.	0	100	.	.	.	100	78	89	100	.	.	.	.	.	100	56	100	100	100	100
T	SIMPEVARP	rådjur	100	67	.	100	0	.	33	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	100	100	0	100	.	100	.	100	0	.	.	0	.	.	.	67	100	0	33	.	.	.	.	.	0	0	33	0	100	100
T	SIMPEVARP	räv	100	0	.	100	33	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	67	.	100	100	100	100	100	.	100	.	100	0	.	.	0	.	.	.	100	0	0	100	.	.	.	.	.	0	0	100	0	100	100
T	SIMPEVARP	större skogsmus	.	.	.	.	.	.	.	.	0	.	0	0	0	0	100	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	0	100	100	.	.	.	.	0	100	100	0	100	.	.	.	.	.	.
T	SIMPEVARP	Torv- eller våtmark_0.05	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	0	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Torv- eller våtmark_0.12	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Torv- eller våtmark_0.65	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	.	0	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Torv- eller våtmark_0.95	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Torv- eller våtmark_1.97	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Torv- eller våtmark_2	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	0	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Torv- eller våtmark_2.97	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Torv- eller våtmark_3.4	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	0	100	.	.	100	.	.	.	100	0	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Torv- eller våtmark_3.65	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	0	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Torv- eller våtmark_4	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Torv- eller våtmark_4.2	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Torv- eller våtmark_4.35	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Torv- eller våtmark_4.6	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Torv- eller våtmark_4.64	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	0	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Torv- eller våtmark_4.66	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Torv- eller våtmark_4.7	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	Torv- eller våtmark_4.97	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	trädrot humus	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	trädrot mineraljord	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100
T	SIMPEVARP	trädskikt	100	100	.	100	100	.	100	.	0	.	0	100	0	0	100	100	.	.	.	100	100	.	100	0	100	100	25	.	100	.	100	75	.	.	25	0	100	100	75	25	0	100	0	100	100	0	100	75	0	100	100	100	100
T	SIMPEVARP	ved av al	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	100	.	100	.	100	100	.	.	0	.	.	.	100	100	0	100	.	.	.	.	.	100	0	100	100	100	100
T	SIMPEVARP	ved av ek	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	100	.	.	0	.	.	.	100	0	100	100	.	.	.	.	.	100	0	100	100	100	100
T	SIMPEVARP	ved av gran	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	0	100	100	0	.	100	.	100	0	.	.	0	.	.	.	100	100	0	100	.	.	.	.	.	100	0	100	0	100	100
T	SIMPEVARP	älg	33	0	.	100	33	.	33	.	0	.	0	100	0	0	100	100	.	.	.	100	0	.	100	100	100	33	100	.	100	.	100	0	.	.	0	0	100	100	100	100	0	0	0	100	100	0	100	0	0	33	0	100	100
T	SIMPEVARP	ängssork skog	100	100	.	100	67	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	67	.	100	100	100	100	33	.	100	.	100	0	.	.	0	.	.	.	100	0	0	100	.	.	.	.	.	67	0	100	33	100	100
T	SIMPEVARP	ängssork äng	100	50	.	100	0	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	0	.	100	100	100	100	50	.	100	.	100	0	.	.	50	.	.	.	100	0	0	100	.	.	.	.	.	0	0	100	0	100	100
T	SIMPEVARP	övr rot humus	100	100	.	100	100	.	100	.	.	.	.	.	.	.	.	100	.	.	.	100	100	.	100	100	100	100	100	.	100	.	100	100	.	.	100	.	.	.	100	100	100	100	.	.	.	.	.	100	100	100	100	100	100

Appendix 2

Compilation of model parameters and the combinations of the selected site data addressed to these parameters. “sample_name_sicada” denotes the denomination in the SKB Sicada database, whereas “sample_name_new” denotes the name used in this report.

ModelName_ short	SITE	ECO-SYSTEM	FROM sample_name_ Sicada	FROM sample_name_ new	TO sample_name_ Sicada	TO sample_name_ new
Ter_cR_pp	FORSMARK	T	bulkjord,min.j.sk._0	mineral soil_bulk_0	blåbärsris	shrub layer
	FORSMARK	T	bulkjord,min.j.sk._0	mineral soil_bulk_0	buskskikt	shrub layer
	FORSMARK	T	bulkjord,min.j.sk._0	mineral soil_bulk_0	fältskikt	field layer
	FORSMARK	T	bulkjord,min.j.sk._0	mineral soil_bulk_0	trädskikt	tree layer_green
	FORSMARK	T	bulkjord,min.j.sk._0.1	mineral soil_ bulk_0.1	blåbärsris	shrub layer
	FORSMARK	T	bulkjord,min.j.sk._0.1	mineral soil_ bulk_0.1	buskskikt	shrub layer
	FORSMARK	T	bulkjord,min.j.sk._0.1	mineral soil_ bulk_0.1	fältskikt	field layer
	FORSMARK	T	bulkjord,min.j.sk._0.1	mineral soil_ bulk_0.1	trädskikt	tree layer_green
	FORSMARK	T	jord, humusskikt_0	humus layer_0	blåbärsris	shrub layer
	FORSMARK	T	jord, humusskikt_0	humus layer_0	buskskikt	shrub layer
	FORSMARK	T	jord, humusskikt_0	humus layer_0	fältskikt	field layer
	FORSMARK	T	jord, humusskikt_0	humus layer_0	trädskikt	tree layer_green
	FORSMARK	T	jord, humusskikt_0.03	humus layer_0.03	blåbärsris	shrub layer
	FORSMARK	T	jord, humusskikt_0.03	humus layer_0.03	buskskikt	shrub layer
	FORSMARK	T	jord, humusskikt_0.03	humus layer_0.03	fältskikt	field layer
	FORSMARK	T	jord, humusskikt_0.03	humus layer_0.03	trädskikt	tree layer_green
	FORSMARK	T	jord, min.j.skikt_0	mineral soil_0	blåbärsris	shrub layer
	FORSMARK	T	jord, min.j.skikt_0	mineral soil_0	buskskikt	shrub layer
	FORSMARK	T	jord, min.j.skikt_0	mineral soil_0	fältskikt	field layer
	FORSMARK	T	jord, min.j.skikt_0	mineral soil_0	trädskikt	tree layer_green
	FORSMARK	T	jord, min.j.skikt_0.1	mineral soil_0.1	blåbärsris	shrub layer
	FORSMARK	T	jord, min.j.skikt_0.1	mineral soil_0.1	buskskikt	shrub layer
	FORSMARK	T	jord, min.j.skikt_0.1	mineral soil_0.1	fältskikt	field layer
	FORSMARK	T	jord, min.j.skikt_0.1	mineral soil_0.1	trädskikt	tree layer_green
	FORSMARK	T	Centrifugated soil_rego_Low_0.3	Centrifugated soil_rego_Low_0.3	blåbärsris	shrub layer
	FORSMARK	T	Centrifugated soil_rego_Low_0.3	Centrifugated soil_rego_Low_0.3	buskskikt	shrub layer
	FORSMARK	T	Centrifugated soil_rego_Low_0.3	Centrifugated soil_rego_Low_0.3	fältskikt	field layer
	FORSMARK	T	Centrifugated soil_rego_Low_0.3	Centrifugated soil_rego_Low_0.3	trädskikt	tree layer_green
	FORSMARK	T	Centrifugated soil_rego_Up_0.3	Centrifugated soil_rego_Up_0.3	blåbärsris	shrub layer
	FORSMARK	T	Centrifugated soil_rego_Up_0.3	Centrifugated soil_rego_Up_0.3	buskskikt	shrub layer
	FORSMARK	T	Centrifugated soil_rego_Up_0.3	Centrifugated soil_rego_Up_0.3	fältskikt	field layer
	FORSMARK	T	Centrifugated soil_rego_Up_0.3	Centrifugated soil_rego_Up_0.3	trädskikt	tree layer_green
	SIMPEVARP	T	Centrifugated soil_rego_Low_0.3	Centrifugated soil_rego_Low_0.3	buskskikt	shrub layer
	SIMPEVARP	T	Centrifugated soil_rego_Low_0.3	Centrifugated soil_rego_Low_0.3	fältskikt	field layer
	SIMPEVARP	T	Centrifugated soil_rego_Low_0.3	Centrifugated soil_rego_Low_0.3	trädskikt	tree layer_green
	SIMPEVARP	T	Centrifugated soil_rego_Mid_0.3	Centrifugated soil_rego_Mid_0.3	buskskikt	shrub layer
	SIMPEVARP	T	Centrifugated soil_rego_Mid_0.3	Centrifugated soil_rego_Mid_0.3	fältskikt	field layer

ModelName_short	SITE	ECO-SYSTEM	FROM sample_name_Sicada	FROM sample_name_new	TO sample_name_Sicada	TO sample_name_new
	SIMPEVARP	T	Centrifugated soil_rego_Mid_0.3	Centrifugated soil_rego_Mid_0.3	trädskikt	tree layer_green
	SIMPEVARP	T	Centrifugated soil_rego_Up_0.3	Centrifugated soil_rego_Up_0.3	buskskikt	shrub layer
	SIMPEVARP	T	Centrifugated soil_rego_Up_0.3	Centrifugated soil_rego_Up_0.3	fältskikt	field layer
	SIMPEVARP	T	Centrifugated soil_rego_Up_0.3	Centrifugated soil_rego_Up_0.3	trädskikt	tree layer_green
	SIMPEVARP	T	humus	humus	buskskikt	shrub layer
	SIMPEVARP	T	humus	humus	fältskikt	field layer
	SIMPEVARP	T	humus	humus	trädskikt	tree layer_green
	SIMPEVARP	T	mineral bulk	mineral soil_bulk	buskskikt	shrub layer
	SIMPEVARP	T	mineral bulk	mineral soil_bulk	fältskikt	field layer
	SIMPEVARP	T	mineral bulk	mineral soil_bulk	trädskikt	tree layer_green
	SIMPEVARP	T	mineral rhizo	mineral soil_rhizosphere	buskskikt	shrub layer
	SIMPEVARP	T	mineral rhizo	mineral soil_rhizosphere	fältskikt	field layer
	SIMPEVARP	T	mineral rhizo	mineral soil_rhizosphere	trädskikt	tree layer_green
cR_soilToMush	FORSMARK	T	fungi_Bulk_soil	Soil_Bulk_fungi	Fungi_Boletus edulis	B. edulis
	FORSMARK	T	fungi_Bulk_soil	Soil_Bulk_fungi	Fungi_Cantharellus tubaeformis	C. tubaeformis
	FORSMARK	T	fungi_Bulk_soil	Soil_Bulk_fungi	Fungi_Collybia peronata	C. peronata
	FORSMARK	T	fungi_Bulk_soil	Soil_Bulk_fungi	Fungi_Cortinarius armeniacus	C. armeniacus
	FORSMARK	T	fungi_Bulk_soil	Soil_Bulk_fungi	Fungi_Cortinarius odorifer	C. odorifer
	FORSMARK	T	fungi_Bulk_soil	Soil_Bulk_fungi	Fungi_Cortinarius sp.	Cortinarius sp.
	FORSMARK	T	fungi_Bulk_soil	Soil_Bulk_fungi	Fungi_Hypholoma capnoides	H. capnoides
	FORSMARK	T	fungi_Bulk_soil	Soil_Bulk_fungi	Fungi_Lactarius deterrimus	L. deterrimus
	FORSMARK	T	fungi_Bulk_soil	Soil_Bulk_fungi	Fungi_Lactarius scrobiculatus	L. scrobiculatus
	FORSMARK	T	fungi_Bulk_soil	Soil_Bulk_fungi	Fungi_Lactarius trivialis	L. trivialis
	FORSMARK	T	fungi_Bulk_soil	Soil_Bulk_fungi	Fungi_Sarcodon imbricatus	S. imbricatus
	FORSMARK	T	fungi_Bulk_soil	Soil_Bulk_fungi	Fungi_Suillus granulatus	S. granulatus
	FORSMARK	T	fungi_Bulk_soil	Soil_Bulk_fungi	Fungi_Suillus varegatus	S. varegatus
	FORSMARK	T	fungi_Bulk_soil	Soil_Bulk_fungi	Fungi_Tricholoma equestre	T. equestre
cR_foodToHerbiv	FORSMARK	T	blåbärsris	shrub layer	skogsmus	Apodemus sp
	FORSMARK	T	buskskikt	shrub layer	skogsmus	Apodemus sp
	FORSMARK	T	fältskikt	field layer	skogsmus	Apodemus sp
	FORSMARK	T	trädskikt	tree layer_green	skogsmus	Apodemus sp
	FORSMARK	T	blåbärsris	shrub layer	större skogsmus	A. flavicollis
	FORSMARK	T	buskskikt	shrub layer	större skogsmus	A. flavicollis
	FORSMARK	T	fältskikt	field layer	större skogsmus	A. flavicollis
	FORSMARK	T	trädskikt	tree layer_green	större skogsmus	A. flavicollis
	FORSMARK	T	blåbärsris	shrub layer	vattensork	A. terrestris
	FORSMARK	T	buskskikt	shrub layer	vattensork	A. terrestris
	FORSMARK	T	fältskikt	field layer	vattensork	A. terrestris
	FORSMARK	T	trädskikt	tree layer_green	vattensork	A. terrestris
	FORSMARK	T	blåbärsris	shrub layer	älg	A. alces
	FORSMARK	T	buskskikt	shrub layer	älg	A. alces

ModelName_ short	SITE	ECO-SYSTEM	FROM sample_name_ Sicada	FROM sample_name_ new	TO sample_name_ Sicada	TO sample_name_ new
	FORSMARK	T	fältskikt	field layer	älg	A. alces
	FORSMARK	T	trädskikt	tree layer_green	älg	A. alces
	FORSMARK	T	blåbärsris	shrub layer	ängssork	C. glareolus
	FORSMARK	T	buskskikt	shrub layer	ängssork	C. glareolus
	FORSMARK	T	fältskikt	field layer	ängssork	C. glareolus
	FORSMARK	T	trädskikt	tree layer_green	ängssork	C. glareolus
	SIMPEVARP	T	buskskikt	shrub layer	mindre skogsmus	A. sylvaticus
	SIMPEVARP	T	fältskikt	field layer	mindre skogsmus	A. sylvaticus
	SIMPEVARP	T	trädskikt	tree layer_green	mindre skogsmus	A. sylvaticus
	SIMPEVARP	T	buskskikt	shrub layer	rådjur	C. capreolus
	SIMPEVARP	T	fältskikt	field layer	rådjur	C. capreolus
	SIMPEVARP	T	trädskikt	tree layer_green	rådjur	C. capreolus
	SIMPEVARP	T	trädskikt	tree layer_green	större skogsmus	A. flavicollis
	SIMPEVARP	T	blåbärsris	shrub layer	större skogsmus	A. flavicollis
	SIMPEVARP	T	buskskikt	shrub layer	älg	A. alces
	SIMPEVARP	T	fältskikt	field layer	älg	A. alces
	SIMPEVARP	T	trädskikt	tree layer_green	älg	A. alces
	SIMPEVARP	T	blåbärsris	shrub layer	älg	A. alces
	SIMPEVARP	T	buskskikt	shrub layer	ängssork skog	C. glareolus_forest
	SIMPEVARP	T	fältskikt	field layer	ängssork skog	C. glareolus_forest
	SIMPEVARP	T	trädskikt	tree layer_green	ängssork skog	C. glareolus_forest
	SIMPEVARP	T	buskskikt	shrub layer	ängssork äng	C. glareolus_field
	SIMPEVARP	T	fältskikt	field layer	ängssork äng	C. glareolus_field
	SIMPEVARP	T	trädskikt	tree layer_green	ängssork äng	C. glareolus_field
	FORSMARK/ SIMPEVARP	T	Fungi_Boletus edulis	B. edulis	rådjur	C. capreolus
	FORSMARK/ SIMPEVARP	T	Fungi_Cantharellus tubaeformis	C. tubaeformis	rådjur	C. capreolus
	FORSMARK/ SIMPEVARP	T	Fungi_Collybia peronata	C. peronata	rådjur	C. capreolus
	FORSMARK/ SIMPEVARP	T	Fungi_Cortinarius armeniacus	C. armeniacus	rådjur	C. capreolus
	FORSMARK/ SIMPEVARP	T	Fungi_Cortinarius odorifer	C. odorifer	rådjur	C. capreolus
	FORSMARK/ SIMPEVARP	T	Fungi_Cortinarius sp.	Cortinarius sp.	rådjur	C. capreolus
	FORSMARK/ SIMPEVARP	T	Fungi_Hypholoma capnoides	H. capnoides	rådjur	C. capreolus
	FORSMARK/ SIMPEVARP	T	Fungi_Lactarius deterrimus	L. deterrimus	rådjur	C. capreolus
	FORSMARK/ SIMPEVARP	T	Fungi_Lactarius scrobiculatus	L. scrobiculatus	rådjur	C. capreolus
	FORSMARK/ SIMPEVARP	T	Fungi_Lactarius trivialis	L. trivialis	rådjur	C. capreolus
	FORSMARK/ SIMPEVARP	T	Fungi_Sarcodon imbricatus	S. imbricatus	rådjur	C. capreolus
	FORSMARK/ SIMPEVARP	T	Fungi_Suillus granulatus	S. granulatus	rådjur	C. capreolus
	FORSMARK/ SIMPEVARP	T	Fungi_Suillus varegatus	S. varegatus	rådjur	C. capreolus
	FORSMARK/ SIMPEVARP	T	Fungi_Tricholoma equestre	T. equestre	rådjur	C. capreolus
	FORSMARK	T	Fungi_Boletus edulis	B. edulis	älg	A. alces
	FORSMARK	T	Fungi_Cantharellus tubaeformis	C. tubaeformis	älg	A. alces
	FORSMARK	T	Fungi_Collybia peronata	C. peronata	älg	A. alces
	FORSMARK	T	Fungi_Cortinarius armeniacus	C. armeniacus	älg	A. alces

ModelName_ short	SITE	ECO-SYSTEM	FROM sample_name_ Sicada	FROM sample_name_ new	TO sample_name_ Sicada	TO sample_name_ new
	FORSMARK	T	Fungi_Cortinarius odorifer	C. odorifer	älg	A. alces
	FORSMARK	T	Fungi_Cortinarius sp.	Cortinarius sp.	älg	A. alces
	FORSMARK	T	Fungi_Hypholoma capnoides	H. capnoides	älg	A. alces
	FORSMARK	T	Fungi_Lactarius deterrimus	L. deterrimus	älg	A. alces
	FORSMARK	T	Fungi_Lactarius scrobiculatus	L. scrobiculatus	älg	A. alces
	FORSMARK	T	Fungi_Lactarius trivialis	L. trivialis	älg	A. alces
	FORSMARK	T	Fungi_Sarcodon imbricatus	S. imbricatus	älg	A. alces
	FORSMARK	T	Fungi_Suillus granulatus	S. granulatus	älg	A. alces
	FORSMARK	T	Fungi_Suillus varegatus	S. varegatus	älg	A. alces
	FORSMARK	T	Fungi_Tricholoma equestre	T. equestre	älg	A. alces
	FORSMARK	T	Fungi_Boletus edulis	B. edulis	skogsmus	Apodemus sp
	FORSMARK	T	Fungi_Cantharellus tubaeformis	C. tubaeformis	skogsmus	Apodemus sp
	FORSMARK	T	Fungi_Collybia peronata	C. peronata	skogsmus	Apodemus sp
	FORSMARK	T	Fungi_Cortinarius armeniacus	C. armeniacus	skogsmus	Apodemus sp
	FORSMARK	T	Fungi_Cortinarius odorifer	C. odorifer	skogsmus	Apodemus sp
	FORSMARK	T	Fungi_Cortinarius sp.	Cortinarius sp.	skogsmus	Apodemus sp
	FORSMARK	T	Fungi_Hypholoma capnoides	H. capnoides	skogsmus	Apodemus sp
	FORSMARK	T	Fungi_Lactarius deterrimus	L. deterrimus	skogsmus	Apodemus sp
	FORSMARK	T	Fungi_Lactarius scrobiculatus	L. scrobiculatus	skogsmus	Apodemus sp
	FORSMARK	T	Fungi_Lactarius trivialis	L. trivialis	skogsmus	Apodemus sp
	FORSMARK	T	Fungi_Sarcodon imbricatus	S. imbricatus	skogsmus	Apodemus sp
	FORSMARK	T	Fungi_Suillus granulatus	S. granulatus	skogsmus	Apodemus sp
	FORSMARK	T	Fungi_Suillus varegatus	S. varegatus	skogsmus	Apodemus sp
	FORSMARK	T	Fungi_Tricholoma equestre	T. equestre	skogsmus	Apodemus sp
	FORSMARK	T	Fungi_Boletus edulis	B. edulis	större skogsmus	A. flavicollis
	FORSMARK	T	Fungi_Cantharellus tubaeformis	C. tubaeformis	större skogsmus	A. flavicollis
	FORSMARK	T	Fungi_Collybia peronata	C. peronata	större skogsmus	A. flavicollis
	FORSMARK	T	Fungi_Cortinarius armeniacus	C. armeniacus	större skogsmus	A. flavicollis
	FORSMARK	T	Fungi_Cortinarius odorifer	C. odorifer	större skogsmus	A. flavicollis
	FORSMARK	T	Fungi_Cortinarius sp.	Cortinarius sp.	större skogsmus	A. flavicollis
	FORSMARK	T	Fungi_Hypholoma capnoides	H. capnoides	större skogsmus	A. flavicollis
	FORSMARK	T	Fungi_Lactarius deterrimus	L. deterrimus	större skogsmus	A. flavicollis
	FORSMARK	T	Fungi_Lactarius scrobiculatus	L. scrobiculatus	större skogsmus	A. flavicollis
	FORSMARK	T	Fungi_Lactarius trivialis	L. trivialis	större skogsmus	A. flavicollis
	FORSMARK	T	Fungi_Sarcodon imbricatus	S. imbricatus	större skogsmus	A. flavicollis

ModelName_ short	SITE	ECO-SYSTEM	FROM sample_name_ Sicada	FROM sample_name_ new	TO sample_name_ Sicada	TO sample_name_ new
	FORSMARK	T	Fungi_Suillus granulatus	S. granulatus	större skogsmus	A. flavicollis
	FORSMARK	T	Fungi_Suillus varegatus	S. varegatus	större skogsmus	A. flavicollis
	FORSMARK	T	Fungi_Tricholoma equestre	T. equestre	större skogsmus	A. flavicollis
	FORSMARK	T	Fungi_Boletus edulis	B. edulis	vattensork	A. terrestris
	FORSMARK	T	Fungi_Cantharellus tubaeformis	C. tubaeformis	vattensork	A. terrestris
	FORSMARK	T	Fungi_Collybia peronata	C. peronata	vattensork	A. terrestris
	FORSMARK	T	Fungi_Cortinarius armeniacus	C. armeniacus	vattensork	A. terrestris
	FORSMARK	T	Fungi_Cortinarius odorifer	C. odorifer	vattensork	A. terrestris
	FORSMARK	T	Fungi_Cortinarius sp.	Cortinarius sp.	vattensork	A. terrestris
	FORSMARK	T	Fungi_Hypholoma capnoides	H. capnoides	vattensork	A. terrestris
	FORSMARK	T	Fungi_Lactarius deterrimus	L. deterrimus	vattensork	A. terrestris
	FORSMARK	T	Fungi_Lactarius scrobiculatus	L. scrobiculatus	vattensork	A. terrestris
	FORSMARK	T	Fungi_Lactarius trivialis	L. trivialis	vattensork	A. terrestris
	FORSMARK	T	Fungi_Sarcodon imbricatus	S. imbricatus	vattensork	A. terrestris
	FORSMARK	T	Fungi_Suillus granulatus	S. granulatus	vattensork	A. terrestris
	FORSMARK	T	Fungi_Suillus varegatus	S. varegatus	vattensork	A. terrestris
	FORSMARK	T	Fungi_Tricholoma equestre	T. equestre	vattensork	A. terrestris
	FORSMARK	T	Fungi_Boletus edulis	B. edulis	ängssork	C. glareolus
	FORSMARK	T	Fungi_Cantharellus tubaeformis	C. tubaeformis	ängssork	C. glareolus
	FORSMARK	T	Fungi_Collybia peronata	C. peronata	ängssork	C. glareolus
	FORSMARK	T	Fungi_Cortinarius armeniacus	C. armeniacus	ängssork	C. glareolus
	FORSMARK	T	Fungi_Cortinarius odorifer	C. odorifer	ängssork	C. glareolus
	FORSMARK	T	Fungi_Cortinarius sp.	Cortinarius sp.	ängssork	C. glareolus
	FORSMARK	T	Fungi_Hypholoma capnoides	H. capnoides	ängssork	C. glareolus
	FORSMARK	T	Fungi_Lactarius deterrimus	L. deterrimus	ängssork	C. glareolus
	FORSMARK	T	Fungi_Lactarius scrobiculatus	L. scrobiculatus	ängssork	C. glareolus
	FORSMARK	T	Fungi_Lactarius trivialis	L. trivialis	ängssork	C. glareolus
	FORSMARK	T	Fungi_Sarcodon imbricatus	S. imbricatus	ängssork	C. glareolus
	FORSMARK	T	Fungi_Suillus granulatus	S. granulatus	ängssork	C. glareolus
	FORSMARK	T	Fungi_Suillus varegatus	S. varegatus	ängssork	C. glareolus
	FORSMARK	T	Fungi_Tricholoma equestre	T. equestre	ängssork	C. glareolus
Ter_kD_ regoUp	SIMPEVARP	T	Pore water_0.3	Porewater	Centrifugated soil_rego_Up_0.3	Centrifugated soil_rego_Up_0.3
	FORSMARK	T	Pore water_0.3	Porewater	Centrifugated soil_rego_Up_0.3	Centrifugated soil_rego_Up_0.3
Ter_kD_rego-Mid	SIMPEVARP	T	Pore water_0.3	Porewater	Centrifugated soil_rego_Mid_0.3	Centrifugated soil_rego_Mid_0.3

ModelName_short	SITE	ECO-SYSTEM	FROM sample_name_Sicada	FROM sample_name_new	TO sample_name_Sicada	TO sample_name_new
kD_regoLow	FORSMARK	T	Pore water_0.3	Porewater	Centrifugated soil_rego_Low_0.3	Centrifugated soil_rego_Low_0.3
cR_watToFish_Lake	FORSMARK	L	filtered water_0.5	filtered water	gädda	E. lucius
	FORSMARK	L	filtered water_0.5	filtered water	gärs	G. cernuus
	FORSMARK	L	filtered water_0.5	filtered water	Mört	R. rutilus
	FORSMARK	L	filtered water_0.5	filtered water	sutare	R. rutilus
	FORSMARK	L	Lake	Lake	gädda	E. lucius
	FORSMARK	L	Lake	Lake	gärs	G. cernuus
	FORSMARK	L	Lake	Lake	Mört	R. rutilus
	FORSMARK	L	Lake	Lake	sutare	R. rutilus
	SIMPEVARP	L	filtered water	filtered water	abborre	P. fluviatilis
	SIMPEVARP	L	filtered water	filtered water	mört	R. rutilus
	SIMPEVARP	L	Lake	Lake	abborre	P. fluviatilis
	SIMPEVARP	L	Lake	Lake	abborre piscivor	P. fluviatilis_piscivore
	SIMPEVARP	L	Lake	Lake	abborre planktivor	P. fluviatilis_planktivore
	SIMPEVARP	L	Lake	Lake	mört	R. rutilus
cR_watToFF_Lake	FORSMARK	L	filtered water_0.5	filtered water	dammussla	Anodonta
	FORSMARK	L	Lake	Lake	dammussla	Anodonta
	SIMPEVARP	L	filtered water	filtered water	dammussla	Anodonta
	SIMPEVARP	L	Lake	Lake	dammussla	Anodonta
Lake_cR_pp_plank	FORSMARK	L	filtered water_0.5	filtered water	kransalger, sjö	Chara
	FORSMARK	L	Lake	Lake	kransalger, sjö	Chara
	SIMPEVARP	L	filtered water	filtered water	Näckros	Nymphaeaceae sp
	SIMPEVARP	L	filtered water	filtered water	Näckros rot	Nymphaeaceae sp_root
	SIMPEVARP	L	Lake	Lake	Näckros	Nymphaeaceae sp
	SIMPEVARP	L	Lake	Lake	näckros blad	Nymphaeaceae sp_leaf
	SIMPEVARP	L	Lake	Lake	Näckros rot	Nymphaeaceae sp_root
Lake_cR_pp_macro	FORSMARK	L	filtered water_0.5	filtered water	kransalger, sjö	Chara
	FORSMARK	L	Lake	Lake	kransalger, sjö	Chara
	SIMPEVARP	L	filtered water	filtered water	Näckros	Nymphaeaceae sp
	SIMPEVARP	L	filtered water	filtered water	Näckros rot	Nymphaeaceae sp_root
	SIMPEVARP	L	Lake	Lake	Näckros	Nymphaeaceae sp
	SIMPEVARP	L	Lake	Lake	näckros blad	Nymphaeaceae sp_leaf
	SIMPEVARP	L	Lake	Lake	Näckros rot	Nymphaeaceae sp_root
Lake_cR_pp_ubent	FORSMARK	L	filtered water_0.5	filtered water	algmatta, sjö_0	microphytobenthos
	FORSMARK	L	Lake	Lake	algmatta, sjö_0	microphytobenthos
Lake_kD_regoUp	FORSMARK	L	Porewater_0	Porewater_0	filtered sediment_0	filtered sediment_0
	SIMPEVARP	L	Porewater_0	Porewater_0	filtered sediment_0	filtered sediment_0
Lake_kD_regoMid	FORSMARK	L	Porewater_25	Porewater_0.25	filtered sediment_25	filtered sediment_0.25
	SIMPEVARP	L	Porewater_15	Porewater_0.15	filtered sediment_15	filtered sediment_0.15

ModelName_short	SITE	ECO-SYSTEM	FROM sample_name_Sicada	FROM sample_name_new	TO sample_name_Sicada	TO sample_name_new
	SIMPEVARP	L	Porewater_20	Porewater_0.2	filtered sediment_20	filtered sediment_0.20
Lake_kD_PM	FORSMARK	L	filtered water_0.5	filtered water	suspenderat material_0.5	suspended matter
	SIMPEVARP	L	filtered water	filtered water	suspenderat material_0	suspended matter
cR_watToCray_Sea	FORSMARK	M	filtered water_0.5	filtered water	Idothea spp	Idothea
	FORSMARK	M	filtered water_tix	filtered water	Idothea spp	Idothea
	FORSMARK	M	Sea	Sea	Idothea spp	Idothea
cR_watToFish_Sea	FORSMARK	M	filtered water_0.5	filtered water	gärs	G. cernuus
	FORSMARK	M	filtered water_0.5	filtered water	mört	R. rutilus
	FORSMARK	M	filtered water_0.5	filtered water	nors	O. eperlanus
	FORSMARK	M	filtered water_Tix	filtered water	gärs	G. cernuus
	FORSMARK	M	filtered water_Tix	filtered water	mört	R. rutilus
	FORSMARK	M	filtered water_Tix	filtered water	nors	O. eperlanus
	FORSMARK	M	Sea	Sea	gärs	G. cernuus
	FORSMARK	M	Sea	Sea	mört	R. rutilus
	FORSMARK	M	Sea	Sea	nors	O. eperlanus
	FORSMARK	M	Sea water	Sea water	Clupea harengus	C. harengus
	SIMPEVARP	M	filtered water	filtered water	abborre	P. fluviatilis
	SIMPEVARP	M	filtered water	filtered water	braxen	A. brama
	SIMPEVARP	M	filtered water	filtered water	flundra	P. flesus
	SIMPEVARP	M	filtered water	filtered water	löja	A. alburnus
	SIMPEVARP	M	filtered water	filtered water	strömming	C. harengus
	SIMPEVARP	M	Sea	Sea	abborre	P. fluviatilis
	SIMPEVARP	M	Sea	Sea	abborre piscivor	P. fluviatilis_piscivore
	SIMPEVARP	M	Sea	Sea	braxen	A. brama
	SIMPEVARP	M	Sea	Sea	flundra	P. flesus
	SIMPEVARP	M	Sea	Sea	löja	A. alburnus
	SIMPEVARP	M	Sea	Sea	strömming	C. harengus
	SIMPEVARP	M	Sea water	Sea water	Clupea harengus	C. harengus
	SIMPEVARP	M	Sea water	Sea water	Gadus morhua	G. morhua
cR_watToFF_Sea	FORSMARK	M	filtered water_0.5	filtered water	Cerastoderma glaucum	C. glaucum
	FORSMARK	M	filtered water_0.5	filtered water	Macoma baltica	M. baltica
	FORSMARK	M	filtered water_Tix	filtered water	Cerastoderma glaucum	C. glaucum
	FORSMARK	M	filtered water_Tix	filtered water	Macoma baltica	M. baltica
	FORSMARK	M	Sea	Sea	Cerastoderma glaucum	C. glaucum
	FORSMARK	M	Sea	Sea	Macoma baltica	M. baltica
	FORSMARK	M	Sea water	Sea water	Macoma Baltica	M. baltica
	FORSMARK	M	Sea water	Sea water	Mytilus edulis	M. edulis
	SIMPEVARP	M	Sea	Sea	blåmussla muskel	M. edulis_muscle
	SIMPEVARP	M	filtered water	filtered water	Blåmussla	M. edulis
	SIMPEVARP	M	Sea water	Sea water	Macoma Baltica	M. baltica
	SIMPEVARP	M	Sea water	Sea water	Mytilus edulis	M. edulis
Sea_cR_pp_plank	FORSMARK	M	filtered water_0.5	filtered water	Växtplankton	phytoplankton
	FORSMARK	M	filtered water_Tix	filtered water	Växtplankton	phytoplankton
	FORSMARK	M	Sea	Sea	Växtplankton	phytoplankton
Sea_cR_pp_macro	FORSMARK	M	filtered water_0.5	filtered water	Pilayella littoralis	P. littoralis
	FORSMARK	M	filtered water_0.5	filtered water	Fucus vesiculosus	F. vesiculosus
	FORSMARK	M	filtered water_0.5	filtered water	Potamogeton pectinatus	P. pectinatus
	FORSMARK	M	filtered water_Tix	filtered water	Fucus vesiculosus	F. vesiculosus

ModelName_short	SITE	ECO-SYSTEM	FROM sample_name_Sicada	FROM sample_name_new	TO sample_name_Sicada	TO sample_name_new
	FORSMARK	M	filtered water_Tix	filtered water	Pilayella littoralis	P. littoralis
	FORSMARK	M	filtered water_Tix	filtered water	Potamogeton pectinatus	P. pectinatus
	FORSMARK	M	Sea	Sea	Fucus vesiculosus	F. vesiculosus
	FORSMARK	M	Sea	Sea	Pilayella littoralis	P. littoralis
	FORSMARK	M	Sea	Sea	Potamogeton pectinatus	P. pectinatus
	FORSMARK	M	Sea water	Sea water	Fucus vesiculosus	F. vesiculosus
	SIMPEVARP	M	filtered water	filtered water	Blåstång	F. vesiculosus
	SIMPEVARP	M	filtered water	filtered water	Kransalg	Chara
	SIMPEVARP	M	filtered water	filtered water	Nate	Potamogeton
	SIMPEVARP	M	filtered water	filtered water	Trådf.grönalg	green algae
	SIMPEVARP	M	Sea	Sea	Blåstång	F. vesiculosus
	SIMPEVARP	M	Sea	Sea	chara	
	SIMPEVARP	M	Sea	Sea	fucus	F. vesiculosus
	SIMPEVARP	M	Sea	Sea	Kransalg	Chara
	SIMPEVARP	M	Sea	Sea	Nate	Potamogeton
	SIMPEVARP	M	Sea	Sea	Trådf.grönalg	green algae
	SIMPEVARP	M	Sea water	Sea water	Fucus vesiculosus	F. vesiculosus
Sea_cR_pp_ubent	FORSMARK	M	filtered water_0.5	filtered water	Mikrofyter MIK1	microphytobenthos
	FORSMARK	M	filtered water_Tix	filtered water	Mikrofyter MIK1	microphytobenthos
	FORSMARK	M	Sea	Sea	Mikrofyter MIK1	microphytobenthos
	FORSMARK	M	filtered water_0.5	filtered water	Mikrofyter MIK2	microphytobenthos
	FORSMARK	M	filtered water_Tix	filtered water	Mikrofyter MIK2	microphytobenthos
	FORSMARK	M	Sea	Sea	Mikrofyter MIK2	microphytobenthos
Sea_kD_regoUp	FORSMARK	M	Porewater_0	Porewater_0	filtered sediment_0	filtered sediment_0
	FORSMARK	M	Porewater_Tix_0	Porewater_0	Sediment 0-3 cm_0	sediment_0-0.03
	FORSMARK	M	Porewater_Tix_3	Porewater_0.03	Sediment 3-6 cm_3	sediment_0.03-0.06
	SIMPEVARP	M	Porewater_0	Porewater_0	filtered sediment_0	filtered sediment_0
Sea_kD_regoMid	FORSMARK	M	Porewater_20	Porewater_0.2	filtered sediment_20	filtered sediment_0.20
	SIMPEVARP	M	Porewater_25	Porewater_0.25	filtered sediment_25	filtered sediment_0.25
Sea_kD_PM	FORSMARK	M	filtered water_0.5	filtered water	suspenderat material_0.5	suspended matter
	FORSMARK	M	filtered water_Tix	filtered water	suspended matter	suspended matter
	SIMPEVARP	M	filtered water	filtered water	suspenderat material_0	suspended matter

Appendix 3

Table A3-1. Site specific carbon data from /Wijnbladh et al. 2008/.

Ecosystem	Description	Carbon content mgC/kgDW
T	Green vegetation (mosses excluded)	508,802
T	Mushrooms	455,087
T	Pasture (same as green vegetation)	508,802
T	Herbivore muscle	443,872
T	Green vegetation consumed by herbivores	508,802
T	Mushrooms consumed by herbivores	455,087
L	Freshwater phytoplankton	1736,6^{71}
L	Freshwater microphytobenthos	380,000
L	Freshwater macrophytes/macroalgae	336,792
L	Freshwater crustacean	3610,0^{02}
L	Freshwater fish	435,349
M	Marine phytoplankton	173,667
M	Marine microphytobenthos	144,000
M	Marine macrophytes/macroalgae	331,090
M	Marine filter feeders	249,250
M	Marine fish	454,056

1: Value for marine phytoplankton
2: Value for marine crustacean

Table A3-2. Comparison between the sites regarding element composition relative carbon. ANOVA based on all available samples of terrestrial green plant parts from both sites. Significant differences have been marked in yellow (ANOVA, p<0.01).

	Difference	Standard Error	t	p-Value	95.00% Confidence Interval	
					Lower	Upper
Fe	–0.279	0.217	–1.282	1	–0.955	0.398
K	0.103	0.123	0.834	1	–0.28	0.485
Al	–0.111	0.262	–0.424	1	–0.928	0.706
Ca	0.095	0.108	0.88	1	–0.241	0.432
Mg	–0.062	0.103	–0.595	1	–0.384	0.261
Mn	–0.327	0.18	–1.818	1	–0.886	0.233
Na	–0.501	0.246	–2.032	0.728	–1.267	0.266
P	0.075	0.073	1.023	1	–0.154	0.304
Si	–0.327	0.152	–2.157	0.552	–0.8	0.145
Ti	–0.035	0.254	–0.138	1	–0.825	0.754
Ag	–0.034	0.141	–0.24	1	–0.473	0.405
As	–0.302	0.204	–1.48	1	–0.938	0.333
Ba	0.192	0.159	1.206	1	–0.303	0.686
Cd	–0.003	0.184	–0.017	1	–0.577	0.571
Cr	–0.214	0.172	–1.244	1	–0.75	0.322
Be	–0.072	0.051	–1.409	1	–0.232	0.088
Co	–0.357	0.157	–2.275	0.421	–0.846	0.132
Cs	0.097	0.203	0.481	1	–0.533	0.728
Ga	–0.151	0.282	–0.537	1	–1.028	0.725
Cu	0.018	0.088	0.209	1	–0.255	0.291

	Difference	Standard Error	t	p-Value	95.00% Confidence Interval	
					Lower	Upper
Hf	0.001	0.289	0.004	1	–0.899	0.901
Li	–0.395	0.177	–2.228	0.47	–0.947	0.157
Hg	–0.594	0.161	–3.699	0.009	–1.094	–0.094
Nb	–0.356	0.274	–1.3	1	–1.21	0.497
Pb	–0.343	0.256	–1.338	1	–1.14	0.455
Mo	–0.188	0.172	–1.095	1	–0.724	0.347
Ni	–0.219	0.115	–1.899	0.967	–0.578	0.14
Rb	0.199	0.138	1.437	1	–0.232	0.629
S	–0.023	0.079	–0.291	1	–0.269	0.223
Sc	–0.342	0.29	–1.181	1	–1.245	0.56
Sn	–0.379	0.246	–1.539	1	–1.145	0.387
Sb	–0.277	0.206	–1.348	1	–0.917	0.363
Se	–0.178	0.06	–2.977	0.072	–0.364	0.008
Sr	–0.147	0.086	–1.71	1	–0.414	0.12
Th	–0.216	0.24	–0.9	1	–0.963	0.531
Ta	–0.29	0.117	–2.475	0.262	–0.655	0.075
U	–0.165	0.343	–0.48	1	–1.233	0.904
W	0.041	0.199	0.209	1	–0.577	0.659
Tl	–0.058	0.154	–0.375	1	–0.537	0.422
V	–0.162	0.271	–0.599	1	–1.006	0.682
Y	–0.804	0.264	–3.049	0.06	–1.624	0.017
Zr	–0.229	0.277	–0.825	1	–1.091	0.634
Zn	0.186	0.119	1.557	1	–0.186	0.557
La	–1.119	0.246	–4.554	0.001	–1.883	–0.354
Nd	–0.977	0.266	–3.672	0.01	–1.805	–0.149
Ce	0.005	0.307	0.016	1	–0.923	0.933
Pr	–1.06	0.271	–3.91	0.005	–1.903	–0.216
Sm	–0.842	0.271	–3.102	0.051	–1.686	0.003
Gd	–0.814	0.273	–2.981	0.071	–1.665	0.036
Dy	–0.72	0.273	–2.635	0.176	–1.569	0.13
Tm	–0.166	0.223	–0.747	1	–0.86	0.527
Eu	–0.574	0.253	–2.27	0.426	–1.361	0.213
Tb	–0.462	0.25	–1.849	1	–1.239	0.316
Ho	–0.445	0.255	–1.746	1	–1.237	0.348
Er	–0.604	0.265	–2.282	0.414	–1.429	0.22
Lu	–0.139	0.22	–0.633	1	–0.826	0.547
I	–0.731	0.197	–3.718	0.009	–1.342	–0.119
Yb	–0.558	0.268	–2.081	0.653	–1.392	0.276
Cl	1.299	0.178	7.302	8.08E–08	0.745	1.853
B	0.012	0.1	0.116	1	–0.3	0.323
N	0.024	0.083	0.291	1	–0.234	0.282
Br	–0.489	0.252	–1.939	0.889	–1.273	0.296

Table A3-3. Comparison between large and small herbivores. Statistical significant differences are marked in green (ANOVA, p<0.01).

	Type III SS	Numerator df	Denominator df	Mean Squares	F-Ratio	p-Value
Fe	0.027	1	31	0.027	2.042	0.163
K	0.015	1	31	0.015	2.867	0.1
Al	6.975	1	31	6.975	34.91	1.59E–06
Ca	3.79	1	31	3.79	57.726	1.45E–08
Mg	0.001	1	31	0.001	0.208	0.652
Mn	2.482	1	31	2.482	27.18	1.17E–05
P	4.95E–04	1	31	4.95E–04	0.094	0.761
Si	0.28	1	31	0.28	5.633	0.024
Ti	0.325	1	31	0.325	2.06	0.161
Ag	2.039	1	31	2.039	48.778	7.74E–08
As	0.005	1	31	0.005	0.062	0.805
Ba	1.061	1	28	1.061	9.93	0.004
Be	2.181	1	31	2.181	47.292	1.04E–07
Cd	0.036	1	31	0.036	0.106	0.747
Co	0.586	1	31	0.586	4.124	0.051
Cr	4.13	1	31	4.13	83.809	2.53E–10
Cs	0.513	1	31	0.513	1.372	0.25
Ga	1.996	1	31	1.996	68.658	2.33E–09
Cu	0.057	1	31	0.057	1.621	0.212
Li	0.03	1	31	0.03	0.268	0.608
Hg	0.754	1	31	0.754	5.114	0.031
Nb	2.767	1	31	2.767	23.757	3.08E–05
Pb	2.184	1	31	2.184	19.337	1.20E–04
S	0.01	1	31	0.01	3.302	0.079
Mo	2.369	1	31	2.369	50.293	5.75E–08
Ni	4.279	1	31	4.279	45.064	1.64E–07
Rb	0.003	1	31	0.003	0.032	0.859
Sb	3.56	1	31	3.56	40.693	4.19E–07
Sc	0.012	1	31	0.012	0.167	0.686
Se	0.06	1	31	0.06	0.452	0.506
Sn	0.402	1	31	0.402	1.723	0.199
Sr	1.23	1	25	1.23	12.575	0.002
U	8.445	1	31	8.445	63.137	5.70E–09
Zr	9.165	1	31	9.165	74.596	9.39E–10
Zn	3.624	1	31	3.624	215.063	1.67E–15
La	5.086	1	31	5.086	29.125	6.88E–06
Nd	8.528	1	31	8.528	48.122	8.81E–08
Cl	1.92	1	31	1.92	20.825	7.48E–05
I	0.254	1	31	0.254	16.493	3.08E–04
N	0.008	1	37	0.008	0.67	0.418
B	0.206	1	31	0.206	1.831	0.186
Br	0.728	1	31	0.728	1.815	0.188

Table A3-4. Comparison between herbivores from Forsmark and Laxemar-Simpevarp areas. Statistical significant differences are marked in green (ANOVA, p<0.01). 'TYP' denotes herbivore size.

		Numerator df	Denominator df	F-Ratio	p-Value
Cs	SITE$	1	29	22.718	4.86E–05
	TYP$	1	29	0.788	0.382
	SITE$*TYP$	1	29	0.012	0.912
Rb	SITE$	1	29	32.895	3.30E–06
	TYP$	1	29	0.304	0.586
	SITE$*TYP$	1	29	0.598	0.446
Se	SITE$	1	29	31.119	5.09E–06
	TYP$	1	29	0.038	0.847
	SITE$*TYP$	1	29	4.407	0.045
Cu	SITE$	1	29	12.566	0.001
	TYP$	1	29	4.64	0.04
	SITE$*TYP$	1	29	2.457	0.128
Hg	SITE$	1	29	5.193	0.03
	TYP$	1	29	6.877	0.014
	SITE$*TYP$	1	29	2.664	0.113
Si	SITE$	1	29	16.72	3.14E–04
	TYP$	1	29	7.737	0.009
	SITE$*TYP$	1	29	9.835	0.004
Li	SITE$	1	29	21.68	6.59E–05
	TYP$	1	29	0.015	0.905
	SITE$*TYP$	1	29	4.476	0.043
Br	SITE$	1	29	1.899	0.179
	TYP$	1	29	1.314	0.261
	SITE$*TYP$	1	29	0.059	0.811

Table A3-5. Summary of ANOVA analysis of fish samples. Linear model based on logged concentrations relative to carbon. Statistical significant differences are marked in green (ANOVA, p<0.05).

	Effect	N DF	D DF	F-Ratio	p-Value
Fe	SITE$	1	41	22,486	2,56E-05
	EKOSYSTEM$	1	41	7,056	0,011
	SITE$*EKOSYSTEM$	1	41	4,651	**0,037**
K	SITE$	1	41	27,173	5,64E-06
	EKOSYSTEM$	1	41	8,084	0,007
	SITE$*EKOSYSTEM$	1	41	1,077	0,305
Al	SITE$	1	41	0,936	0,339
	EKOSYSTEM$	1	41	3,776	0,059
	SITE$*EKOSYSTEM$	1	41	8,541	**0,006**
Ca	SITE$	1	41	44,711	4,57E-08
	EKOSYSTEM$	1	41	16,401	2,22E-04
	SITE$*EKOSYSTEM$	1	41	42,594	**7,72E-08**
Mg	SITE$	1	41	9,012	0,005
	EKOSYSTEM$	1	41	0,775	0,384
	SITE$*EKOSYSTEM$	1	41	5,553	0,023
Mn	SITE$	1	41	16,728	1,97E-04
	EKOSYSTEM$	1	41	23,481	1,84E-05
	SITE$*EKOSYSTEM$	1	41	39,205	**1,84E-07**
Na	SITE$	1	41	17,306	1,59E-04
	EKOSYSTEM$	1	41	0,121	0,73
	SITE$*EKOSYSTEM$	1	41	2,176	0,148
P	SITE$	1	41	25,544	9,42E-06
	EKOSYSTEM$	1	41	33,632	8,35E-07
	SITE$*EKOSYSTEM$	1	41	50,194	**1,25E-08**
Si	SITE$	1	41	0,559	0,459
	EKOSYSTEM$	1	41	0,008	0,93
	SITE$*EKOSYSTEM$	1	41	0,022	0,882
Ti	SITE$	1	41	14,575	4,47E-04
	EKOSYSTEM$	1	41	4,018	0,052
	SITE$*EKOSYSTEM$	1	41	1,827	0,184
Ag	SITE$	1	33	0,104	0,749
	EKOSYSTEM$	1	33	0,015	0,905
	SITE$*EKOSYSTEM$	0	33	.	.
As	SITE$	1	41	0,327	0,571
	EKOSYSTEM$	1	41	112,283	**2,61E-13**
	SITE$*EKOSYSTEM$	1	41	1,876	0,178
Ba	SITE$	1	31	4,435	0,043
	EKOSYSTEM$	1	31	0,115	0,736
	SITE$*EKOSYSTEM$	1	31	14,712	**0,001**
Be	SITE$	1	33	0,022	0,884
	EKOSYSTEM$	1	33	0,045	0,834
	SITE$*EKOSYSTEM$	0	33	.	.
Cd	SITE$	1	41	26,866	6,21E-06
	EKOSYSTEM$	1	41	37,965	2,55E-07
	SITE$*EKOSYSTEM$	1	41	24,545	**1,30E-05**
Co	SITE$	1	41	0,013	0,91
	EKOSYSTEM$	1	41	24,617	1,27E-05
	SITE$*EKOSYSTEM$	1	41	19,064	**8,38E-05**
Cr	SITE$	1	41	3,874	0,056
	EKOSYSTEM$	1	41	0,365	0,549
	SITE$*EKOSYSTEM$	1	41	0,243	0,624
Cs	SITE$	1	41	33,715	8,15E-07
	EKOSYSTEM$	1	41	43,03	6,92E-08
	SITE$*EKOSYSTEM$	1	41	16,029	**2,56E-04**
Ga	SITE$	1	33	0,218	0,643
	EKOSYSTEM$	1	33	0,222	0,641
	SITE$*EKOSYSTEM$	0	33	.	.
Cu	SITE$	1	41	13,412	0,001
	EKOSYSTEM$	1	41	25,963	8,25E-06
	SITE$*EKOSYSTEM$	1	41	4,966	0,031
Hf	SITE$	1	33	2,617	0,115
	EKOSYSTEM$	1	33	0,379	0,542
	SITE$*EKOSYSTEM$	0	33	.	.
Hg	SITE$	1	41	0,17	0,682
	EKOSYSTEM$	1	41	17,861	**1,29E-04**
	SITE$*EKOSYSTEM$	1	41	2,021	0,163
Li	SITE$	1	41	792,674	9,99E-16
	EKOSYSTEM$	1	41	56,736	2,95E-09
	SITE$*EKOSYSTEM$	1	41	72,432	**1,33E-10**
Mo	SITE$	1	40	16,844	**1,94E-04**
	EKOSYSTEM$	1	40	1,254	0,27
	SITE$*EKOSYSTEM$	1	40	1,518	0,225
Nb	SITE$	1	33	0,06	0,808
	EKOSYSTEM$	1	33	1,178	0,286
	SITE$*EKOSYSTEM$	0	33	.	.
Ni	SITE$	1	41	9,094	0,004
	EKOSYSTEM$	1	41	19,434	7,34E-05
	SITE$*EKOSYSTEM$	1	41	17,796	**1,32E-04**
Pb	SITE$	1	41	17,534	1,46E-04
	EKOSYSTEM$	1	41	22,607	2,46E-05
	SITE$*EKOSYSTEM$	1	41	22,621	**2,45E-05**
Rb	SITE$	1	41	36,489	3,79E-07
	EKOSYSTEM$	1	41	177,062	9,99E-16
	SITE$*EKOSYSTEM$	1	41	25,457	**9,69E-06**
S	SITE$	1	41	10,253	0,003
	EKOSYSTEM$	1	41	11,909	0,001
	SITE$*EKOSYSTEM$	1	41	0,23	0,634
Sb	SITE$	1	33	0,031	0,86
	EKOSYSTEM$	1	33	0,009	0,923
	SITE$*EKOSYSTEM$	0	33	.	.
Sc	SITE$	1	33	10,786	0,002
	EKOSYSTEM$	1	33	1,058	0,311
	SITE$*EKOSYSTEM$	0	33	.	.
Se	SITE$	1	41	4,195	0,047
	EKOSYSTEM$	1	41	39,92	1,53E-07
	SITE$*EKOSYSTEM$	1	41	51,256	**9,83E-09**
Sn	SITE$	1	33	0,064	0,802
	EKOSYSTEM$	1	33	5,113	0,03
	SITE$*EKOSYSTEM$	0	33	.	.
Sr	SITE$	1	33	1,138	0,294
	EKOSYSTEM$	1	33	0,132	0,719
	SITE$*EKOSYSTEM$	0	33	.	.
Ta	SITE$	1	33	4,975	0,033
	EKOSYSTEM$	1	33	0,182	0,672
	SITE$*EKOSYSTEM$	0	33	.	.
Th	SITE$	1	41	2,789	0,103
	EKOSYSTEM$	1	41	0,146	0,705
	SITE$*EKOSYSTEM$	1	41	1,202	0,279
Tl	SITE$	1	33	0,878	0,355
	EKOSYSTEM$	1	33	2,163	0,151
	SITE$*EKOSYSTEM$	0	33	.	.
U	SITE$	1	33	0,136	0,715
	EKOSYSTEM$	1	33	0,129	0,722
	SITE$*EKOSYSTEM$	0	33	.	.
W	SITE$	1	33	18,592	**1,38E-04**
	EKOSYSTEM$	1	33	0,082	0,776
	SITE$*EKOSYSTEM$	0	33	.	.
Y	SITE$	1	33	2,559	0,119
	EKOSYSTEM$	1	33	0,015	0,902
	SITE$*EKOSYSTEM$	0	33	.	.
V	SITE$	1	41	2,921	0,095
	EKOSYSTEM$	1	41	3,011	0,09
	SITE$*EKOSYSTEM$	1	41	20,369	**5,29E-05**
Zn	SITE$	1	41	18,722	9,47E-05
	EKOSYSTEM$	1	41	19,979	6,06E-05
	SITE$*EKOSYSTEM$	1	41	6,133	0,017
Zr	SITE$	1	41	0,001	0,974
	EKOSYSTEM$	1	41	6,175	0,017
	SITE$*EKOSYSTEM$	1	41	7,002	0,011
Cl	SITE$	1	38	3,072	0,088
	EKOSYSTEM$	1	38	0,341	0,563
	SITE$*EKOSYSTEM$	1	38	2,817	0,101
I	SITE$	1	38	11,219	0,002
	EKOSYSTEM$	1	38	2,664	0,111
	SITE$*EKOSYSTEM$	1	38	84,843	**3,19E-11**
N	SITE$	1	47	0,794	0,377
	EKOSYSTEM$	1	47	3,075	0,086
	SITE$*EKOSYSTEM$	1	47	0,04	0,842
B	SITE$	1	33	159,67	3,42E-14
	EKOSYSTEM$	1	33	0,107	0,746
	SITE$*EKOSYSTEM$	0	33	.	.
Br	SITE$	1	38	0,212	0,648
	EKOSYSTEM$	1	38	0,63	0,432
	SITE$*EKOSYSTEM$	1	38	36,881	**4,52E-07**