



KESKKONNAAMET

# Monitoring of Radionuclides in the Baltic Sea 2014

**Estonia  
Environmental Board  
Radiation Safety Department**

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# Monitoring programme

- Seawater: 5 stations
- Sediment: 2 stations
- Biota:
  - Fish, 2 areas
  - Aquatic plants, 2 areas



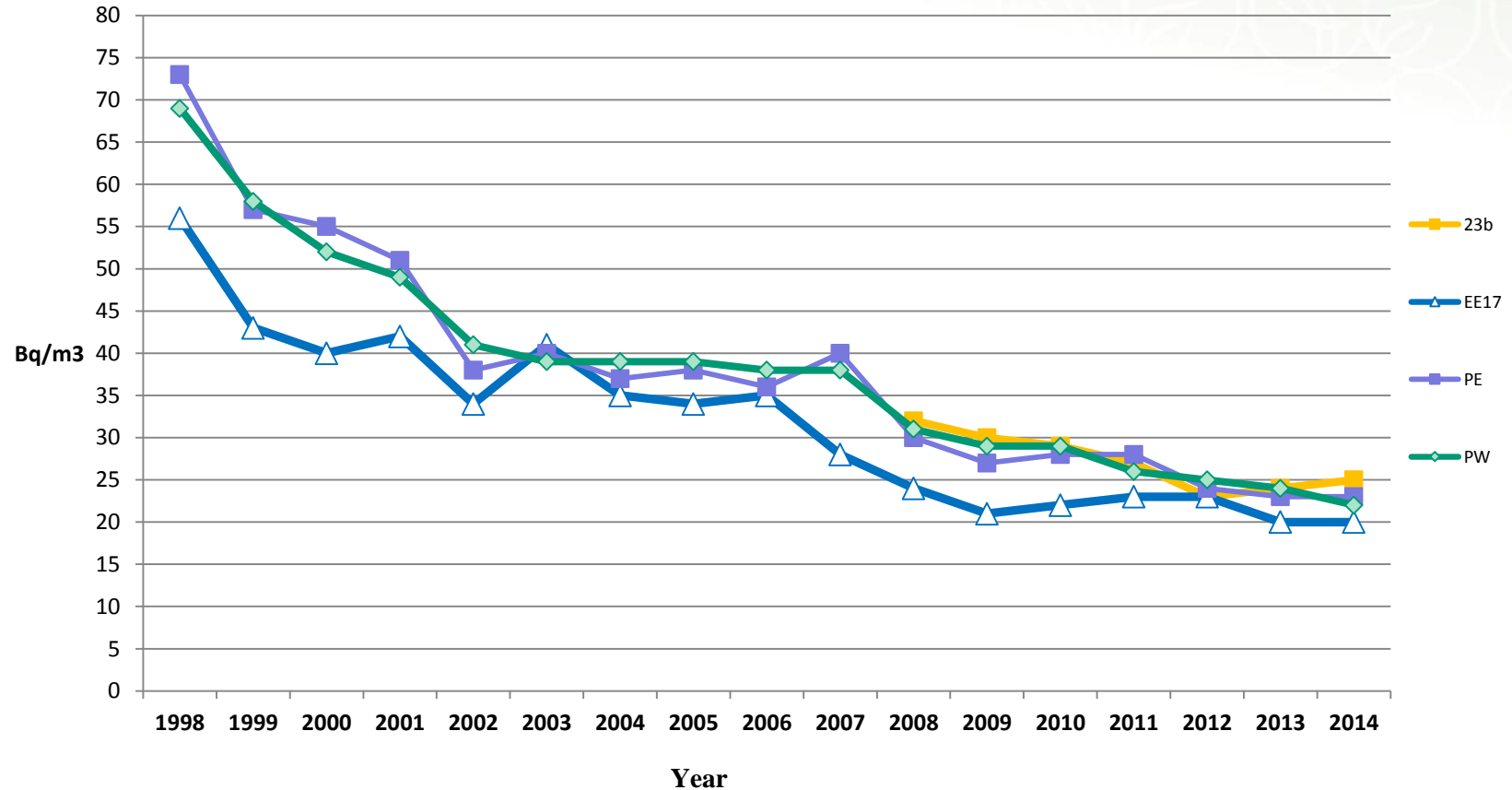
# Cs-137 in sea water

## 1. Surface sea water

Year	Sampling station	Sampling date	Total depth (m)	Temp (°C)	Salinity (‰)	Cs-137 (Bq m <sup>-3</sup> )
2014	23 b 59°18,39' N 23°16,93' E	25.08.2014	84	17,2	6,2	25±3
	EE17 59°43,00' N 25°00,87' E	25.08.2014	110	17,6	5,5	20±3
	PE 59°22,80' N 24°09,25' E	25.08.2014	20	18,1	5,7	23±2
	PW 59°20,05' N 24°01,94' E	25.08.2014	18	17,8	5,7	22±3
	N8 59°28,46' N 28°00,48' E	25.08.2014	11	18,2	3,7	13±2



# Cs-137 concentrations (Bq m<sup>-3</sup>) in surface water in Gulf of Finland 1998-2014



# Cs-137 in aquatic plants in 2014

- **Fucus vesiculosus:**

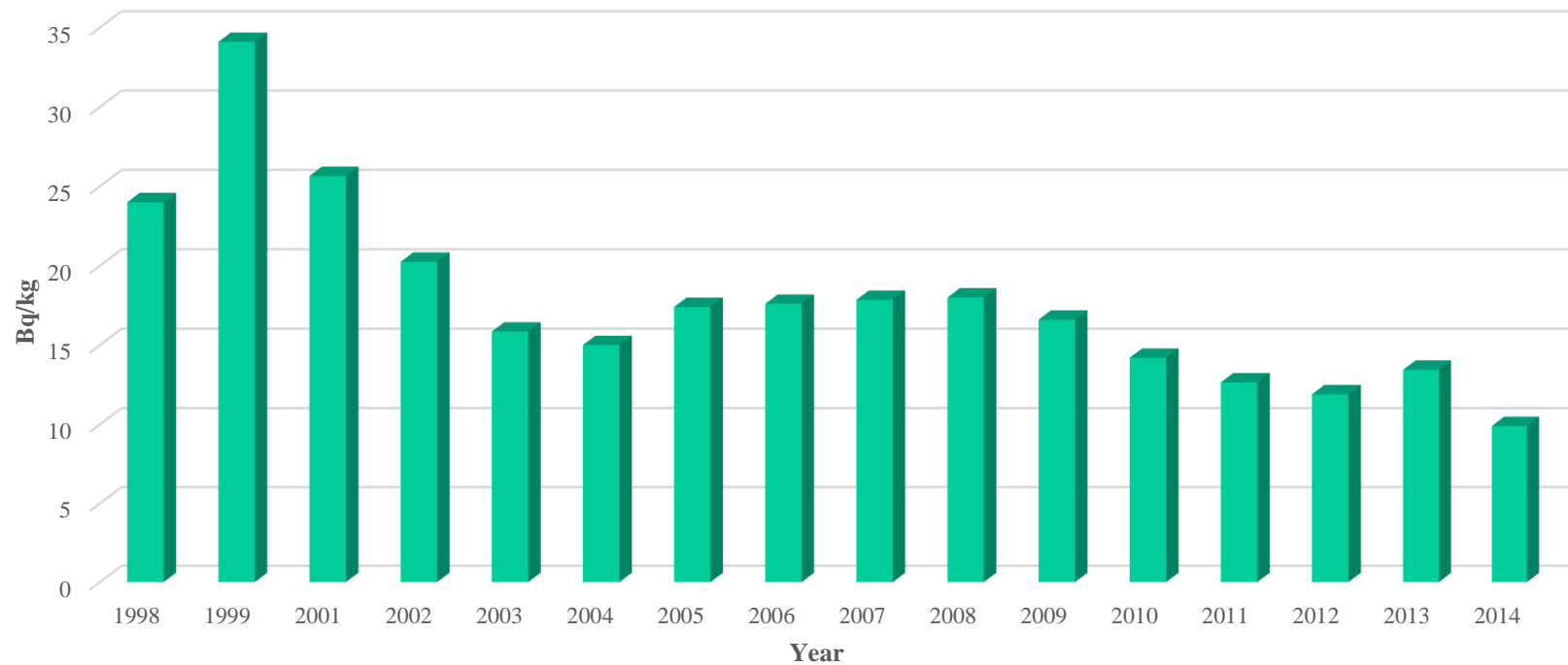
<b>Year</b>	<b>Sampling station</b>	<b>Sampling date</b>	<b>Dry weight (kg)</b>	<b>Cs-137 (Bq/kg)</b>
<b>2014</b>	<b>Paldiski 59°21,7' N 24°02,33' E</b>	<b>26.10.2014</b>	<b>0,32</b>	<b>9,8±1,2</b>
<b>2014</b>	<b>Sillamäe (Kunda) 59°32,85' N 26°39,05' E</b>	<b>11.10.2014</b>	<b>0,31</b>	<b>10,0±1,0</b>



# Cs-137 in aquatic plants in 1998 - 2014

- The average concentration of Cs-137 (Bq/kg d.w.) in *Fucus vesiculosus*:

Cs-137 (Bq/kg d.w.) in *Fucus vesiculosus*



# Cs-137 in Fish 2014

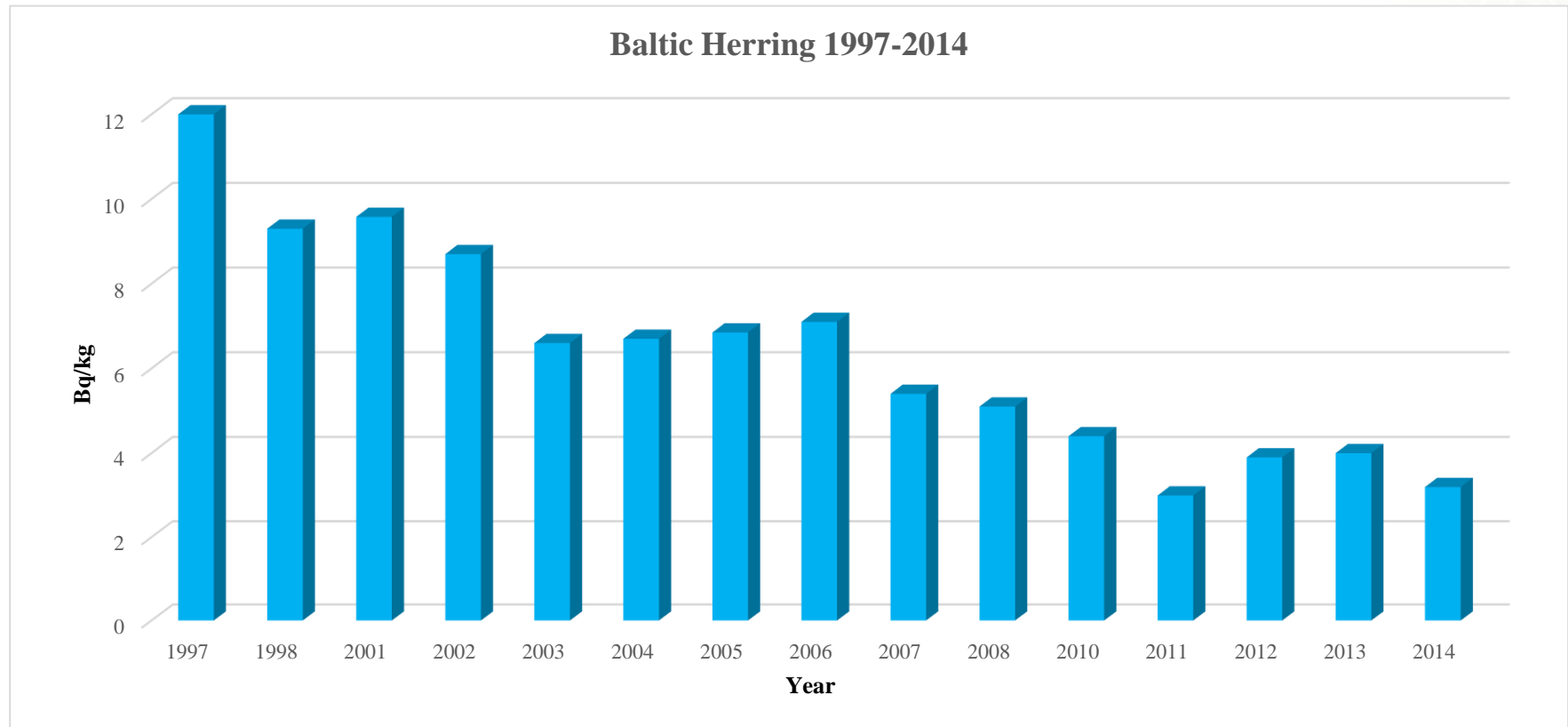
- Fish 2014

Year	Sampling area	Sampling date	Fish	Wet weight (kg)	Cs-137 ( Bq/kg)
2014	Aseri 59°27,95' N 26°51,97' E	16.09.2014	Baltic herring	1,9	3,2 ± 0,2
2014	Paldiski 59°20,15' N 24°03,33' E	16.09.2014	Flounder	1,8	2,8 ± 0,2



# Cs-137 in Fish 1997 - 2014

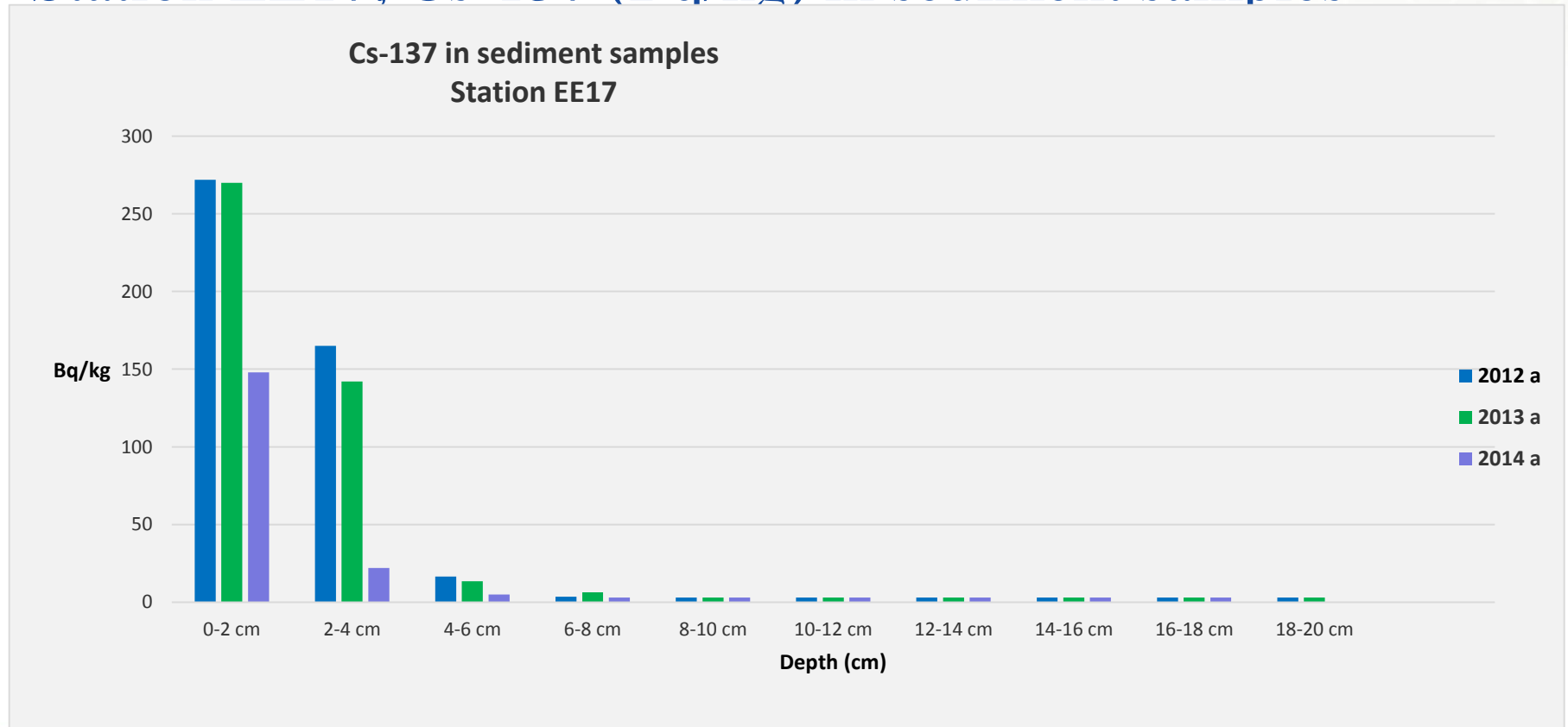
- The average concentration of Cs-137 (Bq/kg f.w.) in Baltic Herring





# Cs-137 in sediment samples 2014

- Station EE17, Cs-137 (Bq/kg) in sediment samples



# Cs-137 in sediment samples 2014

- Station 23b, Cs-137 (Bq/kg) in sediment samples

