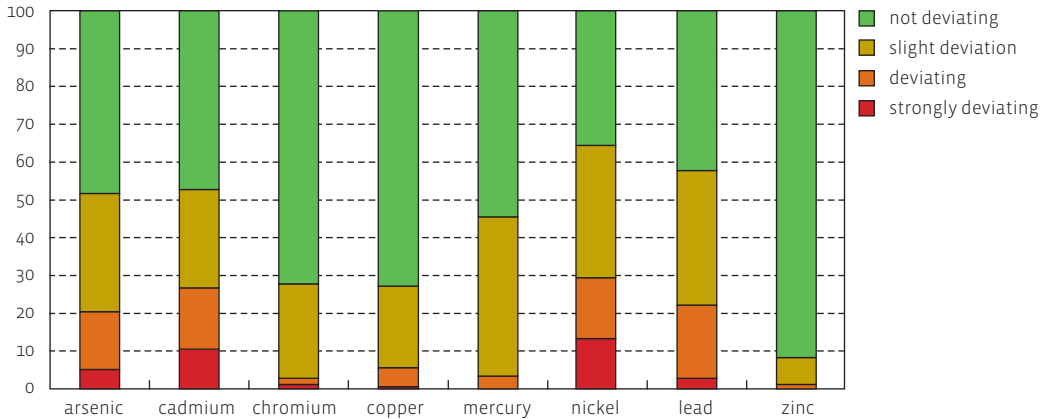




measurement points (%)

2001 - 2007



Source: INBO

## Eel as a bio-indicator for heavy metals in fresh water

A number of heavy metals tend to accumulate in the food chain. Their presence in the muscle tissue of eel has been monitored for some time by INBO. Eel are also a very suitable bio-indicator because of their high fat content, their place at the top of the aquatic food pyramid, their long location-tied way of life on the river bottom and their wide distribution. Reference values are used for evaluating the concentrations found.

In the period 2001-2007 the most deviations in concentrations of heavy metals in eel were observed for cadmium, nickel, arsenic and lead, where cadmium and nickel are measured the most often as strongly deviating.

Compared to the European consumption standards, at 1.5 % of the measurement points an excess over the cadmium standard (100 ng/g fresh weight) and at 1 % an excess over the lead standard (400 ng/g fresh weight). Individual eels that exceed the standards are however found at several places.

From a recent trend analysis of the data for cadmium, mercury and lead there appears to be a meaningful improvement between 1994 and 2007 only for lead. The cadmium and mercury concentrations remained virtually stable. For the other metals there is only data from 2000 so that the analysis is less robust. The arsenic and nickel concentrations decreased between 2000 and 2007, the situation for chromium remained virtually stable, that of copper and zinc did not change.