

Do all hydro-electric developments result in an increase of methylmercury in the environment?

It is well documented that the flooding of land during the creation of a reservoir for hydroelectric or other purposes leads to an increase in methylmercury concentrations in the reservoir water and organisms. Whereas the increase in water concentrations happens fast (days to weeks), elevated methylmercury concentrations in organisms, particularly fish, are reliably measured only after several months or years, depending on age of the organisms and their position in the food chain. In some cases, the effects of reservoir flooding have also been documented many kilometers downstream in the river, but often downstream effects are unknown. The maximum increase in methylmercury concentrations in fish varies among reservoirs. The amount of increase depends on the size of the area being newly flooded relative to the size of the entire reservoir, the type and amount of organic soils in the newly flooded area, the water residence time in the reservoir, and several other factors.