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The importance of the marine ecosystem to the American mink

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The invasive American mink (Neovison vison) in Iceland is a generalist carnivore, considered to select prey mostly based on its frequency and availability. Stable isotopes in mink tissue can reveal information on the relative importance of prey of marine and terrestrial origin. Tissue samples were collected from 317 mink carcasses (165 males and 152 females) obtained from mink hunters in the Snæfellsnes Peninsula in the years from 2001-2009. The overall population was characterised by a continuous gradient between the two extremes (terrestrial vs. marine diet), although the isotopic profiles revealed the overwhelming importance of the marine environment to the majority of mink (72% of males and 64% of females had marine δ13C values between -18 and -12). This is particularly interesting in the light of a reduction in mink population size from 2003, occurring simultaneously with a severe breeding failure of many seabirds. Since seabirds only make up a small fraction of mink diet, it seems likely that the difficulties of both mink and seabirds have a common explanation connected to changes in the marine environment, which may be associated with global climate change.