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Title: Organochlorine compounds and trace elements in common loon (*Gavia immer*) eggs from western Maine, 2001 – 2004.

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Abstract: Between 2001 and 2004, ten non-viable eggs were recovered from common loon (*Gavia immer*) nests in western Maine and analyzed for organochlorine compounds and trace elements. Dioxin toxic equivalents (TCDD-TEQ) ranged from 11 to 388 pg/g, fresh wet weight. Dioxin and furan congeners comprised up to 34% of the TCDD-TEQ in four eggs and were below detection in six eggs. Dioxin-like PCB congeners formed the majority of the TCDD-TEQ (66 to 100%). Mean Total PCB concentration in loon eggs was 1.26 µg/g. DDE ranged from 0.07 to 1.04 µg/g (mean 0.29 µg/g). Other organochlorines were below detection limits or at low concentrations (<10 ng/g). Mean concentrations of trace elements in loon eggs (µg/g, fww) were: copper 0.75, mercury 0.76, selenium 0.54, strontium 0.65, and zinc 9.6. Arsenic, cadmium, chromium, nickel, and lead were below detection or sporadically detected at low levels (<0.05 µg/g). TCDD-TEQ concentrations in two eggs were above thresholds suggested for osprey and bald eagles. Total PCB, DDE, and most trace elements occurred at levels below effects thresholds and lower than concentrations reported in New Hampshire studies conducted in the 1970s and 1980s. Mercury levels were elevated compared to recent collections from other regions of the United State.