Fonofos poisons raptors and waterfowl several months after granular application. Wilson L.K., Elliott J.E., Birmingham A.L. – Canadian Wildlife Service, Delta, BC; McAdie M – BC Ministry of Environment, Nanaimo, BC; Trudeau, S, Mineau P – Canadian Wildlife Service, Ottawa, ON. The farmlands of the Fraser River delta of British Columbia are used for intensive agriculture and provide important habitat for migratory birds. Local production of potatoes requires management of wireworm (Agriotes spp.), an introduced pest; in 1994, fonofos (Dyfonate G) became the recommended insecticidal option. Over the ensuing five years as part of an ongoing wildlife monitoring program, we confirmed that 15 raptors, including 12 bald eagles (Haliaeetus leucocephalus), found dead or debilitated in the Delta had severely inhibited brain and/or plasma cholinesterase activity and fonofos residues in ingesta. Of those ingesta samples, 14 contained duck remains. Another seven bald eagles had severe cholinesterase inhibition, but without evidence of fonofos residues. During the winters of 1996-97 and 1997-98, approximately 420 ha of potato fields, half of which had been treated the previous spring with fonofos, and the remainder untreated, were searched weekly for evidence of wildlife mortality. Waterfowl outnumbered other species in field-use counts and comprised the greatest proportion of birds found dead. There was evidence of 211 wildlife remains, most having been scavenged. 35 intact carcasses were suitable for post-mortem examination and/or toxicology analyses; of those, 30 brains were assayed for cholinesterase activity levels, with 5 of 18 waterfowl being severely depressed (average inhibition 72%, range: 64-81%). The gastrointestinal (GI)-tract of a mallard found in a field treated with granular product contained 49 µg/g fonofos residues, linking waterfowl mortality with labelled use of the product. The findings demonstrate the risk of poisoning by anti-cholinesterase where non-target wildlife forage intensively in farmed fields.