Ecological Risk Assessment for the Bay of Fundy:

DDT and Mercury

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1.0 Introduction

The Bay of Fundy supports a high diversity of marine life and is an ecologically and economically critical resource for the region. Despite its importance, little is known about whether contaminants are currently threatening the species that inhabit the Bay. It has been more than three decades since the pesticide DDT was banned for use in North America. However, it can still be found in this region because of its persistence and because it is transported long distances in air and water currents from tropical areas where it is still used. Another contaminant of concern is mercury. In contrast to DDT, mercury is present naturally in the environment but its levels in aquatic systems and biota have also been affected by human activities such as burning of fossil fuels or mining. Both DDT and the organic form of mercury concentrate through aquatic food webs to levels that can cause health problems for fish eaters or the fish themselves. The following document provides an overview on these two contaminants of concern, reviews the concentrations of DDT and Hg that have been measured in wildlife in the Bay of Fundy, and assesses whether these levels may be posing a risk to these species.

2.0 Mercury

2.1 Sources of Mercury

Mercury (Hg) is a naturally occurring element that is found in the earth's crust. A number of natural processes contribute to background levels of mercury in the atmosphere and in terrestrial and aquatic environments. Volcanic emissions, undersea vents and forest fires all constitute natural sources of mercury release (Health Canada 2009). The weathering of mercury-rich rocks can also release it into soils and aquatic environments (Health Canada 2009). Natural levels of mercury can vary from one location to the next because of differences in geology; some rocks contain more mercury than others (Environment Canada 2002). For example, deposits of mercury-rich volcanic rock result in higher background concentrations of the metal along parts of the Nova Scotian coast of the Bay of Fundy (Loring 1982).

Although mercury is released into the environment through natural processes, human activities have increased its levels well above what is naturally present. The metal has a variety of industrial applications and is often released as a result of coal-fired power generation, metal mining and metal smelting (Health Canada 2009). In addition, mercury can also be found in a number of household items including thermometers, thermostats, electrical switches and batteries (Health Canada 2011). Improper disposal of these products can result in mercury contaminated runoff from landfills, though contributions of mercury from solid waste disposal sites appear to be minimal (Slack et al. 2005). Municipal waste incineration and wastewater treatment are also sources of mercury and other heavy metals (Health Canada 2009).

Government regulation beginning mainly in the 1970s has drastically reduced mercury releases due to human activities, both around the globe and within the Bay of Fundy region (Health Canada 2011). Sunderland et al. (2010) estimate that concentrations of mercury in the waters of the Passamaquoddy Bay (an embayment of the Bay of Fundy) have decreased by 40% since the 1960s. However, despite these improvements, the long term impacts of historical sources as well as the existence of current inputs make mercury contamination an ongoing concern for the Bay region. Historical sources of mercury in the area include agricultural applications, chemicals employed by the pulp and paper industry and a number of mercury-cell chlor-alkali plants (Sunderland and Chmura 2000). A chlor-alkali plant in Dalhousie, New Brunswick continues to be the only remaining mercury cell plant operating in Canada, although concentrations of mercury released in the wastewaters from this facility are tightly controlled under the Fisheries Act. Other current point source inputs of mercury in the Bay area include atmospheric emissions from the Coleson Cove power plant as well as the Lancaster wastewater treatment plant (Hung and Chmura 2006). Sunderland et al. (2010) report that base metal smelting, municipal waste disposal, and the combustion of fossil fuels now constitute the greatest sources of mercury in Atlantic Canada. Furthermore, there is evidence to suggest that aquaculture operations within the Bay may contributing to the enrichment of sediments with organic material (material containing carbon), which enhances the production of methylmercury (MeHg), the form that concentrates up through food webs, by bacteria (Sunderland et al. 2006).

2.2 Fate of Mercury in Marine Systems

There are a variety of routes by which mercury can enter the Bay of Fundy. Outfall from municipal sewage pipes, wastewater treatment facilities, and industrial operations along the coast are some examples of direct inputs (Sunderland et al. 2006). Mercury can also be transported in the waters of the numerous rivers and their associated tributaries that drain into the Bay of Fundy. Sources of mercury within these watersheds, including runoff from municipalities, agriculture and industry, all represent more diffuse inputs of mercury into the Bay (Loring 1982). Furthermore, Hg can be transported through the air over long distances. It can then be deposited in rain or fog (wet deposition) or absorbed directly from the air into the Bay (dry deposition) (Ritchie et al. 2006). Atmospheric deposition appears to be a significant source of mercury in the Bay of Fundy region. Atlantic Canada and the Northeastern United States have been estimated to account for 12% of combined Canadian and US mercury emissions (Pilgrim et al. 2000). A recent evaluation revealed that, although direct deposition of mercury into the Bay appears to be minimal (roughly 4% of external mercury inputs), atmospheric deposition over the entire catchment accounts for up to 78% of mercury loading from river waters (Sunderland et al. 2010). Sunderland et al. (2012) estimated that the main sources of total Hg into the Gulf of Maine/Bay of Fundy are riverine inputs (5%), wastewaters from industries and municipalities (8%), atmospheric deposition (28%) and oceanographic circulation (59%).

Chronicling the fate of Hg in the environment can be a difficult task as mercury cycling involves a dynamic set of processes that are influenced by environmental factors (temperature, pH, composition of sediments, etc.). The fate of mercury in marine environments largely depends on its form; three main forms of mercury exist in salt waters: elemental (Hg^0), inorganic (Hg^{II}), and organic mercury (MeHg) (Fitzgerald et al. 2007). Mercury can be converted from one form to the other, with Hg^{II} acting as an intermediate between elemental and organic Hg. Inorganic mercury often enters marine environments through atmospheric deposition or through input from rivers (Fitzgerald et al. 2007). In the water, Hg^{II} can be converted to Hg^0 and subsequently lost back to the atmosphere through a process involving light (Ci et al. 2011). Alternatively, Hg^{II} can combine with particles in the water and undergo sedimentation. As such, the sediments of estuarine environments tend to act as mercury "sinks", preventing a large amount from being carried to the world's oceans (Fitzgerald et al. 2007). Within sediments, some types of bacteria can convert inorganic mercury to MeHg and this appears to be the dominant way that MeHg is formed within coastal environments such as the Bay of Fundy (Fitzgerald et al. 2007).

Organic mercury (MeHg) is the most biologically relevant form of mercury and poses the greatest concern for human health. This is because it has the ability to bioaccumulate, meaning that it can concentrate within the tissues of organisms because it is retained more efficiently than it is excreted (Environment Canada 2002). MeHg is taken up by aquatic organisms both directly from the water and from the diet. It is also subject to a process called biomagnification in which increasing concentrations are found within organisms that are higher up in the food web (organisms at higher trophic levels) (Environment Canada 2002). As a result, large, predatory fish such as shark, swordfish and tuna, can contain levels of mercury that are considered unsafe for human consumption and that are many times (up to 10^6) higher than what is measured in the water (Environment Canada 2002).

In addition to trophic level, a number of other factors have been associated with increased mercury accumulation in organisms. Greater body size and older age have been linked to increased mercury burdens in fish (Braune 1987a). This relationship presumably exists because larger fish tend to eat more contaminated prey and older organisms have had a longer period for exposure to and accumulation of environmental contaminants including mercury (Braune 1987a, Evans et al. 2005). A similar relationship between mercury accumulation and age has been found for marine mammals (Smith and Armstrong 1978, Pompe-Gotal 2009). Sex is another factor that affects the bioaccumulation of MeHg in fish. In some species, sexually mature females of the same age and comparable size contain higher levels of mercury than their male counterparts. The difference may be because females consume more Hg-contaminated prey to meet the demands of reproduction (Nicoletto and Hendricks 1987).

2.3 Effects of Mercury on Aquatic Biota and Birds

Mercury is toxic to the nervous and reproductive systems of vertebrates and is known to affect fish health. In addition to causing death if very high exposure occurs, longer-term exposure to lower amounts of mercury can impact the growth, development, reproduction and behaviour of fish (Beckvar et al. 2005). Inorganic mercury has been noted to cause frequent surfacing and sinking behaviour, erratic bursts of swimming and general inactivity in rainbow trout (Macleod and Pessah 1973). Young fish are particularly sensitive to mercury and can have decreased hatching success, developmental abnormalities and increased mortality (Huang 2011). Methylmercury is generally considered to be of even greater concern to fish health than inorganic mercury because it is readily stored and accumulated in the body (Beckvar et al. 2005, US Environmental Protection Agency (EPA) 1987). Damage to vital organs, including liver and kidney lesions, are commonly observed when fish are exposed to dietary MeHg (US EPA 1987, Mela et al. 2007). Furthermore, the nervous system is particularly susceptible to the effects of MeHg. It can cause significant damage to brain tissue and result in the disruption of normal behaviours (Berntssen 2003). Finally, MeHg is known to interfere with many different processes that are important for fish reproduction (Crump and Trudeau 2009).

The impacts of MeHg extend to other forms of wildlife as well, including fish-eating birds. In contrast to inorganic mercury, which is easily excreted, nearly all MeHg taken up in the diet is absorbed through the digestive tract (Scheuhammer 1987). The effects of mercury poisoning can be subtle and difficult to detect (Scheuhammer 1987). In birds, reproductive effects are among the more significant consequences of mercury poisoning. Female birds exposed to MeHg often produce fewer eggs; the eggs that are produced are less likely to hatch, and the hatchlings are less likely to survive (Scheuhammer 1987). Behavioural irregularities are also commonly observed in birds as mercury affects their nervous system (Environment Canada 2002). Several studies have investigated these behavioural abnormalities in loons. Adult loons exposed to MeHg often engage in irregular nesting behaviour, while chicks can become less likely to right themselves when placed on their backs, less responsive to the calls of parents and less likely to solicit rides on the backs of their mothers (Scheuhammer and Blancher 1994, Nocera and Taylor 1998, Kenow et al. 2010).

Methylmercury toxicity in fish-eating mammals (including humans) is similar to that in birds. It acts as a neurotoxicant and is readily absorbed, whereas inorganic mercury is largely excreted (Environment Canada 2002). Studies of laboratory animals reveal that short-term (acute) effects of mercury toxicity include convulsions and tingling or loss of feeling (paresthesia) (Environment Canada 2002). Long-term (chronic) exposure to MeHg can result in impaired coordination and reaction time along with various other motor deficits (Environment Canada 2002). Methylmercury can also cause birth defects and learning deficits in the offspring of mammals (Environment Canada 2002). Information from accidental mercury poisoning confirms these effects in humans. Victims of mercury poisoning due to industrial mercury emissions in Minamata, Japan experienced vision and hearing loss, loss of coordination and speech disturbances. Children born to mothers in the area had increased incidence of birth defects, physical and mental developmental delays, and an increased incidence of cerebral palsy (Eisler 1987).

3.0 DDT

3.1 Sources of DDT

DDT, dichlorodiphenyltrichloroethane, first became popular in the 1940s for use as an insecticide. The organochlorine compound functions as a potent neurotoxin in insects. Due to its efficacy and relatively low cost, DDT became the gold standard for crop protection and for disease control. However, concerns over its persistence and potential threat to human and wildlife health would eventually lead to bans on its use beginning in the 1970s (Commission for Environmental Protection (CEC) 2003). In 2001, DDT was recognized as one of twelve persistent organic pollutants (POPs) by the

Stockholm Convention, an international agreement aimed at reducing human exposure to environmental toxicants. DDT is no longer used in Canada or the U.S., though it continues to be applied as a malaria vector control agent in some parts of the world (CEC 2003). The World Health Organization (WHO) endorses the use of the chemical to control populations of mosquitoes, black flies, and other malaria carrying insects. DDT is commonly applied indoors in most parts of sub-Saharan Africa (WHO 2011). Though alternatives exist, none of these chemicals offer the same long-term protection of DDT (WHO 2011).

DDT can still be found within the Bay of Fundy region due to past uses of the pesticide. The pesticide was part of an aggressive aerial spraying program conducted by the New Brunswick government to combat a growing problem with spruce budworm. The worm feeds on species of spruce and pine tree and outbreaks of the pest can pose a considerable threat to the health of a forest (May 1978). DDT was the exclusive focus of the spraying program headed by the province between the years of 1952-1963 (Kerswill 1967). In 1957, the operation encompassed nearly 5.7 million acres of New Brunswick forest, a considerable increase from an original 186, 000 acres (Kerswill 1967). Improper spraying techniques often resulted in areas receiving a higher dosage than was intended. For example, in 1962, some areas received an application of 2 1/4 lbs of DDT per acre instead of an intended ¼ lb, the level that was chosen to prevent harm to fisheries and aquatic life (Macdonald 1962, Kerswill 1967). Similar spraying programs were also conducted in northern Maine (Kerswill 1967). In addition, DDT was commonly applied to potato and cereal crops in New Brunswick, leading to the accumulation of the pesticide in sediments of the Saint John River watershed (Stewart et al. 1977). In Nova Scotia, DDT was commonly applied to apple orchids in the early 1960s to prevent damage to crops by the codling moth (Pickett 1949). It is highly persistent in sediments and soils and can be found in the environment many decades after its original application.

Though DDT is no longer used in Canada, there still remain a variety of routes by which DDT may enter the Bay of Fundy. Residual DDT and related breakdown products

(DDE and DDD) can be transported through runoff waters from agricultural and urban areas (Stewart et al. 1977, Zhang et al. 2010). As with mercury, atmospheric transport also plays a significant role in the distribution of DDT within the environment. DDT can be carried through the atmosphere and subsequently deposited in rain water or through dry deposition (Brun et al. 2008, Zhang et al. 2010). Volatilization of DDT from soils has been observed 23 years after application of the pesticide formulas commonly used in agriculture (Spencer et al. 1996). Urban centers appear to be other potential sources of DDT to the atmosphere (Sun et al. 2006). Additionally, because DDT can be transported through the air over long distances, global as well as regional sources of DDT must also be considered. Long range transport of DDT to North America likely occurs from sources in Asia where the chemical is still being used to control insect vector driven diseases (Guglielmo et al. 2009). Due to global restrictions on its use, atmospheric concentrations of DDT are in general decline both in North America and around the world (Brun et al. 2008, Shunthirasingham 2010).

3.2 Fate of DDT in Marine Systems

Once mobilized in the environment, DDT and its associated decomposition products tend to move from land to the atmosphere and from the atmosphere into oceans (Woodwell et al. 1971)**.** DDT released into the global environment tends to concentrate in Polar regions because low temperatures keep it from evaporating again and trap it in water, soil and sediment (Wania and Mackay 1993). DDT is poorly soluble in water, and in marine environments the majority of the pesticide tends to accumulate in sediments and aquatic biota (Cramer 1973, Environment Canada 1997). In sediments, DDT is converted into DDE, a compound of even higher persistence, by methane and sulfur producing microorganisms (Quensen et al. 1998). DDE can also enter marine systems directly via precipitation; it is found in the atmosphere as a result of volatilization from soils (where similar bacterially-mediated degradation occurs) and photodegradation (breakdown by light) of DDT in the air and can be washed out in rainfall (Maugh 1973). DDD and DDMU are other degradation products that occur, to a lesser extent, in marine systems as a result of the same processes (Quensen et al. 1998).

The half-life of DDT in the marine environment has been estimated at three years; however, DDT can persist for decades within sediments (Oliver et al. 1989, Connell et al. 2002).

DDT and its breakdown products dissolve better in fats than in water and therefore accumulates within the tissues of living organisms. As a result, like MeHg, they are also susceptible to the processes of bioaccumulation and biomagnification. Accumulation in fish tissues occurs through direct absorption from the water (bioconcentration) and also from the diet (Environment Canada 1997, Wang and Wang 2005). Highest concentrations tend to be found within fatty tissues such as the liver, red muscle, and gonads and in fattier species (Environment Canada 1997). DDT is fairly persistent within fish, having a half-life ranging from 112 days to one year in lake and brook trout respectively (Environment Canada 1997). Dietary exposure to DDT and other chlorinated compounds appears to be of greater significance in organisms of higher tropic levels (Duursma et al. 1986). Therefore, organisms at the top of marine food webs, such as marine mammals, are likely to accumulate the highest levels of DDT (Environment Canada 1997). Large, fish-eating birds are also known to contain high levels of DDT residues (Environment Canada 1997).

Lipid content, age and sex are all interacting factors that influence the accumulation of DDT in wildlife. Since DDT is fat-seeking, organisms that have high levels of body fat, such as whales and other marine mammals, have the capacity to accumulate greater levels of the pesticide (Tanabe et al. 1994, Environment Canada 1997). Generally, accumulation of DDT tends to increase with age, as older organisms have been exposed to environmental contaminants for longer periods of time (Environment Canada 1997). However, this trend can vary between sexes. Levels of DDT in males tend to be higher than in females because females are capable of eliminating fatty deposits (and the associated DDT) through various processes associated with reproduction. For example, marine mammals can transfer DDT to their young during lactation because the milk is high in fats (Tanabe et al. 1994). A similar relationship has been observed in species of fish as females eliminate lipid soluble contaminants through egg production (Larson et al. 1993).

3.3 Effects of DDT on Aquatic Biota and Birds

Toxicological impacts of DDT exposure in fish include impaired growth, behavioural abnormalities and reproductive effects (Beckvar 2005). Decreased feeding behaviour as well as excitable and nervous quivering have been observed in bass, salmon, and rainbow trout exposed to DDT (Surber 1946). High short-term doses can also result in a loss of coordinated movement and inflammation of the gills (Lingaraja et al. 1979). At very high concentrations, DDT can also be directly lethal to fish. Studies conducted during the 1962 spraying operation in New Brunswick saw 100% mortality of salmon and trout (parr and fry stages) caged within the lower Cains River, Miramichi, within two weeks of the program start date. The death rate was attributable to DDT as the highest mortality rate for any one species and life stage caged at a reference site (not within the spraying area) was 7%. Additionally, evaluation of the cumulative effects of DDT spraying over multiple years found reduced numbers of salmon fry and parr at sites within the Cains and Renous Rivers when compared to pre-spray records (Macdonald 1962).

Though DDT can also be lethal to fish-eating birds if very high exposures occur, the more recent effects on avian species from dietary DDT exposure are likely to be reproductive in nature (Environment Canada 1997). One well documented effect observed in birds is egg shell thinning. DDT interferes with the deposition of calcium during egg shell formation, resulting in thinner shells. The fragile eggs are easily damaged during incubation, often resulting in a decreased number of hatchlings (US Fish and Wildlife Service 2011). In the 1960s and 70s, DDT was responsible for dramatic declines in populations of osprey and peregrine falcon in Canada and the U.S. Fortunately, due to conservation measures and the ban of DDT use, these populations have since recovered (Government of New Brunswick; Department of Natural Resources 2011, US Fish and Wildlife Service 2011). Additional reproductive effects of DDT exposure in birds include reduced gonad size and decreased egg production by females (Environment Canada 1997).

DDT is only moderately toxic to mammals; however, long-term exposure to relatively low doses of DDT can cause a wide range of effects (Environment Canada 1997). DDT is a known endocrine disrupter, meaning that it can interfere with the body's natural hormones (Cooper and Kavlock 1997). As such, DDT and DDT related compounds can cause a number of developmental and reproductive abnormalities. Reduced birth weight, reduced fertility and premature labour have all been observed in species of rat and mice (Environment Canada 1997). DDT likely has carcinogenic effects as well. Laboratory studies with rodents have demonstrated that dietary exposure to DDT is associated with the development of tumours, primarily in the liver (Environment Canada 1997). Epidemiological studies of humans suggest that exposure to chlorine-containing pesticides, including DDT, is associated with decreased semen quality, testicular cancer, menstrual cycle abnormalities, and altered timing of sexual development. Most of these effects were observed at levels above general exposure to the public in Europe and North America (Toft et al. 2004).

4.0 Methods - Ecological Risk Assessment Using Risk Quotients

A literature search was completed for DDT and Hg concentrations in the Bay of Fundy (up to June 2015). The data were compiled from published journal articles, reports from the St. Andrew's Biological Station (SABS, Fisheries and Oceans Canada (DFO)) library, student theses, and personal communications for unpublished data. The data were compiled into an Excel spreadsheet including, but not limited to, the following parameters: concentration (wet and/or dry weight, and variance), tissue type, species common name, species latin name, length, weight, depth, % moisture, % lipid, year sampled, and reference. If more than one publication had information for the same species, tissue and contaminant at the same site, average results from all sources were reported for that location. Because DDT consists of several different compounds, we reported total DDT (TDDT) as the sum of *p,p*'-DDD, *p,p'*- DDE, *p,p'* -DDT, *o,p'*-DDD, *o,p'*-DDE and *o,p'*-DDT when these individual chemicals were measured. Mercury concentrations were reported either as total Hg (both organic and inorganic forms) or as MeHg.

A second literature search of chronic (longer-term) and acute (shorter-term) toxicity data for marine and freshwater species exposed to Hg and DDT was completed (see Appendix A). Toxicity studies were evaluated for their robustness (methods, test design, data quality, results) (for details see form in Appendix B) and only those studies with a rating of “satisfactory” or higher were included in Tables 1 and 2. In addition, the studies that were included for the risk quotient (RQ) calculations described below were only those that had measured tissue concentrations of the exposed organisms. Chronic toxicity studies for marine species are limited. For some calculations, studies for freshwater organisms were used for the RQ calculations. To calculate risk for the fishes, the most sensitive endpoint of all fish studies was determined and applied for all fish species in the Bay of Fundy. The same process was used for birds. No chronic Hg toxicity data were available for lobsters and marine mammals. Similarly for DDT, studies on its chronic toxicity were not found for invertebrates. For this reason, Hg and DDT data were reported for some species but toxicity-based risk quotients (RQs) were not calculated. Some sediment studies were also reported here but no measurements of Hg and DDT in the water of the Bay of Fundy were found.

Due to the obvious data gaps in the chronic toxicity tests for marine species, a table of various Canadian guidelines was created (Table 3). This table includes the following guidelines for Hg: Water Quality Guidelines for the protection of aquatic life for total mercury (THg) and for methylmercury (MeHg); Canadian Tissue Residue Guidelines for the protection of wildlife consumers of aquatic biota for MeHg; Interim Sediment Quality Guidelines for THg and Probable Effect Levels for THg in sediment. For DDT the guidelines were: Interim Sediment Quality Guidelines for DDD; Probable Effect Level for DDT in sediments; Probable Effect Level for DDE in sediments; Probable Effect Level for DDD in sediments; and Canadian Tissue Residue Guidelines for the protection of wildlife consumers of aquatic biota for total DDT (TDDT). The Tissue Residue

Guidelines for organisms and the Interim Sediment Guidelines and the Probable Effect Levels for sediment were used to calculate RQs for these guidelines (see below).

To assess whether or not DDT and Hg may be affecting the health of organisms living in the Bay of Fundy, we calculated several different types of RQs. An RQ >1 suggests some risk whereas an RQ of 1 or lower indicates little risk. In this assessment we compared the average concentration or tissue residue (TR) in Bay of Fundy species to what was measured in a similar species and caused an effect during a chronic lab toxicity test. Whenever possible, data from marine experiments were used to calculate the RQ. In some cases due to limited information, results from freshwater chronic exposures were used. The Low Effect Residue (LER) from the most sensitive endpoint of the chronic toxicity studies was divided by 10 (an assessment factor), and then used as the denominator for the RQ calculations.

$$RQ_{LER/10}= TR/(LER/10)$$

An assessment factor of 10 is used to account for some of the uncertainty in applying lab data to field organisms and in extrapolating from one species to another. TR is the tissue residue for that species and tissue found in the Bay of Fundy. RQs for the No Effect Residue were also calculated using RQ_{NER}=TR/NER although these calculations would be much more of a “worst case scenario” than the RQs calculated using LER data. For this reason, the evaluation done herein focussed on the results for the $RQ_{LER/10}$ and are hereafter referred to as RQs. The Tissue Residue Guidelines (TRG) were used to determine risks for those species that may be eaten by birds or marine mammals by dividing the tissue concentrations in the prey species by the TRG (RQ_{TRG}=TR/TRG; referred to as RQ_{TRG} in the text). For sediments, the Interim Sediment Quality Guidelines were used to calculate RQs as follows: RQ_{ISQG}= SC/ISQG (note: SC=sediment concentration; referred to as RQ_{ISQG} in the text). For Probable Effect Level the calculation was: RQ_{PEL}=SC/PEL (referred to as RQ_{PEL} in the text). Only Hg data were available for sediments in the Bay of Fundy.

5.0 Results - Mercury Concentrations and Risk in the Bay of Fundy

5.1 Mercury in Birds

Data for mercury concentrations in birds were found for 24 species collected between 1978 and 2006, and mainly included THg in feather, egg, liver, kidney and muscle tissues (see Table 4 and Appendix C). In one study where both THg and MeHg were measured in birds, similar concentrations of both were found across several bird species but THg was typically higher than MeHg (Bond and Diamond 2009b). Summary data are shown in Table 4 whereas data from individual studies are given in Appendix C. For feather tissues, the lowest MeHg and THg were found for Arctic tern (791 and 891 ng/g ww or ppb, respectively) and the highest MeHg and THg in Leech's storm petrel (5330 and 4855 ng/g ww, respectively). Using this tissue and both THg and MeHg data, RQs were > 1 for Atlantic puffin, Common murre, Common tern, Leech's storm-petrel and Razorbill (range from 1.01 to 5.46) but not for Arctic tern (RQs of 0.81 and 0.91 for MeHg and THg, respectively)(Table 4). Eggs were mainly measured for THg and concentrations ranged from 40 to 891 ng/g ww in Glossy ibis to Leech's storm-petrel, respectively. The RQs calculated for eggs indicated that all but one species (Glossy ibis) were above 1. For Herring gull, eggs from one location (Kent Island) had an RQ > 1 (1.35) but at other locations the RQs were 0.63 and 0.96 (Manawagonish Island and Gulf of Maine). Burgess et al. (2013) show that THg concentrations in herring gull eggs have decreased at Manawagonish Island, New Brunswick over 36 years (1972-2008). Similarly, in Sunderland et al. (2012) the THg concentrations in the Double-crested cormorant at Manawagonish Island, New Brunswick decreased over the same period of time. THg in kidney tissues were lowest in Black-legged kittiwake (242 ng/g ww) and highest in Double-crested cormorant (5345 ng/g ww).

All 9 bird species had RQs > 1 for this kidney tissue (range 1.47 to 32.39) and these RQs tended to be higher than those for the other tissues. Similar results were found for liver tissues where there was a large range in THg concentrations (225 to 7048 ng/g ww) but all species had RQs > 1 (range 1.69 to 52.99). Total Hg in bird muscle was typically lower than for other tissues and ranged from 37 ng/g ww in Black-legged kittiwake to 606 ng/g ww in Double-crested cormorant. Nonetheless, most species still had RQs > 1 (Arctic tern, Herring gull, Black guillemot, Common eider duck, Common tern and Double-crested cormorant) whereas three had RQs < 1 (Black-legged kittiwake, Red-necked phalarope, Bonaparte's gull). In summary, the Hg RQs indicated that there is a risk for all species except Glossy ibis (RQ of 0.48), but the risk varied depending on the tissue examined. Birds at lowest risk are Arctic tern (average RQ of 1.97), Black-legged kittiwake (average RQ of 1.58) and Red-necked phalarope (RQ of 1.14), and at the highest risk are Leech's storm-petrel (average RG of 9.3) and Double-crested cormorant (average RQ of 19.5).

5.2 Mercury in Marine Mammals

Only one study was found with Hg concentrations in marine mammals and it was from the late 1960s. Total Hg was measured in muscle of harbour porpoises and the average concentration was 1054 ng/g ww (Table 5). No toxicity studies were available for marine mammals to calculate whether this level of exposure posed a risk or not.

5.3 Mercury in Fish

Mercury data were found for 18 fish species from the Bay of Fundy (Table 5 and Appendix C). Both THg and MeHg were measured and almost all analyses were done on whole bodies rather than on specific tissues. The exceptions were muscle tissues measured for Atlantic herring, harbor pollock, herring brit, longhorn sculpin, spiny dogfish and witch flounder, for which THg was measured in both whole bodies and muscle or in muscle only. For Atlantic herring, THg concentrations in muscle and whole body were similar (8.92 and 8.94 ng/g ww, respectively). The species that had the lowest THg concentrations were herring brit, harbor pollock, Atlantic herring, pollock, winter flounder and mackerel at 4, 5.0, 8.9, 18.7, 21.1 and 22 ng/g ww, respectively. In contrast, fishes with the highest THg concentrations in whole bodies were spiny dogfish, swordfish, bluefin tuna and thresher shark at 99, 416, 565 and 1472 ng/g ww. Because THg in fish is mainly MeHg, the trends for the MeHg data were the same with pollock, winter flounder and mackerel having the lowest concentrations and dogfish, swordfish, bluefin tuna and thresher shark having the highest MeHg concentrations. The RQs calculated for fishes were done for both THg and MeHg but the results were almost identical for both forms of this contaminant (Table 5). The fishes with the lowest risk (RQ = or < 1) from Hg were herring brit, harbour pollock, Atlantic herring, winter flounder, pollock, mackerel, yellowtail flounder, white hake and Atlantic salmon. Cod and haddock had an RQ < 1 for MeHg (0.8 and 0.61, respectively) and above 1 for THg (1.2 and 1.08, respectively). Witch flounder and longhorn sculpin had RQ ranges greater than 1 for THg (ranging from 1.00 to 13.33 and 1.7 to 4.0 respectively). All other fishes consistently had RQs above 1 for both THg and MeHg and included herring, cunner, spiny dogfish, swordfish, bluefin tuna and thresher shark. The latter two species had the highest RQs (tuna – 15, shark – 43 for MeHg). In summary, over half of the fish species for which there are measurements of Hg had RQs above 1, suggesting some risk to their health.

For fish-eating wildlife (birds, mammals), the RQs that were calculated using Tissue Residue Guidelines also indicated some risk for species living in the Bay of Fundy. Typically the fish that had $RQ_{LER/10}$ > 1 also had RQ_{TRG} > 1. Birds and marine mammals feeding on cod, herring, cunner, spiny dogfish, swordfish, bluefin tuna and thresher shark may be at risk from Hg toxicity because the RQ_{TRG} values were all > 1 (Table 5).

5.4 Mercury in Invertebrates

American lobster and blue mussels were measured for THg in the digestive gland or soft tissues, respectively (Table 6). In lobster, THg was 60 ng/g ww but no toxicity data were available to calculate an RQ. In contrast, mussel average THg ranged from 29 to 34 ng/g ww across sites and the RQs were consistently well below 1 (0.08 to 0.09)(Table 6). In summary, there does not appear to be a risk for mussels to Hg but data are insufficient to evaluate risk for other invertebrates in the Bay of Fundy.

The RQs that were calculated for species that may consume lobster or mussels were all at or below 1 for mussels (0.8-0.9) and most other invertebrates and above 1 for lobsters (1.8) and soft-shelled clams (1.5) (Table 6). This suggests that there may be a risk for the species that feed on lobsters and clams.

5.5 Mercury in Sediments

Some mercury data for sediments in the Bay of Fundy are available from a number of studies. Most have measured THg and these concentrations ranged from 10 to 238 ng/g dw (Table 6). MeHg concentrations were lower at 0.4 and 0.7 ng/g dw. Using the Interim Sediment Quality Guideline, only 1 of 17 THg concentrations exceeded this guideline for sediments from the St. Croix Estuary and the RQ_{ISQG} for this site was 1.83 (Table 6). No sediments exceeded the Probable Effects Level of 700 μg/kg (ng/g dw). The Hg data currently available indicate almost no risk to sediment-dwelling organisms from exposure to this pollutant.

6.0 Results - DDT Concentrations and Risk in the Bay of Fundy

6.1 DDT in Birds

Far fewer measurements of DDT than Hg have been made for birds from the Bay of Fundy and most results are from the 1970s or early 1990s. The data that were available for 13 bird species were for a range of tissues including egg, liver, muscle, fat and carcass (Table 7 and Appendix D). In specific tissues, the highest DDT concentrations were found in fats because DDT has a tendency to accumulate in fatty tissues and the lowest concentrations were measured in liver and muscle. As an example, liver and muscle tissues of the Double-crested cormorant had 8.4 and 4.2 μg/g ww TDDT, respectively, whereas eggs and fats had concentrations of 19 and 162 μg/g ww TDDT, respectively. Whole birds (carcasses) of Black-bellied plover, Dunlin, Greater yellowlegs, Lesser yellowlegs, Semipalmated plover, Semipalmated sandpiper and Short-billed dowtcher were also measured and ranged from 0.09 (semipalmated sandpiper) to 6.19 (lesser yellowlegs) μg/g lipid weight. The only chronic toxicity data for which residues were available were for eggs and, for this reason, RQs were only calculated for bird eggs from the Bay of Fundy. Of the four species with egg data, only Double-crested cormorant had an RQ > 1 (4.13) (Table 7). Black duck, Guillemot and Herring gull had RQs ranging from 0.33 to 0.95. In summary, the TDDT data from the Bay of Fundy indicates that some bird species may be at risk from exposure to this pesticide if current

DDT concentrations are similar. However, DDT data are limited and older (especially for the species shown to be at greatest risk), and the limited toxicity data make it difficult to thoroughly assess risks.

6.2 DDT in Marine Mammals

Like Hg, the information on DDT in marine mammals is very limited for the Bay of Fundy. Total DDT has been measured in Common seal liver (1970s) and blubber from Harbor porpoises and North Atlantic right whales (late 1980s). These studies show higher TDDT in Common seal (12.6 μg/g ww) and lower TDDT in blubber from porpoises and whales (6.34 and 0.12 μg/g ww, respectively)(Table 8, Appendix D). No chronic toxicity data for marine mammals was available and, as a result, RQs could not be calculated for these three species.

6.3 DDT in Fish

Nine species of fish from the Bay of Fundy have been measured for DDT in muscle, viscera, liver and whole bodies and all of these data are from the 1970s. For muscle samples the lowest TDDT concentrations were found in plaice, ocean perch and white hake (0.01, 0.03 and 0.03 μg/g ww, respectively) and the highest TDDT concentrations were found in sea raven and white shark at 0.32 and 0.48 μg/g ww, respectively; viscera for sea raven was similar to muscle at 0.30 μg/g ww (Table 8). Whole body herring had TDDT of 0.06 μg/g ww. Highest TDDT concentrations were measured in white shark liver at 441 μg/g ww. Calculations of RQs indicated that muscle or whole body tissues for all species but shark were below 1 (Table 8, Appendix D). White shark muscle had an RQ of 1.32 suggesting some risk to this species. In summary, the older data that are available for the Bay of Fundy indicate that there was little risk from DDT toxicity to all but 1 of the 9 fish species studied. It is not clear whether a potential risk to white shark currently remains but this warrants some study.

The risk quotients for fish consumers (using Tissue Residue Guidelines) indicated that all species and tissues except plaice were above 1 (Table 8). Highest RQs were found for mackerel (10), bluefin tuna (11), sea raven (21-22) and white shark (34 in muscle). Most notably, white shark liver had an RQ of 31,500. In summary, almost all fish measured for TDDT had RQs above 1. However, it is important to note that these data are at least 3 decades old so the current risk to fish-eating birds and mammals is not known.

6.4 DDT in Invertebrates

With the exception of one study on American lobster hepatopancreas done in the 1980s, all other TDDT data for invertebrates from the Bay of Fundy is from the late 1960s. Clams (*Mya arenaria*), mussels (*Mytilus edulis*) and scallops (*Placopecten magellanicus*) were analyzed and had TDDT concentrations below detection limits, 0.09 and 0.03 µg/g ww, respectively (Table 9). Lobster hepatopancreas had TDDT concentrations of 1.59 µg/g ww. Overall, it is difficult to assess the current risk of DDT to Bay of Fundy invertebrates because only older residue data are available and no relevant toxicity data could be found with which to calculate RQs.

For consumers of these invertebrates, RQ calculations using Tissue Residue Guidelines indicated that DDT in all species but clams posed some risk to invertebrate-eating wildlife with RQs of 6.4 and 2.1 for mussels and scallops and an RQ of 113 for lobsters (Table 9).

7.0 Summary

This report presents concentrations of Hg and DDT in birds, marine mammals, fish, invertebrates, and sediments for the Bay of Fundy and a preliminary risk assessment of these contaminants using the Risk Quotient approach. This approach compares the concentrations of Hg or DDT in the tissues of the organisms to what is known to cause effects in the lab after longer-term exposures and for a similar species, or to what may cause effects in sediment-dwelling organisms or predators.

Using the data that were available, we found that Hg poses a risk to all but one species of bird and about half of the fish species. It was not possible to evaluate risk of Hg for marine mammals and invertebrates. In comparison, 25% (1 of 4) of the bird species and 11% of the fishes (1 of 9) may be at risk from DDT toxicity. It was not possible to calculate RQs for marine mammals and invertebrates. In balance, Hg appears to be a greater threat than DDT to the Bay of Fundy wildlife although there are only more recent data for the former contaminant.

For wildlife that eat fish or invertebrates, some risks were also found for Hg and DDT. For Hg, half of the fish species, lobster and soft shelled clams (but not mussels) may affect the health of their predators because of elevated concentrations of this pollutant. For DDT, 8 of 9 fish species and 3 of 4 invertebrate species had an $RQ_{TRG} > 1$, suggesting some risks for their consumers.

There are several limitations of what has been done in this report. First, relevant lab toxicity data were not always available for the biota in the Bay of Fundy or for similar species. More specifically, toxicity data for marine mammals does not exist and, for many studies, concentrations of DDT or Hg in tissues of the test animals were not available. The limited data that were available for birds, fishes and invertebrates often did not include measurements for the same tissues (e.g., feathers, liver or muscle for birds). Also, it was necessary to use toxicity data for one species and apply these data to all species examined in the Bay. This approach leads to some uncertainty because one species may be less sensitive than another to the effects of DDT or Hg. The second limitation is for the contaminant data for the Bay of Fundy. Much less information is available for DDT than Hg and many measurements are for animals collected from the 1970s and 1980s.

Given that DDT use in North America was banned in the early 1970s, it is likely that current concentrations (and associated risks) are lower than those calculated herein. Similar trends could be expected for the older Hg data as well given that some controls on Hg emissions in North America were instituted in the 1980s. It is clear from the results of this study that more current assessments of contaminants in Bay of Fundy wildlife is needed, with perhaps the exception of Hg in some birds (data are available for 2006 for several species). However, all fish data and the limited invertebrate data are at least a decade old.

Table 1: Mercury chronic toxicity data for fish and birds

Common name	Species name	Group	Life Stage	Mode	Hg conc.	Hg form	Test duration	NOEC	LOEC	Effect Observed	Tissue type	Low Effect Residue (LER) (µg/g)	Reference
Walleye	*Stizostedion vitreum*	Fish	J	F	0.1 µg/g	MeHg	6 m	<0.04 µg/g	0.1 µg/g	decrease in GSI (more so in males) , testicular atrophy in low [MeHg]	whole	0.25	Friedmann et al. 1996
Striped mullet	*Mugil cephalus*	Fish	A	AQ	1 µg/L	MeHg	7 d	0 ug/L	1 µg/L	Fin regeneration-Development	whole	0.3	Weis and Weis 1978
Mussels	*Perna viridis*	Invert	-	AQ	25 µg/L	$HgCl_2$	14 d	Control	25 µg/L	Significant increases in: NH4N excretion Significant decrease in filtration rate, scope of growth and growth efficiency	whole	3.76	Krishnakumar 1990
Mallard ducks	*Anas platyrhynchos*	Bird	A/E	F	0.1 µg/g	MeHg	3 gen	Control	0.5 µg/g	Increased # eggs laid outside of nest, fewer sound eggs, decreased response to maternal call, longer approach time with respect to maternal call	egg	0.83	Heinz 1979
Mallard ducks	*Anas platyrhynchos*	Bird	A/E	F	0.1 µg/g	MeHg	3 gen	Control	0.5 µg/g	Increased # eggs laid outside of nest, fewer sound eggs, decreased response to maternal call, longer approach time with respect to maternal call	liver	1.33	Heinz 1979

J = Juvenile, A = Adult, E = Eggs, F = Food, AQ = Aqueous, m = months, d = days, gen = generations, conc. = concentration

Table 1 (continued): Mercury chronic toxicity data for fish and birds

Common name	Species name	Group	Life Stage	Mode	Hg conc.	Hg form	Test duration	NOEC	LOEC	Effect Observed	Tissue type	Low Effect Residue (LER) (µg/g)	Reference
Mallard ducks	*Anas platyrhynchos*	Bird	A/E	F	0.1 µg/g	MeHg	3 gen	Control	0.5 µg/g	Increased # eggs laid outside of nest, fewer sound eggs, decreased response to maternal call, longer approach time with respect to maternal call	kidney	1.65	Heinz 1979
Mallard ducks	*Anas platyrhynchos*	Bird	A/E	F	0.1 µg/g	MeHg	3 gen	Control	0.5 µg/g	Increased # eggs laid outside of nest, fewer sound eggs, decreased response to maternal call, longer approach time with respect to maternal call	muscle	0.77	Heinz 1979
Mallard ducks	*Anas platyrhynchos*	Bird	A/E	F	0.1 µg/g	MeHg	3 gen	Control	0.5 µg/g	increased # eggs laid outside of nest, fewer sound eggs, decreased response to maternal call, longer approach time with respect to maternal call	brain	0.59	Heinz 1979
Mallard ducks	*Anas platyrhynchos*	Bird	A/E	F	0.1 µg/g	MeHg	3 gen	Control	0.5 µg/g	increased # eggs laid outside of nest, fewer sound eggs, decreased response to maternal call, longer approach time with respect to maternal call	feathers	9.76	Heinz 1979

J =Juvenile, A = Adult, E = Eggs, F = Food, AQ = Aqueous, m = months, d = days, gen = generations, conc. = concentration

Table 2: DDT chronic toxicity data for fish and birds

Common name	Species name	Group	Life Stage	Avg. size (g)	Test conditions	Food DDT form	Test duration (days)	NOEC mg/kg	LOEC mg/kg	Effect
Black ducks	*Anas rubripes*	Birds	-	-	Food /corn	DDE	136 d	Control	10	Eggshell thinning, survival
Chinook salmon	*Onchorhynchus tshawytscha*	Fish	Fingerling	0.61g	Food	DDT	7d	6.4	37.5	Death

Common name	Species name	Group	DDD Low Effect Residue (LER) µg/g-ww	DDE Low Effeect Residue (LER) µg/g-ww	DDT Low Effect Residue (LER) µg/g-ww	TDDT Low Effect Residue (LER) µg/g-ww	Total Residue Notes	Reference
Black ducks	*Anas rubripes*	Birds	-	46	-	-	DDE	Longcore 1971
Chinook salmon	*Onchorhynchus tshawytscha*	Fish	0.71	0.1	2.84	3.65	DDD + DDE + *o,p* DDT	Buhler et al. 1969

Table 3: Water quality and tissue residue guidelines for mercury and DDT

Name	Form	Marine (ng/L)	Freshwater (ng/L)	Marine (µg/L)	Freshwater (µg/L)	LOAEL Marine (µg/L)	LOAEL Freshwater (µg/L)	Marine µg/kg	Notes	References
Water Quality Guidelines Hg for the protection of aquatic life (Environment Canada 2007)	THg	16	26	0.016	0.026	0.16	0.26	-	Guideline LOAEL/10	CCME Canadian Water Quality Guidelines for the Protection of Aquatic Life
Water Quality Guidelines Hg for the protection of aquatic life (Environment Canada 2007)	MeHg	NRG	4	NRG	0.004	NRG	0.04	-	Guideline LOAEL/10	CCME Canadian Water Quality Guidelines for the Protection of Aquatic Life
Canadian Tissue Residue Guidelines for the protection of wildlife consumers of aquatic biota (Environment Canada 2000)	MeHg	-	-	-	-	-	-	33.0	diet ww	CCME Canadian Tissue Residue Guidelines for the protection of wildlife consumers of aquatic biota
Interim Sediment Quality guidelines (ISQGs)	THg	-	-	-	-	-	-	130	marine dw	CCME Sediment Quality Guideline for the Protection of Aquatic Life
Probable Effect Levels (PELs)	THg	-	-	-	-	-	-	700	marine dw	CCME Sediment Quality Guideline for the Protection of Aquatic Life
Interim Sediment Quality guidelines (ISQGs)	DDT	-	-	-	-	-	-	1.19	dw	CCME Canadian Sediment Quality Guidelines for the Protection of Aquatic Life

NRG - No Recommended Guideline, ww - wet weight, dw - dry weight

Table 3 (continued): Water quality and tissue residue guidelines for mercury and DDT

Name	Form	Marine (ng/L)	Freshwater (ng/L)	Marine (µg/L)	Freshwater (µg/L)	LOAEL Marine (µg/L)	LOAEL Freshwater (µg/L)	Marine µg/kg	Notes	References
Interim Sediment Quality guidelines (ISQGs)	DDE	-	-	-	-	-	-	2.07	dw	CCME Canadian Sediment Quality Guidelines for the Protection of Aquatic Life 1999
Interim Sediment Quality guidelines (ISQGs)	DDD	-	-	-	-	-	-	1.22	dw	CCME Canadian Sediment Quality Guidelines for the Protection of Aquatic Life 1999
Probable Effect Levels (PELs)	DDT	-	-	-	-	-	-	4.77	dw	CCME Canadian Sediment Quality Guidelines for the Protection of Aquatic Life 1999
Probable Effect Levels (PELs)	DDE	-	-	-	-	-	-	374	dw	CCME Canadian Sediment Quality Guidelines for the Protection of Aquatic Life 1999
Probable Effect Levels (PELs)	DDD	-	-	-	-	-	-	7.81	dw	CCME Canadian Sediment Quality Guidelines for the Protection of Aquatic Life 1999
Canadian Tissue Residue Guidelines for the protection of wildlife consumers of aquatic biota (Environment Canada 1997)	TDDT	-	-	-	-	-	-	14	diet ww	Canadian Tissue Residue Guidelines for the Protection of Wildlife consumers of Aquatic Biota 1997

NRG - No Recommended Guideline, ww - wet weight, dw - dry weight

Table 4: Average mercury concentrations in birds and risk quotients (RQ) for the Bay of Fundy

Common name	Group	Tissue type	Hg form	Low Effect Residue (LER) ng/g-wet	Hg ng/g-wet	$RQ_{LERs/10}$	Year	Reference	Sources of LER
Arctic tern	Bird	breast feathers	MeHg	9760	791	0.81	2006	Bond and Diamond 2009b	Bouton et al. 1999, Heinz 1979
Atlantic puffin	Bird	breast feathers	MeHg	9760	1634	**1.67**	2006	Bond and Diamond 2009b	Bouton et al. 1999, Heinz 1979
Common murre	Bird	breast feathers	MeHg	9760	1249	**1.28**	2006	Bond and Diamond 2009b	Bouton et al. 1999, Heinz 1979
Common tern	Bird	breast feathers	MeHg	9760	1619	**1.66**	2006	Bond and Diamond 2009b	Bouton et al. 1999, Heinz 1979
Leech's storm-petrel	Bird	breast feathers	MeHg	9760	5330	**5.46**	2006	Bond and Diamond 2009b	Bouton et al. 1999, Heinz 1979
Razorbill	Bird	breast feathers	MeHg	9760	1073	**1.10**	2006	Bond and Diamond 2009b	Bouton et al. 1999, Heinz 1979
Arctic tern	Bird	breast feathers	THg	9760	891	0.91	2006	Bond and Diamond 2009b	Bouton et al. 1999, Heinz 1979
Atlantic puffin	Bird	breast feathers	THg	9760	1805	**1.85**	2006	Bond and Diamond 2009b	Bouton et al. 1999, Heinz 1979
Common murre	Bird	breast feathers	THg	9760	987	**1.01**	2006	Bond and Diamond 2009b	Bouton et al. 1999, Heinz 1979
Common tern	Bird	breast feathers	THg	9760	1380	**1.41**	2006	Bond and Diamond 2009b	Bouton et al. 1999, Heinz 1979

Table 4 (continued): Average mercury concentrations in birds and risk quotients (RQ) for the Bay of Fundy

Common name	Group	Tissue type	Hg form	Low Effect Residue (LER) ng/g-wet	Hg ng/g-wet	$RQ_{LERs/10}$	Year	Reference	Sources of LER
Leech's storm-petrel	Bird	breast feathers	THg	9760	4855	**4.97**	2006	Bond and Diamond 2009b	Bouton et al. 1999, Heinz 1979
Razorbill	Bird	breast feathers	THg	9760	1404	**1.44**	2006	Bond and Diamond 2009b	Bouton et al. 1999, Heinz 1979
Leech's storm-petrel	Bird	egg	MeHg	830	1008	**12.14**	2006	Bond and Diamond 2009b	Bouton et al. 1999, Heinz 1979
Arctic tern	Bird	egg	THg	830	220	**2.64**	2005-06	Bond and Diamond 2009b	Bouton et al. 1999, Heinz 1979
Atlantic puffin	Bird	egg	THg	830	234.25	**2.82**		Goodale et al. 2008, Bond and Diamond 2009a, Neil Burgess, pers. comm.	Bouton et al. 1999, Heinz 1979
Black guillemot	Bird	egg	THg	830	520	**6.27**	1998, 2001-06	Goodale et al. 2008	Bouton et al. 1999, Heinz 1979
Common eider	Bird	egg	THg	830	294	**3.54**	1998, 2001-06	Goodale et al. 2008, Bond and Diamond 2009a	Bouton et al. 1999, Heinz 1979
Common murre	Bird	egg	THg	830	247	**2.98**	2005-06	Bond and Diamond 2009a	Bouton et al. 1999, Heinz 1979
Common tern	Bird	egg	THg	830	124	**1.49**	1998, 2001-06	Goodale et al. 2008, Bond and Diamond 2009a	Bouton et al. 1999, Heinz 1979

Table 4 (continued): Average mercury concentrations in birds and risk quotients (RQ) for the Bay of Fundy

Common name	Group	Tissue type	Hg form	Low Effect Residue (LER) ng/g-wet	Hg ng/g-wet	$RQ_{LERs/10}$	Year	Reference	Sources of LER
Double-crested cormorant	Bird	egg	THg	830	280	**3.37**	1998, 2001-06	Goodale et al. 2008	Bouton et al. 1999, Heinz 1979
Double-crested cormorant	Bird	egg	THg	830	166	**2.00**	2008	Neil Burgess, pers. comm.	Bouton et al. 1999, Heinz 1979
Glossy ibis	Bird	egg	THg	830	40	0.48	1998, 2001-06	Goodale et al. 2008	Bouton et al. 1999, Heinz 1979
Herring gull	Bird	egg	THg	830	80	0.96	1998, 2001-06	Goodale et al. 2008	Bouton et al. 1999, Heinz 1979
Herring gull	Bird	egg	THg	830	112	**1.35**	2008	Neil Burgess, pers. comm.	Bouton et al. 1999, Heinz 1979
Least tern	Bird	egg	THg	830	150	**1.81**	1998, 2001-06	Goodale et al. 2008	Bouton et al. 1999, Heinz 1979
Leech's storm-petrel	Bird	egg	THg	830	890.8	**10.73**	1998, 2001-06	Goodale et al, 2008, Bond and Diamond 2009a	Bouton et al. 1999, Heinz 1979
Leech's storm-petrel	Bird	egg	THg	830	531.0	**6.40**	2008	Neil Burgess, pers. comm.	Bouton et al. 1999, Heinz 1979
Piping plover	Bird	egg	THg	830	240	**2.89**	1998, 2001-06	Goodale et al. 2008	Bouton et al. 1999, Heinz 1979
Razorbill	Bird	egg	THg	830	433.7	**5.22**	1998, 2001-06	Goodale et al. 2008, Bond and Diamond 2009a	Bouton et al. 1999, Heinz 1979

Table 4 (continued): Average mercury concentrations in birds and risk quotients (RQ) for the Bay of Fundy

Common name	Group	Tissue type	Hg form	Low Effect Residue (LER) ng/g-wet	Hg ng/g-wet	$RQ_{LERs/10}$	Year	Reference	Sources of LER
Willet	Bird	egg	THg	830	100	**1.20**	1998, 2001-06	Goodale et al. 2008	Bouton et al. 1999, Heinz 1979
Arctic tern	Bird	kidney	THg	1650	453	**2.75**	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979
Black guillemot	Bird	kidney	THg	1650	491	**2.98**	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979
Black-legged kittiwake	Bird	kidney	THg	1650	242	**1.47**	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979
Bonaparte's gull	Bird	kidney	THg	1650	418	**2.53**	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979
Common eider	Bird	kidney	THg	1650	358	**2.17**	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979
Common tern	Bird	kidney	THg	1650	1505	**9.12**	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979
Double-crested cormorant	Bird	kidney	THg	1650	5345	**32.39**	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979
Herring gull	Bird	kidney	THg	1650	352	**2.13**	1988	Elliot et al. 1992	Bouton et al. 1999, Heinz 1979

Table 4 (continued): Average mercury concentrations in birds and risk quotients (RQ) for the Bay of Fundy

Common name	Group	Tissue type	Hg form	Low Effect Residue (LER) ng/g-wet	Hg ng/g-wet	$RQ_{LERs/10}$	Year	Reference	Sources of LER
Herring gull	Bird	kidney	THg	1650	300	**1.82**	1988	Elliot et al. 1992	Bouton et al. 1999, Heinz 1979
Herring gull	Bird	kidney	THg	1650	350	**2.12**	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979
Leech's storm-petrel	Bird	kidney	THg	1650	1213	**7.35**	1988	Elliot et al. 1992	Bouton et al. 1999, Heinz 1979
Arctic tern	Bird	liver	THg	1330	470	**3.53**	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979
Black guillemot	Bird	liver	THg	1330	513	**3.86**	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979
Black-bellied plover	Bird	liver	THg	1330	475	**3.57**	1990-91	Braune and Noble 2009	Bouton et al. 1999, Heinz 1979
Black-legged kittiwake	Bird	liver	THg	1330	372	**2.80**	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979
Bonaparte's gull	Bird	liver	THg	1330	450	**3.38**	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979
Common eider	Bird	liver	THg	1330	987	**7.42**	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979

Table 4 (continued): Average mercury concentrations in birds and risk quotients (RQ) for the Bay of Fundy

Common name	Group	Tissue type	Hg form	Low Effect Residue (LER) ng/g-wet	Hg ng/g-wet	$RQ_{LERs/10}$	Year	Reference	Sources of LER
Common tern	Bird	liver	THg	1330	1249	**9.39**	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979
Double-crested cormorant	Bird	liver	THg	1330	3520	**26.47**	1988	Elliot et al. 1992	Bouton et al. 1999, Heinz 1979
Double-crested cormorant	Bird	liver	THg	1330	7048	**52.99**	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979
Dunlin	Bird	liver	THg	1330	832	**6.25**	1990-91	Braune B and Noble G, 2009	Bouton et al. 1999, Heinz 1979
Greater yellowlegs	Bird	liver	THg	1330	809	**6.08**	1990-91	Braune B and Noble G, 2009	Bouton et al. 1999, Heinz 1979
Herring gull	Bird	liver	THg	1330	503	**3.78**	1988	Elliot et al. 1992	Bouton et al. 1999, Heinz 1979
Herring gull	Bird	liver	THg	1330	227	**1.71**	1988	Elliot et al. 1992	Bouton et al. 1999, Heinz 1979
Herring gull	Bird	liver	THg	1330	482	**3.62**	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979
Leech's storm-petrel	Bird	liver	THg	1330	2419	**18.19**	1988	Elliot et al. 1992	Bouton et al. 1999, Heinz 1979

Table 4 (continued): Average mercury concentrations in birds and risk quotients (RQ) for the Bay of Fundy

Common name	Group	Tissue type	Hg form	Low Effect Residue (LER) ng/g-wet	Hg ng/g-wet	$RQ_{LERs/10}$	Year	Reference	Sources of LER
Lesser yellowlegs	Bird	liver	THg	1330	818	**6.15**	1990-91	Braune and Noble 2009	Bouton et al. 1999, Heinz 1979
Red-necked phalarope	Bird	liver	THg	1330	225	**1.69**	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979
Semipalmated plover	Bird	liver	THg	1330	356	**2.68**	1990-91	Braune and Noble 2009	Bouton et al. 1999, Heinz 1979
Semipalmated sandpiper	Bird	liver	THg	1330	703	**5.28**	1990-91	Braune and Noble 2009	Bouton et al. 1999, Heinz 1979
Short-billed dowitcher	Bird	liver	THg	1330	535	**4.02**	1990-91	Braune and Noble 2009	Bouton et al. 1999, Heinz 1979
Arctic tern	Bird	muscle	THg	770	89.0	**1.16**	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979
Black guillemot	Bird	muscle	THg	770	113	**1.47**	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979
Black-legged kittiwake	Bird	muscle	THg	770	37.0	0.48	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979
Bonaparte's gull	Bird	muscle	THg	770	75.0	0.97	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979

Table 4 (continued): Average mercury concentrations in birds and risk quotients (RQ) for the Bay of Fundy

Common name	Group	Tissue type	Hg form	Low Effect Residue (LER) ng/g-wet	Hg ng/g-wet	$RQ_{LERs/10}$	Year	Reference	Sources of LER
Common eider	Bird	muscle	THg	770	153	**1.99**	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979
Common tern	Bird	muscle	THg	770	166	**2.16**	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979
Double-crested cormorant	Bird	muscle	THg	770	606	**7.87**	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979
Herring gull	Bird	muscle	THg	770	101	**1.31**	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979
Red-necked phalarope	Bird	muscle	THg	770	46.0	0.60	1978-84	Braune 1987b	Bouton et al. 1999, Heinz 1979

Table 5: Average mercury concentrations in fish and marine mammals and their risk quotients (RQ) for the Bay of Fundy

Common Name	**Group**	**Tissue type**	**Hg form**	**Low Effect Residue (LER) ng/g-wet**	**Hg ng/g-wet**	**RQ_{TRG}**	**$RQ_{LERs/10}$**	**Year**	**Reference**	**Sources of LER**
Harbour porpoises	Mammal	muscle	THg	-	1054	-	-	1969-77	Gaskin et al. 1979	-
Atlantic herring	Fish	muscle	THg	300	8.92	0.3	0.30	1981	Braune 1987a	Weis and Weis 1978
Atlantic herring	Fish	whole body	THg	300	8.94	0.3	0.30	1981	Braune 1987a	Weis and Weis 1978
Atlantic salmon	Fish	muscle	THg	300	29.2	0.9	1.0	1994-1997	Sunderland et al. 2012	Weis and Weis 1978
Bluefin tuna	Fish	whole body	MeHg	300	495.7	**15.0**	**16.52**	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978
Bluefin tuna	Fish	whole body	THg	300	564.9	**17.1**	**18.83**	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978
Cod	Fish	whole body	MeHg	300	27.1	0.8	0.90	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978
Cod	Fish	whole body	THg	300	35	**1.1**	**1.17**	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978
Cunner	Fish	whole body	MeHg	300	75.3	**2.3**	**2.51**	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978
Cunner	Fish	whole body	THg	300	79.7	**2.4**	**2.66**	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978
Haddock	Fish	whole body	MeHg	300	18.3	0.6	0.61	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978

Table 5 (continued): Average mercury concentrations in fish and marine mammals and their risk quotients (RQ) for the Bay of Fundy

Common Name	Group	Tissue type	Hg form	Low Effect Residue (LER) ng/g-wet	Hg ng/g-wet	RQ_{TRG}	$RQ_{LERs/10}$	Year	Reference	Sources of LER
Haddock	Fish	whole body	THg	300	32.3	1.0	**1.08**	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978
Harbor pollock	Fish	muscle	THg	300	5.0	0.2	0.17	1978-1984	Braune and Gaskin 1987	Weis and Weis 1978
Herring	Fish	whole body	MeHg	300	40.3	**1.2**	**1.34**	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978
Herring	Fish	whole body	THg	300	47.5	**1.4**	**1.58**	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978
Herring brit	Fish	muscle	THg	300	4	0.1	0.13	1978-1984	Braune and Gaskin 1987	Weis and Weis 1978
Longhorn sculpin	Fish	muscle	THg	300	55-132	**1.7-4.0**	**1.83-4.40**	1970	Sunderland et al. 2012	Weis and Weis 1978
Mackerel	Fish	whole body	MeHg	300	17.4	0.5	0.58	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978
Mackerel	Fish	whole body	THg	300	22	0.7	0.73	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978
Pollock	Fish	whole body	MeHg	300	15.4	0.5	0.51	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978
Pollock	Fish	whole body	THg	300	18.7	0.6	0.62	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978
Spiny dogfish	Fish	whole body	MeHg	300	83.9	**2.5**	**2.80**	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978
Spiny dogfish	Fish	whole body	THg	300	99.3	**3.0**	**3.31**	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978

Table 5 (continued): Average mercury concentrations in fish and marine mammals and their risk quotients (RQ) for the Bay of Fundy

Common Name	Group	Tissue type	Hg form	Low Effect Residue (LER) ng/g-wet	Hg ng/g-wet	RQ_{TRG}	$RQ_{LERs/10}$	Year	Reference	Sources of LER
Spiny dogfish	Fish	muscle	THg	300	250	**7.6**	**8.33**	1993, 2007	Forsythe2008, Sunderland et al. 2012	Weis and Weis 1978
Swordfish	Fish	whole body	MeHg	300	294	**8.9**	**9.80**	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978
Swordfish	Fish	whole body	THg	300	416.4	**12.6**	**13.88**	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978
Thresher shark	Fish	whole body	MeHg	300	1426	**43.2**	**47.56**	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978
Thresher shark	Fish	whole body	THg	300	1472	**44.6**	**49.08**	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978
White hake	Fish	whole body	MeHg	300	24	0.7	0.80	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978
White hake	Fish	whole body	THg	300	29.5	0.9	0.98	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978
Winter flounder	Fish	whole body	MeHg	300	15.2	0.5	0.51	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978
Winter flounder	Fish	whole body	THg	300	21.1	0.6	0.70	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978
Witch flounder	Fish	muscle	THg	300	33-440	1.00-**13.33**	**1.10-14.67**	1970	Sunderland et al. 2012	Weis and Weis 1978
Yellowtail flounder	Fish	whole body	MeHg	300	23	0.7	0.78	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978
Yellowtail flounder	Fish	whole body	THg	300	26.9	0.8	0.90	2001-02	Gareth Harding, unpublished data	Weis and Weis 1978

Table 6: Average mercury concentrations in sediments and invertebrates and their risk quotients (RQ) for the Bay of Fundy

Common name	Group	Tissue type / Depth	Hg form	Low Effect Residue (LER) ng/g-wet	Hg ng/g-wet	RQ_{TRG}	$RQ_{LERs/10}$	RQ_{ISQG}	RQ_{PEL}	Year	Reference	Sources of LER	Notes
American lobster	Invert	digestive gland	THg	-	60.0	**1.8**	-	-	-	2001	Chou et al. 2004	-	-
American lobster	Invert	muscle	THg	-	29	0.88	0.08	-	-	1990-1996	Sunderland et al. 2012	-	-
Amphipod	Invert	-	THg	-	11.7	0.35	-	-	-	1983, 2001	Braune and Gaskin 1987, Sunderland et al. 2012	-	-
Amphipod	Invert	-	MeHg	-	1.06	0.03	-	-	-	2011	Sizmur et al. 2013	-	-
Amphipod	Invert	-	THg	-	4.1	0.1	-	-	-	2011	Sizmur et al. 2013	-	-
Blue mussel	Invert	soft tissue	THg	3760	32.5	1.0	0.09	-	-	2001	Chou et al. 2004	Krishnakumar et al. 1990	20-30 mm
Blue mussel	Invert	soft tissue	THg	3760	33.6	1.0	0.09	-	-	2001	Chou et al. 2004	Krishnakumar et al. 1990	30-50 mm
Blue mussel	Invert	soft tissue	THg	3760	29.2	0.9	0.08	-	-	2001-2007-08	Chou et al. 2004, LeBlanc et al. 2009, LeBlanc et al. 2009b	Krishnakumar et al. 1990	50+ mm
Blue mussel	Invert	-	THg	3760	26.7	0.81	0.09	-	-	1998	Sunderland et al. 2012	Krishnakumar et al. 1990	size unkown
Copepod	Invert	-	THg	-	4.3	0.13	-	-	-	1981	Braune 1987a	-	-

Table 6 (continued): Average mercury concentrations in sediments and invertebrates and their risk quotients (RQ) for the Bay of Fundy

Common name	**Group**	**Tissue type/ Depth**	**Hg form**	**Low Effect Residue (LER) ng/g-wet**	**Hg ng/g-wet**	**RQ_{TRG}**	**$RQ_{LERs/10}$**	**RQ_{ISQG}**	**RQ_{PEL}**	**Year**	**Reference**	**Sources of LER**	**Notes**
Euphausiids (*M. novegica*)	Invert	-	THg	-	6.0	0.18	-	-	-	1980-1983	Braune and Gaskin 1987	-	-
Euphausiids (*T. inermis*)	Invert	-	THg	-	3.0	0.09	-	-	-	1980-1983	Braune and Gaskin 1987	-	-
Oyster	Invert	-	THg	-	16.0	0.48	-	-	-	1998	Sunderland et al. 2012	-	-
Periwinkle	Invert	-	THg	-	30.0	0.91	-	-	-	1996-1998	Sunderland et al. 2012	-	-
Phytoplankton (25-63 µm)	Invert	-	THg	-	2.8	0.08	-	-	-	2000-2002	Sunderland et al. 2012	-	-
Polychaete (*Nephtys sp.)*	Invert	-	THg	-	7.3	0.22	-	-	-	1983-1984, 2001	Braune 1987a, Braune and Gaskin 1987, Sunderland et al. 2012	-	-
Polychaete (*Capitellidae sp.)*	Invert	-	MeHg	-	0.58	0.02	-	-	-	2011	Sizmur et al. 2013	-	-
Polychaete (*Capitellidae sp.)*	Invert	-	THg	-	5.3	0.16	-	-	-	2011	Sizmur et al. 2013	-	-
Polychaete (*Glyceridae* sp.)	Invert	-	MeHg	-	1.32	0.04	-	-	-	2011	Sizmur et al. 2013	-	-
Polychaete (*Maldanidae sp*.)	Invert	-	MeHg	-	6.76	0.20	-	-	-	2011	Sizmur et al. 2013	-	-

Table 6 (continued): Average mercury concentrations in sediments and invertebrates and their risk quotients (RQ) for the Bay of Fundy

Common name	Group	Tissue type/ Depth	Hg form	Low Effect Residue (LER) ng/g-wet	Hg ng/g-wet	RQ_{TRG}	$RQ_{LERs/10}$	RQ_{ISQG}	RQ_{PEL}	Year	Reference	Sources of LER	Notes
Polychaete (*Maldanidae sp.*)	Invert	-	THg	-	7.5	0.23	-	-	-	2011	Sizmur et al. 2013	-	-
Polychaete (*Paraonidae sp.*)	Invert	-	MeHg	-	2.93	0.09	-	-	-	2011	Sizmur et al. 2013	-	-
Polychaete (*Paraonidae sp.*)	Invert	-	THg	-	9.8	0.30	-	-	-	2011	Sizmur et al. 2013	-	-
Polychaete (*Spionidae sp.*)	Invert	-	MeHg	-	3.45	0.10	-	-	-	2011	Sizmur et al. 2013	-	-
Polychaete (*Spionidae sp.*)	Invert	-	THg	-	19.1	0.58	-	-	-	2011	Sizmur et al. 2013	-	-
Sea urchin	Invert	-	THg	-	26.7	0.81	-	-	-	1996-1997	Sunderland et al. 2012	-	-
Soft shelled clam	Invert	-	THg	-	50.0	**1.52**	-	-	-	1998	Sunderland et al. 2012	-	-
Sediment core, push core- Passamaquoddy Bay	Sediment	0-12 cm	MeHg	-	0.4	-	-	0.00	0.00	2001	Sunderland et al. 2004	-	dry weight
Sediment core, push core- Head of St. Croix Estuary	Sediment	0-12 cm	MeHg	-	0.7	-	-	0.01	0.00	2001	Sunderland et al. 2004	-	dry weight
Sediment-Belliveau Point	Sediment	-	THg	-	15.00	-	-	0.12	0.03	1997-02	Hung and Chmura 2006	-	dry weight
Sediment-Bocabeb	Sediment	-	THg	-	57.50	-	-	0.44	0.02	1997-02	Hung and Chmura 2006	-	dry weight

Table 6 (continued): Average mercury concentrations in sediments and invertebrates and their risk quotients (RQ) for the Bay of Fundy

Common name	Group	Tissue type/ Depth	Hg form	Low Effect Residue (LER) ng/g-wet	Hg ng/g-wet	RQ_{TRG}	$RQ_{LERs/10}$	RQ_{ISQG}	RQ_{PEL}	Year	Reference	Sources of LER	Notes
Sediment-Bocabeb	Sediment	-	THg	-	57.50	-	-	0.44	0.02	1997-02	Hung and Chmura 2006	-	dry weight
Sediment- Cape Enrage	Sediment	-	THg	-	10.5	-	-	0.08	0.01	1997-02	Hung and Chmura 2006	-	dry weight
Sediment- Dipper Harbour	Sediment	-	THg	-	27.5	-	-	0.21	0.04	1997-02	Hung and Chmura 2006	-	dry weight
Sediment-Gooseberry Cove	Sediment	18-67 cm	THg	-	17.5	-	-	0.13	0.02	2001	Chou et al. 2004	-	dry weight
Sediment- Inner Musquash Harbour	Sediment	8-12 cm	THg	-	12.5	-	-	0.10	0.08	2001	Chou et al. 2004	-	dry weight
Sediment-Lorneville	Sediment	-	THg	-	29.5	-	-	0.23	0.02	1997-02	Hung and Chmura 2006	-	dry weight
Sediment-Mouth of Musquash Harbour	Sediment	34-60 cm	THg	-	10	-	-	0.08	0.04	2001	Chou et al. 2004	-	dry weight
Sediment- Saint John Harbour	Sediment	-	THg	-	30	-	-	0.23	0.04	2001	Chou et al. 2004	-	dry weight
Sediment- St. Martins	Sediment	-	THg	-	22.5	-	-	0.17	0.03	1997-02	Hung and Chmura 2006	-	dry weight

Table 6 (continued): Average mercury concentrations in sediments and invertebrates and their risk quotients (RQ) for the Bay of Fundy

Common name	Group	Tissue type/ Depth	Hg form	Low Effect Residue (LER) ng/g-wet	Hg ng/g-wet	RQ_{TRG}	$RQ_{LERs/10}$	RQ_{ISQG}	RQ_{PEL}	Year	Reference	Sources of LER	Notes
Sediment – Wood Point	Sediment	-	THg	-	20.5	-	-	0.16	0.03	1997-02	Hung and Chmura 2006	-	dry weight
Sediment core, push core-Passamaquoddy Bay	Sediment	0-12 cm	THg	-	60.2	-	-	0.46	0.09	2001	Sunderland et al. 2004	-	dry weight
Sediment core, push core- Head of St. Croix Estuary	Sediment	0-12 cm	THg	-	238	-	-	**1.83**	0.34	2001	Sunderland et al. 2004	-	dry weight
Sediment, gravity core-Passamaquoddy Bay	Sediment	0-30 cm	THg	-	47.0	-	-	0.36	0.07	2001	Sunderland et al. 2004	-	dry weight
Sediment, gravity core-Passamaquoddy Bay	Sediment	40-100 cm	THg	-	10.7	-	-	0.08	0.02	2001	Sunderland et al. 2004	-	dry weight
Sediment, gravity core- Head of St. Croix River	Sediment	0-30 cm	THg	-	38.6	-	-	0.30	0.06	2001	Sunderland et al. 2004	-	dry weight
Sediment, gravity core- Head of St. Croix River	Sediment	40-80 cm	THg	-	18.4	-	-	0.14	0.03	2001	Sunderland et al. 2004	-	dry weight

Table 7: Average DDT concentrations in birds and their risk quotients (RQ) for the Bay of Fundy

Common name	Group	Tissue type Tested	Low Effect Residue (LER) µg/g-wet	ΣDDT µg/g-lipid	ΣDDT µg/g-wet	$RQ_{LER/10}$	Year (s)	Fish eating?	Sources of Data	Sources of LER
Double-crested cormorant	Bird	abdominal fat	-	-	162	-	1970s	Y	Zitko and Choi 1971	-
Herring gull	Bird	abdominal fat	-	-	1.70	-	1970s	Y	Zitko and Choi 1971	-
Black-bellied plover	Bird	carcass	-	0.49	-	-	1990-91		Braune and Noble 2009	-
Dunlin	Bird	carcass	-	0.17	-	-	1990-91		Braune and Noble 2009	-
Greater yellowlegs	Bird	carcass	-	0.50	-	-	1990-91	Y	Braune and Noble 2009	-
Lesser yellowlegs	Bird	carcass	-	6.19	-	-	1990-91	Y	Braune and Noble 2009	-
Semipalmated plover	Bird	carcass	-	3.79	-	-	1990-91		Braune and Noble 2009	-
Semipalmated sandpiper	Bird	carcass	-	0.09	-	-	1990-91		Braune and Noble 2009	-
Short-billed dowitcher	Bird	carcass	-	0.67	-	-	1990-91		Braune and Noble 2009	-
Black duck	Bird	egg	4.60	-	1.50	0.33	1970		Zitko and Choi 1971	Longcore 1971
Double-crested cormorant	Bird	egg	4.60	-	19.0	**4.13**	1970s	Y	Zitko et al. 1972, Zitko and Choi 1971	Longcore 1971
Guillemot	Bird	egg	4.60	-	4.35	0.95	1970s	Y	Zitko and Choi 1971	Longcore 1971
Herring gull	Bird	egg	4.60	-	4.25	0.92	1970s	Y	Zitko V., 1972	Longcore 1971
Double-crested cormorant	Bird	liver	-	-	4.16	-	1970s	Y	Zitko and Choi 1971	-
Greater shearwater	Bird	liver	-	-	0.86	-	1974	Y	Gaskin et al. 1978	-
Herring gull	Bird	liver	-	-	2.08	-	1970s	Y	Zitko et al. 1972, Zitko and Choi 1971	-
Sooty shearwater	Bird	liver	-	-	0.26	-	1974	Y	Gaskin et al. 1978	-

Table 7 (continued): Average DDT concentrations in birds and their risk quotients (RQ) for the Bay of Fundy

Common name	Group	Tissue type Tested	Low Effect Residue (LER) µg/g-wet	ΣDDT µg/g-lipid	ΣDDT µg/g-wet	$RQ_{LER/10}$	Year (s)	Fish eating?	Sources of Data	Sources of LER
Double-crested cormorant	Bird	muscle	-	-	8.40	-	1970s	Y	Zitko and Choi 1971	-
Greater shearwater	Bird	muscle	-	-	1.05	-	1974	Y	Gaskin et al. 1978	-
Herring gull	Bird	muscle	-	-	2.07	-	1970s	Y	Zitko et al. 1972, Zitko and Choi 1971	-
Sooty shearwater	Bird	muscle	-	-	0.34	-	1974	Y	Gaskin et al., 1978	-
Double-crested cormorant	Bird	subcutaneous fat	-	-	164	-	1970s	Y	Zitko and Choi 1971	-
Herring gull	Bird	subcutaneous fat	-	-	26.0	-	1970s	Y	Zitko and Choi 1971	-

Table 8: Average DDT concentrations in fish and marine mammals and their risk quotients (RQ) for the Bay of Fundy

Common name	Group	Tissue type	Low Effect Residue (LER) µg/g-wet	ΣDDT µg/g-wet	$RQ_{TRG,DDT}$	$RQ_{LER/10}$	Year (s)	Reference	Sources of LER
Common seal	Mammal	liver	-	12.65	**903.2**	-	1970s	Zitko 1975	-
Harbour porpoises	Mammal	blubber	-	6.34	**452.9**	-	1989-91	Westgate et al. 1997	-
North Atlantic right whale	Mammal	blubber	-	0.12	**8.3**	-	1988-89	Woodley 1991	-
Bluefin tuna	Fish	muscle	3.65	0.15	**10.7**	0.41	1970s	Zitko et al. 1972	Buhler et al. 1969
Cod	Fish	muscle	3.65	0.04	**2.9**	0.11	1970s	Zitko 197, Zitko and Choi 1971	Buhler et al. 1969
Herring	Fish	whole body	3.65	0.06	**4.3**	0.16	1970s	Zitko V., 1972	Buhler et al. 1969
Mackerel	Fish	muscle	3.65	0.14	**10.0**	0.38	1970s	Zitko et al. 1972, Zitko and Choi 1971, Zitko 1971	Buhler et al. 1969
Ocean perch	Fish	muscle	3.65	0.03	**2.1**	0.08	1970s	Zitko et al. 1972	Buhler et al. 1969
Plaice	Fish	muscle	3.65	0.01	0.7	0.03	1970s	Zitko et al. 1972	Buhler et al. 1969
Sea raven	Fish	muscle	3.65	0.32	**22.9**	0.88	1970s	Zitko et al. 1972	Buhler et al. 1969
Sea raven	Fish	viscera	-	0.30	**21.4**	**-**	1970s	Zitko et al. 1972	-
White hake	Fish	muscle	3.65	0.03	**2.1**	0.08	1970s	Zitko et al. 1972	Buhler et al. 1969
White shark	Fish	liver	-	441	**31500**	**-**	1970s	Zitko et al. 1972	-
White shark	Fish	muscle	3.65	0.48	**34.3**	**1.32**	1970s	Zitko et al. 1972	Buhler et al. 1969

Table 9: Average DDT concentrations in invertebrates and their risk quotients (RQ) for the Bay of Fundy

Common name	Group	Tissue type	ΣDDT µg/g-wet	$RQ_{TRG,DDT}$	Year (s)	Reference
American lobster	Invert	heptopancreas	1.59	**113**	1981	Zitko 1981
Clam	Invert	whole	0.00	0.0	1969	Sprague et al. 1969
Mussel	Invert	whole	0.09	**6.4**	1969	Sprague et al. 1969
Scallop	Invert	whole	0.03	**2.1**	1969	Sprague et al. 1969

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Appendix A_1: Chronic Toxicity of Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Species name	Group	Marine/ Freshwater	Life stage	Average size	Test conditions	Mode	Hg concentration (µg/L or µg/g)	Hg form	Test duration (h or d)
Matta et al. 2001	Mummichog	*Fundulus heteroclitus*	Fish	Freshwater	Adult	11.9 ± 3.2 mm	-	Food	0.5 µg/g	MeHg	-
Matta et al. 2001	Mummichog	*Fundulus heteroclitus*	Fish	Freshwater	Adult	13.1 ± 5.1 mm	-	Food	1 µg/g	MeHg	-
Webber and Haines 2003	Golden shiner	*Notemigonus crysoleucas*	Fish	Freshwater		50-70 mm	-	Food	1 µg/g	MeHg	90 d
Drevnick and Sandheinrich 2003	Fathead minnow	*Pimephales promelas*	Fish	Freshwater	Juvenile		-	Food	0.87 µg/kg	MeHg	250 d
Snarski and Olson 1982	Fathead minnow	*Pimephales promelas*	Fish	Freshwater	Adult		Flow through	Aqueous	0.5 µg/L	$HgCl_2$	60 d
Birge et al. 1979	Rainbow trout	*Salmo gairdneri*	Fish	Freshwater	Eggs		Flow through	Aqueous	0.11 @ 0 days	$HgCl_2$	up to 7.5 d
Birge et al. 1979	Rainbow trout	*Salmo gairdneri*	Fish	Freshwater	Larvae		Flow through	Aqueous/ Sediment	1.0 µg/g	$HgCl_2$	20 d
Friedmann et al. 1996	Walleye	*Stizostedion vitreum*	Fish	Freshwater	Juvenile	Measured but not reported	-	Food	0.1 µg/g	MeHg	6 months
Mallatt et al. 1995	Sea lampreys	*Petromyzon marinus*	Fish	Marine	Larval	85 (80-92) mm	Renewal	Aqueous	11.0 ± 0.9 µg/L	MeHg	22 d
Weis and Weis 1978	Striped mullet	*Mugil cephalus*	Fish	Marine	Adult	40.0-60.0 mm		Aqueous	1 µg/L	MeHg	7 d
Pereira 1988	Windowpane flounder	*Scophthalmus aquosus*	Fish	Marine	-	190-259 mm	Renewal	Aqueous	5 µg/L	$HgCl_2$	60 d
Pereira 1988	Windowpane flounder	*Scophthalmus aquosus*	Fish	Marine	-	190-259 mm	Renewal	Aqueous	10 µg/L	$HgCl_2$	60 d
Thiagarajan et al. 2006	Marine green mussel	*Perna viridis*	Invert	Marine	Mature	75 ± 5 g	Daily renewal	Aqueous	10 µg/L	$HgCl_2$	25 d
Krishnakumar 1990	Mussels	*Perna viridis*	Invert	Marine				Aqueous	25 µg/L	$HgCl_2$	14 d
Heinz 1979	Mallard ducks	*Anas platyrhynchos*	Bird	-	Adults/Eggs (3 generations)			Food	0.1 µg/g	MeHg	3 generations
Heinz 1979	Mallard ducks	*Anas platyrhynchos*	Bird	-	Adults/Eggs (3 generations)			Food	0.1 µg/g	MeHg	3 generations
Heinz 1979	Mallard ducks	*Anas platyrhynchos*	Bird	-	Adults/Eggs (3 generations)			Food	0.1 µg/g	MeHg	3 generations
Heinz 1979	Mallard ducks	*Anas platyrhynchos*	Bird	-	Adults/Eggs (3 generations)			Food	0.1 µg/g	MeHg	3 generations
Heinz 1979	Mallard ducks	*Anas platyrhynchos*	Bird	-	Adults/Eggs (3 generations)			Food	0.1 µg/g	MeHg	3 generations
Heinz 1979	Mallard ducks	*Anas platyrhynchos*	Bird	-	Adults/Eggs (3 generations)			Food	0.1 µg/g	MeHg	3 generations
Bouton et al. 1999	Great egrets	*Adrea albus*	Bird	-	Juvenile			Food	0.5 µg/g	MeHg	93 d

Ones in yellow were used in summary table.

Appendix A_1: Chronic Toxicity of Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Temp (°C)	n	NOEC (µg/L or µg/g)	LOEC (µg/L or µg/g)	No effect Hg residue (µg/g)	Low effect Hg residue	Residue notes
Matta et al. 2001	Mummichog	-	15	0.2 µg/g	0.5 µg/g	0.21 µg/g	0.44 µg/g	Measured THg
Matta et al. 2001	Mummichog	-	15	1 µg/g	11 µg/g	0.44 µg/g	1.1 µg/g	Measured THg
Webber and Haines 2003	Golden shiner	-	36	0.5 µg/g	1.0 µg/g	0.23 µg/g	0.52 µg/g	Hg
Drevnick and Sandheinrich 2003	Fathead minnow	23.6±0.1	50	0.06 µg/g	0.87 µg/g	0.08 µg/g	0.89 µg/g	Total Hg
Snarski and Olson 1982	Fathead minnow	23-26	6	0.26 µg/g	0.5 µg/g	0.62 µg/g	1.24 µg/g	Wet weight
Birge et al. 1979	Rainbow trout	12-14	80-150	0.11 @ 1 day	0.11 @ 4 days	0.02	0.07 µg/g	Wet weight
Birge et al. 1979	Rainbow trout			0 µg/g	1.0 µg/g	0.02 µg/g	0.04 µg/g	Wet weight
Friedmann et al. 1996	Walleye	20	22	<0.04 µg/g	0.1 µg/g	0.06 µg/g	0.25 µg/g	Mercury content
Mallatt et al. 1995	Sea lampreys	-	7	0.25 µg/L	11 µg/L			
Weis and Weis 1978	Striped mullet	-	8-10	0 µg/L	1 µg/L	<0.1 µg/g	0.3 µg/g	Mercuric residues
Pereira 1988	Windowpane flounder	17 ± 5	7	Control	5 µg/L			
Pereira 1988	Windowpane flounder	17 ± 5	12	Control	5 µg/L			
Thiagarajan et al. 2006	Marine green mussel	28 ± 1	5, 5, 4	Control	10 µg/L			
Krishnakumar 1990	Mussels	-	10	Control	25 µg/L	0.026 µg/g	3.76 µg/g	
Heinz 1979	Mallard ducks	-	37	Control	0.5 µg/g	<0.05 µg/g	0.83 ± 0.065 µg/g	Average of 3 generations
Heinz 1979	Mallard ducks	-	37	Control	0.5 µg/g	<0.1 µg/g	1.33 ± 0.14 µg/g	Average of 3 generations
Heinz 1979	Mallard ducks	-	3	Control	0.5 µg/g	<0.05 µg/g	1.65 ± 0.33 µg/g	Average of 3 generations
Heinz 1979	Mallard ducks	-	3	Control	0.5 µg/g	<0.05 µg/g	0.77 ± 0.62 µg/g	Average of 3 generations
Heinz 1979	Mallard ducks	-	3	Control	0.5 µg/g	<0.05 µg/g	0.59 ± 0.48 µg/g	Average of 3 generations
Heinz 1979	Mallard ducks	-	3	Control	0.5 µg/g	<0.05 µg/g	9.76 ± 1.27 µg/g	Average of 3 generations
Bouton et al. 1999	Great egrets	-	6	Control	0.5 µg/g			

Ones in yellow were used in summary table.

Appendix A_1: Chronic Toxicity of Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	End point measured
Matta et al. 2001	Mummichog	Survival generation F0 and weight of generation F1
Matta et al. 2001	Mummichog	Sex ratios generation F1
Webber and Haines 2003	Golden shiner	Reaction to predator: shoal vertical & area dispersion pre, during and after predator exposure
Drevnick and Sandheinrich 2003	Fathead minnow	T and E2 hormone levels, spawning, reproductive success
Snarski and Olson 1982	Fathead minnow	Growth
Birge et al. 1979	Rainbow trout	Lethality
Birge et al. 1979	Rainbow trout	Lethality
Friedmann et al. 1996	Walleye	GSI, plasma cortisol levels, total length and body weight
Mallatt et al. 1995	Sea lampreys	Sizes of cells and subcellular features in gills
Weis and Weis 1978	Striped mullet	Development, fin regeneration
Pereira 1988	Windowpane flounder	Apical pits, focal swellings in gills
Pereira 1988	Windowpane flounder	Apical pits, focal swellings in gills
Thiagarajan et al. 2006	Marine green mussel	Immunomodulation- phenoloxidase, reactive oxygen species generation and phagocytosis
Krishnakumar 1990	Mussels	NH_4N excretion, O:N ratio, filtration rate, scope of growth and growth efficiency
Heinz 1979	Mallard ducks	Behaviour, reproduction
Heinz 1979	Mallard ducks	Behaviour, reproduction
Heinz 1979	Mallard ducks	Behaviour, reproduction
Heinz 1979	Mallard ducks	Behaviour, reproduction
Heinz 1979	Mallard ducks	Behaviour, reproduction
Heinz 1979	Mallard ducks	Behaviour, reproduction
Bouton et al. 1999	Great egrets	Behaviour

Ones in yellow were used in summary table.

Appendix A_1: Chronic Toxicity of Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Effect observed	Notes	Reference rating	Reference Rating Description
Matta et al. 2001	Mummichog	Lethality and increased weight of offspring		73.9	Satisfactory
Matta et al. 2001	Mummichog	Sex ratios at 1.0 µg/g the females were lower and at 11 µg/g the males were lower		73.9	Satisfactory
Webber and Haines 2003	Golden shiner	Greater shoal vertical dispersal after predator exposure, took longer to return to original activity and greater shoal area after return to original activity	Wet weight; whole body	78.3	Satisfactory
Drevnick and Sandheinrich 2003	Fathead minnow	Reproduction, supressed levels of testosterone in male sand E2 in females.	Wet weight; whole body	87.8	High confidence
Snarski and Olson 1982	Fathead minnow	Decrease in length at 0.50 µg/L	Control <0.01 µg/L	88.6	High confidence
Birge et al. 1979	Rainbow trout	Decrease in egg survival (20% decrease)		69.8	Satisfactory
Birge et al. 1979	Rainbow trout	Decrease in larval survival		69.8	Satisfactory
Friedmann et al. 1996	Walleye	Decrease in GSI (more so in males), testicular atrophy in low [MeHg] and low [MeHg] lower plasma cortisol levels	Wet weight	79.1	Satisfactory
Mallatt et al. 1995	Sea lampreys	Basal cells: 31% increase in cell, 140% increase in mitochondria, 170% increase in lysosomes, 180% increase in Golgi complex and 120% increase in rough ER sizes. Ion up-take cells: 50% increase rough ER size		74.4	Satisfactory
Weis and Weis 1978	Striped mullet	Decrease in fin regeneration	Border line low confidence	60.5	Satisfactory
Pereira 1988	Windowpane flounder	Increase in chlorine cell apical pits, increase focal swellings with increasing Hg concentrations		71.4	Satisfactory
Pereira 1988	Windowpane flounder	Increase in chlorine cell apical pits, increase in focal swellings with increasing Hg concentrations		71.4	Satisfactory
Thiagarajan et al. 2006	Marine green mussel	Increase in phenoloxidase activity, increase in reactive oxygen species and no significant change in phagocytosis over 25 d (there was at 5 d)		83.3	High
Krishnakumar 1990	Mussels	Significant increases in NH_4N excretion. Significant decreases in filtration rate, scope of growth and growth efficiency		71.4	Satisfactory
Heinz 1979	Mallard ducks	Increased # eggs laid outside nest, laid fewer sound eggs, decrease # ducklings, decrease response to and longer approach time to maternal call	Egg; control: n=5	72.7	Satisfactory
Heinz 1979	Mallard ducks	Increased # eggs laid outside nest, laid fewer sound eggs, decrease # ducklings, decrease response to and longer approach time to maternal call	Liver; control: n=5	72.7	Satisfactory
Heinz 1979	Mallard ducks	Increased # eggs laid outside nest, laid fewer sound eggs, decrease # ducklings, decrease response to and longer approach time to maternal call	Kidney; control: n=5	72.7	Satisfactory
Heinz 1979	Mallard ducks	Increased # eggs laid outside nest, laid fewer sound eggs, decrease # ducklings, decrease response to and longer approach time to maternal call	Muscle; control: n=5	72.7	Satisfactory
Heinz 1979	Mallard ducks	Increased # eggs laid outside nest, laid fewer sound eggs, decrease # ducklings, decrease response to and longer approach time to maternal call	Brain; control: n=5	72.7	Satisfactory
Heinz 1979	Mallard ducks	Increased # eggs laid outside nest, laid fewer sound eggs, decrease # ducklings, decrease response to and longer approach time to maternal call	Feathers; control: n=5	72.7	Satisfactory
Bouton et al. 1999	Great egrets	Less likely to hunt fish, and changes in the tendency to seek shade		69.2	Satisfactory

Ones in yellow were used in summary table.

Appendix A_2: Chronic Toxicity of DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Species name	Group	Life stage	Average size (g)	Test conditions	DDT concentration	DDT form	Test duration (h, d or years)	Temperature (°C)
Kolaja 1977	Mallard ducks	*Anas platyrhynchos*	Birds	Young adults		Food	10 and 50 mg/kg	DDT	30 d	
Kolaja 1977	Mallard ducks	*Anas platyrhynchos*	Birds	Young adults		Food	10 and 50 mg/kg	DDE	30 d	
Longcore 1971	Black ducks	*Anas rubripes*	Birds			Food /corn	10 mg/kg	DDE	136 d	
Longcore 1971	Black ducks	*Anas rubripes*	Birds			Food/corn	30 mg/kg	DDE	136 d	
Vangilder and Peterle 1980	Mallard ducks	*Anas platyrhynchos*	Birds	Adults		Food	10 mg/kg	DDE	105 d	
Peterson 1973	Atlantic salmon	*Salmo salar*	Fish	Juvenile	0.5-1.0 g		1000 µ/L	p,p' DDE	24 h	Various
Satyanarayan et. al. 2004	Common carp	*Cyprinus carpio*	Fish	-	-	Water	1.0 µ/L	DDT	30 d	25-27
Satyanarayan et. al. 2004	Ticto barb (minnow)	*Puntius ticto*	Fish	-	-	Water	1.0 µ/L	DDT	30 d	25-27
Macek 1968a	Brook trout	*Salvelinus fontinalis*	Fish	Under yearlings	31.1 ± 1.1 g	Food	2.0 mg/kg/wk	DDT	217 d	-
Macek 1968b	Brook trout	*Salvelinus fontinalis*	Fish	Sexually mature yearlings		Food	2.0 mg/kg/wk	DDT	156 d	-
Buhler et al. 1969	Chinook salmon	*Onchorhynchus tshawytscha*	Fish	Fingerling	0.61 g	Food	37.5 ppm	DDT	7 d	-
Buhler et al. 1969	Coho salmon	*Onchorhynchus kisutch*	Fish	Fingerling	1.1 g	Food	400 ppm	DDT	39 d	-
de Swart et al. 1996	Harbour seals	*Phoca vitulina*	Mammals	1 year after weaning		Food	272 µg/kg lipid	p,p' DDT	2.5 years	-
de Swart et al. 1996	Harbour seals	*Phoca vitulina*	Mammals	1 year after weaning		Food	272 µg/kg lipid	p,p' DDT	2.5 years	-

Ones in yellow were used in summary table.

Reference	Common name	End point measured	Effects Observed	n	NOEC (µg/L or mg/kg)	LOEC (µg/L or mg/kg)
Kolaja 1977	Mallard ducks	Weight (g), R-value [weight (g)/(length (cm) x width (cm)] and thickness (mm)	Eggshell thickness was same as controls until day 14, after day 14 the thickness significantly decreased, weight of the egg significantly decreased and significant decrease in the R-value		Control	10 mg/kg
Kolaja 1977	Mallard ducks	Weight (g), length (cm), width (cm) and thickness (mm)	Eggshell thickness significantly decreased over the entire 30 days, weight of the egg significantly decreased and significant decrease in the R-value		Control	10 mg/kg
Longcore 1971	Black ducks	Eggshell thickness, cracking, and survival	Eggshell thinning: equator=17.6% thinner, cap = 27.6% thinner and apex = 29.2 % thinner (n=14), 9.7 % of eggs laid were cracked, survival: embryos alive at 1 week = 79, embryos alive at 2 weeks = 71 and ducklings alive at 21 days = 23	14	Control	10 mg/kg
Longcore 1971	Black ducks	Eggshell thickness, cracking, and survival	Eggshell thinning: equator= 23.5% thinner, cap=31.0% thinner and apex =37.5% thinner =n=13), 31 % eggs laid were cracked, embryos alive at 1 week = 61, embryos alive at 2 weeks = 45 and ducklings alive at 21 days =9	12	Control	30 mg/kg
Vangilder and Peterle 1980	Mallard ducks	Eggshell thickness	Eggshell thickness was 5% thinner than control, hatchability 22.2 ± 10% lower and ducklings survived 5.1h less than controls	21	Control	10 mg/kg
Peterson 1973	Atlantic salmon	Temperature selection	Preferred temperature selection increased from 16 C to 21 C.		Control	1.0
Satyanarayan et. al. 2004	Common carp	Haemoglobin content, packed cell volume (PCV) and cell damage	46.15 % decrease in haemoglobin content, decreases with length of exposure and enlarged, extruded nucleus; cytoplasm was in the process of degeneration	10	Control	1.0
Satyanarayan et. al. 2004	Ticto barb (minnow)	Haemoglobin content, packed cell volume (PCV) and cell damage	54.68% decrease in haemoglobin content, decreases with length of exposure and enlarged, extruded nucleus; cytoplasm was in the process of degeneration	10	Control	1.0
Macek 1968a	Brook trout	Growth	Higher weight gain, no change length, increase DDT residue and increased residue in daily feeding biweekly feeding	75	0.36 mg/kg	2.0 mg/kg/week
Macek 1968b	Brook trout	Reproduction	Increase length in males, fewer mature ova	53	1.0 mg/kg	2.0 mg/kg/week
Buhler et al. 1969	Chinook salmon	Lethality	Death	300	6.4 ppm	37.5 ppm
Buhler et al. 1969	Coho salmon	Lethality	Death	200	100 ppm	400 ppm
de Swart et al. 1996	Harbour seals	Immunity		11	31 µg/kg-lipid	272 µg/kg-lipid
de Swart et al. 1996	Harbour seals	Immunity		11	31 µg/kg-lipid	272 µg/kg-lipid

Ones in yellow were used in summary table.

Appendix A_2: Chronic Toxicity of DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Notes	DDE LER residues ppm - wet weight	DDE LER residues Notes	DDE NER residue[1] ppm - wet weight	DDT LER residues[1] ppm - wet weight	Residue notes[1]	DDT residue in NER[2] ppm - wet weight	DDD LER residues[2] ppm - wet weight	Residue notes[2]	DDD residue in NER ppm - wet weight
Kolaja 1977	Mallard ducks	No significant difference between dose groups.									
Kolaja 1977	Mallard ducks	No significant difference between dose groups.									
Longcore 1971	Black ducks		46	In eggs	< 0.7						
Longcore 1971	Black ducks		144	In eggs	<0.7						
Vangilder and Peterle 1980	Mallard ducks	-	-	-	-						
Peterson 1973	Atlantic salmon	Residues on whole fish	44.9	P,P DDE	0.03	0.58	p,p' DDT & o,p' DDT	0	0.08	p,p' DDD	0
Satyanarayan et. al. 2004	Common carp										
Satyanarayan et. al. 2004	Ticto barb (minnow)										
Macek 1968a	Brook trout		-	-	-	-	-	-	-	-	-
Macek 1968b	Brook trout		-	-	-	-	-	-	-	-	-
Buhler et al. 1969	Chinook salmon		0.1	DDE	0.07	2.84	p,p' DDT	0.4	0.71	DDD + o,p' DDT	0.15
Buhler et al. 1969	Coho salmon		7.10	DDE	2.35	18.6	p,p' DDT	5.23	8.03	DDD + o,p' DDT	2.82
de Swart et al. 1996	Harbour seals	Blubber	-	-	-	-	-	-	-	-	-
de Swart et al. 1996	Harbour seals	Blood	-	-	-	-	-	-	-	-	-

Ones in yellow were used in summary table.

Appendix A_2: Chronic Toxicity of DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Total DDT LER ppm - wet weight	Total DDT NER ppm - wet weight	Notes	Reference Rating	Rating Description
Kolaja 1977	Mallard ducks				79.2	Satisfactory
Kolaja 1977	Mallard ducks				79.2	Satisfactory
Longcore 1971	Black ducks			14 pairs	69.0	Satisfactory
Longcore 1971	Black ducks			12 pairs	69.0	Satisfactory
Vangilder and Peterle 1980	Mallard ducks				62.8	Satisfactory
Peterson 1973	Atlantic salmon	45.56	0.03		65.1	Satisfactory
Satyanarayan et. al. 2004	Common carp			Freshwater	65.2	Satisfactory
Satyanarayan et. al. 2004	Ticto barb (minnow)			Freshwater	65.2	Satisfactory
Macek 1968a	Brook trout	11.2	0.61	Freshwater	62.2	Satisfactory
Macek 1968b	Brook trout	7.6	2.8	Freshwater	61.4	Satisfactory
Buhler et al. 1969	Chinook salmon	3.65	0.62		63.6	Satisfactory
Buhler et al. 1969	Coho salmon	33.7	10.4		63.6	Satisfactory
de Swart et al. 1996	Harbour seals	2448	306		64.7	Satisfactory
de Swart et al. 1996	Harbour seals	552	89		64.7	Satisfactory

Ones in yellow were used in summary table.

Appendix A_3: Marine Acute Toxicity for Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Species name	Life stage	Average size (mm)	Test conditions	Hg concentration (µg/L)
Marine, inorganic Hg						
Mayer 1987	Tidewater silverside	*Menidia peninsulae*	Larvae, age 26 days	-	Static	71
Mayer 1987	Spot	*Leiostomus xanthurus*	Adult	-	Static	36
Krishnani et al. 2003	Seabass	*Lates calcarifer*	Fry	11 ± 3	Static-renewal	85
Krishnani et al. 2003	Seabass	*Lates calcarifer*	Fry	11 ± 3	Static-renewal	20
Sharp and Neff 1982	Mummichog	*Fundulus heteroclitus*	Eggs	4-8 cell stage	Static-renewal	67.4
Marine, organic Hg						
Khan and Weis 1987	Mummichog	*Fundulus heteroclitus*	Eggs	-	-	1700
Khan and Weis 1987	Mummichog	*Fundulus heteroclitus*	Eggs	-	-	700
Khan and Weis 1987	Mummichog	*Fundulus heteroclitus*	Juvenile	24-45	-	210
Khan and Weis 1987	Mummichog	*Fundulus heteroclitus*	Juvenile	24-45	-	190
Sharp and Neff 1982	Mummichog	*Fundulus heteroclitus*	Eggs	4 -8 cell	Static-renewal	51.1
Sharp and Neff 1982	Mummichog	*Fundulus heteroclitus*	Embryos	1 d	Static-renewal	72.7
Marine, inorganic Hg						
Mayer 1987	Tidewater silverside	*Menidia peninsulae*	Larvae, age 26 days	-	Static	71
Mayer 1987	Spot	*Leiostomus xanthurus*	Adult	-	Static	36
Krishnani et al. 2003	Seabass	*Lates calcarifer*	Fry	11 ± 3	Static-renewal	85
Krishnani et al. 2003	Seabass	*Lates calcarifer*	Fry	11 ± 3	Static-renewal	20
Sharp and Neff 1982	Mummichog	*Fundulus heteroclitus*	Eggs	4-8 cell stage	Static-renewal	67.4

Appendix A_3: Marine Acute Toxicity for Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Hg form	Test duration (h)	Temperature (^oC)
Marine, inorganic Hg				
Mayer 1987	Tidewater silverside	$HgCl_2$	96	26
Mayer 1987	Spot	$HgCl_2$	96	26
Krishnani et al. 2003	Seabass	$HgCl_2$	96	28 ± 2
Krishnani et al. 2003	Seabass	$HgCl_2$	96	28 ± 2
Sharp and Neff 1982	Mummichog	$HgCl_2$	96	-
Marine, organic Hg				
Khan and Weis 1987	Mummichog	MeHgCl	20 min	-
Khan and Weis 1987	Mummichog	MeHgCl	20 min	-
Khan and Weis 1987	Mummichog	MeHgCl	96	-
Khan and Weis 1987	Mummichog	MeHgCl	96	-
Sharp and Neff 1982	Mummichog	MeHgCl	96	-
Sharp and Neff 1982	Mummichog	MeHgCl	96	-
Marine, inorganic Hg				
Mayer 1987	Tidewater silverside	$HgCl_2$	96	26
Mayer 1987	Spot	$HgCl_2$	96	26
Krishnani et al. 2003	Seabass	$HgCl_2$	96	28 ± 2
Krishnani et al. 2003	Seabass	$HgCl_2$	96	28 ± 2
Sharp and Neff 1982	Mummichog	$HgCl_2$	96	-

Appendix A_4: Freshwater Acute Toxicity for Hg.

Reference	Common name	Species name	Life stage	Average size (mm)	Test conditions	Hg concentration (µg/L)	Hg form	Test duration (h)	Temperature (°C)
Freshwater, organic Hg									
Wobeser 1975	Rainbow trout	*Oncorhyncus mykiss*	Fry	2-7 d after hatching	Static-24h renewal	24	MeHgCl	96	10
Wobeser 1975	Rainbow trout	*Oncorhyncus mykiss*	Fingerling	40-60	Static-24h renewal	42	MeHgCl	96	10
McKim et al. 1976	Brook trout	*Salvelinus fontinalis*	Juvenile	-	Flow	84	MeHgCl	96	12
McKim et al. 1976	Brook trout	*Salvelinus fontinalis*	Yearling	-	Flow	65	MeHgCl	96	12
Devlin 2006	Fathead minnow	*Pimephales promelas*	Embryos	-	Flow	39	MeHgCl	96	24 ± 0.5
Devlin 2006	Fathead minnow	*Pimephales promelas*	Embryos	-	Flow	42	MeHgCl	72	24 ± 0.5
Devlin 2006	Fathead minnow	*Pimephales promelas*	Embryos	-	Flow	71	MeHgCl	48	24 ± 0.5
Devlin 2006	Fathead minnow	*Pimephales promelas*	Embryos	-	Flow	221	MeHgCl	24	24 ± 0.5
Kirubagaran and Joy 1988	Air-breathing catfish	*Clarias batrachus*	Adults	-	Static-renewal	430	MeHgCl	96	20± 2
Roales and Perlmutter 1974	Blue gourami	*Trichogaster sp.*	Adults	-	-	89.5	MeHgCl	96	26-28
Roales and Perlmutter 1974	Blue gourami	*Trichogaster sp.*	Adults	-	-	94.2	MeHgCl	48	26-28
Roales and Perlmutter 1974	Blue gourami	*Trichogaster sp.*	Adults	-	-	123	MeHgCl	24	26-28
Freshwater, inorganic Hg									
Rehwoldt et al. 1972	Banded killifish	*Fundulus diaphanus*	-	≤200	Static	110	$HgCl_2$	96	28
Rehwoldt et al. 1972	Pumpkinseed	*Lepomis gibbosus*	-	≤200	Static	300	$HgCl_2$	96	28
Rehwoldt et al. 1972	White perch	*Roccus americanus*	-	≤200	Static	220	$HgCl_2$	96	28
Duncan and Klaverkamp 1983	Common white sucker	*Catostomus commersoni*	-	121 ± 10	Flow	687	$HgCl_2$	96	12.1
Rehwoldt et al. 1972	Carp	*Cyprinus carpio*	-	≤200	Static	180	$HgCl_2$	96	28
Rehwoldt et al. 1972	Striped bass	*Roccus saxatilis*	-	≤200	Static	90	$HgCl_2$	96	28
Rehwoldt et al. 1972	American eel	*Anguilla rostrata*	-	≤200	Static	140	$HgCl_2$	96	28
Wobeser 1975	Rainbow trout	*Oncorhyncus mykiss*	Fingerling	40-60	Static-renewal	900	$HgCl_2$	24	10
Monteiro et al. 2010	Matrinxa	*Brycon amazonicus*	Juvenile	115.5 ± 8.3	Static	150	$HgCl_2$	96	24 ± 2
Birge et al. 1979	Largemouth bass	*Micropterus salmoides*	Embryo-larval	-	Static-renewal	140	$HgCl_2$	192	19-22
Birge et al. 1979	Largemouth bass	*Micropterus salmoides*	Embryo-larval	-	Flow	5.3	$HgCl_2$	192	17-18

Reference	Common name	Species name	Life stage	Average size (mm)	Test conditions	Hg concentration (µg/L)	Hg form	Test duration (h)	Temperature (°C)
Birge et al. 1979	Rainbow trout	*Oncorhyncus mykiss*	Embryo-larval	-	Static-renewal	4.7	$HgCl_2$	672	12-14
Birge et al. 1979	Rainbow trout	*Oncorhyncus mykiss*	Embryo-larval	-	Flow	<0.1	$HgCl_2$	672	13-14
Birge et al. 1979	Channel catfish	*Ictalurus punctatus*	Embryo-larval	-	Static-renewal	30	$HgCl_2$	240	22-24
Birge et al. 1979	Channel catfish	*Ictalurus punctatus*	Embryo-larval	-	Flow	0.3	$HgCl_2$	240	28-29
Birge et al. 1979	Goldfish	*Carassius auratus*	Embryo-larval	-	Static-renewal	121.9	$HgCl_2$	192	19-22
Birge et al. 1979	Goldfish	*Carassius auratus*	Embryo-larval	-	Flow	0.7	$HgCl_2$	192	24-25
Birge et al. 1979	Bluegill	*Lepomis macrochirus*	Embryo-larval	-	Static-renewal	88.7	$HgCl_2$	192	19-22
Birge et al. 1979	Redear sunfish	*Lepomis microphus*	Embryo-larval	-	Static-renewal	137.2	$HgCl_2$	192	19-22
Kirubagaran and Joy 1988	Air-breathing catfish	*Clarias batrachus*	Adults	-	Static-renewal	507	$HgCl_2$	96	20 ± 2
Snarski and Olson 1982	Fathead minnow	*Pimephales promelas*	Juvenile	3 months old	Flow-through	168	$HgCl_2$	96	23-24
Snarski and Olson 1982	Fathead minnow	*Pimephales promelas*	Juvenile	3 months old	Flow-through	112	$HgCl_2$	120	23-24
Snarski and Olson 1982	Fathead minnow	*Pimephales promelas*	Juvenile	3 months old	Flow-through	84	$HgCl_2$	144	23-24
Snarski and Olson 1982	Fathead minnow	*Pimephales promelas*	Juvenile	3 months old	Flow-through	74	$HgCl_2$	168	23-24
Alam and Maughan 1995	Carp	*Cyprinus carpio*	Juvenile	35	Static-renewal	160	-	96	20
Alam and Maughan 1995	Carp	*Cyprinus carpio*	Juvenile	60	Static-renewal	7700	-	96	20
Kumar and Gupta 2006	Catla	*Catla catla*	Fingerling	37	Static	43.92	$HgSO_4$	96	35
Kumar and Gupta 2006	Catla	*Catla catla*	Fingerling	37	Static	52.75	$HgSO_4$	96	16
Kumar and Gupta 2006	Rohu	*Labeo rohita*	Fingerling	54	Static	194.6	$HgSO_4$	96	35
Kumar and Gupta 2006	Rohu	*Labeo rohita*	Fingerling	54	Static	228.2	$HgSO_4$	96	16
Kumar and Gupta 2006	Mrigal	*Cirrhinus mrigala*	Fingerling	58	Static	268.1	$HgSO_4$	96	35
Kumar and Gupta 2006	Mrigal	*Cirrhinus mrigala*	Fingerling	58	Static	308.5	$HgSO_4$	96	16
Kumar and Gupta 2006	Catla	*Catla catla*	Fingerling	37	Static	47.7	$HgSO_4$	96	35
Kumar and Gupta 2006	Catla	*Catla catla*	Fingerling	37	Static	72.7	$HgSO_4$	96	16

Appendix A_4: Freshwater Acute Toxicity for Hg.

Reference	Common name	Species name	Life stage	Average size (mm)	Test conditions	Hg concentration (µg/L)	Hg form	Test duration (h)	Temperature (^oC)
Kumar and Gupta 2006	Rohu	*Labeo rohita*	Fingerling	54	Static	228.1	$HgSO_4$	96	35
Kumar and Gupta 2006	Rohu	*Labeo rohita*	Fingerling	54	Static	278.3	$HgSO_4$	96	16
Kumar and Gupta 2006	Mrigal	*Cirrhinus mrigala*	Fingerling	58	Static	281.4	$HgSO_4$	96	35
Kumar and Gupta 2006	Mrigal	*Cirrhinus mrigala*	Fingerling	58	Static	312.9	$HgSO_4$	96	16
McCrary and Heagler 1997	Mosquitofish	*Gambusia affinis*	-	-	Static	52.62	$HgCl_2$	96	21.4 ± 0.59
McCrary and Heagler 1997	Golden shiner	*Notemigonus crysoleucas*	-	-	Static	16.75	$HgCl_2$	96	21.4 ± 0.59

Appendix A_5: Acute Toxicity DDT. Note:

Reference	Common name	Species name	Life stage	Average size (mm)	Test conditions	DDT concentration (µg/L)	DDT form	Test duration (h)	Temperature (oC)	Salinity	Notes
Marine invertebrates, DDT											
McLeese and Metcalfe 1980	Shrimp	*Crangon septemspiinosa*		2 g	Static-renewal	0.4	Technical grade DDT	96	20	Seawater	Seawater
McLeese and Metcalfe 1980	Shrimp	*Crangon septemspiinosa*		2 g	Static-renewal	31	Technical grade DDT	96	10	Seawater	Sediment
Mayer 1987	Eastern oyster	*Crassosterea virginica*			Flow	9	Technical grade DDT	96	30		EC_{50}, effects on shell growth
Mayer 1987	Eastern oyster	*Crassosterea virginica*			Flow	14	Technical grade DDT	96	12		EC_{50}, effects on shell growth
Mayer 1987	Eastern oyster	*Crassosterea virginica*			Flow	25	Technical grade DDT	96	20		EC_{50}, effects on shell growth
Mayer 1987	Mysid shrimp	*Mysidopsis bahia*	Adult	-	Static-renewal	0.45	Technical grade DDT	96	25	23	
Mayer 1987	Pink shrimp	*Penaeus duorarum*	Juvenile	-	Flow	0.6	Technical grade DDT	48	24	28	
Mayer 1987	Pink shrimp	*Penaeus duorarum*	Juvenile	-	Flow	2.4	Technical grade TDE	48	16	31	
Mayer 1987	White shrimp	*Penaeus setiferus*	Juvenile	-	Flow	0.7	Technical grade DDT	24	27	28	
Mayer 1987	Grass shrimp	*Penaeus aztecus*	Juvenile	-	Flow	0.8	Technical grade DDT	24	27	28	
Marine fish, DDT											
Earnest and Benville 1972	Dwarf perch	*Micrometrus minimus*	-	48-104	Static-renewal	4.6	Technical grade DDT	96	13	26	TL_{50}
Earnest and Benville 1972	Dwarf perch	*Micrometrus minimus*	-	48-104	Intermittent-flow through	0.26	Technical grade DDT	96	14-18	28	TL_{50}
Earnest and Benville 1972	Shiner perch	*Cymatogaster aggregata*	-	48-104	Static-renewal	7.6	Technical grade DDT	96	13	26	TL_{50}
Earnest and Benville 1972	Shiner perch	*Cymatogaster aggregata*	-	48-104	Intermittent-flow through	0.45	Technical grade DDT	96	14-18	28	TL_{50}
Mayer 1987	Sheepshead minnow	*Cyprinodon variegatus*	Juvenile	-	Flow	2	Technical grade DDT	48	15	30	
Mayer 1987	Longnose killifish	*Fundulus similis*	Juvenile	-	Flow	2.8	Technical grade DDT	48	15	30	
Mayer 1987	Longnose killifish	*Fundulus similis*	Juvenile	-	Flow	42	Technical grade TDE	48	16	28	
Mayer 1987	Pinfish	*Lagodon rhomboides*	Juvenile	-	Flow	0.3	Technical grade DDT	48	22	29	
Mayer 1987	Striped mullet	*Mugil cephalus*	Juvenile	-	Flow	0.4	Technical grade DDT	48	15	30	

Appendix A_5: Acute Toxicity DDT. Note:

Reference	Common name	Species name	Life stage	Average size (mm)	Test conditions	DDT concentration (µg/L)	DDT form	Test duration (h)	Temperature (oC)	Salinity	Notes
Mayer 1987	Spot	*Leiostomus xanthurus*	Juvenile	-	Flow	>100	Technical grade DDE	48	12	26	
Mayer 1987	Spot	*Leiostomus xanthurus*	Juvenile	-	Flow	20	Technical grade TDE	48	26	30	
Freshwater, DDT											
Satyanarayan et. al. 2004	Common carp	*Cyprinus carpio*	-	-	Continous flow	27		24	25-27	n/a	
Satyanarayan et. al. 2004	Common carp	*Cyprinus carpio*	-	-	Continous flow	6.9		48	25-27	n/a	
Satyanarayan et. al. 2004	Common carp	*Cyprinus carpio*	-	-	Continous flow	2.4		96	25-27	n/a	
Satyanarayan et. al. 2004	Ticto barb (minnow)	*Puntius ticto*	-	-	Continous flow	80		24	25-27	n/a	
Satyanarayan et. al. 2004	Ticto barb (minnow)	*Puntius ticto*	-	-	Continous flow	70		48	25-27	n/a	
Satyanarayan et. al. 2004	Ticto barb (minnow)	*Puntius ticto*	-	-	Continous flow	49		96	25-27	n/a	
Birds, DDT											
Hudson et al. 1984	Mallard duck	*Anas platyrhynchos*	3 months	-	Oral	>2240	DDT; 77.2%	n/a	n/a	n/a	LD_{50}
Hudson et al. 1984	California quail	*Callipepla californica*	6 months	-	Oral	595	DDT; technical grade	n/a	n/a	n/a	LD_{50}
Hudson et al. 1984	Japanese quail	*Coturnix japonica*	2 months	-	Oral	841	DDT; 77.2%	n/a	n/a	n/a	LD_{50}
Hudson et al. 1984	Pheasant	*Phasianus colchicus*	3-4 months	-	Oral	1334	DDT; >99%	n/a	n/a	n/a	LD_{50}
Hudson et al. 1984	Sandhill crane	*Grus canadensis*	Adult	-	Oral	>1200	DDT	n/a	n/a	n/a	LD_{50}
Hudson et al. 1984	Rock dove	*Columbia livia*	-	-	Oral	>4000	DDT	n/a	n/a	n/a	LD_{50}

Appendix B: Robust Study Form

Robust Study Summaries Form and Instructions: Aquatic iT					
No	**Item**	**Weight**	**Yes/No**	**Specify**	**Instructions**
1	Reference:				Title of the study, authors, year, journal/book, volume, pages, and other information.
2	Substance identity: CAS RN	n/a			Chemical Abstracts Service Registry Number.
3	Substance identity: chemical name(s)	n/a			At least one chemical name from a recognized nomenclature.
4	Chemical composition of the substance	2			Yes or No. Chemical composition (%) of the substance (major and secondary components, by-products, impurities). Especially important for UVCBs and polymers. May be considered as "non-applicable", if the test substance is a discrete high-purity chemical (see item 5).
5	Chemical purity	1			Yes or No. Purity may be reported as % and/or chemical grade designations (e.g. A.C.S., Reagent, etc.). May be not applicable for some UVCBs (e.g. CAS 128683-25-0 - crude oil; CAS 65996-72-7 - steelmaking dust; etc).
6	Persistence/stability of test substance in aquatic solution reported?	1			Yes or No. Information on whether the substance is stable or unstable (i.e. volatile, hydrolysable, photodegradable, polymerizable, readily biodegradable, etc.) in water.
	Method				
7	Reference	1			Yes or No. Reference in respect to the method used.
8	OECD, EU, national, or other standard method?	3			Yes or No.
9	Justification of the method/protocol if not a standard method was used	2			Yes or No. When "Yes", method justification (which is not a synonym of the "method description") should be provided. Not applicable, if a standard protocol (see item 8) was used.
10	GLP (Good Laboratory Practice)	3			Yes or No. "Yes" - whenever GLP was applied. "No" - if the study was conducted after 1997 and GLP was not implemented. If the study completed before 1997 and GLP was not implemented, the item can be considered as not applicable.
	Test organism				
11	Organism identity: name	n/a			Names (common and/or scientific) as reported in the study.
12	Latin or both Latin & common names reported?	1			Yes or No.
13	Life cycle age / stage of test organis	1			Yes or No. Item may not be negatively answered if other items (e.g. item 15) give indirect, but clear information on the age or stage of the organism (for example, if the weight/size of the specific fish species is given, an assumption on the life stage can be easily made).
14	Length and/or weight	1			Yes or No. Not applicable in some cases (e.g. for algae or very small invertebrates such as *Daphnia magna)* .
15	Sex	1			Yes or No. Not applicable in some cases (e.g. algae). If the item is applicable for an organism, but the organism is very young and small, for example 1-3 cm long fathead minnow or rainbow trout (e.g. see OECD Guidelines No. 203), this item can also be considered as non-applicable.
16	Number of organisms per replicate	1			Yes or No. Specify number of organisms per replicate
17	Organism loading rate	1			Yes or No. Specify loading rate for the organisms (e.g.: 0.8 g/L).
18	Food type and feeding periods during the acclimation period	1			Yes or No.
	Test design / conditions				
19	Test type (acute or chronic	n/a			Yes or No. Specify test type.
20	Experiment type (laboratory or field	n/a			Yes or No. Specify test type.
21	Exposure pathways (food, water, both)	n/a			Yes or No. Specify exposure pathways.
22	Exposure duration	n/a			Yes or No. Specify exposure duration.
23	Negative or positive controls (specify)	1			Yes or No. Specify which controls were used.
24	Number of replicates (including controls)	1			Yes or No. Specify number of replicates.
25	Nominal concentrations reported?	1			Yes or No. Specify number of nominal concentrations.
26	Measured concentrations reported?	3			Yes or No. May be considered as not applicable if measured concentrations are reported.
27	Food type and feeding periods during the long-term tests	1			Yes or No. Not applicable for acute tests as organisms are not normally fed in short-term tests.
28	Were concentrations measured periodically (especially in the chronic test)?	1			Yes or No. When answered "Yes": chronic tests - at least three measurements; acute tests - at least two measurements (in both cases, actual concentrations at the end of the test have to be presented).
29	Were the exposure media conditions relevant to the particular chemical reported? (e.g., for the metal toxicity - pH, DOC/TOC, water hardness, temperature)	3			Yes or No.
30	Photoperiod and light intensity	1			Yes or No.
31	Stock and test solution preparation	1			Yes or No.
32	Was solubilizer/emulsifier used, if the chemical was poorly soluble or unstable?	1			Yes or No. Applicable for poorly soluble / unstable substances only, especially when toxicity value is above the chemical's water solubility.
33	If solubilizer/emulsifier was used, was its concentration reported?	1			Yes or No.
34	If solubilizer/emulsifier was used, was its ecotoxicity reported?	1			Yes or No. It's allowed to present toxicity values from another similar tests.
35	Analytical monitoring intervals	1			Yes or No.
36	Statistical methods used	1			Yes or No.
	Information relevant to the data quality				
37	Was the endpoint directly caused by the chemical's toxicity, not by organism's health (e.g. when mortality in the control >10%) or physical effects (e.g. 'shading effect')?	n/a			Yes or No. When answered "No", submit all the considerations/concerns in the "Comments" box below; most likely, the study will be rejected.
38	Was the test organism relevant to the Canadian environment?	3			Yes or No.
39	Were the test conditions (pH, temperature, DO, etc.) typical for the test organism?	1			Yes or No.
40	Does system type and design (static, semi-static, flow-through; sealed or open; etc.) correspond to the substance's properties and organism's nature/habits?	2			Yes or No. "No" - when, for example, the chemical was volatile, and open (not sealed) static-system tanks were used.
41	Was pH of the test water within the range typical for the Canadian environment (6 to 9)?	1			Yes or No. Specify actual pH range.
42	Was temperature of the test water within the range typical for the Canadian environment (5 to 27°C)?	1			Yes or No. Specify actual temperature range.
43	Was toxicity value below the chemical's water solubility?	3			Yes or No. Experimental WS results are preferred over predicted WS data. The difference between WS and toxicity value is considered as negligible when it is within one order of magnitude, and if beyond that, the difference is considered as meaningful. The item is not applicable if WAF (Water Accommodated Fractions) protocol has been used.
	Results				
44	Toxicity values (specify endpoint and value)	n/a	n/a		Specify endpoint and value (e.g. 48-h LC50=70 mg/L)
45	Other endpoints reported - e.g. BCF/BAF, LOEC/NOEC (specify)?	n/a			Yes or No. Specify endpoint and value (e.g. 28-d NOEC=70 mg/L; BCF=1200 L/kg)
46	Other adverse effects (e.g. carcinogenicity, mutagenicity) reported?	n/a			Yes or No. Specify other adverse effects (if any)
47	***Score : ... %***			*#DIV/0!*	
48	***EC Reliability code :***			*#DIV/0!*	
49	***Reliability category (high, satisfactory, low) :***			*#DIV/0!*	
50	***Comments***				

Appendix C: Individual Concentrations and RQ Values for Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Species name	Group	Tissue type	Hg form	Average size weight (g)	n	Moisture (%)	Hg concentration (ng/g-wet)	SD (ng/g-wet)	Median (ng/g-wet)
Bond and Diamond 2009a	Arctic tern	*Sterna paradisaea*	Bird	Eggs	THg	-	17	-	220	60	220
Bond and Diamond 2009a	Common murre	*Uria aalge*	Bird	Eggs	THg	-	10	-	247	61	-
Bond and Diamond 2009b	Arctic tern	*Sterna paradisaea*	Bird	Breast feathers	MeHg	-	5	-	791	284	-
Bond and Diamond 2009b	Atlantic puffin	*Fratercula arctica*	Bird	Breast feathers	MeHg	-	5	-	1634	664	-
Bond and Diamond 2009b	Common murre	*Uria aalge*	Bird	Breast feathers	MeHg	-	5	-	1249	349	-
Bond and Diamond 2009b	Common tern	*Sterna hirundo*	Bird	Breast feathers	MeHg	-	5	-	1619	1814	-
Bond and Diamond 2009b	Leech's storm-petrel	*Oceanodroma leucorhoa*	Bird	Yolk egg	MeHg	-	5	-	227	83	-
Bond and Diamond 2009b	Leech's storm-petrel	*Oceanodroma leucorhoa*	Bird	Egg	MeHg	-	5	-	1008	291	-
Bond and Diamond 2009b	Leech's storm-petrel	*Oceanodroma leucorhoa*	Bird	Albumin	MeHg	-	5	-	4569	579	-
Bond and Diamond 2009b	Leech's storm-petrel	*Oceanodroma leucorhoa*	Bird	Breast feathers	MeHg	-	5	-	5330	3423	-
Bond and Diamond 2009b	Razorbill	*Alca torda*	Bird	Breast feathers	MeHg	-	5	-	1073	383	-
Bond and Diamond 2009b	Arctic tern	*Sterna paradisaea*	Bird	Breast feathers	THg	-	5	-	891	507	-
Bond and Diamond 2009b	Atlantic puffin	*Fratercula arctica*	Bird	Breast feathers	THg	-	5	-	1805	668	-
Bond and Diamond 2009b	Common murre	*Uria aalge*	Bird	Breast feathers	THg	-	5	-	987	361	-
Bond and Diamond 2009b	Common tern	*Sterna hirundo*	Bird	Breast feathers	THg	-	5	-	1380	991	-
Bond and Diamond 2009b	Leech's storm-petrel	*Oceanodroma leucorhoa*	Bird	Yolk egg	THg	-	5	-	298	81	-
Bond and Diamond 2009b	Leech's storm-petrel	*Oceanodroma leucorhoa*	Bird	Breast feathers	THg	-	5	-	4855	2791	-
Bond and Diamond 2009b	Leech's storm-petrel	*Oceanodroma leucorhoa*	Bird	Albumin	THg	-	5	-	5501	1535	-
Bond and Diamond 2009b	Razorbill	*Alca torda*	Bird	Breast feathers	THg	-	5	-	1404	559	-
Braune and Noble 2009	Black-bellied plover	*Pluvialis squatarola*	Bird	Liver	THg	-	3	67	475	-	-
Braune and Noble 2009	Dunlin	*Calidris alpina*	Bird	Liver	THg	-	5	67	832	-	-
Braune and Noble 2009	Greater yellowlegs	*Tringa melanoleuca*	Bird	Liver	THg	-	3	67	809	-	-
Braune and Noble 2009	Lesser yellowlegs	*Tringa flavipes*	Bird	Liver	THg	-	8	67	818	-	818

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Reference	Common name	Species name	Group	Tissue type	Hg form	Average size weight (g)	n	Moisture (%)	Hg concentration (ng/g-wet)	SD (ng/g-wet)	Median (ng/g-wet)
Braune and Noble 2009	Semipalmated plover	*Charadrius semipalmatus*	Bird	Liver	THg	-	5	67	356.4	-	-
Braune and Noble 2009	Semipalmated sandpiper	*Calidris pusilla*	Bird	Liver	THg	-	5	67	702.9	-	-
Braune and Noble 2009	Short-billed dowitcher	*Limnodromus griseus*	Bird	Liver	THg	-	4	67	534.6	-	-
Braune 1987b	Arctic tern	*Sterna paradisaea*	Bird	Muscle	THg	-	36	-	89	-	-
Braune 1987b	Arctic tern	*Sterna paradisaea*	Bird	Brain	THg	-	31	-	94	-	-
Braune 1987b	Arctic tern	*Sterna paradisaea*	Bird	Kidney	THg	-	36	-	453	-	-
Braune 1987b	Arctic tern	*Sterna paradisaea*	Bird	Liver	THg	-	36	-	470	-	-
Braune 1987b	Black guillemot	*Cepphus grylle*	Bird	Muscle	THg	-	4	-	113	-	-
Braune 1987b	Black guillemot	*Cepphus grylle*	Bird	Brain	THg	-	4	-	123	-	-
Braune 1987b	Black guillemot	*Cepphus grylle*	Bird	Kidney	THg	-	4	-	491	-	-
Braune 1987b	Black guillemot	*Cepphus grylle*	Bird	Liver	THg	-	4	-	513	-	-
Braune 1987b	Black-legged kittiwake	*Rissa tridactyla*	Bird	Muscle	THg	-	20	-	37	-	-
Braune 1987b	Black-legged kittiwake	*Rissa tridactyla*	Bird	Brain	THg	-	14	-	38	0	-
Braune 1987b	Black-legged kittiwake	*Rissa tridactyla*	Bird	Kidney	THg	-	18	-	242	-	-
Braune 1987b	Black-legged kittiwake	*Rissa tridactyla*	Bird	Liver	THg	-	19	-	372	-	-
Braune 1987b	Bonaparte's gull	*Larus philadelphia*	Bird	Muscle	THg	-	145	-	75	-	-
Braune 1987b	Bonaparte's gull	*Larus philadelphia*	Bird	Brain	THg	-	137	-	101	-	-
Braune 1987b	Bonaparte's gull	*Larus philadelphia*	Bird	Kidney	THg	-	145	-	418	-	-
Braune 1987b	Bonaparte's gull	*Larus philadelphia*	Bird	Liver	THg	-	145	-	450	-	-
Braune 1987b	Common eider duck	*Somateria mollissima*	Bird	Muscle	THg	-	11	-	153	-	-
Braune 1987b	Common eider duck	*Somateria mollissima*	Bird	Kidney	THg	-	11	-	358	-	-
Braune 1987b	Common eider duck	*Somateria mollissima*	Bird	Liver	THg	-	11	-	987	-	-
Braune 1987b	Common tern	*Sterna hirundo*	Bird	Muscle	THg	-	30	-	166	-	-

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Braune 1987b	Common tern	*Sterna hirundo*	Bird	Brain	THg	-	29	-	190	-	-
Braune 1987b	Common tern	*Sterna hirundo*	Bird	Liver	THg	-	30	-	1249	-	-
Braune 1987b	Common tern	*Sterna hirundo*	Bird	Kidney	THg	-	30	-	1505	-	-
Braune 1987b	Double crested cormorant	*Phalacrocorax auritus*	Bird	Brain	THg	-	1	-	360	-	-
Braune 1987b	Double crested cormorant	*Phalacrocorax auritus*	Bird	Muscle	THg	-	3	-	606	-	-
Braune 1987b	Double crested cormorant	*Phalacrocorax auritus*	Bird	Kidney	THg	-	3	-	5345	-	-
Braune 1987b	Double crested cormorant	*Phalacrocorax auritus*	Bird	Liver	THg	-	3	-	7048	-	-
Braune 1987b	Herring gull	*Larus argentatus*	Bird	Brain	THg	-	4	-	56	-	-
Braune 1987b	Herring gull	*Larus argentatus*	Bird	Muscle	THg	-	4	-	101	-	-
Braune 1987b	Herring gull	*Larus argentatus*	Bird	Kidney	THg	-	4	-	350	-	-
Braune 1987b	Herring gull	*Larus argentatus*	Bird	Liver	THg	-	4	-	482	-	-
Braune 1987b	Red-necked phalarope	*Phalaropus lobatus*	Bird	Muscle	THg	-	13	-	46	-	-
Braune 1987b	Red-necked phalarope	*Phalaropus lobatus*	Bird	Liver	THg	-	12	-	225	-	-
Elliot et al. 1992	Double crested cormorant	*Phalacrocorax auritus*	Bird	Kidney	THg	-	12	75.5	1861	198	1861
Elliot et al. 1992	Double crested cormorant	*Phalacrocorax auritus*	Bird	Liver	THg	-	12	69.85	3520	4422	3520
Elliot et al. 1992	Herring gull	*Larus argentatus*	Bird	Liver	THg	-	6	67.1	227.01	59.22	-
Elliot et al. 1992	Herring gull	*Larus argentatus*	Bird	Kidney	THg	-	6	73	299.7	59.4	-
Elliot et al. 1992	Herring gull	*Larus argentatus*	Bird	Kidney	THg	-	6	78	352	77	-
Elliot et al. 1992	Herring gull	*Larus argentatus*	Bird	Liver	THg	-	6	66.5	502.5	177.55	-
Elliot et al. 1992	Leech's storm-petrel	*Oceanodroma leucorhoa*	Bird	Kidney	THg	-	12	64	1213	410	-
Elliot et al. 1992	Leech's storm-petrel	*Oceanodroma leucorhoa*	Bird	Liver	THg	-	6	66.4	2419	403	-
Goodale et al. 2008	Arctic tern	*Sterna paradisaea*	Bird	Blood	THg	-	1	-	10	-	-
Goodale et al. 2008	Atlantic puffin	*Fratercula arctica*	Bird	Blood	THg	-	38	-	175	220	175
Goodale et al. 2008	Black guillemot	*Cepphus grylle*	Bird	Blood	THg	-	3	-	110	20	-

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Goodale et al. 2008	Black guillemot	*Cepphus grylle*	Bird	Egg	THg	-	28	-	520	230	-
Goodale et al. 2008	Black-crowned night-heron	*Nycticorax nycticorax*	Bird	Blood	THg	-	23	-	250	150	-
Goodale et al. 2008	Common eider	*Somateria mollissima*	Bird	Blood	THg	-	4	-	110	80	-
Goodale et al. 2008	Common tern	*Sterna hirundo*	Bird	Blood	THg	-	49	-	200	225	-
Goodale et al. 2008	Double crested cormorant	*Phalacrocorax auritus*	Bird	Blood	THg	-	5	-	180	120	-
Goodale et al. 2008	Double crested cormorant	*Phalacrocorax auritus*	Bird	Egg	THg	-	46	-	280	90	-
Goodale et al. 2008	Glossy ibis	*Plegadis falcinellus*	Bird	Blood	THg	-	15	-	40	20	-
Goodale et al. 2008	Glossy ibis	*Plegadis falcinellus*	Bird	Egg	THg	-	2	-	40	-	-
Goodale et al. 2008	Great black-backed gull	*Larus marinus*	Bird	Blood	THg	-	71	-	160	130	-
Goodale et al. 2008	Herring gull	*Larus argentatus*	Bird	Egg	THg	-	6	-	80	20	-
Goodale et al. 2008	Herring gull	*Larus argentatus*	Bird	Blood	THg	-	49	-	95	65	-
Goodale et al. 2008	Least tern	*Sternula antillarum*	Bird	Egg	THg	-	18	-	150	100	-
Goodale et al. 2008	Leech's storm-petrel	*Oceanodroma leucorhoa*	Bird	Blood	THg	-	48	-	285	205	-
Goodale et al. 2008	Little brown heron	*Egretta caerulea*	Bird	Blood	THg	-	4	-	30	10	-
Goodale et al. 2008	Piping plover	*Charadrius melodus*	Bird	Eggs	THg	-	2	-	240	-	-
Goodale et al. 2008	Razorbill	*Alca torda*	Bird	Blood	THg	-	35	-	350	285	350
Goodale et al. 2008	Snowy egret	*Egretta thula*	Bird	Blood	THg	-	15	-	70	60	-
Goodale et al. 2008	Willet	*Cataptrophorus semipalmatus*	Bird	Eggs	THg	-	2	-	100	20	-
Goodale et al. 2008; Bond and Diamond 2009a	Common eider	*Somateria mollissima*	Bird	Eggs	THg	-	19	-	294	190	322
Goodale et al. 2008; Bond and Diamond 2009a	Common tern	*Sterna Hirundo*	Bird	Eggs	THg	-	83	-	124	39	126
Goodale et al. 2008; Bond and Diamond 2009a	Leech's storm-petrel	*Oceanodroma leucorhoa*	Bird	Egg	THg	-	31	-	891	338	887
Goodale et al. 2008; Bond and Diamond 2009a	Razorbill	*Alca torda*	Bird	Egg	THg	-	44	-	434	155	455
Goodale et al. 2008; Bond and Diamond 2009a and Pers. Comm. Neil Burgess	Atlantic puffin	*Fratercula arctica*	Bird	Eggs	THg	-	64	71.6	234	234.3	230

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Pers. Comm. Neil Burgess	Double crested cormorant	*Phalacrocorax auritus*	Bird	Egg	THg	-	15	83.7	166	18	-
Pers. Comm. Neil Burgess	Herring gull	*Larus argentatus*	Bird	Egg	THg	-	15	76.8	52	13	-
Pers. Comm. Neil Burgess	Herring gull	*Larus argentatus*	Bird	Egg	THg	-	15	76.2	112	29	-
Pers. Comm. Neil Burgess	Leech's storm-petrel	*Oceanodroma leucorhoa*	Bird	Egg	THg	-	15	72.5	531	16	-
Braune and Gaskin 1987	Harbor pollock	*Pollachius virens*	Fish	Muscle	THg	-	-		5	1	-
Braune and Gaskin 1987	Herring brit	*Clupea harengus*	Fish	Muscle	THg	-	-		4	1	-
Braune 1987a	Atlantic herring	*Clupea harengus harengus*	Fish	Muscle	THg	99.42 ± 21.76	390	-	8.92	4	7.6
Braune 1987a	Atlantic herring	*Clupea harengus harengus*	Fish	Whole body	THg	99.42 ± 21.76	390	-	8.94	2.3	7.4
Forsythe, C. 2008; Sunderland et al. 2012	Spiny dogfish	*Squalus*	Fish	Muscle	THg	1455	65		250	99	-
Gareth Harding, unpublished data	Bluefin tuna	*Thunnus*	Fish	Whole body	MeHg	323000	5		495.7	102	-
Gareth Harding, unpublished data	Cod	*Gadus*	Fish	Whole body	MeHg	952.9	19		27.1	14	-
Gareth Harding, unpublished data	Cunner	*Tautogolabrus*	Fish	Whole body	MeHg	102.9	9		75.3	28	-
Gareth Harding, unpublished data	Haddock	*Melanogrammus*	Fish	Whole body	MeHg	580.8	16		18.3	12	-
Gareth Harding, unpublished data	Herring	*Clupea*	Fish	Whole body	MeHg	160.9	19		40.3	25	-
Gareth Harding, unpublished data	Mackerel	*Scomber*	Fish	Whole body	MeHg	146	14		17.4	5	-
Gareth Harding, unpublished data	Pollock	*Pollachius*	Fish	Whole body	MeHg	135.5	10		15.4	5	-
Gareth Harding, unpublished data	Spiny dogfish	*Squalus*	Fish	Whole body	MeHg	1347	16		83.9	27	-
Gareth Harding, unpublished data	Swordfish	*Xiphias*	Fish	Whole body	MeHg	103900	11		293.9	246	-
Gareth Harding, unpublished data	Thresher shark	*Alopias*	Fish	Whole body	MeHg	561400	1		1427	-	-
Gareth Harding, unpublished data	White hake	*Urophycis*	Fish	Whole body	MeHg	1009.5	8		24.1	10	-
Gareth Harding, unpublished data	Winter flounder	*Pseudopleuronectes*	Fish	Whole body	MeHg	218.5	14		15.2	8	-
Gareth Harding, unpublished data	Yellowtail flounder	*Limanda*	Fish	Whole body	MeHg	520.9	14		23.3	9	
Gareth Harding, unpublished data	Bluefin tuna	*Thunnus*	Fish	Whole body	THg	323000	5		564.9	88	-

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Gareth Harding, unpublished data	Cod	*Gadus*	Fish	Whole body	THg	952.9	19		35.2	16	-
Gareth Harding, unpublished data	Cunner	*Tautogolabrus*	Fish	Whole body	THg	102.9	9		79.7	28	-
Gareth Harding, unpublished data	Haddock	*Melanogrammus*	Fish	Whole body	THg	580.8	16		32.3	14	-
Gareth Harding, unpublished data	Herring	*Clupea*	Fish	Whole body	THg	160.9	19		47.5	28	-
Gareth Harding, unpublished data	Mackerel	*Scomber*	Fish	Whole body	THg	146	14		21.8	6	-
Gareth Harding, unpublished data	Pollock	*Pollachius*	Fish	Whole body	THg	135.5	10		18.7	7	-
Gareth Harding, unpublished data	Spiny dogfish	*Squalus*	Fish	Whole body	THg	1347	16		99.3	27	-
Gareth Harding, unpublished data	Swordfish	*Xiphias*	Fish	Whole body	THg	103900	11		416.4	252	-
Gareth Harding, unpublished data	Thresher shark	*Alopias*	Fish	Whole body	THg	561400	1		1472.4	-	-
Gareth Harding, unpublished data	White hake	*Urophycis*	Fish	Whole body	THg	1009.5	8		29.5	7	-
Gareth Harding, unpublished data	Winter flounder	*Pseudopleuronectes*	Fish	Whole body	THg	218.5	14		21.1	8	-
Gareth Harding, unpublished data	Yellowtail flounder	*Limanda*	Fish	Whole body	THg	520.9	14		26.9	10	-
Sunderland et al. 2012	Atlantic salmon	*Salmo salar*	Fish	Muscle	THg	-	-	-	29.2	21.4	-
Sunderland et al. 2012	Longhorn sculpin	*Myoxocephalus octodecenspinosus*	Fish	Muscle	THg	-	-		55-132	-	-
Sunderland et al. 2012	Witch flounder	*Glyptocephalus cynoglossus*	Fish	Muscle	THg	-	-	-	33-440	-	-
Braune and Gaskin 1987	Euphausiids	*T. inermis*	Invert		THg	-	2	-	3.0	0.6	-
Braune and Gaskin 1987	Euphausiids	*M.novegica*	Invert		THg	-	9	-	6.0	1.7	-
Braune and Gaskin 1987; Sunderland et al. 2012	Amphipod	*Gammarus sp.*	Invert		THg	-	8	-	11.7	4.9	9
Braune 1987a	Copepod	*Calanus finmarchicus*	Invert		THg	-	26	-	4.3	2.2	-
Braune 1987a; Braune and Gaskin 1987 and Sunderland et al. 2012	Polychaete	*Nephtys sp.*	Invert		THg	-	16	-	7.3	4.7	9
Chou et al. 2004	American lobster	*Homarus americanus*	Invert	Digestive gland	THg	590.5 ± 137	65	-	60	10	-
Chou et al. 2004	Blue mussel	*Mytilus edulis*	Invert	Soft tissue	THg	2.01 ± 0.70	50	89	32.45	2.75	32.45

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Chou et al. 2004	Blue mussel	*Mytilus edulis*	Invert	Soft tissue	THg	8.29 ± 1.99	150	89	33.55	2.38	33.55
Chou et al. 2004; LeBlanc et al. 2009a; LeBlanc et al. 2009b	Blue mussel	*Mytilus edulis*	Invert	Soft tissue	THg	20.00 ± 4.75	-	89	29.18	10.53	29.7
Sizmur et al. 2013	Amphipod	*Corophium volutator*	Invert		MeHg	-	478	90.6	1.06	0.04	
Sizmur et al. 2013	Polychaete	*capitellidae spp.*	Invert		MeHg	-	334	95.6	0.58	0.02	0.15
Sizmur et al. 2013	Polychaete	*glyceridae spp.*	Invert		MeHg	-	6	85.6	1.32	0.11	1.39
Sizmur et al. 2013	Polychaete	*maldanidae spp.*	Invert		MeHg	-	19	90.3	6.76	0.14	
Sizmur et al. 2013	Polychaete	*paraonidae spp.*	Invert		MeHg	-	2	93.3	2.93		
Sizmur et al. 2013	Polychaete	*spionidae spp.*	Invert		MeHg	-	286	68.6	3.45	0.25	3.45
Sizmur et al. 2013	Amphipod	*Corophium volutator*	Invert		THg	-	478	90.6	4.1	0.0	-
Sizmur et al. 2013	Polychaete	*glyceridae spp.*	Invert		THg	-	6	85.6	5.3	0.4	5.27
Sizmur et al. 2013	Polychaete	*paraonidae spp.*	Invert		THg	-	2	93.3	5.6		-
Sizmur et al. 2013	Polychaete	*capitellidae spp.*	Invert		THg	-	334	95.6	7.5	0.4	5.27
Sizmur et al. 2013	Polychaete	*maldanidae spp.*	Invert		THg	-	19	90.3	9.8	0.2	-
Sizmur et al. 2013	Polychaete	*spionidae spp.*	Invert		THg	-	286	68.6	19.1	7.8	19.1
Sunderland et al. 2012	American lobster	*Homarus americanus*	Invert	Muscle	THg	-	6	-	98.3	21.4	-
Sunderland et al. 2012	Blue mussel	*Mytilus edulis*	Invert		THg	-	3		26.7	11.5	-
Sunderland et al. 2012	Oyster	*Crassostrea virginica*	Invert		THg	-	5	-	16.0	5.5	-
Sunderland et al. 2012	Periwinkle	*Littorina littorea*	Invert		THg	-	3	-	30.0	17.3	-
Sunderland et al. 2012	Phytoplankton (25-63 µm)		Invert		THg	-	9	-	2.8		-
Sunderland et al. 2012	Sea urchin	*Strongylocentrus droebachiensis*	Invert		THg	-	3		26.7	15.3	-
Sunderland et al. 2012	Soft shelled clam	*Nmya Areanaria*	Invert		THg	-	1		50.0		-
Gaskin et al. 1979	Harbour porpoises	*Phocoena phocoena*	Mammal	Muscle	THg		~109		1053.9	553	1010

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Chou et al. 2004	Sediment	Sediment	Sediment	-	THg	-	4	-	-	-	-
Chou et al. 2004	Sediment	Sediment	Sediment	-	THg	-	4	-	-	-	-
Chou et al. 2004	Sediment	Sediment	Sediment	-	THg	-	4	-	-	-	-
Chou et al. 2004	Sediment	Sediment	Sediment	-	THg	-	1	-	-	-	-
Hung and Chmura 2006	Sediment	Sediment	Sediment	-	THg	-	2	-	-	-	-
Hung and Chmura 2006	Sediment	Sediment	Sediment	-	THg	-	2	-	-	-	-
Hung and Chmura 2006	Sediment	Sediment	Sediment	-	THg	-	2	-	-	-	-
Hung and Chmura 2006	Sediment	Sediment	Sediment	-	THg	-	2	-	-	-	-
Hung and Chmura 2006	Sediment	Sediment	Sediment	-	THg	-	2	-	-	-	-
Hung and Chmura 2006	Sediment	Sediment	Sediment	-	THg	-	2	-	-	-	-
Hung and Chmura 2006	Sediment	Sediment	Sediment	-	THg	-	2	-	-	-	-

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Sunderland et al. 2004	Sediment core, push core	Sediment	Sediment	-	MeHg	-	14	-	-	-	-
Sunderland et al. 2004	Sediment core, push core	Sediment	Sediment	-	MeHg	-	7	-	-	-	-
Sunderland et al. 2004	Sediment core, push core	Sediment	Sediment	-	THg	-	14	-	-	-	-
Sunderland et al. 2004	Sediment core, push core	Sediment	Sediment	-	THg	-	7	-	-	-	-
Sunderland et al. 2004	Sediment, gravity core	Sediment	Sediment	-	THg	-	18	-	-	-	-
Sunderland et al. 2004	Sediment, gravity core	Sediment	Sediment	-	THg	-	7	-	-	-	-
Sunderland et al. 2004	Sediment, gravity core	Sediment	Sediment	-	THg	-	6	-	-	-	-
Sunderland et al. 2004	Sediment, gravity core	Sediment	Sediment	-	THg	-	5	-	-	-	-

Appendix C: Individual Concentrations and RQ Values for Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Range (ng/g-wet)	Average size length (mm) or depth for sediment (cm)	Location	Hg concentration (ng/g-dry)	SD (ng/g-dry)	Median (ng/g-dry)	Range (ng/g-dry)	Year
Bond and Diamond 2009a	Arctic tern	203-236	-	Machias Seal Island New Brunswick	1092.5	0.7	-	-	2005-06
Bond and Diamond 2009a	Common murre	-	-	Machias Seal Island New Brunswick	1574	283	-	-	2005-06
Bond and Diamond 2009b	Arctic tern	-	-	Machias Seal Island New Brunswick	-	-	-	-	2006
Bond and Diamond 2009b	Atlantic puffin	-	-	Machias Seal Island New Brunswick	-	-	-	-	2006
Bond and Diamond 2009b	Common murre	-	-	Machias Seal Island New Brunswick	-	-	-	-	2006
Bond and Diamond 2009b	Common tern	-	-	Machias Seal Island New Brunswick	-	-	-	-	2006
Bond and Diamond 2009b	Leech's storm-petrel	-	-	Machias Seal Island New Brunswick	-	-	-	-	2006
Bond and Diamond 2009b	Leech's storm-petrel	-	-	Machias Seal Island New Brunswick	-	-	-	-	2006
Bond and Diamond 2009b	Leech's storm-petrel	-	-	Machias Seal Island New Brunswick	-	-	-	-	2006
Bond and Diamond 2009b	Leech's storm-petrel	-	-	Machias Seal Island New Brunswick	-	-	-	-	2006
Bond and Diamond 2009b	Razorbill	-	-	Machias Seal Island New Brunswick	-	-	-	-	2006
Bond and Diamond 2009b	Arctic tern	-	-	Machias Seal Island New Brunswick	-	-	-	-	2006
Bond and Diamond 2009b	Atlantic puffin	-	-	Machias Seal Island New Brunswick	-	-	-	-	2006
Bond and Diamond 2009b	Common murre	-	-	Machias Seal Island New Brunswick	-	-	-	-	2006
Bond and Diamond 2009b	Common tern	-	-	Machias Seal Island New Brunswick	-	-	-	-	2006
Bond and Diamond 2009b	Leech's storm-petrel	-	-	Machias Seal Island New Brunswick	-	-	-	-	2006
Bond and Diamond 2009b	Leech's storm-petrel	-	-	Machias Seal Island New Brunswick	-	-	-	-	2006
Bond and Diamond 2009b	Leech's storm-petrel	-	-	Machias Seal Island New Brunswick	-	-	-	-	2006
Bond and Diamond 2009b	Razorbill	-	-	Machias Seal Island New Brunswick	-	-	-	-	2006
Braune and Noble 2009	Black-bellied plover	-	-	Bay of Fundy	1440.0	-	-	-	1990-91
Braune and Noble 2009	Dunlin	-	-	Bay of Fundy	2520.0	-	-	-	1990-91
Braune and Noble 2009	Greater yellowlegs	-	-	Bay of Fundy	2450.0	-	-	-	1990-91
Braune and Noble 2009	Lesser yellowlegs	792-845	-	Bay of Fundy	2480	-	2480	2400-2560	1990-91

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Reference	Common name	Range (ng/g-wet)	Average size length (mm) or depth for sediment (cm)	Location	Hg concentration (ng/g-dry)	SD (ng/g-dry)	Median (ng/g-dry)	Range (ng/g-dry)	Year
Braune and Noble 2009	Semipalmated plover	-	-	Bay of Fundy	1080	-	-	-	1990-91
Braune and Noble 2009	Semipalmated sandpiper	-	-	Bay of Fundy	2130	-	-	-	1990-91
Braune and Noble 2009	Short-billed dowitcher	-	-	Bay of Fundy	1620	-	-	-	1990-91
Braune 1987b	Arctic tern	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Arctic tern	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Arctic tern	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Arctic tern	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Black guillemot	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Black guillemot	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Black guillemot	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Black guillemot	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Black-legged kittiwake	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Black-legged kittiwake	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Black-legged kittiwake	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Black-legged kittiwake	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Bonaparte's gull	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Bonaparte's gull	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Bonaparte's gull	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Bonaparte's gull	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Common eider duck	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Common eider duck	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Common eider duck	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Common tern	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84

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Reference	Common name	Range (ng/g-wet)	Average size length (mm) or depth for sediment (cm)	Location	Hg concentration (ng/g-dry)	SD (ng/g-dry)	Median (ng/g-dry)	Range (ng/g-dry)	Year
Braune 1987b	Common tern	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Common tern	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Common tern	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Double crested cormorant	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Double crested cormorant	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Double crested cormorant	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Double crested cormorant	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Herring gull	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Herring gull	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Herring gull	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Herring gull	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Red-necked phalarope	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Braune 1987b	Red-necked phalarope	-	-	Quoddy region of New Brunswick Canada	-	-	-	-	1978-84
Elliot et al. 1992	Double crested cormorant	-	-	Manawagonish Island, Bay of Fundy	6995	765	6995	830-27700	1988
Elliot et al. 1992	Double crested cormorant	489-6552	-	Manawagonish Island, Bay of Fundy	11340	14185	11340	1200-82000	1988
Elliot et al. 1992	Herring gull	-	-	Manawagonish Island, Bay of Fundy	690	180	-	-	1988
Elliot et al. 1992	Herring gull	-	-	Manawagonish Island, Bay of Fundy	1110	220	-	-	1988
Elliot et al. 1992	Herring gull	-	-	Kent Island, Bay of Fundy	1600	350	-	-	1988
Elliot et al. 1992	Herring gull	-	-	Kent Island, Bay of Fundy	1500	530	-	-	1988
Elliot et al. 1992	Leech's storm-petrel	-	-	Kent Island, Bay of Fundy	3370	1140	-	-	1988
Elliot et al. 1992	Leech's storm-petrel	-	-	Kent Island, Bay of Fundy	7200	1200	-	-	1988
Goodale et al. 2008	Arctic tern	-	-	Gulf of Maine	-	-	-	-	1998, 2001-06
Goodale et al. 2008	Atlantic puffin	10-1510	-	Gulf of Maine	-	-	-	-	1998, 2001-06
Goodale et al. 2008	Black guillemot	90-130	-	Gulf of Maine	-	-	-	-	1998, 2001-06

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Reference	Common name	Range (ng/g-wet)	Average size length (mm) or depth for sediment (cm)	Location	Hg concentration (ng/g-dry)	SD (ng/g-dry)	Median (ng/g-dry)	Range (ng/g-dry)	Year
Goodale et al. 2008	Black guillemot	160-1010	-	Gulf of Maine	-	-	-	-	1998, 2001-06
Goodale et al. 2008	Black-crowned night-heron	110-720	-	Gulf of Maine	-	-	-	-	1998, 2001-06
Goodale et al. 2008	Common eider	30-200	-	Gulf of Maine	-	-	-	-	1998, 2001-06
Goodale et al. 2008	Common tern	10-1810	-	Gulf of Maine	-	-	-	-	1998, 2001-06
Goodale et al. 2008	Double crested cormorant	60-370	-	Gulf of Maine	-	-	-	-	1998, 2001-06
Goodale et al. 2008	Double crested cormorant	-	-	Gulf of Maine	-	-	-	-	1998, 2001-06
Goodale et al. 2008	Glossy ibis	-	-	Gulf of Maine	-	-	-	-	1998, 2001-06
Goodale et al. 2008	Glossy ibis	-	-	Gulf of Maine	-	-	-	-	1998, 2001-06
Goodale et al. 2008	Great black-backed gull	-	-	Gulf of Maine	-	-	-	-	1998, 2001-06
Goodale et al. 2008	Herring gull	-	-	Gulf of Maine	-	-	-	-	1998, 2001-06
Goodale et al. 2008	Herring gull	10-530	-	Gulf of Maine	-	-	-	-	1998, 2001-06
Goodale et al. 2008	Least tern	-	-	Gulf of Maine	-	-	-	-	1998, 2001-06
Goodale et al. 2008	Leech's storm-petrel	-	-	Gulf of Maine	-	-	-	-	1998, 2001-06
Goodale et al. 2008	Little brown heron	-	-	Gulf of Maine	-	-	-	-	1998, 2001-06
Goodale et al. 2008	Piping plover	-	-	Gulf of Maine	-	-	-	-	1998, 2001-06
Goodale et al. 2008	Razorbill	10-2040	-	Gulf of Maine	-	-	-	-	1998, 2001-06
Goodale et al. 2008	Snowy egret	20-200	-	Gulf of Maine	-	-	-	-	1998, 2001-06
Goodale et al. 2008	Willet	90-120	-	Gulf of Maine	-	-	-	-	1998, 2001-06
Goodale et al. 2008; Bond and Diamond 2009a	Common eider	100-420	-	Gulf of Maine/ Machias Seal Island, New Brunswick	984	549	-	-	1998, 2001-06
Goodale et al. 2008; Bond and Diamond 2009a	Common tern	70-130	-	Gulf of Maine/ Machias Seal Island, New Brunswick	907	255	907	797-1016	1998, 2001-06
Goodale et al. 2008; Bond and Diamond 2009a	Leech's storm-petrel	290-1250	-	Gulf of Maine/ Machias Seal Island, New Brunswick	3712	1225	3712	3222-4201	1998, 2001-06
Goodale et al. 2008; Bond and Diamond 2009a	Razorbill	100-820	-	Gulf of Maine	1904	457	1904	1771-2037	1998, 2001-06
Goodale et al. 2008; Bond and Diamond 2009a and Pers. Comm. Neil Burgess	Atlantic puffin	196-282	-	Gulf of Maine/ Machias Seal Island, New Brunswick	1219	2651	1219	80-1390	

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Pers. Comm. Neil Burgess	Double crested cormorant	-	-	Manawagonish Island, Bay of Fundy	-	-	-	-	2008
Pers. Comm. Neil Burgess	Herring gull	-	-	Manawagonish Island, Bay of Fundy	-	-	-	-	2008
Pers. Comm. Neil Burgess	Herring gull	-	-	Kent Island, Bay of Fundy	-	-	-	-	2008
Pers. Comm. Neil Burgess	Leech's storm-petrel	-	-	Kent Island, Bay of Fundy	-	-	-	-	2008
Braune and Gaskin 1987	Harbor pollock	-	-	Approaches of the Bay of Fundy	-	-	-	-	1978-1984
Braune and Gaskin 1987	Herring brit	-	-	Approaches of the Bay of Fundy	-	-	-	-	1978-1984
Braune 1987a	Atlantic herring	5.10-14.60	167.8 ± 65.67	Bay of Fundy	-	-	-	-	1981
Braune 1987a	Atlantic herring	5.10-14.90	167.8 ± 65.67	Bay of Fundy	-	-	-	-	1981
Forsythe, C. 2008; Sunderland et al. 2012	Spiny dogfish	-	-	Approaches of the Bay of Fundy	-	-	-	-	1993, 2007
Gareth Harding, unpublished data	Bluefin tuna	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	Cod	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	Cunner	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	Haddock	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	Herring	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	Mackerel	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	Pollock	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	Spiny dogfish	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	Swordfish	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	Thresher shark	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	White hake	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	Winter flounder	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	Yellowtail flounder		-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	Bluefin tuna	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02

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Gareth Harding, unpublished data	Cod	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	Cunner	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	Haddock	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	Herring	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	Mackerel	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	Pollock	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	Spiny dogfish	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	Swordfish	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	Thresher shark	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	White hake	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	Winter flounder	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Gareth Harding, unpublished data	Yellowtail flounder	-	-	Approaches of the Bay of Fundy	-	-	-	-	2001-02
Sunderland et al. 2012	Atlantic salmon	-	-	Bay of Fundy	-	-	-	-	1994-1997
Sunderland et al. 2012	Longhorn sculpin	-	-	Approaches of the Bay of Fundy	-	-	-	-	1970
Sunderland et al. 2012	Witch flounder	-	-	Approaches of the Bay of Fundy	-	-	-	-	1970
Braune and Gaskin 1987	Euphausiids	-		Bay of Fundy Region	-	-	-	-	1980-1983
Braune and Gaskin 1987	Euphausiids	-		Bay of Fundy Region	-	-	-	-	1980-1983
Braune and Gaskin 1987; Sunderland et al. 2012	Amphipod	2-24		Bay of Fundy Region	-	-	-	-	1983, 2001
Braune 1987a	Copepod	-		Bay of Fundy Region	-	-	-	-	1981
Braune 1987a; Braune and Gaskin 1987 and Sunderland et al. 2012	Polychaete	2-11.0		Passamaquoddy Bay Region/Bay of Fundy Region	-	-	-	-	1983-1984, 2001
Chou et al. 2004	American lobster	-	88.6 ± 6.32	Gooseberry cove/Musquash Head	-	-	-	-	2001
Chou et al. 2004	Blue mussel	29.7-35.2	20-30	Gooseberry Cove/Black Beech	295	25	295	270-320	2001

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Chou et al. 2004	Blue mussel	26.4-39.6	30-50	Gooseberry Cove/Black Beech/Five Fathom Hole	305	22	305	240-360	2001
Chou et al. 2004; LeBlanc et al. 2009a; LeBlanc et al. 2009b	Blue mussel	13.8-45.1	50+	Niger River/Saint Croix River/Tin Can Beach/Saint john Harbour/ Five Fathom Hole/ Gooseberry Cove	281	116	330	92-410	2001, 2007-08
Sizmur et al. 2013	Amphipod			Avonport Minas Basin	11.3	0.45			2011
Sizmur et al. 2013	Polychaete	0.09-1.92		Avonport, Minas Basin/Starr's Point, Minas Basin/Kingsport, Minas Basin/Evangeline, Minas Basin	8.8375	0.5	5	3.25-22.0	2011
Sizmur et al. 2013	Polychaete	1.32-1.46		Kingsport, Minas Basin/ Evangeline, Minas Basin	9.26	0.78	9.26	9.01-9.51	2011
Sizmur et al. 2013	Polychaete			Kingsport Minas Basin	69.6	1.40			2011
Sizmur et al. 2013	Polychaete			Kingsport Minas Basin	43.9				2011
Sizmur et al. 2013	Polychaete	0.74-6.16		Kingsport, Minas Basin/ Evangeline, Minas Basin	9.74	0.68	9.7	0.74-6.16	2011
Sizmur et al. 2013	Amphipod	-		Avonport Minas Basin	43.1	0.10	-	-	2011
Sizmur et al. 2013	Polychaete	4.47-6.07		Kingsport, Minas Basin/ Evangeline, Minas Basin	36.6	2.70	36.6	36-38	2011
Sizmur et al. 2013	Polychaete	-		Kingsport Minas Basin	83.7		-	-	2011
Sizmur et al. 2013	Polychaete	3.07-16		Avonport, Minas Basin/Starr's Point, Minas Basin/Kingsport, Minas Basin/Evangeline, Minas Basin	224.7	14.8	168	59-431	2011
Sizmur et al. 2013	Polychaete	-		Kingsport Minas Basin	101	2.20	-	-	2011
Sizmur et al. 2013	Polychaete	5.94-32.3		Kingsport, Minas Basin/ Evangeline, Minas Basin	55.15	4.20	55.2	23-87	2011
Sunderland et al. 2012	American lobster	-		Bay of Fundy Region	-	-	-	-	1990-1996
Sunderland et al. 2012	Blue mussel	-	Unknown	Bay of Fundy Region	-	-	-	-	1998
Sunderland et al. 2012	Oyster	-		Bay of Fundy Region	-	-	-	-	1998
Sunderland et al. 2012	Periwinkle	-		Bay of Fundy Region	-	-	-	-	1996-1998
Sunderland et al. 2012	Phytoplankton (25-63 µm)	-		Quoddy Region	-	-	-	-	2000-2002
Sunderland et al. 2012	Sea urchin	-		Bay of Fundy Region	-	-	-	-	1996-1997
Sunderland et al. 2012	Soft shelled clam	-		Bay of Fundy Region	-	-	-	-	1998
Gaskin et al. 1979	Harbour porpoises	350-2530		Southern NB	-	-	-	-	1969-77

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Chou et al. 2004	Sediment	-	18-67	Gooseberry Cove	17.5	5	20	10-20	2001
Chou et al. 2004	Sediment	-	8-12	Inner Musquash Harbour	12.5	5	10	10-20	2001
Chou et al. 2004	Sediment	-	34-60	Mouth of Musquash Harbour	10	0	10	-	2001
Chou et al. 2004	Sediment	-		Saint John Harbour	30	20	-	-	2001
Hung and Chmura 2006	Sediment	-	-	Belliveau Point	15	-	-	14-16	1997-02
Hung and Chmura 2006	Sediment	-	-	Bocabeb	57.5	-	-	56-59	1997-02
Hung and Chmura 2006	Sediment	-	-	Cape Enrage	10.5	-	-	8-13	1997-02
Hung and Chmura 2006	Sediment	-	-	Dipper Harbour	27.5	-	-	26-29	1997-02
Hung and Chmura 2006	Sediment	-		Lorneville	29.5	-	-	24-35	1997-02
Hung and Chmura 2006	Sediment	-		St. Martins	22.5	-	-	21-24	1997-02
Hung and Chmura 2006	Sediment	-		Wood Point	20.5	-	-	20-21	1997-02

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Sunderland et al. 2004	Sediment core, push core	-	0-12	Passamaquoddy Bay	0.4	0.09	0.32	0.2-0.5	2001
Sunderland et al. 2004	Sediment core, push core	-	0-12	Head of St. Croix River Estuary	0.7	0.52	0.65	0.2-1.6	2001
Sunderland et al. 2004	Sediment core, push core	-	0-12	Passamaquoddy Bay	60.2	10.4	60.2	50.1-70.2	2001
Sunderland et al. 2004	Sediment core, push core	-	0-12	Head of St. Croix River Estuary	237.8	164.0	200.6	120.6-601.8	2001
Sunderland et al. 2004	Sediment, gravity core	-	0-30	Passamaquoddy Bay	47.0	9.3	43.9	37.9-76.0	2001
Sunderland et al. 2004	Sediment, gravity core	-	40-100	Passamaquoddy Bay	10.7	3.7	9.0	8-16	2001
Sunderland et al. 2004	Sediment, gravity core	-	0-30	Head of St. Croix River Estuary	38.6	16.0	43.4	14.0-57.0	2001
Sunderland et al. 2004	Sediment, gravity core	-	40-80	Head of St. Croix River Estuary	18.4	10.7	13.0	11.0-36.9	2001

Appendix C: Individual Concentrations and RQ Values for Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Most sensitive endpoint-low effect residue (LER) (ng/g)	LER/10	Endpoint and species	Source for low-effect-residue	Risk quotient #1 based on residues	Notes for quotient #1	NER
Bond and Diamond 2009a	Arctic tern	830	83	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	2.64	Based on LER/10	50
Bond and Diamond 2009a	Common murre	830	83	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**2.98**	Based on LER/10	50
Bond and Diamond 2009b	Arctic tern	9760	976	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	0.81	Based on LER/10	50
Bond and Diamond 2009b	Atlantic puffin	9760	976	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**1.67**	Based on LER/10	50
Bond and Diamond 2009b	Common murre	9760	976	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**1.28**	Based on LER/10	50
Bond and Diamond 2009b	Common tern	9760	976	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**1.66**	Based on LER/10	50
Bond and Diamond 2009b	Leech's storm-petrel						No Chronic to calc RQ#1	
Bond and Diamond 2009b	Leech's storm-petrel	830	83	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**12.14**	Based on LER/10	50
Bond and Diamond 2009b	Leech's storm-petrel							
Bond and Diamond 2009b	Leech's storm-petrel	9760	976	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**5.46**	Based on LER/10	50
Bond and Diamond 2009b	Razorbill	9760	976	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**1.10**	Based on LER/10	50
Bond and Diamond 2009b	Arctic tern	9760	976	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	0.91	Based on LER/10	50
Bond and Diamond 2009b	Atlantic puffin	9760	976	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**1.85**	Based on LER/10	50
Bond and Diamond 2009b	Common murre	9760	976	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**1.01**	Based on LER/10	50
Bond and Diamond 2009b	Common tern	9760	976	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**1.41**	Based on LER/10	50
Bond and Diamond 2009b	Leech's storm-petrel						No Chronic to calc RQ#1	
Bond and Diamond 2009b	Leech's storm-petrel	9760	976	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**4.97**	Based on LER/10	50
Bond and Diamond 2009b	Leech's storm-petrel							
Bond and Diamond 2009b	Razorbill	9760	976	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**1.44**	Based on LER/10	50
Braune and Noble 2009	Black-bellied plover	1330	133	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**3.57**	Based on LER/10	100
Braune and Noble 2009	Dunlin	1330	133	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**6.25**	Based on LER/10	100
Braune and Noble 2009	Greater yellowlegs	1330	133	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**6.08**	Based on LER/10	100
Braune and Noble 2009	Lesser yellowlegs	1330	133	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**6.15**	Based on LER/10	100

Appendix C: Individual Concentrations and RQ Values for Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Most sensitive endpoint-low effect residue (LER) (ng/g)	LER/10	Endpoint and species	Source for low-effect-residue	Risk quotient #1 based on residues	Notes for quotient #1	NER
Braune and Noble 2009	Semipalmated plover	1330	133	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**2.68**	Based on LER/10	100
Braune and Noble 2009	Semipalmated sandpiper	1330	133	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**5.28**	Based on LER/10	100
Braune and Noble 2009	Short-billed dowitcher	1330	133	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**4.02**	Based on LER/10	100
Braune 1987b	Arctic tern	770	77	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**1.16**	Based on LER/10	50
Braune 1987b	Arctic tern	590	59	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**1.59**	Based on LER/10	50
Braune 1987b	Arctic tern	1650	165	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**2.75**	Based on LER/10	50
Braune 1987b	Arctic tern	1330	133	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**3.53**	Based on LER/10	100
Braune 1987b	Black guillemot	770	77	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**1.47**	Based on LER/10	50
Braune 1987b	Black guillemot	590	59	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**2.08**	Based on LER/10	50
Braune 1987b	Black guillemot	1650	165	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**2.98**	Based on LER/10	50
Braune 1987b	Black guillemot	1330	133	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**3.86**	Based on LER/10	100
Braune 1987b	Black-legged kittiwake	770	77	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	0.48	Based on LER/10	50
Braune 1987b	Black-legged kittiwake	590	59	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	0.64	Based on LER/10	50
Braune 1987b	Black-legged kittiwake	1650	165	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**1.47**	Based on LER/10	50
Braune 1987b	Black-legged kittiwake	1330	133	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**2.80**	Based on LER/10	100
Braune 1987b	Bonaparte's gull	770	77	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	0.97	Based on LER/10	50
Braune 1987b	Bonaparte's gull	590	59	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**1.71**	Based on LER/10	50
Braune 1987b	Bonaparte's gull	1650	165	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**2.53**	Based on LER/10	50
Braune 1987b	Bonaparte's gull	1330	133	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**3.38**	Based on LER/10	100
Braune 1987b	Common eider duck	770	77	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**1.99**	Based on LER/10	50
Braune 1987b	Common eider duck	1650	165	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**2.17**	Based on LER/10	50
Braune 1987b	Common eider duck	1330	133	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	7.42	Based on LER/10	100
Braune 1987b	Common tern	770	77	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**2.16**	Based on LER/10	50

Appendix C: Individual Concentrations and RQ Values for Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Most sensitive endpoint-low effect residue (LER) (ng/g)	LER/10	Endpoint and species	Source for low-effect-residue	Risk quotient #1 based on residues	Notes for quotient #1	NER
Braune 1987b	Common tern	590	59	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**3.22**	Based on LER/10	50
Braune 1987b	Common tern	1330	133	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**9.39**	Based on LER/10	100
Braune 1987b	Common tern	1650	165	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**9.12**	Based on LER/10	50
Braune 1987b	Double crested cormorant	530	53	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**6.79**	Based on LER/10	50
Braune 1987b	Double crested cormorant	770	77	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**7.87**	Based on LER/10	50
Braune 1987b	Double crested cormorant	1650	165	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**32.39**	Based on LER/10	50
Braune 1987b	Double crested cormorant	1330	133	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**52.99**	Based on LER/10	100
Braune 1987b	Herring gull	590	59	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	0.95	Based on LER/10	50
Braune 1987b	Herring gull	770	77	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**1.31**	Based on LER/10	50
Braune 1987b	Herring gull	1650	165	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**2.12**	Based on LER/10	50
Braune 1987b	Herring gull	1330	133	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**3.62**	Based on LER/10	100
Braune 1987b	Red-necked phalarope	770	77	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	0.60	Based on LER/10	50
Braune 1987b	Red-necked phalarope	1330	133	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**1.69**	Based on LER/10	100
Elliot et al. 1992	Double crested cormorant	1650	165	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**11.28**	Based on LER/10	50
Elliot et al. 1992	Double crested cormorant	1330	133	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**26.47**	Based on LER/10	100
Elliot et al. 1992	Herring gull	1330	133	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**1.71**	Based on LER/10	100
Elliot et al. 1992	Herring gull	1650	165	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**1.82**	Based on LER/10	50
Elliot et al. 1992	Herring gull	1650	165	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**2.13**	Based on LER/10	50
Elliot et al. 1992	Herring gull	1330	133	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**3.78**	Based on LER/10	100
Elliot et al. 1992	Leech's storm-petrel	1650	165	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**7.35**	Based on LER/10	50
Elliot et al. 1992	Leech's storm-petrel	1330	133	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**18.19**	Based on LER/10	100
Goodale et al. 2008	Arctic tern							
Goodale et al. 2008	Atlantic puffin							
Goodale et al. 2008	Black guillemot							

Appendix C: Individual Concentrations and RQ Values for Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Most sensitive endpoint-low effect residue (LER) (ng/g)	LER/10	Endpoint and species	Source for low-effect-residue	Risk quotient #1 based on residues	Notes for quotient #1	NER
Goodale et al. 2008	Black guillemot	830	83	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	6.27	Based on LER/10	50
Goodale et al. 2008	Black-crowned night-heron							
Goodale et al. 2008	Common eider							
Goodale et al. 2008	Common tern							
Goodale et al. 2008	Double crested cormorant							
Goodale et al. 2008	Double crested cormorant	830	83	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	3.37	Based on LER/10	50
Goodale et al. 2008	Glossy ibis							
Goodale et al. 2008	Glossy ibis	830	83	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	0.48	Based on LER/10	50
Goodale et al. 2008	Great black-backed gull							
Goodale et al. 2008	Herring gull	830	83	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	0.96	Based on LER/10	50
Goodale et al. 2008	Herring gull							
Goodale et al. 2008	Least tern	830	83	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	1.81	Based on LER/10	50
Goodale et al. 2008	Leech's storm-petrel							
Goodale et al. 2008	Little brown heron							
Goodale et al. 2008	Piping plover	830	83	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	2.89	Based on LER/10	50
Goodale et al. 2008	Razorbill							
Goodale et al. 2008	Snowy egret							
Goodale et al. 2008	Willet	830	83	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	1.20	Based on LER/10	50
Goodale et al. 2008; Bond and Diamond 2009a	Common eider	830	83	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	3.54	Based on LER/10	50
Goodale et al. 2008; Bond and Diamond 2009a	Common tern	830	83	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	1.49	Based on LER/10	50
Goodale et al. 2008; Bond and Diamond 2009a	Leech's storm-petrel	830	83	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	10.73	Based on LER/10	50
Goodale et al. 2008; Bond and Diamond 2009a	Razorbill	830	83	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	5.22	Based on LER/10	50
Goodale et al. 2008; Bond and Diamond 2009a and Pers. Comm. Neil Burgess	Atlantic puffin	830	83	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	2.82	Based on LER/10	50

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Reference	Common name	Most sensitive endpoint-low effect residue (LER) (ng/g)	LER/10	Endpoint and species	Source for low-effect-residue	Risk quotient #1 based on residues	Notes for quotient #1	NER
Pers. Comm. Neil Burgess	Double crested cormorant	830	83	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	2.00	Based on LER/10	50
Pers. Comm. Neil Burgess	Herring gull	830	83	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	0.63	Based on LER/10	50
Pers. Comm. Neil Burgess	Herring gull	830	83	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	1.35	Based on LER/10	50
Pers. Comm. Neil Burgess	Leech's storm-petrel	830	83	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	6.40	Based on LER/10	50
Braune and Gaskin 1987	Harbor pollock	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	0.17	Based on LER/10	100
Braune and Gaskin 1987	Herring brit	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	0.13	Based on LER/10	100
Braune 1987a	Atlantic herring	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	0.30	Based on LER/10	100
Braune 1987a	Atlantic herring	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	0.30	Based on LER/10	100
Forsythe, C. 2008; Sunderland et al. 2012	Spiny dogfish		30	Striped mullet: fin regeneration	Weis and Weis 1978	8.33	Based on LER/10	100
Gareth Harding, unpublished data	Bluefin tuna	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	16.52	Based on LER/10	100
Gareth Harding, unpublished data	Cod	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	0.90	Based on LER/10	100
Gareth Harding, unpublished data	Cunner	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	2.51	Based on LER/10	100
Gareth Harding, unpublished data	Haddock	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	0.61	Based on LER/10	100
Gareth Harding, unpublished data	Herring	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	1.34	Based on LER/10	100
Gareth Harding, unpublished data	Mackerel	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	0.58	Based on LER/10	100
Gareth Harding, unpublished data	Pollock	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	0.51	Based on LER/10	100
Gareth Harding, unpublished data	Spiny dogfish	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	2.80	Based on LER/10	100
Gareth Harding, unpublished data	Swordfish	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	9.80	Based on LER/10	100
Gareth Harding, unpublished data	Thresher shark	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	47.56	Based on LER/10	100
Gareth Harding, unpublished data	White hake	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	0.80	Based on LER/10	100
Gareth Harding, unpublished data	Winter flounder	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	0.51	Based on LER/10	100
Gareth Harding, unpublished data	Yellowtail flounder	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	0.78	Based on LER/10	100
Gareth Harding, unpublished data	Bluefin tuna	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	18.83	Based on LER/10	100

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Reference	Common name	Most sensitive endpoint-low effect residue (LER) (ng/g)	LER/10	Endpoint and species	Source for low-effect-residue	Risk quotient #1 based on residues	Notes for quotient #1	NER
Gareth Harding, unpublished data	Cod	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	1.17	Based on LER/10	100
Gareth Harding, unpublished data	Cunner	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	2.66	Based on LER/10	100
Gareth Harding, unpublished data	Haddock	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	1.08	Based on LER/10	100
Gareth Harding, unpublished data	Herring	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	1.58	Based on LER/10	100
Gareth Harding, unpublished data	Mackerel	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	0.73	Based on LER/10	100
Gareth Harding, unpublished data	Pollock	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	0.62	Based on LER/10	100
Gareth Harding, unpublished data	Spiny dogfish	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	3.31	Based on LER/10	100
Gareth Harding, unpublished data	Swordfish	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	13.88	Based on LER/10	100
Gareth Harding, unpublished data	Thresher shark	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	49.08	Based on LER/10	100
Gareth Harding, unpublished data	White hake	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	0.98	Based on LER/10	100
Gareth Harding, unpublished data	Winter flounder	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	0.70	Based on LER/10	100
Gareth Harding, unpublished data	Yellowtail flounder	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	0.90	Based on LER/10	100
Sunderland et al. 2012	Atlantic salmon	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	0.97	Based on LER/10	100
Sunderland et al. 2012	Longhorn sculpin	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	1.83-4.40	Based on LER/10	100
Sunderland et al. 2012	Witch flounder	300	30	Striped mullet: fin regeneration	Weis and Weis 1978	1.10-14.67	Based on LER/10	100
Braune and Gaskin 1987	Euphausiids							
Braune and Gaskin 1987	Euphausiids							
Braune and Gaskin 1987; Sunderland et al. 2012	Amphipod							
Braune 1987a	Copepod							
Braune 1987a; Braune and Gaskin 1987 and Sunderland et al. 2012	Polychaete							
Chou et al. 2004	American lobster							
Chou et al. 2004	Blue mussel	3760	376	Blue mussel: growth	Krishnakumar et al. 1990	0.09	There is another article with lower exposure but no residues reported (Thiagarajan 2006)	26

Appendix C: Individual Concentrations and RQ Values for Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Most sensitive endpoint-low effect residue (LER) (ng/g)	LER/10	Endpoint and species	Source for low-effect-residue	Risk quotient #1 based on residues	Notes for quotient #1	NER
Chou et al. 2004	Blue mussel	3760	376	Blue mussel: growth	Krishnakumar et al. 1990	0.09	There is another article with lower exposure but no residues reported (Thiagarajan 2006)	26
Chou et al. 2004; LeBlanc et al. 2009a; LeBlanc et al. 2009b	Blue mussel	3760	376	Blue mussel: growth	Krishnakumar et al. 1990	0.08	There is another article with lower exposure but no residues reported (Thiagarajan 2006)	26
Sizmur et al. 2013	Amphipod							
Sizmur et al. 2013	Polychaete							
Sizmur et al. 2013	Polychaete							
Sizmur et al. 2013	Polychaete							
Sizmur et al. 2013	Polychaete							
Sizmur et al. 2013	Polychaete							
Sizmur et al. 2013	Amphipod							
Sizmur et al. 2013	Polychaete							
Sizmur et al. 2013	Polychaete							
Sizmur et al. 2013	Polychaete							
Sizmur et al. 2013	Polychaete							
Sizmur et al. 2013	Polychaete							
Sunderland et al. 2012	American lobster							
Sunderland et al. 2012	Blue mussel	3760	376	Blue mussel: growth	Krishnakumar et al. 1990	0.09	there is another article with lower exposure but no residues reported (Thiagarajan 2006)	26
Sunderland et al. 2012	Oyster							
Sunderland et al. 2012	Periwinkle							
Sunderland et al. 2012	Phytoplankton (25-63 µm)							
Sunderland et al. 2012	Sea urchin							
Sunderland et al. 2012	Soft shelled clam							
Gaskin et al. 1979	Harbour porpoises						No Chronic to calculate RQ#1	

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Reference	Common name	Most sensitive endpoint-low effect residue (LER) (ng/g)	LER/10	Endpoint and species	Source for low-effect-residue	Risk quotient #1 based on residues	Notes for quotient #1	NER
Chou et al. 2004	Sediment	1000	100	Rainbow trout larvae: lethality	Birge et al. 1979	0.18	exposure was through sediment: used concentration in sediment instead of NER	130
Chou et al. 2004	Sediment	1000	100	Rainbow trout larvae: lethality	Birge et al. 1979	0.13	exposure was through sediment: used concentration in sediment instead of NER	130
Chou et al. 2004	Sediment	1000	100	Rainbow trout larvae: lethality	Birge et al. 1979	0.10	exposure was through sediment: used concentration in sediment instead of NER	130
Chou et al. 2004	Sediment	1000	100	Rainbow trout larvae: lethality	Birge et al. 1979	0.30	exposure was through sediment: used concentration in sediment instead of NER	130
Hung and Chmura 2006	Sediment	1000	100	Rainbow trout larvae: lethality	Birge et al. 1979	0.15	exposure was through sediment: used concentration in sediment instead of NER	130
Hung and Chmura 2006	Sediment	1000	100	Rainbow trout larvae: lethality	Birge et al. 1979	0.58	exposure was through sediment: used concentration in sediment instead of NER	130
Hung and Chmura 2006	Sediment	1000	100	Rainbow trout larvae: lethality	Birge et al. 1979	0.11	exposure was through sediment: used concentration in sediment instead of NER	130
Hung and Chmura 2006	Sediment	1000	100	Rainbow trout larvae: lethality	Birge et al. 1979	0.28	exposure was through sediment: used concentration in sediment instead of NER	130
Hung and Chmura 2006	Sediment	1000	100	Rainbow trout larvae: lethality	Birge et al. 1979	0.30	exposure was through sediment: used concentration in sediment instead of NER	130
Hung and Chmura 2006	Sediment	1000	100	Rainbow trout larvae: lethality	Birge et al. 1979	0.23	exposure was through sediment: used concentration in sediment instead of NER	130
Hung and Chmura 2006	Sediment	1000	100	Rainbow trout larvae: lethality	Birge et al. 1979	0.21	exposure was through sediment: used concentration in sediment instead of NER	130

Appendix C: Individual Concentrations and RQ Values for Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Most sensitive endpoint-low effect residue (LER) (ng/g)	LER/10	Endpoint and species	Source for low-effect-residue	Risk quotient #1 based on residues	Notes for quotient #1	NER
Sunderland et al. 2004	Sediment core, push core	1000	100	Rainbow trout larvae: lethality	Birge et al. 1979	0.00	exposure was through sediment: used concentration in sediment instead of NER	130
Sunderland et al. 2004	Sediment core, push core	1000	100	Rainbow trout larvae: lethality	Birge et al. 1979	0.01	exposure was through sediment: used concentration in sediment instead of NER	130
Sunderland et al. 2004	Sediment core, push core	1000	100	Rainbow trout larvae: lethality	Birge et al. 1979	0.60	exposure was through sediment: used concentration in sediment instead of NER	130
Sunderland et al. 2004	Sediment core, push core	1000	100	Rainbow trout larvae: lethality	Birge et al. 1979	2.38	exposure was through sediment: used concentration in sediment instead of NER	130
Sunderland et al. 2004	Sediment, gravity core	1000	100	Rainbow trout larvae: lethality	Birge et al. 1979	0.47	exposure was through sediment: used concentration in sediment instead of NER	130
Sunderland et al. 2004	Sediment, gravity core	1000	100	Rainbow trout larvae: lethality	Birge et al. 1979	0.11	exposure was through sediment: used concentration in sediment instead of NER	130
Sunderland et al. 2004	Sediment, gravity core	1000	100	Rainbow trout larvae: lethality	Birge et al. 1979	0.39	exposure was through sediment: used concentration in sediment instead of NER	130
Sunderland et al. 2004	Sediment, gravity core	1000	100	Rainbow trout larvae: lethality	Birge et al. 1979	0.18	exposure was through sediment: used concentration in sediment instead of NER	130

Appendix C: Individual Concentrations and RQ Values for Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Endpoint-NER	Reference NER	Risk quotient #2	Notes on risk quotient #2	PEL value (ng/g)	Risk quotient # 3	Notes for RQ#3
Bond and Diamond 2009a	Arctic tern	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	4.39	NER is control value	-	-	-
Bond and Diamond 2009a	Common murre	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**4.94**	NER is control value	-	-	-
Bond and Diamond 2009b	Arctic tern	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**15.82**	NER is control value	-	-	-
Bond and Diamond 2009b	Atlantic puffin	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**32.68**	NER is control value	-	-	-
Bond and Diamond 2009b	Common murre	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**24.98**	NER is control value	-	-	-
Bond and Diamond 2009b	Common tern	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**32.38**	NER is control value	-	-	-
Bond and Diamond 2009b	Leech's storm-petrel		Bouton et al. 1999 and Heinz 1979		No chronic to calc. RQ#2	-	-	-
Bond and Diamond 2009b	Leech's storm-petrel	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**20.16**	NER is control value	-	-	-
Bond and Diamond 2009b	Leech's storm-petrel		Bouton et al. 1999 and Heinz 1979		No chronic to calc. RQ#2	-	-	-
Bond and Diamond 2009b	Leech's storm-petrel	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**106.60**	NER is control value	-	-	-
Bond and Diamond 2009b	Razorbill	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**21.46**	NER is control value	-	-	-
Bond and Diamond 2009b	Arctic tern	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**17.82**	NER is control value	-	-	-
Bond and Diamond 2009b	Atlantic puffin	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**36.10**	NER is control value	-	-	-
Bond and Diamond 2009b	Common murre	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**19.74**	NER is control value	-	-	-
Bond and Diamond 2009b	Common tern	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**27.60**	NER is control value	-	-	-
Bond and Diamond 2009b	Leech's storm-petrel		Bouton et al. 1999 and Heinz 1979		No chronic to calc. RQ#2	-	-	-
Bond and Diamond 2009b	Leech's storm-petrel	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**97.10**	NER is control value	-	-	-
Bond and Diamond 2009b	Leech's storm-petrel		Bouton et al. 1999 and Heinz 1979		No chronic to calc. RQ#2	-	-	-
Bond and Diamond 2009b	Razorbill	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**28.08**	NER is control value	-	-	-
Braune and Noble 2009	Black-bellied plover	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**4.75**	NER is control value	-	-	-
Braune and Noble 2009	Dunlin	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**8.32**	NER is control value	-	-	-
Braune and Noble 2009	Greater yellowlegs	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**8.09**	NER is control value	-	-	-
Braune and Noble 2009	Lesser yellowlegs	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**8.18**	NER is control value	-	-	-

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Reference	Common name	Endpoint-NER	Reference NER	Risk quotient #2	Notes on risk quotient #2	PEL value (ng/g)	Risk quotient # 3	Notes for RQ#3
Braune and Noble 2009	Semipalmated plover	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	3.56	NER is control value	-	-	-
Braune and Noble 2009	Semipalmated sandpiper	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	7.03	NER is control value	-	-	-
Braune and Noble 2009	Short-billed dowitcher	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	5.35	NER is control value	-	-	-
Braune 1987b	Arctic tern	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	1.78	NER is control value	-	-	-
Braune 1987b	Arctic tern	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	1.88	NER is control value	-	-	-
Braune 1987b	Arctic tern	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	9.06	NER is control value	-	-	-
Braune 1987b	Arctic tern	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	4.70	NER is control value	-	-	-
Braune 1987b	Black guillemot	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	2.26	NER is control value	-	-	-
Braune 1987b	Black guillemot	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	2.46	NER is control value	-	-	-
Braune 1987b	Black guillemot	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	9.82	NER is control value	-	-	-
Braune 1987b	Black guillemot	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	5.13	NER is control value	-	-	-
Braune 1987b	Black-legged kittiwake	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	0.74	NER is control value	-	-	-
Braune 1987b	Black-legged kittiwake	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	0.76	NER is control value	-	-	-
Braune 1987b	Black-legged kittiwake	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	4.84	NER is control value	-	-	-
Braune 1987b	Black-legged kittiwake	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	3.72	NER is control value	-	-	-
Braune 1987b	Bonaparte's gull	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	1.50	NER is control value	-	-	-
Braune 1987b	Bonaparte's gull	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	2.02	NER is control value	-	-	-
Braune 1987b	Bonaparte's gull	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	8.36	NER is control value	-	-	-
Braune 1987b	Bonaparte's gull	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	4.50	NER is control value	-	-	-
Braune 1987b	Common eider duck	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	3.06	NER is control value	-	-	-
Braune 1987b	Common eider duck	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	7.16	NER is control value	-	-	-
Braune 1987b	Common eider duck	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	9.87	NER is control value	-	-	-
Braune 1987b	Common tern	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	3.32	NER is control value	-	-	-

Appendix C: Individual Concentrations and RQ Values for Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Endpoint-NER	Reference NER	Risk quotient #2	Notes on risk quotient #2	PEL value (ng/g)	Risk quotient # 3	Notes for RQ#3
Braune 1987b	Common tern	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**3.80**	NER is control value	-	-	-
Braune 1987b	Common tern	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**12.49**	NER is control value	-	-	-
Braune 1987b	Common tern	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**30.10**	NER is control value	-	-	-
Braune 1987b	Double crested cormorant	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**7.20**	NER is control value	-	-	-
Braune 1987b	Double crested cormorant	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**12.12**	NER is control value	-	-	-
Braune 1987b	Double crested cormorant	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**106.90**	NER is control value	-	-	-
Braune 1987b	Double crested cormorant	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**70.48**	NER is control value	-	-	-
Braune 1987b	Herring gull	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**1.12**	NER is control value	-	-	-
Braune 1987b	Herring gull	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**2.02**	NER is control value	-	-	-
Braune 1987b	Herring gull	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**7.00**	NER is control value	-	-	-
Braune 1987b	Herring gull	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**4.82**	NER is control value	-	-	-
Braune 1987b	Red-necked phalarope	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	0.92	NER is control value	-	-	-
Braune 1987b	Red-necked phalarope	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	2.25	NER is control value	-	-	-
Elliot et al. 1992	Double crested cormorant	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**37.23**	NER is control value	-	-	-
Elliot et al. 1992	Double crested cormorant	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**35.20**	NER is control value	-	-	-
Elliot et al. 1992	Herring gull	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**2.27**	NER is control value	-	-	-
Elliot et al. 1992	Herring gull	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**5.99**	NER is control value	-	-	-
Elliot et al. 1992	Herring gull	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**7.04**	NER is control value	-	-	-
Elliot et al. 1992	Herring gull	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**5.03**	NER is control value	-	-	-
Elliot et al. 1992	Leech's storm-petrel	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**24.26**	NER is control value	-	-	-
Elliot et al. 1992	Leech's storm-petrel	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**24.19**	NER is control value	-	-	-
Goodale et al. 2008	Arctic tern					-	-	-
Goodale et al. 2008	Atlantic puffin				No chronic to calc. RQ#2	-	-	-
Goodale et al. 2008	Black guillemot				No chronic to calc. RQ#2	-	-	-

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Reference	Common name	Endpoint-NER	Reference NER	Risk quotient #2	Notes on risk quotient #2	PEL value (ng/g)	Risk quotient # 3	Notes for RQ#3
Goodale et al. 2008	Black guillemot	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	10.40	NER is control value	-	-	-
Goodale et al. 2008	Black-crowned night-heron					-	-	-
Goodale et al. 2008	Common eider				No chronic to calc. RQ#2	-	-	-
Goodale et al. 2008	Common tern				No chronic to calc. RQ#2	-	-	-
Goodale et al. 2008	Double crested cormorant				No chronic to calc. RQ#2	-	-	-
Goodale et al. 2008	Double crested cormorant	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	5.60	NER is control value	-	-	-
Goodale et al. 2008	Glossy ibis				No chronic to calc. RQ#2	-	-	-
Goodale et al. 2008	Glossy ibis	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	0.80	NER is control value	-	-	-
Goodale et al. 2008	Great black-backed gull				No chronic to calc. RQ#2	-	-	-
Goodale et al. 2008	Herring gull	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	1.60	NER is control value	-	-	-
Goodale et al. 2008	Herring gull				No chronic to calc. RQ#2	-	-	-
Goodale et al. 2008	Least tern	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	3.00	NER is control value	-	-	-
Goodale et al. 2008	Leech's storm-petrel				No chronic to calc. RQ#2	-	-	-
Goodale et al. 2008	Little brown heron				No chronic to calc. RQ#2	-	-	-
Goodale et al. 2008	Piping plover	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	4.80	NER is control value	-	-	-
Goodale et al. 2008	Razorbill				No chronic to calc. RQ#2	-	-	-
Goodale et al. 2008	Snowy egret				No chronic to calc. RQ#2	-	-	-
Goodale et al. 2008	Willet	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	2.00	NER is control value	-	-	-
Goodale et al. 2008; Bond and Diamond 2009a	Common eider	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	5.88	NER is control value	-	-	-
Goodale et al. 2008; Bond and Diamond 2009a	Common tern	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	2.48	NER is control value	-	-	-
Goodale et al. 2008; Bond and Diamond 2009a	Leech's storm-petrel	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	17.82	NER is control value	-	-	-
Goodale et al. 2008; Bond and Diamond 2009a	Razorbill	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	8.67	NER is control value	-	-	-
Goodale et al. 2008; Bond and Diamond 2009a and Pers. Comm. Neil Burgess	Atlantic puffin	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	4.69	NER is control value	-	-	-

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Reference	Common name	Endpoint-NER	Reference NER	Risk quotient #2	Notes on risk quotient #2	PEL value (ng/g)	Risk quotient # 3	Notes for RQ#3
Pers. Comm. Neil Burgess	Double crested cormorant	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**3.32**	NER is control value	-	-	-
Pers. Comm. Neil Burgess	Herring gull	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**1.04**	NER is control value	-	-	-
Pers. Comm. Neil Burgess	Herring gull	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**2.24**	NER is control value	-	-	-
Pers. Comm. Neil Burgess	Leech's storm-petrel	Reproduction and behaviour mallard duck	Bouton et al. 1999 and Heinz 1979	**10.62**	NER is control value	-	-	-
Braune and Gaskin 1987	Harbor pollock	Striped mullet: fin regeneration	Weis and Weis 1978	0.05	NER based on THG result	-	-	-
Braune and Gaskin 1987	Herring brit	Striped mullet: fin regeneration	Weis and Weis 1978	0.04	NER based on THG result	-	-	-
Braune 1987a	Atlantic herring	Striped mullet: fin regeneration	Weis and Weis 1978	0.09	NER based on THG result	-	-	-
Braune 1987a	Atlantic herring	Striped mullet: fin regeneration	Weis and Weis 1978	0.09	NER based on THG result	-	-	-
Forsythe, C. 2008; Sunderland et al. 2012	Spiny dogfish	Striped mullet: fin regeneration	Weis and Weis 1978	**2.50**	NER based on THG result	-	-	-
Gareth Harding, unpublished data	Bluefin tuna	Striped mullet: fin regeneration	Weis and Weis 1978	**4.96**	NER based on THG result	-	-	-
Gareth Harding, unpublished data	Cod	Striped mullet: fin regeneration	Weis and Weis 1978	0.27	NER based on THG result	-	-	-
Gareth Harding, unpublished data	Cunner	Striped mullet: fin regeneration	Weis and Weis 1978	0.75	NER based on THG result	-	-	-
Gareth Harding, unpublished data	Haddock	Striped mullet: fin regeneration	Weis and Weis 1978	0.18	NER based on THG result	-	-	-
Gareth Harding, unpublished data	Herring	Striped mullet: fin regeneration	Weis and Weis 1978	0.40	NER based on THG result	-	-	-
Gareth Harding, unpublished data	Mackerel	Striped mullet: fin regeneration	Weis and Weis 1978	0.17	NER based on THG result	-	-	-
Gareth Harding, unpublished data	Pollock	Striped mullet: fin regeneration	Weis and Weis 1978	0.15	NER based on THG result	-	-	-
Gareth Harding, unpublished data	Spiny dogfish	Striped mullet: fin regeneration	Weis and Weis 1978	0.84	NER based on THG result	-	-	-
Gareth Harding, unpublished data	Swordfish	Striped mullet: fin regeneration	Weis and Weis 1978	**2.94**	NER based on THG result	-	-	-
Gareth Harding, unpublished data	Thresher shark	Striped mullet: fin regeneration	Weis and Weis 1978	**14.27**	NER based on THG result	-	-	-
Gareth Harding, unpublished data	White hake	Striped mullet: fin regeneration	Weis and Weis 1978	0.24	NER based on THG result	-	-	-
Gareth Harding, unpublished data	Winter flounder	Striped mullet: fin regeneration	Weis and Weis 1978	0.15	NER based on THG result	-	-	-
Gareth Harding, unpublished data	Yellowtail flounder	Striped mullet: fin regeneration	Weis and Weis 1978	0.23	NER based on THG result	-	-	-
Gareth Harding, unpublished data	Bluefin tuna	Striped mullet: fin regeneration	Weis and Weis 1978	**5.65**	NER based on THG result	-	-	-

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Reference	Common name	Endpoint-NER	Reference NER	Risk quotient #2	Notes on risk quotient #2	PEL value (ng/g)	Risk quotient # 3	Notes for RQ#3
Gareth Harding, unpublished data	Cod	Striped mullet: fin regeneration	Weis and Weis 1978	0.35	NER based on THG result	-	-	-
Gareth Harding, unpublished data	Cunner	Striped mullet: fin regeneration	Weis and Weis 1978	0.80	NER based on THG result	-	-	-
Gareth Harding, unpublished data	Haddock	Striped mullet: fin regeneration	Weis and Weis 1978	0.32	NER based on THG result	-	-	-
Gareth Harding, unpublished data	Herring	Striped mullet: fin regeneration	Weis and Weis 1978	0.48	NER based on THG result	-	-	-
Gareth Harding, unpublished data	Mackerel	Striped mullet: fin regeneration	Weis and Weis 1978	0.22	NER based on THG result	-	-	-
Gareth Harding, unpublished data	Pollock	Striped mullet: fin regeneration	Weis and Weis 1978	0.19	NER based on THG result	-	-	-
Gareth Harding, unpublished data	Spiny dogfish	Striped mullet: fin regeneration	Weis and Weis 1978	0.99	NER based on THG result	-	-	-
Gareth Harding, unpublished data	Swordfish	Striped mullet: fin regeneration	Weis and Weis 1978	**4.16**	NER based on THG result	-	-	-
Gareth Harding, unpublished data	Thresher shark	Striped mullet: fin regeneration	Weis and Weis 1978	**14.72**	NER based on THG result	-	-	-
Gareth Harding, unpublished data	White hake	Striped mullet: fin regeneration	Weis and Weis 1978	0.30	NER based on THG result	-	-	-
Gareth Harding, unpublished data	Winter flounder	Striped mullet: fin regeneration	Weis and Weis 1978	0.21	NER based on THG result	-	-	-
Gareth Harding, unpublished data	Yellowtail flounder	Striped mullet: fin regeneration	Weis and Weis 1978	0.27	NER based on THG result	-	-	-
Sunderland et al. 2012	Atlantic salmon	Striped mullet: fin regeneration	Weis and Weis 1978	0.29	NER based on THG result	-	-	-
Sunderland et al. 2012	Longhorn sculpin	Striped mullet: fin regeneration	Weis and Weis 1978	**0.55-1.32**	NER based on THG result	-	-	-
Sunderland et al. 2012	Witch flounder	Striped mullet: fin regeneration	Weis and Weis 1978	**0.33-4.40**	NER based on THG result	-	-	-
Braune and Gaskin 1987	Euphausiids					-	-	-
Braune and Gaskin 1987	Euphausiids					-	-	-
Braune and Gaskin 1987; Sunderland et al. 2012	Amphipod					-	-	-
Braune 1987a	Copepod					-	-	-
Braune 1987a; Braune and Gaskin 1987 and Sunderland et al. 2012	Polychaete					-	-	-
Chou et al. 2004	American lobster					-	-	-
Chou et al. 2004	Blue mussel	Blue mussel: growth	Krishnakumar et al. 1990	1.25	NER is control value	-	-	-

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Reference	Common name	Endpoint-NER	Reference NER	Risk quotient #2	Notes on risk quotient #2	PEL value (ng/g)	Risk quotient # 3	Notes for RQ#3
Chou et al. 2004	Blue mussel	Blue mussel: growth	Krishnakumar et al. 1990	1.29	NER is control value	-	-	-
Chou et al. 2004; LeBlanc et al. 2009a; LeBlanc et al. 2009b	Blue mussel	Blue mussel: growth	Krishnakumar et al. 1990	1.12	NER is control value	-	-	-
Sizmur et al. 2013	Amphipod					-	-	-
Sizmur et al. 2013	Polychaete					-	-	-
Sizmur et al. 2013	Polychaete					-	-	-
Sizmur et al. 2013	Polychaete					-	-	-
Sizmur et al. 2013	Polychaete					-	-	-
Sizmur et al. 2013	Polychaete					-	-	-
Sizmur et al. 2013	Amphipod					-	-	-
Sizmur et al. 2013	Polychaete					-	-	-
Sizmur et al. 2013	Polychaete					-	-	-
Sizmur et al. 2013	Polychaete					-	-	-
Sizmur et al. 2013	Polychaete					-	-	-
Sizmur et al. 2013	Polychaete					-	-	-
Sunderland et al. 2012	American lobster					-	-	-
Sunderland et al. 2012	Blue mussel	Blue mussel: growth	Krishnakumar et al. 1990	**1.25**	NER is control value	-	-	-
Sunderland et al. 2012	Oyster					-	-	-
Sunderland et al. 2012	Periwinkle					-	-	-
Sunderland et al. 2012	Phytoplankton (25-63 µm)					-	-	-
Sunderland et al. 2012	Sea urchin					-	-	-
Sunderland et al. 2012	Soft shelled clam					-	-	-
Gaskin et al. 1979	Harbour porpoises				No chronic to calc. RQ#2	-	-	-

Appendix C: Individual Concentrations and RQ Values for Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Endpoint-NER	Reference NER	Risk quotient #2	Notes on risk quotient #2	PEL value (ng/g)	Risk quotient # 3	Notes for RQ#3
Chou et al. 2004	Sediment	Interim Sediment Quality Guidelines (ISQGs)	CCME Sediment Quality Guideline for the Protection of Aquatic Life	0.13	Based on ISQG	700	0.03	CCME Sediment Quality Guideline for the Protection of Aquatic Life
Chou et al. 2004	Sediment	Interim Sediment Quality Guidelines (ISQGs)	CCME Sediment Quality Guideline for the Protection of Aquatic Life	0.10	Based on ISQG	700	0.02	CCME Sediment Quality Guideline for the Protection of Aquatic Life
Chou et al. 2004	Sediment	Interim Sediment Quality Guidelines (ISQGs)	CCME Sediment Quality Guideline for the Protection of Aquatic Life	0.08	Based on ISQG	700	0.01	CCME Sediment Quality Guideline for the Protection of Aquatic Life
Chou et al. 2004	Sediment	Interim Sediment Quality Guidelines (ISQGs)	CCME Sediment Quality Guideline for the Protection of Aquatic Life	0.23	Based on ISQG	700	0.04	CCME Sediment Quality Guideline for the Protection of Aquatic Life
Hung and Chmura 2006	Sediment	Interim Sediment Quality Guidelines (ISQGs)	CCME Sediment Quality Guideline for the Protection of Aquatic Life	0.12	Based on ISQG	700	0.02	CCME Sediment Quality Guideline for the Protection of Aquatic Life
Hung and Chmura 2006	Sediment	Interim Sediment Quality Guidelines (ISQGs)	CCME Sediment Quality Guideline for the Protection of Aquatic Life	0.44	Based on ISQG	700	0.08	CCME Sediment Quality Guideline for the Protection of Aquatic Life
Hung and Chmura 2006	Sediment	Interim Sediment Quality Guidelines (ISQGs)	CCME Sediment Quality Guideline for the Protection of Aquatic Life	0.08	Based on ISQG	700	0.02	CCME Sediment Quality Guideline for the Protection of Aquatic Life
Hung and Chmura 2006	Sediment	Interim Sediment Quality Guidelines (ISQGs)	CCME Sediment Quality Guideline for the Protection of Aquatic Life	0.21	Based on ISQG	700	0.04	CCME Sediment Quality Guideline for the Protection of Aquatic Life
Hung and Chmura 2006	Sediment	Interim Sediment Quality Guidelines (ISQGs)	CCME Sediment Quality Guideline for the Protection of Aquatic Life	0.23	Based on ISQG	700	0.04	CCME Sediment Quality Guideline for the Protection of Aquatic Life
Hung and Chmura 2006	Sediment	Interim Sediment Quality Guidelines (ISQGs)	CCME Sediment Quality Guideline for the Protection of Aquatic Life	0.17	Based on ISQG	700	0.03	CCME Sediment Quality Guideline for the Protection of Aquatic Life
Hung and Chmura 2006	Sediment	Interim Sediment Quality Guidelines (ISQGs)	CCME Sediment Quality Guideline for the Protection of Aquatic Life	0.16	Based on ISQG	700	0.03	CCME Sediment Quality Guideline for the Protection of Aquatic Life

Appendix C: Individual Concentrations and RQ Values for Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Endpoint-NER	Reference NER	Risk quotient #2	Notes on risk quotient #2	PEL value (ng/g)	Risk quotient # 3	Notes for RQ#3
Sunderland et al. 2004	Sediment core, push core	Interim Sediment Quality Guidelines (ISQGs)	CCME Sediment Quality Guideline for the Protection of Aquatic Life	0.00	Based on ISQG	700	0.00	CCME Sediment Quality Guideline for the Protection of Aquatic Life
Sunderland et al. 2004	Sediment core, push core	Interim Sediment Quality Guidelines (ISQGs)	CCME Sediment Quality Guideline for the Protection of Aquatic Life	0.01	Based on ISQG	700	0.00	CCME Sediment Quality Guideline for the Protection of Aquatic Life
Sunderland et al. 2004	Sediment core, push core	Interim Sediment Quality Guidelines (ISQGs)	CCME Sediment Quality Guideline for the Protection of Aquatic Life	0.46	Based on ISQG	700	0.09	CCME Sediment Quality Guideline for the Protection of Aquatic Life
Sunderland et al. 2004	Sediment core, push core	Interim Sediment Quality Guidelines (ISQGs)	CCME Sediment Quality Guideline for the Protection of Aquatic Life	1.83	Based on ISQG	700	0.34	CCME Sediment Quality Guideline for the Protection of Aquatic Life
Sunderland et al. 2004	Sediment, gravity core	Interim Sediment Quality Guidelines (ISQGs)	CCME Sediment Quality Guideline for the Protection of Aquatic Life	0.36	Based on ISQG	700	0.07	CCME Sediment Quality Guideline for the Protection of Aquatic Life
Sunderland et al. 2004	Sediment, gravity core	Interim Sediment Quality Guidelines (ISQGs)	CCME Sediment Quality Guideline for the Protection of Aquatic Life	0.08	Based on ISQG	700	0.02	CCME Sediment Quality Guideline for the Protection of Aquatic Life
Sunderland et al. 2004	Sediment, gravity core	Interim Sediment Quality Guidelines (ISQGs)	CCME Sediment Quality Guideline for the Protection of Aquatic Life	0.30	Based on ISQG	700	0.06	CCME Sediment Quality Guideline for the Protection of Aquatic Life
Sunderland et al. 2004	Sediment, gravity core	Interim Sediment Quality Guidelines (ISQGs)	CCME Sediment Quality Guideline for the Protection of Aquatic Life	0.14	Based on ISQG	700	0.03	CCME Sediment Quality Guideline for the Protection of Aquatic Life

Appendix C: Individual Concentrations and RQ Values for Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	TRG Hg	Risk quotient #4	Notes RQ#4
Bond and Diamond 2009a	Arctic tern	33	6.65	TRG (MeHg)
Bond and Diamond 2009a	Common murre	33	7.48	TRG (MeHg)
Bond and Diamond 2009b	Arctic tern	33	23.97	TRG (MeHg)
Bond and Diamond 2009b	Atlantic puffin	33	49.52	TRG (MeHg)
Bond and Diamond 2009b	Common murre	33	37.85	TRG (MeHg)
Bond and Diamond 2009b	Common tern	33	49.06	TRG (MeHg)
Bond and Diamond 2009b	Leech's storm-petrel	33	6.88	TRG (MeHg)
Bond and Diamond 2009b	Leech's storm-petrel	33	30.55	TRG (MeHg)
Bond and Diamond 2009b	Leech's storm-petrel	33	138.45	TRG (MeHg)
Bond and Diamond 2009b	Leech's storm-petrel	33	161.52	TRG (MeHg)
Bond and Diamond 2009b	Razorbill	33	32.52	TRG (MeHg)
Bond and Diamond 2009b	Arctic tern	33	27.00	TRG (MeHg)
Bond and Diamond 2009b	Atlantic puffin	33	54.70	TRG (MeHg)
Bond and Diamond 2009b	Common murre	33	29.91	TRG (MeHg)
Bond and Diamond 2009b	Common tern	33	41.82	TRG (MeHg)
Bond and Diamond 2009b	Leech's storm-petrel	33	9.03	TRG (MeHg)
Bond and Diamond 2009b	Leech's storm-petrel	33	147.12	TRG (MeHg)
Bond and Diamond 2009b	Leech's storm-petrel	33	166.70	TRG (MeHg)
Bond and Diamond 2009b	Razorbill	33	42.55	TRG (MeHg)
Braune and Noble 2009	Black-bellied plover	33	14.40	TRG (MeHg)
Braune and Noble 2009	Dunlin	33	25.20	TRG (MeHg)
Braune and Noble 2009	Greater yellowlegs	33	24.50	TRG (MeHg)
Braune and Noble 2009	Lesser yellowlegs	33	24.80	TRG (MeHg)

Appendix C: Individual Concentrations and RQ Values for Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	TRG Hg	Risk quotient #4	Notes RQ#4
Braune and Noble 2009	Semipalmated plover	33	10.80	TRG (MeHg)
Braune and Noble 2009	Semipalmated sandpiper	33	21.30	TRG (MeHg)
Braune and Noble 2009	Short-billed dowitcher	33	16.20	TRG (MeHg)
Braune 1987b	Arctic tern	33	2.70	TRG (MeHg)
Braune 1987b	Arctic tern	33	2.85	TRG (MeHg)
Braune 1987b	Arctic tern	33	13.73	TRG (MeHg)
Braune 1987b	Arctic tern	33	14.24	TRG (MeHg)
Braune 1987b	Black guillemot	33	3.42	TRG (MeHg)
Braune 1987b	Black guillemot	33	3.73	TRG (MeHg)
Braune 1987b	Black guillemot	33	14.88	TRG (MeHg)
Braune 1987b	Black guillemot	33	15.55	TRG (MeHg)
Braune 1987b	Black-legged kittiwake	33	1.12	TRG (MeHg)
Braune 1987b	Black-legged kittiwake	33	1.15	TRG (MeHg)
Braune 1987b	Black-legged kittiwake	33	7.33	TRG (MeHg)
Braune 1987b	Black-legged kittiwake	33	11.27	TRG (MeHg)
Braune 1987b	Bonaparte's gull	33	2.27	TRG (MeHg)
Braune 1987b	Bonaparte's gull	33	3.06	TRG (MeHg)
Braune 1987b	Bonaparte's gull	33	12.67	TRG (MeHg)
Braune 1987b	Bonaparte's gull	33	13.64	TRG (MeHg)
Braune 1987b	Common eider duck	33	4.64	TRG (MeHg)
Braune 1987b	Common eider duck	33	10.85	TRG (MeHg)
Braune 1987b	Common eider duck	33	29.91	TRG (MeHg)
Braune 1987b	Common tern	33	5.03	TRG (MeHg)

Appendix C: Individual Concentrations and RQ Values for Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	TRG Hg	Risk quotient #4	Notes RQ#4
Braune 1987b	Common tern	33	5.76	TRG (MeHg)
Braune 1987b	Common tern	33	37.85	TRG (MeHg)
Braune 1987b	Common tern	33	45.61	TRG (MeHg)
Braune 1987b	Double crested cormorant	33	10.91	TRG (MeHg)
Braune 1987b	Double crested cormorant	33	18.36	TRG (MeHg)
Braune 1987b	Double crested cormorant	33	161.97	TRG (MeHg)
Braune 1987b	Double crested cormorant	33	213.58	TRG (MeHg)
Braune 1987b	Herring gull	33	1.70	TRG (MeHg)
Braune 1987b	Herring gull	33	3.06	TRG (MeHg)
Braune 1987b	Herring gull	33	10.61	TRG (MeHg)
Braune 1987b	Herring gull	33	14.61	TRG (MeHg)
Braune 1987b	Red-necked phalarope	33	1.39	TRG (MeHg)
Braune 1987b	Red-necked phalarope	33	6.82	TRG (MeHg)
Elliot et al. 1992	Double crested cormorant	33	56.41	TRG (MeHg)
Elliot et al. 1992	Double crested cormorant	33	106.68	TRG (MeHg)
Elliot et al. 1992	Herring gull	33	6.88	TRG (MeHg)
Elliot et al. 1992	Herring gull	33	9.08	TRG (MeHg)
Elliot et al. 1992	Herring gull	33	10.67	TRG (MeHg)
Elliot et al. 1992	Herring gull	33	15.23	TRG (MeHg)
Elliot et al. 1992	Leech's storm-petrel	33	36.76	TRG (MeHg)
Elliot et al. 1992	Leech's storm-petrel	33	73.31	TRG (MeHg)
Goodale et al. 2008	Arctic tern	33	0.30	TRG (MeHg)
Goodale et al. 2008	Atlantic puffin	33	5.30	TRG (MeHg)
Goodale et al. 2008	Black guillemot	33	3.33	TRG (MeHg)

Appendix C: Individual Concentrations and RQ Values for Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	TRG Hg	Risk quotient #4	Notes RQ#4
Goodale et al. 2008	Black guillemot	33	15.76	TRG (MeHg)
Goodale et al. 2008	Black-crowned night-heron	33	7.58	TRG (MeHg)
Goodale et al. 2008	Common eider	33	3.33	TRG (MeHg)
Goodale et al. 2008	Common tern	33	6.06	TRG (MeHg)
Goodale et al. 2008	Double crested cormorant	33	5.45	TRG (MeHg)
Goodale et al. 2008	Double crested cormorant	33	8.48	TRG (MeHg)
Goodale et al. 2008	Glossy ibis	33	1.21	TRG (MeHg)
Goodale et al. 2008	Glossy ibis	33	1.21	TRG (MeHg)
Goodale et al. 2008	Great black-backed gull	33	4.85	TRG (MeHg)
Goodale et al. 2008	Herring gull	33	2.42	TRG (MeHg)
Goodale et al. 2008	Herring gull	33	2.88	TRG (MeHg)
Goodale et al. 2008	Least tern	33	4.55	TRG (MeHg)
Goodale et al. 2008	Leech's storm-petrel	33	8.64	TRG (MeHg)
Goodale et al. 2008	Little brown heron	33	0.91	TRG (MeHg)
Goodale et al. 2008	Piping plover	33	7.27	TRG (MeHg)
Goodale et al. 2008	Razorbill	33	10.61	TRG (MeHg)
Goodale et al. 2008	Snowy egret	33	2.12	TRG (MeHg)
Goodale et al. 2008	Willet	33	3.03	TRG (MeHg)
Goodale et al. 2008; Bond and Diamond 2009a	Common eider	33	8.91	TRG (MeHg)
Goodale et al. 2008; Bond and Diamond 2009a	Common tern	33	3.76	TRG (MeHg)
Goodale et al. 2008; Bond and Diamond 2009a	Leech's storm-petrel	33	26.99	TRG (MeHg)
Goodale et al. 2008; Bond and Diamond 2009a	Razorbill	33	13.14	TRG (MeHg)
Goodale et al. 2008; Bond and Diamond 2009a and Pers. Comm. Neil Burgess	Atlantic puffin	33	7.10	TRG (MeHg)

Appendix C: Individual Concentrations and RQ Values for Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	TRG Hg	Risk quotient #4	Notes RQ#4
Pers. Comm. Neil Burgess	Double crested cormorant	33	5.03	TRG (MeHg)
Pers. Comm. Neil Burgess	Herring gull	33	1.58	TRG (MeHg)
Pers. Comm. Neil Burgess	Herring gull	33	3.39	TRG (MeHg)
Pers. Comm. Neil Burgess	Leech's storm-petrel	33	16.09	TRG (MeHg)
Braune and Gaskin 1987	Harbor pollock	33	0.15	TRG (MeHg)
Braune and Gaskin 1987	Herring brit	33	0.12	TRG (MeHg)
Braune 1987a	Atlantic herring	33	0.27	TRG (MeHg)
Braune 1987a	Atlantic herring	33	0.27	TRG (MeHg)
Forsythe, C. 2008; Sunderland et al. 2012	Spiny dogfish	33	7.58	TRG (MeHg)
Gareth Harding, unpublished data	Bluefin tuna	33	15.02	TRG (MeHg)
Gareth Harding, unpublished data	Cod	33	0.82	TRG (MeHg)
Gareth Harding, unpublished data	Cunner	33	2.28	TRG (MeHg)
Gareth Harding, unpublished data	Haddock	33	0.55	TRG (MeHg)
Gareth Harding, unpublished data	Herring	33	1.22	TRG (MeHg)
Gareth Harding, unpublished data	Mackerel	33	0.53	TRG (MeHg)
Gareth Harding, unpublished data	Pollock	33	0.47	TRG (MeHg)
Gareth Harding, unpublished data	Spiny dogfish	33	2.54	TRG (MeHg)
Gareth Harding, unpublished data	Swordfish	33	8.91	TRG (MeHg)
Gareth Harding, unpublished data	Thresher shark	33	43.24	TRG (MeHg)
Gareth Harding, unpublished data	White hake	33	0.73	TRG (MeHg)
Gareth Harding, unpublished data	Winter flounder	33	0.46	TRG (MeHg)
Gareth Harding, unpublished data	Yellowtail flounder	33	0.71	TRG (MeHg)
Gareth Harding, unpublished data	Bluefin tuna	33	17.12	TRG (MeHg)

Appendix C: Individual Concentrations and RQ Values for Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	TRG Hg	Risk quotient #4	Notes RQ#4
Gareth Harding, unpublished data	Cod	33	1.07	TRG (MeHg)
Gareth Harding, unpublished data	Cunner	33	2.42	TRG (MeHg)
Gareth Harding, unpublished data	Haddock	33	0.98	TRG (MeHg)
Gareth Harding, unpublished data	Herring	33	1.44	TRG (MeHg)
Gareth Harding, unpublished data	Mackerel	33	0.66	TRG (MeHg)
Gareth Harding, unpublished data	Pollock	33	0.57	TRG (MeHg)
Gareth Harding, unpublished data	Spiny dogfish	33	3.01	TRG (MeHg)
Gareth Harding, unpublished data	Swordfish	33	12.62	TRG (MeHg)
Gareth Harding, unpublished data	Thresher shark	33	44.62	TRG (MeHg)
Gareth Harding, unpublished data	White hake	33	0.89	TRG (MeHg)
Gareth Harding, unpublished data	Winter flounder	33	0.64	TRG (MeHg)
Gareth Harding, unpublished data	Yellowtail flounder	33	0.82	TRG (MeHg)
Sunderland et al. 2012	Atlantic salmon	33	0.88	TRG (MeHg)
Sunderland et al. 2012	Longhorn sculpin	33	1.67-4.0	TRG (MeHg)
Sunderland et al. 2012	Witch flounder	33	1.00-13.33	TRG (MeHg)
Braune and Gaskin 1987	Euphausiids	33	0.09	TRG (MeHg)
Braune and Gaskin 1987	Euphausiids	33	0.18	TRG (MeHg)
Braune and Gaskin 1987; Sunderland et al. 2012	Amphipod	33	0.35	TRG (MeHg)
Braune 1987a	Copepod	33	0.13	TRG (MeHg)
Braune 1987a; Braune and Gaskin 1987 and Sunderland et al. 2012	Polychaete	33	0.22	TRG (MeHg)
Chou et al. 2004	American lobster	33	1.82	TRG (MeHg)
Chou et al. 2004	Blue mussel	33	0.98	TRG (MeHg)

Appendix C: Individual Concentrations and RQ Values for Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	TRG Hg	Risk quotient #4	Notes RQ#4
Chou et al. 2004	Blue mussel	33	1.02	TRG (MeHg)
Chou et al. 2004; LeBlanc et al. 2009a; LeBlanc et al. 2009b	Blue mussel	33	0.88	TRG (MeHg)
Sizmur et al. 2013	Amphipod	33	0.03	TRG (MeHg)
Sizmur et al. 2013	Polychaete	33	0.02	TRG (MeHg)
Sizmur et al. 2013	Polychaete	33	0.04	TRG (MeHg)
Sizmur et al. 2013	Polychaete	33	0.20	TRG (MeHg)
Sizmur et al. 2013	Polychaete	33	0.09	TRG (MeHg)
Sizmur et al. 2013	Polychaete	33	0.10	TRG (MeHg)
Sizmur et al. 2013	Amphipod	33	0.12	TRG (MeHg)
Sizmur et al. 2013	Polychaete	33	0.16	TRG (MeHg)
Sizmur et al. 2013	Polychaete	33	0.17	TRG (MeHg)
Sizmur et al. 2013	Polychaete	33	0.23	TRG (MeHg)
Sizmur et al. 2013	Polychaete	33	0.30	TRG (MeHg)
Sizmur et al. 2013	Polychaete	33	0.58	TRG (MeHg)
Sunderland et al. 2012	American lobster	33	2.98	TRG (MeHg)
Sunderland et al. 2012	Blue mussel	33	0.81	TRG (MeHg)
Sunderland et al. 2012	Oyster	33	0.48	TRG (MeHg)
Sunderland et al. 2012	Periwinkle	33	0.91	TRG (MeHg)
Sunderland et al. 2012	Phytoplankton (25-63 µm)	33	0.08	TRG (MeHg)
Sunderland et al. 2012	Sea urchin	33	0.81	TRG (MeHg)
Sunderland et al. 2012	Soft shelled clam	33	1.52	TRG (MeHg)
Gaskin et al. 1979	Harbour porpoises	33	0.88	TRG (MeHg)

Appendix C: Individual Concentrations and RQ Values for Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	TRG Hg	Risk quotient #4	Notes RQ#4
Chou et al. 2004	Sediment	-	-	-
Chou et al. 2004	Sediment	-	-	-
Chou et al. 2004	Sediment	-	-	-
Chou et al. 2004	Sediment	-	-	-
Hung and Chmura 2006	Sediment	-	-	-
Hung and Chmura 2006	Sediment	-	-	-
Hung and Chmura 2006	Sediment	-	-	-
Hung and Chmura 2006	Sediment	-	-	-
Hung and Chmura 2006	Sediment	-	-	-
Hung and Chmura 2006	Sediment	-	-	-
Hung and Chmura 2006	Sediment	-	-	-

Appendix C: Individual Concentrations and RQ Values for Hg. Note: Individual Studies Span Across Several Pages.

Reference	Common name	TRG Hg	Risk quotient #4	Notes RQ#4
Sunderland et al. 2004	Sediment core, push core	-	-	-
Sunderland et al. 2004	Sediment core, push core	-	-	-
Sunderland et al. 2004	Sediment core, push core	-	-	-
Sunderland et al. 2004	Sediment core, push core	-	-	-
Sunderland et al. 2004	Sediment, gravity core	-	-	-
Sunderland et al. 2004	Sediment, gravity core	-	-	-
Sunderland et al. 2004	Sediment, gravity core	-	-	-
Sunderland et al. 2004	Sediment, gravity core	-	-	-

Appendix D: Individual Concentrations for DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Species name	Group	Number	Average size (cm or g)	Age	Sex	Lipid (%)	Tissue type tested	ΣDDT (µg/g-lipid)
Zitko and Choi 1971	Black duck	*Anas rubripes*	Bird	4	105.6 g	Eggs	-	-	Eggs	-
Braune and Noble 2009	Black-bellied plover	*Pluvialis squatarola*	Bird	2	-	Hatch year	F	6.7	Carcass	0.313
Braune and Noble 2009	Black-bellied plover	*Pluvialis squatarola*	Bird	3	-	Adult	M/F	14.4	Carcass	0.658
Zitko V et al. 1972 and Zitko and Choi 1971	Double-crested cormorant	*Phalacrocorax auritus*	Bird	4	39.3 g	-	-	-	Eggs	-
Zitko V et al. 1972 and Zitko and Choi 1971	Double-crested cormorant	*Phalacrocorax auritus*	Bird	11	47.0 g	-	-	-	Eggs	-
Zitko V et al. 1972 and Zitko and Choi 1971	Double-crested cormorant	*Phalacrocorax auritus*	Bird	-	-	-	-	-	Muscle	-
Zitko and Choi 1971	Double-crested cormorant	*Phalacrocorax auritus*	Bird	-	-	-	-	-	Liver	-
Zitko and Choi 1971	Double-crested cormorant	*Phalacrocorax auritus*	Bird	-	-	-	-	-	Subcutaneous fat	-
Zitko and Choi 1971	Double-crested cormorant	*Phalacrocorax auritus*	Bird	-	-	-	-	-	Abdominal fat	-
Braune and Noble 2009	Dunlin	*Calidris alpina*	Bird	5	-	Hatch year	M/F/U	16.0	Carcass	0.172
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	M	3.2	Liver	-

Appendix D: Individual Concentrations for DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Species name	Group	Number	Average size (cm or g)	Age	Sex	Lipid (%)	Tissue type tested	ΣDDT (μg/g-lipid)
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	M	4.1	Muscle	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	F	5.1	Liver	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	F	4.7	Muscle	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	M	2.6	Liver	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	M	2.9	Muscle	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	M	4.1	Liver	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	M	0.9	Muscle	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	M	2.5	Liver	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	M	6.5	Muscle	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	F	0.6	Liver	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	F	1.8	Muscle	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	M	2.3	Liver	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	M	2.4	Muscle	-

Appendix D: Individual Concentrations for DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Species name	Group	Number	Average size (cm or g)	Age	Sex	Lipid (%)	Tissue type tested	ΣDDT (µg/g-lipid)
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	M	2.6	Liver	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	M	2.4	Muscle	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	F	1.2	Liver	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	F	3.4	Muscle	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	F	1.1	Liver	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	F	2.9	Muscle	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	M	1.9	Liver	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	M	4.8	Muscle	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	F	3.1	Liver	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	F	2.1	Muscle	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	M	2.6	Liver	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	M	0.7	Muscle	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	F	4.4	Liver	-

Appendix D: Individual Concentrations for DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Species name	Group	Number	Average size (cm or g)	Age	Sex	Lipid (%)	Tissue type tested	ΣDDT (µg/g-lipid)
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	F	4.4	Muscle	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	F	2.5	Liver	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	F	1.7	Muscle	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	F	1.8	Liver	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	F	3.9	Muscle	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	F	1.8	Liver	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	F	2.4	Muscle	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	F	3.8	Liver	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	M	2.2	Liver	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	M	4.8	Muscle	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	F	2.8	Liver	-
Gaskin et al. 1978	Greater shearwater	*Puffinus gravis*	Bird	1	-	-	F	3.8	Muscle	-
Braune and Noble 2009	Greater yellowlegs	*Tringa melanoleuca*	Bird	1	-	Adult	M/F	11.5	Carcass	0.504

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Reference	Common name	Species name	Group	Number	Average size (cm or g)	Age	Sex	Lipid (%)	Tissue type tested	ΣDDT (µg/g-lipid)
Zitko and Choi 1971	Guillemot	*Uria aalgae*	Bird	1	-	-	-	-	Eggs	-
Zitko V et al. 1972	Herring gull	*Larus argentatus*	Bird	1	-	-	-	-	Eggs	-
Zitko V et al. 1972	Herring gull	*Larus argentatus*	Bird	1	-	-	-	-	Eggs	-
Zitko V et al. 1972 and Zitko and Choi 1971	Herring gull	*Larus argentatus*	Bird	1	-	-	-	-	Muscle	-
Zitko V et al. 1972 and Zitko and Choi 1971	Herring gull	*Larus argentatus*	Bird	1	-	-	-	-	Liver	-
Zitko and Choi 1971	Herring gull	*Larus argentatus*	Bird	1	-	-	-	-	Subcutaneous fat	-
Zitko and Choi 1971	Herring gull	*Larus argentatus*	Bird	1	-	-	-	-	Abdominal fat	-
Braune and Noble 2009	Lesser yellowlegs	*Tringa flavipes*	Bird	1	-	Adult	U	1.4	Carcass	12.17
Braune and Noble 2009	Lesser yellowlegs	*Tringa flavipes*	Bird	1	-	Hatch year	U	16.1	Carcass	0.214
Braune and Noble 2009	Semipalmated plover	*Charadrius semipalmatus*	Bird	1	-	Adult	F	33.7	Carcass	0.476
Braune and Noble 2009	Semipalmated plover	*Charadrius semipalmatus*	Bird	1	-	Adult	M	19.4	Carcass	7.11

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Reference	Common name	Species name	Group	Number	Average size (cm or g)	Age	Sex	Lipid (%)	Tissue type tested	ΣDDT (µg/g-lipid)
Braune and Noble 2009	Semipalmated sandpiper	*Calidris pusilla*	Bird	1	-	Adult	F	22.8	Carcass	0.078
Braune and Noble 2009	Semipalmated sandpiper	*Calidris pusilla*	Bird	1	-	Adult	M	15.3	Carcass	0.099
Braune and Noble 2009	Short-billed dowtcher	*Limnodromus griseus*	Bird	1	-	Adult	M	11.1	Carcass	0.886
Braune and Noble 2009	Short-billed dowtcher	*Limnodromus griseus*	Bird	1	-	Adult	M	12.1	Carcass	0.461
Gaskin et al. 1978	Sooty shearwater	*Puffinus griseus*	Bird	1	-	-	M	7.0	Liver	-
Gaskin et al. 1978	Sooty shearwater	*Puffinus griseus*	Bird	1	-	-	M	5.6	Muscle	-
Gaskin et al. 1978	Sooty shearwater	*Puffinus griseus*	Bird	1	-	-	F	1.1	Liver	-
Gaskin et al. 1978	Sooty shearwater	*Puffinus griseus*	Bird	1	-	-	F	2.9	Muscle	-
Gaskin et al. 1978	Sooty shearwater	*Puffinus griseus*	Bird	1	-	-	F	3.8	Liver	-
Gaskin et al. 1978	Sooty shearwater	*Puffinus griseus*	Bird	1	-	-	F	4.3	Muscle	-

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Reference	Common name	Species name	Group	Number	Average size (cm or g)	Age	Sex	Lipid (%)	Tissue type tested	ΣDDT (µg/g-lipid)
Gaskin et al. 1978	Sooty shearwater	*Puffinus griseus*	Bird	1	-	-	M	7.8	Liver	-
Gaskin et al. 1978	Sooty shearwater	*Puffinus griseus*	Bird	1	-	-	M	2.3	Muscle	-
Gaskin et al. 1978	Sooty shearwater	*Puffinus griseus*	Bird	1	-	-	M	5.6	Liver	-
Gaskin et al. 1978	Sooty shearwater	*Puffinus griseus*	Bird	1	-	-	M	5.2	Muscle	-
Gaskin et al. 1978	Sooty shearwater	*Puffinus griseus*	Bird	1	-	-	M	1.1	Liver	-
Gaskin et al. 1978	Sooty shearwater	*Puffinus griseus*	Bird	1	-	-	M	3.5	Muscle	-
Zitko V et al. 1972	Bluefin tuna	*Thunnus thynnus*	Fish	-	-	-	-	-	Muscle	-
Zitko V et al. 1972 and Zitko and Choi 1971	Cod	*Gadus morhua*	Fish	-	-	-	-	-	Muscle	-
Zitko V et al. 1972	Herring	*Clupea harengus*	Fish	-	-	-	-	-	Whole body	-
Zitko 1971	Mackerel	*Scomber scombrus*	Fish	4	319 g	-	-	-	Muscle	-
Zitko V et al. 1972 and Zitko and Choi 1971	Mackerel	*Scomber scombrus*	Fish	-	-	-	-	-	Muscle	-
Zitko V et al. 1972	Ocean perch	*Seabastes marinus*	Fish	-	-	-	-	-	Muscle	-
Zitko V et al. 1972	Plaice	*Hippoglossoides platessoides*	Fish	-	-	-	-	-	Muscle	-
Zitko V et al. 1972	Sea raven	*Hemitripterus americanus*	Fish	-	-	-	-	-	Muscle	-

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Reference	Common name	Species name	Group	Number	Average size (cm or g)	Age	Sex	Lipid (%)	Tissue type tested	ΣDDT (µg/g-lipid)
Zitko V et al. 1972	Sea raven	*Hemitripterus americanus*	Fish	-	-	-	-	-	viscera	-
Zitko V et al. 1972	White hake	*Urophycis marinus*	Fish	-	-	-	-	-	Muscle	-
Zitko V et al. 1972	White shark	*Carcharodon carcharias*	Fish	-	-	-	-	-	Muscle	-
Zitko V et al. 1972	White shark	*Carcharodon carcharias*	Fish	-	-	-	-	-	Liver	-
Zitko 1981	American lobster	*Homarus americanus*	Invert	1	-	-	-	19.5	Heptopancreas	-
Zitko 1981	American lobster	*Homarus americanus*	Invert	1	-	-	-	25.6	Heptopancreas	-
Zitko 1981	American lobster	*Homarus americanus*	Invert	1	-	-	-	31.8	Heptopancreas	-
Zitko 1981	American lobster	*Homarus americanus*	Invert	1	-	-	-	-	Heptopancreas	-
Sprague et al. 1969	Clam	*Mya arenaria*	Invert	4	4.7-6.1 cm	-	-	-	Whole	-
Sprague et al. 1969	Mussel	*Mytilus edulis*	Invert	4	3.7-5 cm	-	-	-	Whole	-
Sprague et al. 1969	Scallop	*Placopecten magellanicus*	Invert	4	9.7-11.4 cm	-	-	-	Whole	-
Zitko 1975	Common seal	*Phoca vitulina*	Mammal	-	-	Pups	-	79.7	Blubber	-
Zitko 1975	Common seal	*Phoca vitulina*	Mammal	-	-	Pups	-	4.1	Liver	-
Westgate et al. 1997	Harbour porpoises	*Phocoena phocoena*	Mammal	5	-	non-lactating	F	-	Blubber	-
Westgate et al. 1997	Harbour porpoises	*Phocoena phocoena*	Mammal	17	-	Calf	-	-	Blubber	-
Westgate et al. 1997	Harbour porpoises	*Phocoena phocoena*	Mammal	18	-	Immature	F	-	Blubber	-

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Reference	Common name	Species name	Group	Number	Average size (cm or g)	Age	Sex	Lipid (%)	Tissue type tested	ΣDDT (µg/g-lipid)
Westgate et al. 1997	Harbour porpoises	*Phocoena phocoena*	Mammal	20	-	Lactating	F	-	Blubber	-
Westgate et al. 1997	Harbour porpoises	*Phocoena phocoena*	Mammal	22	-	Immature	M	-	Blubber	-
Westgate et al. 1997	Harbour porpoises	*Phocoena phocoena*	Mammal	23	-	Mature	M	-	Blubber	-
Woodley et al. 1991	North Atlantic right whale	*Eubalena gacialis*	Mammal	1	-	>9	F	NR	Blubber	-
Woodley et al. 1991	North Atlantic right whale	*Eubalena gacialis*	Mammal	2	-	0.5	NR	16.9	Blubber	-
Woodley et al. 1991	North Atlantic right whale	*Eubalena gacialis*	Mammal	3	-	3.2	M	21.7	Blubber	-
Woodley et al. 1991	North Atlantic right whale	*Eubalena gacialis*	Mammal	3	-	6.5-8 yr	M	NR	Blubber	-
Woodley et al. 1991	North Atlantic right whale	*Eubalena gacialis*	Mammal	4	-	NR	NR	21.1	Blubber	-
Woodley et al. 1991	North Atlantic right whale	*Eubalena gacialis*	Mammal	5	-	U	-	NR	Blubber	-
Woodley et al. 1991	North Atlantic right whale	*Eubalena gacialis*	Mammal	5	-	1.5-4.5	IM	NR	Blubber	-
Woodley et al. 1991	North Atlantic right whale	*Eubalena gacialis*	Mammal	6	-	>6.5->13	F	16.1	Blubber	-
Woodley et al. 1991	North Atlantic right whale	*Eubalena gacialis*	Mammal	6	-	>7.5->10	M	12.9	Blubber	-

Appendix D: Individual Concentrations for DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	p,p' DDE (µg/g-lipid)	p,p' DDT (µg/g-lipid)	p,p' DDT SD (µg/g-lipid)	ΣDDT (µg/g-wet)	ΣDDT SD (µg/g-wet)	ΣDDT range (µg/g-wet)	p.p' DDE (µg/g-wet)
Zitko and Choi 1971	Black duck	-	-	-	-	-	-	1.5
Braune and Noble 2009	Black-bellied plover	-	-	-	-	-	-	0.249
Braune and Noble 2009	Black-bellied plover	-	-	-	-	-	-	0.658
Zitko V et al. 1972 and Zitko and Choi 1971	Double-crested cormorant	-	-	-	-	-	-	8.6
Zitko V et al. 1972 and Zitko and Choi 1971	Double-crested cormorant	-	-	-	-	-	-	29.4
Zitko V et al. 1972 and Zitko and Choi 1971	Double-crested cormorant	-	-	-	-	-	-	8.4
Zitko and Choi 1971	Double-crested cormorant	-	-	-	-	-	-	4.16
Zitko and Choi 1971	Double-crested cormorant	-	-	-	-	-	-	164
Zitko and Choi 1971	Double-crested cormorant	-	-	-	-	-	-	162
Braune and Noble 2009	Dunlin	-	-	-	-	-	-	0.166
Gaskin et al. 1978	Greater shearwater	-	-	-	0.34	-	-	-

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Reference	Common name	p,p' DDE (µg/g-lipid)	p,p' DDT (µg/g-lipid)	p,p' DDT SD (µg/g-lipid)	ΣDDT (µg/g-wet)	ΣDDT SD (µg/g-wet)	ΣDDT range (µg/g-wet)	p.p' DDE (µg/g-wet)
Gaskin et al. 1978	Greater shearwater	-	-	-	0.83	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	2.3	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	2.35	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	0.18	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	0.53	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	1.79	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	0.79	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	0.08	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	0.39	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	0.89	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	0.98	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	0.24	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	0.35	-	-	-

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Reference	Common name	p,p' DDE (μg/g-lipid)	p,p' DDT (μg/g-lipid)	p,p' DDT SD (μg/g-lipid)	ΣDDT (μg/g-wet)	ΣDDT SD (μg/g-wet)	ΣDDT range (μg/g-wet)	p.p' DDE (μg/g-wet)
Gaskin et al. 1978	Greater shearwater	-	-	-	0.47	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	0.75	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	0.12	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	0.23	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	1.15	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	1.26	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	0.4	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	0.44	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	2.27	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	1.78	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	0.91	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	0.75	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	0.74	-	-	-

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Reference	Common name	p,p' DDE (µg/g-lipid)	p,p' DDT (µg/g-lipid)	p,p' DDT SD (µg/g-lipid)	ΣDDT (µg/g-wet)	ΣDDT SD (µg/g-wet)	ΣDDT range (µg/g-wet)	p.p' DDE (µg/g-wet)
Gaskin et al. 1978	Greater shearwater	-	-	-	1.16	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	0.65	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	1.76	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	2.19	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	1.83	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	0.7	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	1.1	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	0.79	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	0.57	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	1.55	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	0.46	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	-	1.18	-	-	-
Braune and Noble 2009	Greater yellowlegs	-	-	-	-	-	-	0.497

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Reference	Common name	p,p' DDE (µg/g-lipid)	p,p' DDT (µg/g-lipid)	p,p' DDT SD (µg/g-lipid)	ΣDDT (µg/g-wet)	ΣDDT SD (µg/g-wet)	ΣDDT range (µg/g-wet)	p.p' DDE (µg/g-wet)
Zitko and Choi 1971	Guillemot	-	-	-	-	-	-	4.34
Zitko V et al. 1972	Herring gull	-	-	-	-	-	-	5.67
Zitko V et al. 1972	Herring gull	-	-	-	-	-	-	2.83
Zitko V et al. 1972 and Zitko and Choi 1971	Herring gull	-	-	-	-	-	-	2.07
Zitko V et al. 1972 and Zitko and Choi 1971	Herring gull	-	-	-	-	-	-	2.08
Zitko and Choi 1971	Herring gull	-	-	-	-	-	-	26
Zitko and Choi 1971	Herring gull	-	-	-	-	-	-	1.68
Braune and Noble 2009	Lesser yellowlegs	-	-	-	-	-	-	12.17
Braune and Noble 2009	Lesser yellowlegs	-	-	-	-	-	-	0.214
Braune and Noble 2009	Semipalmated plover	-	-	-	-	-	-	0.476
Braune and Noble 2009	Semipalmated plover	-	-	-	-	-	-	7.08

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Reference	Common name	p,p' DDE (µg/g-lipid)	p,p' DDT (µg/g-lipid)	p,p' DDT SD (µg/g-lipid)	ΣDDT (µg/g-wet)	ΣDDT SD (µg/g-wet)	ΣDDT range (µg/g-wet)	p.p' DDE (µg/g-wet)
Braune and Noble 2009	Semipalmated sandpiper	-	-	-	-	-	-	0.076
Braune and Noble 2009	Semipalmated sandpiper	-	-	-	-	-	-	0.088
Braune and Noble 2009	Short-billed dowtcher	-	-	-	-	-	-	0.886
Braune and Noble 2009	Short-billed dowtcher	-	-	-	-	-	-	0.461
Gaskin et al. 1978	Sooty shearwater	-	-	-	0.17	-	-	-
Gaskin et al. 1978	Sooty shearwater	-	-	-	0.31	-	-	-
Gaskin et al. 1978	Sooty shearwater	-	-	-	0.03	-	-	-
Gaskin et al. 1978	Sooty shearwater	-	-	-	0.13	-	-	-
Gaskin et al. 1978	Sooty shearwater	-	-	-	0.23	-	-	-
Gaskin et al. 1978	Sooty shearwater	-	-	-	0.29	-	-	-

Appendix D: Individual Concentrations for DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	p,p' DDE (µg/g-lipid)	p,p' DDT (µg/g-lipid)	p,p' DDT SD (µg/g-lipid)	ΣDDT (µg/g-wet)	ΣDDT SD (µg/g-wet)	ΣDDT range (µg/g-wet)	p.p' DDE (µg/g-wet)
Gaskin et al. 1978	Sooty shearwater	-	-	-	0.29	-	-	-
Gaskin et al. 1978	Sooty shearwater	-	-	-	0.35	-	-	-
Gaskin et al. 1978	Sooty shearwater	-	-	-	0.7	-	-	-
Gaskin et al. 1978	Sooty shearwater	-	-	-	0.87	-	-	-
Gaskin et al. 1978	Sooty shearwater	-	-	-	0.11	-	-	-
Gaskin et al. 1978	Sooty shearwater	-	-	-	0.08	-	-	-
Zitko V et al. 1972	Bluefin tuna	-	-	-	-	-	-	0.15
Zitko V et al. 1972 and Zitko and Choi 1971	Cod	-	-	-	-	-	-	0.04
Zitko V et al. 1972	Herring	-	-	-	-	-	-	0.06
Zitko 1971	Mackerel	-	-	-	-	-	-	0.07
Zitko V et al. 1972 and Zitko and Choi 1971	Mackerel	-	-	-	-	-	-	0.07
Zitko V et al. 1972	Ocean perch	-	-	-	-	-	-	0.03
Zitko V et al. 1972	Plaice	-	-	-	-	-	-	0.01
Zitko V et al. 1972	Sea raven	-	-	-	0.24	-	-	0.08

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Reference	Common name	p,p' DDE (µg/g-lipid)	p,p' DDT (µg/g-lipid)	p,p' DDT SD (µg/g-lipid)	ΣDDT (µg/g-wet)	ΣDDT SD (µg/g-wet)	ΣDDT range (µg/g-wet)	p.p' DDE (µg/g-wet)
Zitko V et al. 1972	Sea raven	-	-	-	-	-	-	0.30
Zitko V et al. 1972	White hake	-	-	-	-	-	-	0.03
Zitko V et al. 1972	White shark	-	-	-	-	-	-	0.48
Zitko V et al. 1972	White shark	-	-	-	63	-	-	335
Zitko 1981	American lobster	-	-	-	-	-	-	2.95
Zitko 1981	American lobster	-	-	-	-	-	-	0.95
Zitko 1981	American lobster	-	-	-	-	-	-	1.92
Zitko 1981	American lobster	-	-	-	-	-	-	0.53
Sprague et al. 1969	Clam	0.00	0.00	-	-	0.00	-	0.00
Sprague et al. 1969	Mussel	-	-	0.04	0.09	0.043	-	0.05
Sprague et al. 1969	Scallop	-	0.00	-	0.03	0.01	-	0.03
Zitko 1975	Common seal	-	-	-	-	-	-	17.7
Zitko 1975	Common seal	-	-	-	-	-	-	1.38
Westgate et al. 1997	Harbour porpoises	-	-	-	4.93	2.68	2.03-8.08	-
Westgate et al. 1997	Harbour porpoises	-	-	-	5.16	2.24	2.61-11.12	-
Westgate et al. 1997	Harbour porpoises	-	-	-	6.81	2.41	3.58-12.43	-

Appendix D: Individual Concentrations for DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	p,p' DDE (µg/g-lipid)	p,p' DDT (µg/g-lipid)	p,p' DDT SD (µg/g-lipid)	ΣDDT (µg/g-wet)	ΣDDT SD (µg/g-wet)	ΣDDT range (µg/g-wet)	p.p' DDE (µg/g-wet)
Westgate et al. 1997	Harbour porpoises	-	-	-	4.51	2.34	1.38-8.79	-
Westgate et al. 1997	Harbour porpoises	-	-	-	6.27	2.06	3.87-11.78	-
Westgate et al. 1997	Harbour porpoises	-	-	-	10.36	3.64	5.05-19.79	-
Woodley et al. 1991	North Atlantic right whale	-	-	-	0.23	-	-	-
Woodley et al. 1991	North Atlantic right whale	-	-	-	0.01	-	-	-
Woodley et al. 1991	North Atlantic right whale	-	-	-	0.07	-	-	-
Woodley et al. 1991	North Atlantic right whale	-	-	-	0.1	-	-	-
Woodley et al. 1991	North Atlantic right whale	-	-	-	0.17	-	-	-
Woodley et al. 1991	North Atlantic right whale	-	-	-	0.06	-	-	-
Woodley et al. 1991	North Atlantic right whale	-	-	-	0.16	-	-	-
Woodley et al. 1991	North Atlantic right whale	-	-	-	0.03	-	-	-
Woodley et al. 1991	North Atlantic right whale	-	-	-	0.21	-	-	-

Appendix D: Individual Concentrations for DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	p,p' DDE SD (µg/g-wet)	p,p' DDE range (µg/g-wet)	p,p' TDE (µg/g-wet)	p,p' DDD (µg/g-wet)	p,p' DDD range (µg/g-wet)	p,p' DDT (µg/g-wet)	p,p' DDT range (µg/g-wet)
Zitko and Choi 1971	Black duck	0.2	-	-	-	-	-	-
Braune and Noble 2009	Black-bellied plover	-	-	-	-	-	-	-
Braune and Noble 2009	Black-bellied plover	-	-	-	-	-	-	-
Zitko V et al. 1972 and Zitko and Choi 1971	Double-crested cormorant	1.25	-	-	-	-	-	-
Zitko V et al. 1972 and Zitko and Choi 1971	Double-crested cormorant	8.5	-	-	-	-	-	-
Zitko V et al. 1972 and Zitko and Choi 1971	Double-crested cormorant	-	-	-	-	-	-	-
Zitko and Choi 1971	Double-crested cormorant	-	-	-	-	-	-	-
Zitko and Choi 1971	Double-crested cormorant	-	-	-	-	-	-	-
Zitko and Choi 1971	Double-crested cormorant	-	-	-	-	-	-	-
Braune and Noble 2009	Dunlin	-	-	-	-	-	-	-
Gaskin et al. 1978	Greater shearwater	-	-	ND	-	-	ND	-

Appendix D: Individual Concentrations for DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	p,p' DDE SD (µg/g-wet)	p,p' DDE range (µg/g-wet)	p,p' TDE (µg/g-wet)	p,p' DDD (µg/g-wet)	p,p' DDD range (µg/g-wet)	p,p' DDT (µg/g-wet)	p,p' DDT range (µg/g-wet)
Gaskin et al. 1978	Greater shearwater	-	-	0.01	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.01	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.06	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.02	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.05	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.03	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.01	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.01	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.05	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	ND	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.03	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.01	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.02	-	-	ND	-

Appendix D: Individual Concentrations for DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	p,p' DDE SD (µg/g-wet)	p,p' DDE range (µg/g-wet)	p,p' TDE (µg/g-wet)	p,p' DDD (µg/g-wet)	p,p' DDD range (µg/g-wet)	p,p' DDT (µg/g-wet)	p,p' DDT range (µg/g-wet)
Gaskin et al. 1978	Greater shearwater	-	-	ND	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.01	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.01	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.02	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.01	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.01	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.02	-	-	0.02	-
Gaskin et al. 1978	Greater shearwater	-	-	0.06	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.06	-	-	trace	-
Gaskin et al. 1978	Greater shearwater	-	-	0.04	-	-	0.01	-
Gaskin et al. 1978	Greater shearwater	-	-	0.03	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.03	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.03	-	-	ND	-

Appendix D: Individual Concentrations for DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	p,p' DDE SD (µg/g-wet)	p,p' DDE range (µg/g-wet)	p,p' TDE (µg/g-wet)	p,p' DDD (µg/g-wet)	p,p' DDD range (µg/g-wet)	p,p' DDT (µg/g-wet)	p,p' DDT range (µg/g-wet)
Gaskin et al. 1978	Greater shearwater	-	-	0.09	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.01	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.08	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.06	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.01	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.02	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.06	-	-	0.01	-
Gaskin et al. 1978	Greater shearwater	-	-	0.02	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.02	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.06	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.02	-	-	ND	-
Gaskin et al. 1978	Greater shearwater	-	-	0.06	-	-	0.01	-
Braune and Noble 2009	Greater yellowlegs	-	-	-	-	-	-	-

Appendix D: Individual Concentrations for DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	p,p' DDE SD (µg/g-wet)	p,p' DDE range (µg/g-wet)	p,p' TDE (µg/g-wet)	p,p' DDD (µg/g-wet)	p,p' DDD range (µg/g-wet)	p,p' DDT (µg/g-wet)	p,p' DDT range (µg/g-wet)
Zitko and Choi 1971	Guillemot	-	-	-	-	-	0.01	-
Zitko V et al. 1972	Herring gull	3.03	-	-	-	-	-	-
Zitko V et al. 1972	Herring gull	0.31	-	-	-	-	-	-
Zitko V et al. 1972 and Zitko and Choi 1971	Herring gull	-	-	-	-	-	-	-
Zitko V et al. 1972 and Zitko and Choi 1971	Herring gull	-	-	-	-	-	-	-
Zitko and Choi 1971	Herring gull	-	-	-	-	-	0.01	-
Zitko and Choi 1971	Herring gull	-	-	-	-	-	0.02	-
Braune and Noble 2009	Lesser yellowlegs	-	-	-	-	-	-	-
Braune and Noble 2009	Lesser yellowlegs	-	-	-	-	-	-	-
Braune and Noble 2009	Semipalmated plover	-	-	-	-	-	-	-
Braune and Noble 2009	Semipalmated plover	-	-	-	-	-	-	-

Appendix D: Individual Concentrations for DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	p,p' DDE SD (µg/g-wet)	p,p' DDE range (µg/g-wet)	p,p' TDE (µg/g-wet)	p,p' DDD (µg/g-wet)	p,p' DDD range (µg/g-wet)	p,p' DDT (µg/g-wet)	p,p' DDT range (µg/g-wet)
Braune and Noble 2009	Semipalmated sandpiper	-	-	-	-	-	-	-
Braune and Noble 2009	Semipalmated sandpiper	-	-	-	-	-	-	-
Braune and Noble 2009	Short-billed dowtcher	-	-	-	-	-	-	-
Braune and Noble 2009	Short-billed dowtcher	-	-	-	-	-	-	-
Gaskin et al. 1978	Sooty shearwater	-	-	0.03	-	-	ND	-
Gaskin et al. 1978	Sooty shearwater	-	-	0.05	-	-	0.01	-
Gaskin et al. 1978	Sooty shearwater	-	-	ND	-	-	ND	-
Gaskin et al. 1978	Sooty shearwater	-	-	0.01	-	-	ND	-
Gaskin et al. 1978	Sooty shearwater	-	-	0.03	-	-	ND	-
Gaskin et al. 1978	Sooty shearwater	-	-	0.03	-	-	ND	-

Appendix D: Individual Concentrations for DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	p,p' DDE SD (µg/g-wet)	p,p' DDE range (µg/g-wet)	p,p' TDE (µg/g-wet)	p,p' DDD (µg/g-wet)	p,p' DDD range (µg/g-wet)	p,p' DDT (µg/g-wet)	p,p' DDT range (µg/g-wet)
Gaskin et al. 1978	Sooty shearwater	-	-	0.04	-	-	trace	-
Gaskin et al. 1978	Sooty shearwater	-	-	0.05	-	-	ND	-
Gaskin et al. 1978	Sooty shearwater	-	-	0.04	-	-	0.01	-
Gaskin et al. 1978	Sooty shearwater	-	-	0.11	-	-	0.02	-
Gaskin et al. 1978	Sooty shearwater	-	-	0.01	-	-	ND	-
Gaskin et al. 1978	Sooty shearwater	-	-	0.01	-	-	ND	-
Zitko V et al. 1972	Bluefin tuna	-	-	-	-	-	-	-
Zitko V et al. 1972 and Zitko and Choi 1971	Cod	-	-	-	-	-	-	-
Zitko V et al. 1972	Herring	-	-	-	-	-	-	-
Zitko 1971	Mackerel	-	-	-	0.02	-	0.07	-
Zitko V et al. 1972 and Zitko and Choi 1971	Mackerel	-	-	-	-	-	-	-
Zitko V et al. 1972	Ocean perch	-	-	-	-	-	-	-
Zitko V et al. 1972	Plaice	-	-	-	-	-	-	-
Zitko V et al. 1972	Sea raven	-	-	-	-	-	-	-

Appendix D: Individual Concentrations for DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	p,p' DDE SD (µg/g-wet)	p,p' DDE range (µg/g-wet)	p,p' TDE (µg/g-wet)	p,p' DDD (µg/g-wet)	p,p' DDD range (µg/g-wet)	p,p' DDT (µg/g-wet)	p,p' DDT range (µg/g-wet)
Zitko V et al. 1972	Sea raven	-	-	-	-	-	-	-
Zitko V et al. 1972	White hake	-	-	-	-	-	-	-
Zitko V et al. 1972	White shark	-	-	-	-	-	-	-
Zitko V et al. 1972	White shark	-	-	-	43	-	-	-
Zitko 1981	American lobster	-	-	-	-	-	-	-
Zitko 1981	American lobster	-	-	-	-	-	-	-
Zitko 1981	American lobster	-	-	-	-	-	-	-
Zitko 1981	American lobster	-	-	-	-	-	-	-
Sprague et al. 1969	Clam	0.00	-	-	0.00	-	-	-
Sprague et al. 1969	Mussel	0.033	-	-	0.00	-	0.04	-
Sprague et al. 1969	Scallop	0.01	-	-	0.00	-	-	-
Zitko 1975	Common seal	-	10.7-27.5	-	1.59	0.65-2.35	4.05	1.46-6.00
Zitko 1975	Common seal	-	0.71-1.90	-	0.35	0.12-0.45	0.22	0.07-0.40
Westgate et al. 1997	Harbour porpoises	-	-	-	-	-	-	-
Westgate et al. 1997	Harbour porpoises	-	-	-	-	-	-	-
Westgate et al. 1997	Harbour porpoises	-	-	-	-	-	-	-

Appendix D: Individual Concentrations for DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	p,p' DDE SD (µg/g-wet)	p,p' DDE range (µg/g-wet)	p,p' TDE (µg/g-wet)	p,p' DDD (µg/g-wet)	p,p' DDD range (µg/g-wet)	p,p' DDT (µg/g-wet)	p,p' DDT range (µg/g-wet)
Westgate et al. 1997	Harbour porpoises	-	-	-	-	-	-	-
Westgate et al. 1997	Harbour porpoises	-	-	-	-	-	-	-
Westgate et al. 1997	Harbour porpoises	-	-	-	-	-	-	-
Woodley et al. 1991	North Atlantic right whale	-	-	-	0.02	-	-	-
Woodley et al. 1991	North Atlantic right whale	-	-	-	ND	-	-	-
Woodley et al. 1991	North Atlantic right whale	-	-	-	0.03	-	-	-
Woodley et al. 1991	North Atlantic right whale	-	-	-	0.01	-	-	-
Woodley et al. 1991	North Atlantic right whale	-	-	-	0.03	-	-	-
Woodley et al. 1991	North Atlantic right whale	-	-	-	ND	-	-	-
Woodley et al. 1991	North Atlantic right whale	-	-	-	0.01	-	-	-
Woodley et al. 1991	North Atlantic right whale	-	-	-	ND	-	-	-
Woodley et al. 1991	North Atlantic right whale	-	-	-	0.01	-	-	-

Appendix D: Individual Concentrations for DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Notes	Other Notes
Zitko and Choi 1971	Black duck	-	Fatpot Island
Braune and Noble 2009	Black-bellied plover	Carcass is debeaked, defeathered, dewinged, and missing liver, kidney, some breast muscle, gastro-intestinal tract, and femurs	Birds were pooled
Braune and Noble 2009	Black-bellied plover	Carcass is debeaked, defeathered, dewinged, and missing liver, kidney, some breast muscle, gastro-intestinal tract, and femurs	Birds were pooled
Zitko V et al. 1972 and Zitko and Choi 1971	Double-crested cormorant	Different nesting colonies	Hospital Island
Zitko V et al. 1972 and Zitko and Choi 1971	Double-crested cormorant	Different nesting colonies	Fatpot Island
Zitko V et al. 1972 and Zitko and Choi 1971	Double-crested cormorant	-	-
Zitko and Choi 1971	Double-crested cormorant	-	Passamaquoddy Bay
Zitko and Choi 1971	Double-crested cormorant	-	Passamaquoddy Bay
Zitko and Choi 1971	Double-crested cormorant	-	Passamaquoddy Bay
Braune and Noble 2009	Dunlin	Carcass is debeaked, defeathered, dewinged, and missing liver, kidney, some breast muscle, gastro-intestinal tract, and femurs	Birds were pooled
Gaskin et al. 1978	Greater shearwater	Specimen #1	Sample from Aug 1974

Appendix D: Individual Concentrations for DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Notes	Other Notes
Gaskin et al. 1978	Greater shearwater	Specimen #1	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #2	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #2	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #3	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #3	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #4	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #4	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #5	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #5	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #6	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #6	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #7	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #7	Sample from Aug 1974

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Reference	Common name	Notes	Other Notes
Gaskin et al. 1978	Greater shearwater	Specimen #8	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #8	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #10	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #10	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #11	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #11	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #12	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #12	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #13	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #13	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #14	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #14	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #15	Sample from Aug 1974

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Reference	Common name	Notes	Other Notes
Gaskin et al. 1978	Greater shearwater	Specimen #15	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #16	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #16	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #17	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #17	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #18	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #18	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #19	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #20	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #20	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #21	Sample from Aug 1974
Gaskin et al. 1978	Greater shearwater	Specimen #21	Sample from Aug 1974
Braune and Noble 2009	Greater yellowlegs	Carcass is debeaked, defeathered, dewinged, and missing liver, kidney, some breast muscle, gastro-intestinal tract, and femurs	Birds were pooled

Appendix D: Individual Concentrations for DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Notes	Other Notes
Zitko and Choi 1971	Guillemot	-	Fatpot Island
Zitko V et al. 1972	Herring gull	Different nesting colonies	Fatpot Island
Zitko V et al. 1972	Herring gull	Different nesting colonies	Hospital Island
Zitko V et al. 1972 and Zitko and Choi 1971	Herring gull		Passamaquoddy Bay
Zitko V et al. 1972 and Zitko and Choi 1971	Herring gull		-
Zitko and Choi 1971	Herring gull	-	-
Zitko and Choi 1971	Herring gull	-	-
Braune and Noble 2009	Lesser yellowlegs	Carcass is debeaked, defeathered, dewinged, and missing liver, kidney, some breast muscle, gastro-intestinal tract, and femurs	Birds were pooled
Braune and Noble 2009	Lesser yellowlegs	Carcass is debeaked, defeathered, dewinged, and missing liver, kidney, some breast muscle, gastro-intestinal tract, and femurs	Birds were pooled
Braune and Noble 2009	Semipalmated plover	Carcass is debeaked, defeathered, dewinged, and missing liver, kidney, some breast muscle, gastro-intestinal tract, and femurs	Birds were pooled
Braune and Noble 2009	Semipalmated plover	Carcass is debeaked, defeathered, dewinged, and missing liver, kidney, some breast muscle, gastro-intestinal tract, and femurs	Birds were pooled

Appendix D: Individual Concentrations for DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Notes	Other Notes
Braune and Noble 2009	Semipalmated sandpiper	Carcass is debeaked, defeathered, dewinged, and missing liver, kidney, some breast muscle, gastro-intestinal tract, and femurs	Birds were pooled
Braune and Noble 2009	Semipalmated sandpiper	Carcass is debeaked, defeathered, dewinged, and missing liver, kidney, some breast muscle, gastro-intestinal tract, and femurs	Birds were pooled
Braune and Noble 2009	Short-billed dowtcher	Carcass is debeaked, defeathered, dewinged, and missing liver, kidney, some breast muscle, gastro-intestinal tract, and femurs	Birds were pooled
Braune and Noble 2009	Short-billed dowtcher	Carcass is debeaked, defeathered, dewinged, and missing liver, kidney, some breast muscle, gastro-intestinal tract, and femurs	Birds were pooled
Gaskin et al. 1978	Sooty shearwater	Specimen #1	Sample from Aug 1974
Gaskin et al. 1978	Sooty shearwater	Specimen #1	Sample from Aug 1974
Gaskin et al. 1978	Sooty shearwater	Specimen #2	Sample from Aug 1974
Gaskin et al. 1978	Sooty shearwater	Specimen #2	Sample from Aug 1974
Gaskin et al. 1978	Sooty shearwater	Specimen #3	Sample from Aug 1974
Gaskin et al. 1978	Sooty shearwater	Specimen #3	Sample from Aug 1974

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Reference	Common name	Notes	Other Notes
Gaskin et al. 1978	Sooty shearwater	Specimen #4	Sample from Aug 1974
Gaskin et al. 1978	Sooty shearwater	Specimen #4	Sample from Aug 1974
Gaskin et al. 1978	Sooty shearwater	Specimen #5	Sample from Aug 1974
Gaskin et al. 1978	Sooty shearwater	Specimen #5	Sample from Aug 1974
Gaskin et al. 1978	Sooty shearwater	Specimen #6	Sample from Aug 1974
Gaskin et al. 1978	Sooty shearwater	Specimen #6	Sample from Aug 1974
Zitko V et al. 1972	Bluefin tuna	-	-
Zitko V et al. 1972 and Zitko and Choi 1971	Cod	-	-
Zitko V et al. 1972	Herring	-	-
Zitko 1971	Mackerel	-	-
Zitko V et al. 1972 and Zitko and Choi 1971	Mackerel	-	-
Zitko V et al. 1972	Ocean perch	-	-
Zitko V et al. 1972	Plaice	-	-
Zitko V et al. 1972	Sea raven	-	-

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Reference	Common name	Notes	Other Notes
Zitko V et al. 1972	Sea raven	-	-
Zitko V et al. 1972	White hake	-	-
Zitko V et al. 1972	White shark	-	-
Zitko V et al. 1972	White shark	-	-
Zitko 1981	American lobster	-	-
Zitko 1981	American lobster	-	-
Zitko 1981	American lobster	-	-
Zitko 1981	American lobster	-	-
Sprague et al. 1969	Clam	From Brandy Cove	-
Sprague et al. 1969	Mussel	Warf of Biological Station	-
Sprague et al. 1969	Scallop	L'Etang, Passamaquoddy Bay	-
Zitko 1975	Common seal	Boothbay Harbour, Maine	-
Zitko 1975	Common seal	Boothbay Harbour, Maine	-
Westgate et al. 1997	Harbour porpoises	-	-
Westgate et al. 1997	Harbour porpoises	-	-
Westgate et al. 1997	Harbour porpoises	-	-

Appendix D: Individual Concentrations for DDT. Note: Individual Studies Span Across Several Pages.

Reference	Common name	Notes	Other Notes
Westgate et al. 1997	Harbour porpoises	-	-
Westgate et al. 1997	Harbour porpoises	-	-
Westgate et al. 1997	Harbour porpoises	-	-
Woodley et al. 1991	North Atlantic right whale	-	-
Woodley et al. 1991	North Atlantic right whale	-	-
Woodley et al. 1991	North Atlantic right whale	-	-
Woodley et al. 1991	North Atlantic right whale	-	-
Woodley et al. 1991	North Atlantic right whale	-	-
Woodley et al. 1991	North Atlantic right whale	-	-
Woodley et al. 1991	North Atlantic right whale	-	-
Woodley et al. 1991	North Atlantic right whale	-	-
Woodley et al. 1991	North Atlantic right whale	-	-