

Supporting Information

Drivers of Atlantic herring decline, the role of the bait fishery and current evidence basis for rebuilding plans

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Supporting tables

Table S1: Articles retained for review from Web of Science Search #1 (herring).....	2
Table S2: Excluded articles from Web of Science Search #1 (herring)	10
Table S3: Articles retained for review from Web of Science Search #2 (forage fish)	36
Table S4: Excl. articles from Web of Science Search #2 (forage fish)	38
Table S5: Predator-prey matrix for the Southern Gulf of St. Lawrence	48

Table S1: Articles retained for review from Web of Science Search #1 (herring)

No.	Title	First author	Journal	DOI
1	A social-ecological study of stock structure and fleet dynamics in the Newfoundland herring fishery	Paterson, B	<i>ICES J Mar Sci</i>	10.1093/icesjms/fsx097
2	A synthesis of the ecosystem responses to the late 20th century cold period in the northern North Atlantic	Drinkwater, KF	<i>ICES J Mar Sci</i>	10.1093/icesjms/fsy077
3	Abundance, distribution, and diet of a small-bodied ecotype of windowpane	Hanson, JM	<i>T Am Fish Soc</i>	10.1080/00028487.2013.879819
4	An in-season approach to management under uncertainty: the case of the SW Nova Scotia herring fishery	Stephenson, RL	<i>ICES J Mar Sci</i>	10.1006/jmsc.1999.0555
5	Annual and monthly variation in species composition and catches of fishes from the Tabusintac River estuary in the southern Gulf of St. Lawrence	Herrell, AM	<i>Can Field Nat</i>	10.22621/cfn.v123i1.674
6	Annual variation in the nutritional value of stage V <i>Calanus finmarchicus</i> : implications for right whales and other copepod predators	McKinstry, CAE	<i>Endanger Species Res</i>	10.3354/esr00497
7	Anomalous ecosystem dynamics following the apparent collapse of a keystone forage species	Frank, KT	<i>Mar Ecol Prog Ser</i>	10.3354/meps11761
8	Capelin (<i>Mallotus villosus</i>) and herring (<i>Clupea harengus</i>) as paratenic hosts of <i>anisakis simplex</i> , a parasite of beluga (<i>Delphinapterus leucas</i>) in the St. Lawrence estuary	Hays, R	<i>Can J Zool</i>	10.1139/cjz-76-8-1411
9	Changes in finfish community structure associated with an offshore fishery closed area on the Scotian shelf	Fisher, JAD	<i>Mar Ecol Prog Ser</i>	10.3354/meps240249
10	Changes in the northern Gulf of St. Lawrence ecosystem estimated by inverse modelling: evidence of a fishery-induced regime shift?	Savenkoff, C	<i>Estuar Coast Shelf S</i>	10.1016/j.ecss.2007.03.011
11	Cod bycatch in otter trawls and in longlines with different bait types in the Georges Bank haddock fishery	Ford, JS	<i>Fish Res</i>	10.1016/j.fishres.2008.04.002
12	Comparison of catch per unit effort of invasive European green crab (<i>Carcinus maenas</i>) across four bait types	Favaro, B	<i>Fish Res</i>	10.1016/j.fishres.2020.105484

Table S1: Articles retained for review from WoS Search #1 (herring) (cont'd)

No.	Title	First author	Journal	DOI
13	Comparison of harbour seal diets in two inshore habitats of Atlantic Canada	Bowen, WD	<i>Can J Zool</i>	10.1139/z96-017
14	Conflict resolution in fisheries management using decision rules: an example using a mixed-stock Atlantic Canadian herring fishery	Claytor, RR	<i>ICES J Mar Sci</i>	10.1006/jmsc.2000.0704
15	Consumption of important pelagic fish and squid by predatory fish in the northeastern USA shelf ecosystem with some fishery comparisons	Overholtz, WJ	<i>ICES J Mar Sci</i>	10.1006/jmsc.2000.0802
16	Diel variation in feeding rate and prey composition of herring and mackerel in the southern Gulf of St Lawrence	Darbyson, E	<i>J Fish Biol</i>	10.1046/j.1095-8649.2003.00247.x
17	Diet changes in breeding herring gulls (<i>Larus argentatus</i>) in Witless Bay, Newfoundland and Labrador, Canada, over 40 years	Bond, AL	<i>Waterbirds</i>	10.1675/0630.039.sp115
18	Diet of Atlantic cod in the southern Gulf of St Lawrence as an index of ecosystem change, 1959-2000	Hanson, JM	<i>J Fish Biol</i>	10.1006/jfbi.2002.1893
19	Diet of harp seals (<i>Pagophilus groenlandicus</i>) in nearshore northeast Newfoundland: Inferences from stable-carbon ($\delta C-13$) and nitrogen ($\delta N-15$) isotope analyses	Lawson, JW	<i>Mar Mammal Sci</i>	10.1111/j.1748-7692.2000.tb00953.x
20	Diet of harp seals (<i>Phoca groenlandica</i>) in nearshore waters of the northwest Atlantic during 1990-1993	Lawson, JW	<i>Can J Zool</i>	10.1139/z95-213
21	Dietary niche shifts of multiple marine predators under varying prey availability on the northeast Newfoundland coast ^a	Gulka, J	<i>Front Mar Sci</i>	10.3389/fmars.2017.00324
22	Drivers of dynamics of small pelagic fish resources: biology, management and human factors	Alheit, J	<i>Mar Ecol Prog Ser</i>	10.3354/meps12985
23	Eastern Scotian Shelf trophic dynamics: A review of the evidence for diverse hypotheses	Sinclair, M	<i>Prog Oceanogr</i>	10.1016/j.pcean.2015.09.005
24	Effect of decadal changes in freshwater flows and temperature on the larvae of two forage fish species in coastal nurseries of the St. Lawrence estuary	Couillard, CM	<i>Estuar Coast</i>	10.1007/s12237-016-0144-7

^a Also returned in Search 2 (forage fish)

Table S1: Articles retained for review from WoS Search #1 (herring) (cont'd)

No.	Title	First author	Journal	DOI
25	Effects of environmental-factors on ichthyoplankton communities in the Miramichi estuary, Gulf of St-Lawrence	Locke, A	<i>J Plankton Res</i>	10.1093/plankt/17.2.333
26	Effects of fishing and predation in a heavily exploited ecosystem: Comparing periods before and after the collapse of groundfish in the southern Gulf of St. Lawrence (Canada)	Savenkoff, C	<i>Ecol Model</i>	10.1016/j.ecolmodel.2006.12.029
27	Environmental variability controls recruitment but with different drivers among spawning components in Gulf of St. Lawrence herring stocks	Brosset, P	<i>Fish Oceanogr</i>	10.1111/fog.12272
28	Evidence for reproductive senescence in a broadly distributed harvested marine fish	Benoit, HP	<i>Mar Ecol Prog Ser</i>	10.3354/mepps12532
29	Fecundity of Atlantic cod (<i>Gadus morhua</i>) farmed for stock enhancement in Newfoundland bays	Wroblewski, JS	<i>Aquaculture</i>	10.1016/S0044-8486(98)00407-4
30	Feeding ecology of autumn-spawned Atlantic herring (<i>Clupea harengus</i>) larvae in Trinity Bay, Newfoundland: Is recruitment linked to main prey availability?	Wilson, CJ	<i>J Plankton Res</i>	10.1093/plankt/fby003
31	Fish population growth in the Gulf of St Lawrence: effects of climate, fishing and predator abundance	Brosset, P	<i>Mar Ecol Prog Ser</i>	10.3354/mepps13029
32	Fish prey spectrum of short-finned squid (<i>Illex illecebrosus</i>) at Newfoundland	Dawe, EG	<i>Can J Fish Aquat Sci</i>	10.1139/cjfas-54-S1-200
33	Fishing down Canadian aquatic food webs	Pauly, D	<i>Can J Fish Aquat Sci</i>	10.1139/cjfas-58-1-51
34	Genetic diversity of coastal Northwest Atlantic herring populations: implications for management	McPherson, AA	<i>J Fish Biol</i>	10.1006/jfbi.2001.1769
35	Genetically different Atlantic herring <i>Clupea harengus</i> spawning waves	McPherson, AA	<i>Mar Ecol Prog Ser</i>	10.3354/mepps247303
36	Growth and feeding-habits of gray seals (<i>Halichoerus grypus</i>) in the northwestern Gulf of St-Lawrence, Canada	Murie, DJ	<i>Can J Zool</i>	10.1139/z92-221

Table S1: Articles retained for review from WoS Search #1 (herring) (cont'd)

No.	Title	First author	Journal	DOI
37	Harbor seals (<i>Phoca-vitulina</i>) do not follow herring movements in the Bay of Fundy, Canada	Colbourne, PL	<i>Ophelia</i>	10.1080/00785326.1991.10429733
38	Histological evidence of reproductive senescence in Atlantic herring (<i>Clupea harengus</i>)	Benoit, HP	<i>Can J Zool</i>	10.1139/cjz-2019-0084
39	Important prey species of marine vertebrate predators in the northwest Atlantic: proximate composition and energy density	Lawson, JW	<i>Mar Ecol Prog Ser</i>	10.3354/leps164013
40	Interactions between small pelagic fish and young cod across the North Atlantic	Minto, C	<i>Ecology</i>	10.1890/10-2036.1
41	Irruptive prey dynamics following the groundfish collapse in the northwest Atlantic: an illusion? ^a	Frank, KT	<i>ICES J Mar Sci</i>	10.1093/icesjms/fst111
42	Large-scale changes in abundance of breeding herring gulls (<i>Larus argentatus</i>) and great black-backed gulls (<i>Larus marinus</i>) relative to reduced fishing activities in southeastern Canada ^a	Wilhelm, SI	<i>Waterbirds</i>	10.1675/063039.sp104
43	Local influence diagnostics for the retrospective problem in sequential population analysis	Cadigan, NG	<i>ICES J Mar Sci</i>	10.1016/j.icesjms.2004.11.015
44	Made in Japan: the Japanese market and herring roe production and management in Canada's southern Gulf of St. Lawrence	Burke, L	<i>Mar Policy</i>	10.1016/j.marpol.2007.04.009
45	Management of the 4wx Atlantic herring (<i>Clupea-harengus</i>) fishery - an evaluation of recent events	Stephenson, RL	<i>Can J Fish Aquat Sci</i>	10.1139/f93-299
46	Managing a marine stock portfolio: stock identification, structure, and management of 25 fishery species along the Atlantic coast of the United States	McBride, RS	<i>N Am J Fish Manage</i>	10.1080/02755947.2014.902408
47	Migration of Atlantic salmon postsmolts in relation to habitat use in a coastal system	Lacroix, GL	<i>T Am Fish Soc</i>	10.1577/t03-032.1
48	Multivariate determination of Atlantic herring population health in a large marine ecosystem	Boyce, DG	<i>Ices J Mar Sci</i>	10.1093/icesjms/fsy208

^a Also returned in Search 2 (forage fish)

Table S1: Articles retained for review from WoS Search #1 (herring) (cont'd)

No.	Title	First author	Journal	DOI
49	Novel meals from eastern Canada's marine fishery by-products as alternatives to fishmeal	Plante, S	<i>J Aquat Food Prod T</i>	10.1080/10498850.2016.1201712
50	Observations on larval fish transport and retention on the Scotian shelf in relation to geostrophic circulation	Reiss, CS	<i>Fish Oceanogr</i>	
51	On the evidence of an allee effect in herring populations and consequences for population survival: a model-based study	Saha, B	<i>Ecol Model</i>	10.1016/j.ecolmodel.2012.10.021
52	Ontogenetic and temporal variability in the fat content and fatty acid composition of Atlantic herring (<i>Clupea harengus</i>) from the Bay of Fundy, Canada	Lane, Ha	<i>Fish B-NOAA</i>	
53	Ontogenetic diet comparison of Atlantic cod and white hake occurring at historically low population abundances	Hanson, JM	<i>T Am Fish Soc</i>	10.1080/00028487.2011.607049
54	Oscillating reproductive strategies of herring in the western Atlantic in response to changing environmental conditions	Melvin, GD	<i>ICES J Mar Sci</i>	10.1093/icesjms/fsp173
55	Paralytic shellfish toxins in zooplankton, mussels, lobsters and caged Atlantic salmon, <i>Salmo salar</i> , during a bloom of <i>Alexandrium fundyense</i> off Grand Manan island, in the Bay of Fundy	Sephton, DH	<i>Harmful Algae</i>	10.1016/j.hal.2007.03.002
56	Pelagic fish outburst or suprabenthic habitat occupation: legacy of the Atlantic cod (<i>Gadus morhua</i>) collapse in eastern Canada	McQuinn, IH	<i>Can J Fish Aquat Sci</i>	10.1139/f09-143
57	Pelagic fishes and the cod recruitment dilemma in the northwest Atlantic	Swain, DP	<i>Can J Fish Aquat Sci</i>	10.1139/cjfas-57-7-1321
58	Predation risk on larval gadids by pelagic fish in the Georges Bank ecosystem. I. Spatial overlap associated with hydrographic features	Garrison, LP	<i>Can J Fish Aquat Sci</i>	10.1139/cjfas-57-12-2455
59	Privatization, financialization and ocean grabbing in New Brunswick herring fisheries and salmon aquaculture	Knott, C	<i>Mar Policy</i>	10.1016/j.marpol.2016.10.022
60	Recommendations for marine herring policy change in Canada: aligning with indigenous legal and inherent rights	Von Der Porten, S	<i>Mar Policy</i>	10.1016/j.marpol.2016.09.007

Table S1: Articles retained for review from WoS Search #1 (herring) (cont'd)

No.	Title	First author	Journal	DOI
61	Recruitment in the Barents Sea, Icelandic, and eastern Newfoundland/Labrador capelin (<i>Mallotus villosus</i>) stocks	Carscadden, JE	<i>Prog Oceanogr</i>	10.1016/j.poc.2013.05.006
62	Scotia-Fundy herring purse seine fishery - some economic-considerations	Nowak, R	<i>Mar Policy</i>	10.1016/0308-597x(92)90080-9
63	Seasonal and geographic-variation in the species composition and size of prey consumed by gray seals (<i>Halichoerus grypus</i>) on the Scotian shelf	Bowen, WD	<i>Can J Fish Aquat Sci</i>	10.1139/f93-198
64	Seasonal distribution of river herring <i>alosa-pseudoharengus</i> and <i>A-aestivalis</i> off the Atlantic coast of Nova-Scotia	Stone, HH	<i>Fish B-NOAA</i>	
65	Spawning origin of small, late-hatched Atlantic herring (<i>Clupea-harengus</i>) larvae in a Maine estuary	Lazzari, MA	<i>Estuaries</i>	10.2307/1352776
66	Sprat: a spatially-explicit marine ecosystem model based on population balance equations	Johanson, AN	<i>Ecol Model</i>	10.1016/j.ecolmodel.2017.01.020
67	Status of the Atlantic white-sided dolphin, <i>Lagenorhynchus-acutus</i> , in Canada	Gaskin, DE	<i>Can Field Nat</i>	
68	Status of the common dolphin, <i>Delphinus-delphis</i> , in Canada	Gaskin, DE	<i>Can Field Nat</i>	
69	Summer diet of the harbor porpoise (<i>Phocoena-phocoena</i>) in the estuary and the northern Gulf-of-St-Lawrence	Fontaine, PM	<i>Can J Fish Aquat Sci</i>	10.1139/f94-019
70	Swarming of yolk-sac herring, <i>Clupea-harengus</i> l, larvae at the sea-surface	Bradford, RG	<i>Can Field Nat</i>	
71	Temporal changes in maturation, mean length-at-age, and condition of spring-spawning Atlantic herring (<i>Clupea harengus</i>) in Newfoundland waters	Wheeler, JP	<i>ICES J Mar Sci</i>	10.1093/icesjms/fsp117
72	Temporal stability and assignment power of adaptively divergent genomic regions between herring (<i>Clupea harengus</i>) seasonal spawning aggregations	Kerr, Q	<i>Ecol Evol</i>	10.1002/ece.3.4768

Table S1: Articles retained for review from WoS Search #1 (herring) (cont'd)

No.	Title	First author	Journal	DOI
73	Tests of larval retention in a tidally energetic environment reveal the complexity of the spatial structure in herring populations	Stephenson, RL	<i>Fish Oceanogr</i>	10.1111/fog.12129
74	The development of marine indicators for coastal zone management	Vandermeulen, H	<i>Ocean Coast Manage</i>	10.1016/s0964-5691(98)00014-3
75	The importance of small-scale turbulence in the feeding of herring larvae	Muelbert, JH	<i>J Plankton Res</i>	10.1093/plankt/16.8.927
76	The influence of tidal streams on the pre-spawning movements of Atlantic herring, <i>Clupea harengus</i> L., in the St Lawrence Estuary	Lacoste, KN	<i>Ices J Mar Sci</i>	10.1006/jmsc.2001.1118
77	The origins of intensive marine fishing in medieval Europe: the English evidence	Barrett, JH	<i>P R Soc B</i>	10.1098/rspb.2004.2885
78	The role of food limitation in lobster population dynamics in coastal Maine, United States, and New Brunswick, Canada	Grabowski, JH	<i>New Zeal J Mar Fresh</i>	10.1080/00288330909509992
79	The role of larval retention in life-cycle closure of Atlantic herring (<i>Clupea harengus</i>) populations	Sinclair, M	<i>Fish Res</i>	10.1016/j.fishres.2015.07.026
80	Timing of Atlantic cod (<i>Gadus morhua</i> L.) seasonal migrations in the southern Gulf of St. Lawrence: interannual variability and proximate control	Comeau, LA	<i>ICES J Mar Sci</i>	10.1006/jmsc.2001.1153
81	Towards an integrated database on Canadian ocean resources: benefits, current states, and research gaps	Cisneros-Montemayor, AM	<i>Can J Fish Aquat Sci</i>	10.1139/cjfas-2015-0573
82	Unique biological characteristics of spring-spawning herring (<i>Clupea harengus</i> L) in minas basin, Nova-Scotia, a tidally dynamic environment	Bradford, RG	<i>Can J Zool</i>	10.1139/z92-096
83	Use of silver hake and herring and the corresponding silages in mink diets during the growing-furring period	Rouvinen, KI	<i>Can J Anim Sci</i>	10.4141/cjas96-017
84	Variation in egg mass within two Atlantic herring <i>Clupea harengus</i> stocks	Oskarsson, GJ	<i>J Fish Biol</i>	10.1111/jfb.13956
85	Year-class twinning in sympatric seasonal spawning populations of Atlantic herring, <i>Clupea harengus</i>	McQuinn, IH	<i>Fish B-NOAA</i>	

Table S1: Articles retained for review from WoS Search #1 (herring) (cont'd)

No.	Title	First author	Journal	DOI
86	Fishing, predation, and temperature drive herring decline in a large marine ecosystem	Vandermeulen, H	Ecol Evol	10.1002/ece 3.8411
87	Increasing occurrence of Atlantic bluefin tuna on Atlantic herring spawning grounds: a signal of escalating pelagic predator-prey interaction? ^a	Lawson, JW	Mar Coast Fish	10.1002/mcf 2.10150
88	Responses of sympatric shearwaters to supplemental food under varying natural prey availability on the wintering grounds of coastal Newfoundland, Canada ^a	Grabowski, JH	Mar Ornithol	
89	The influence of ocean warming on the natural mortality of marine fishes	Hanson, JM	Environ Biol Fish	10.1007/s10 641-021- 01161-0

^a Also returned in Search 2 (forage fish)

Table S2: Excluded articles from Web of Science Search #1 (herring), sorted by exclusion reason

No.	Title	First author	Journal	DOI
<i>Irrelevant geography</i>				
90	Could marine resources provide a short-term solution to declining fish supply in SADC inland countries? The case of horse mackerel	Hara, MM	<i>Food Policy</i>	10.1016/S0306-9192(00)00015-4
91	Association of viral hemorrhagic septicemia virus with epizootic hemorrhages of the skin in pacific herring <i>Clupea harengus-pallasi</i> from Prince William Sound and Kodiak Island, Alaska, USA	Meyers, TR	<i>Dis Aquat Organ</i>	10.3354/dao019027
92	Seasonal foraging movements and migratory patterns of female <i>Lamna ditropis</i> tagged in Prince William Sound, Alaska	Hulbert, LB	<i>J Fish Biol</i>	10.1111/j.0022-1112.2005.00757.x
93	Inuvialuit fishing and the Gutchiak site	Morrison, D	<i>Arctic Anthropol</i>	
94	Larval and early juvenile fish distribution and assemblage structure in the Canadian Beaufort Sea during July-August, 2005	Paulic, JE	<i>J Marine Syst</i>	10.1016/j.jmarsys.2012.03.006
95	Assessing marine ecosystem services richness and exposure to anthropogenic threats in small sea areas: a case study for the Lithuanian sea space	Depellegrin, D	<i>Ecol Indic</i>	10.1016/j.ecolind.2019.105730
96	Competition for marine space: modelling the Baltic Sea fisheries and effort displacement under spatial restrictions	Bastardie, F	<i>ICES J Mar Sci</i>	10.1093/icesjms/fsu215
97	Inaccuracies in routinely collected Atlantic herring (<i>Clupea harengus</i>) maturity data and correction using a gonadosomatic index model	Mepheron, LR	<i>J Mar Biol Assoc UK</i>	10.1017/S002531541100018X
98	Integration of fishery management into the process of maritime spatial planning	Kopti, M	<i>Wit Trans Ecol Envir</i>	10.2495/RAV110181
99	Problems in fisheries and management of fish resources in the Gulf of Riga	Ojaveer, E	<i>Baltic Coastal Ecosystems: Structure, Function and Coastal Zone Management^a</i>	

^a Book title

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant geography (cont'd)</i>				
100	A comparison of spring larval fish assemblages in the Strait of Georgia (British Columbia, Canada) between the early 1980s and late 2000s	Guan, L	<i>Prog Oceanogr</i>	10.1016/j.pcean.2015.09.006
101	A Holocene record of marine fish remains from the Northeastern Pacific	Tunncliffe, V	<i>Mar Geol</i>	10.1016/S0025-3227(00)00150-X
102	A northern extension of the range of the euphausiid <i>Nyctiphanes simplex</i> into Canadian waters	Tanasichuk, RW	<i>J Crustacean Biol</i>	10.1651/0278-0372(2002)022[0206:ANEOTR]2.0.CO;2
103	A review of factors limiting recovery of Pacific herring stocks in Canada	Schweigert, JF	<i>ICES J Mar Sci</i>	10.1093/icesjms/fsq134
104	Bottom-up and top-down control of small pelagic forage fish: factors affecting age-0 herring in the Strait of Georgia, British Columbia ^a	Boldt, JL	<i>Mar Ecol Prog Ser</i>	10.3354/meps12485
105	Building an ecosystem model using mismatched and fragmented data: a probabilistic network of early marine survival for Coho salmon <i>Oncorhynchus kisutch</i> in the Strait of Georgia	Araujo, HA	<i>Prog Oceanogr</i>	10.1016/j.pcean.2013.05.022
106	California and Steller sea lion use of a major winter haulout in the Salish Sea over 45 years	Edgell, TC	<i>Mar Ecol Prog Ser</i>	10.3354/meps09911
107	Characterizing spatial structures of larval fish assemblages at multiple scales in relation to environmental heterogeneity in the Strait of Georgia (British Columbia, Canada)	Guan, L	<i>Can J Fish Aquat Sci</i>	10.1139/cjfas-2017-0194
108	Comparative feeding ecology of two sympatric rockfish congeners, <i>Sebastes caurinus</i> (copper rockfish) and <i>S. maliger</i> (quillback rockfish)	Murie, DJ	<i>Mar Biol</i>	10.1007/BF00363908
109	Comparison of some life-history characteristics of Pacific herring (<i>Clupea pallasii</i>) from the Canadian Pacific-Ocean and Beaufort Sea	Tanasichuk, RW	<i>Can J Fish Aquat Sci</i>	10.1139/f93-111

^a Also returned in Search 2 (forage fish)

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant geography (cont'd)</i>				
110	Effects of interdecadal climate variability on marine trophic interactions: rhinoceros auklets and their fish prey	Hedd, A	<i>Mar Ecol Prog Ser</i>	10.3354/meps309263
111	Egg weight, fecundity, and gonad weight variability among northwest Atlantic herring (<i>Clupea-harengus</i>) populations	Bradford, RG	<i>Can J Fish Aquat Sci</i>	10.1139/f92-227
112	Estuary habitat associations for juvenile Pacific salmon and pelagic fish: implications for coastal planning processes	Sharpe, C	<i>Aquat Conserv</i>	10.1002/aqc.3142
113	Evaluating conservation reference points and harvest strategies in pacific herring and the impact of dispersal	Schweigert, JF	<i>Am Fish S S</i>	
114	Everything revolves around the herring: the Heiltsuk-herring relationship through time ^a	Gauvreau, AM	<i>Ecol Soc</i>	10.5751/Ecol Soc-09201-220210
115	Experimental infection studies demonstrating Atlantic salmon as a host and reservoir of viral hemorrhagic septicemia virus type IVa with insights into pathology and host immunity	Lovy, J	<i>Vet Microbiol</i>	10.1016/j.vetmic.2013.05.019
116	Factors linking Pacific herring (<i>Clupea pallasii</i>) productivity and the spring plankton bloom in the Strait of Georgia, British Columbia, Canada	Schweigert, JF	<i>Prog Oceanogr</i>	10.1016/j.pocean.2013.05.017
117	Fraser river sockeye salmon marine survival decline and harmful blooms of <i>Heterosigma akashiwo</i>	Rensel, JEJ	<i>Harmful Algae</i>	10.1016/j.hal.2010.07.005
118	Herring supports Northeast Pacific predators and fisheries: Insights from ecosystem modelling and management strategy evaluation	Surma, S	<i>Plos One</i>	10.1371/journal.pone.0196307
119	High potential for using DNA from ancient herring bones to inform modern fisheries management and conservation	Speller, CF	<i>Plos One</i>	10.1371/journal.pone.0051122
120	Indigenous nationhood and herring governance: strategies for the reassertion of Indigenous authority and inter-Indigenous solidarity regarding marine resources	von der Porten, S	<i>Alternative</i>	10.1177/177180118823560
121	Indigenous women respond to fisheries conflict and catalyze change in governance on Canada's Pacific Coast	Harper, S	<i>Marit Stud</i>	10.1007/s40152-018-0101-0

^a Also returned in Search 2 (forage fish)

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant geography (cont'd)</i>				
122	Integrating expert perceptions into food web conservation and management	Stier, AC	<i>Conserv Lett</i>	10.1111/c onl.12245
123	Integrating prey dynamics, diet, and biophysical factors across an estuary seascape for four fish species	Arbeider, M	<i>Mar Ecol Prog Ser</i>	10.3354/m eps12896
124	Measuring social-ecological resilience reveals opportunities for transforming environmental governance	Salomon, AK	<i>Ecol Soc</i>	10.5751/E S-11044- 240316
125	Molecular epidemiology of viral haemorrhagic septicaemia virus (VHSV) in British Columbia, Canada, reveals transmission from wild to farmed fish	Garver, KA	<i>Dis Aquat Organ</i>	10.3354/d ao02588
126	Novel species interactions: American black bears respond to Pacific herring spawn ^a	Fox, CH	<i>BMC Ecol</i>	10.1186/s 12898- 015-0045- 9
127	Occurrence, photo-identification and prey of Pacific white-sided dolphins (<i>Lagenorhynchus obliquidens</i>) in the Broughton Archipelago, Canada 1984-1998	Morton, A	<i>Mar Mammal Sci</i>	10.1111/j. 1748- 7692.2000 .tb00905.x
128	Pacific salmon and Pacific herring mortalities in the Fraser-River plume caused by river lamprey (<i>Lampetra ayresi</i>)	Beamish, RJ	<i>Can J Fish Aquat Sci</i>	10.1139/f9 5-064
129	Performance evaluation of harvest control rules for Pacific herring management in British Columbia, Canada	Cleary, JS	<i>ICES J Mar Sci</i>	10.1093/ic esjms/fsq1 29
130	Reactions of harbor porpoises <i>Phocoena phocoena</i> and herring <i>Clupea harengus</i> to acoustic alarms	Culik, BM	<i>Mar Ecol Prog Ser</i>	10.3354/m eps211255
131	Recruitment forecasting using indices of young-of-the-year Pacific herring (<i>Clupea pallasii</i>) abundance in the Strait of Georgia (BC)	Schweigert, JF	<i>ICES J Mar Sci</i>	10.1093/ic esjms/fsp1 82
132	Recruitment prediction for Pacific herring (<i>Clupea pallasii</i>) on the west coast of Vancouver Island, Canada	Dreyfus-Leon, M	<i>Ecol Inform</i>	10.1016/j. ecoinf.200 8.02.003
133	Recruitment prediction with genetic algorithms with application to the Pacific herring fishery	Dreyfus-Leon, M	<i>Ecol Model</i>	10.1016/j. ecolmodel .2005.09.0 16

^a Also returned in Search 2 (forage fish)

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant geography (cont'd)</i>				
134	Sea louse infestation in wild juvenile salmon and Pacific herring associated with fish farms off the east-central coast of Vancouver Island, British Columbia	Morton, A	<i>N Am J Fish Manage</i>	10.1577/M07-042.1
135	Sea-louse abundance on salmon farms in relation to parasite-control policy and climate change	Hanson, JM	<i>ICES J Mar Sci</i>	10.1093/icesjms/fsaa173
136	Seasonal and spatial dynamics of the planktonic trophic biomarkers in the Strait of Georgia (northeast Pacific) and implications for fish	Costalago, D	<i>Sci Rep-UK</i>	10.1038/s41598-020-65557-1
137	Spatial and temporal dynamics of predator-prey species interactions off western Canada	Fu, CH	<i>ICES J Mar Sci</i>	10.1093/icesjms/fsx056
138	Spatial diversity of Pacific herring (<i>Clupea pallasii</i>) spawning areas	Hay, DE	<i>ICES J Mar Sci</i>	10.1093/icesjms/fsp139
139	Spatio-temporal models provide new insights on the biotic and abiotic drivers shaping Pacific Herring (<i>Clupea pallasii</i>) distribution ^a	Godefroid, M	<i>Prog Oceanogr</i>	10.1016/j.pocean.2019.102198
140	Strategies for assertion of conservation and local management rights: A Haida Gwaii herring story	Jones, R	<i>Mar Policy</i>	10.1016/j.marpol.2016.09.031
141	Supporting risk assessment: accounting for indirect risk to ecosystem components	Murray, CC	<i>Plos One</i>	10.1371/journal.pone.0162932
142	The case for lethal control of gulls on seabird colonies	Scopel, LC	<i>J Wildlife Manage</i>	10.1002/jwmg.21233
143	The consumption of euphausiids by the pelagic fish community off southwestern Vancouver Island, British Columbia	Robinson, CLK	<i>J Plankton Res</i>	10.1093/plankt/22.9.1649
144	Value- and ecosystem-based management approach: the Pacific herring fishery conflict ^a	Lam, ME	<i>Mar Ecol Prog Ser</i>	10.3354/meps12972
145	Variability of Pacific herring (<i>Clupea pallasii</i>) spawn abundance under climate change off the West Coast of Canada over the past six decades	Xu, Y	<i>J Marine Syst</i>	10.1016/j.jmarsys.2019.103229

^a Also returned in Search 2 (forage fish)

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant geography (cont'd)</i>				
146	When are estimates of spawning stock biomass for small pelagic fishes improved by taking spatial structure into account?	Punt, AE	<i>Fish Res</i>	10.1016/j.fishres.2018.04.017
147	Maritime adaptations in Hokkaido	Okada, A	<i>Arctic Anthropol</i>	
148	Herring (<i>Clupea harengus</i>): A host for infectious salmon anemia virus (ISAV)	Nylund, A	<i>B Eur Assoc Fish Pat</i>	
149	Good fisheries vs. bad fisheries: ideological and scientific base for the governmental projects of modernization of Russian system of marine harvesting in the eighteenth century	Kraikovski, A	<i>Environ-mental History in the Making, Vol II: Acting^a</i>	10.1007/978-3-319-41139-2_4
150	Finfish catch reduction in South-Atlantic shrimp trawls using 3 designs of by-catch reduction devices	Rulifson, RA	<i>Fisheries</i>	10.1577/1548-8446(1992)017<0009:FCRISA>2.0.CO;2
<i>Method development</i>				
151	Combined use of otolith morphometry and microchemistry to study the origin of spring-spawning Atlantic herring in the St. Lawrence Estuary and the Gulf of St. Lawrence	Burke, L	<i>Mar Coast Fish</i>	10.1002/mcf2.10189
152	Distributing fishing mortality in time and space to prevent overfishing	Claytor, R	<i>Spatial Processes and Management of Marine Population^a</i>	
153	Fish reaction to tonal vessel noise - comparison with ICES CRR 209 methodology	Wood, BR	<i>Appl Acoust</i>	10.1016/j.apacoust.2010.12.002
154	Industry acoustic surveys as the basis for in-season decisions in a comanagement regime	Melvin, GD	<i>Herring: Expect-ations For A New Millennium^a</i>	
155	Otolith shape: a population marker for Atlantic herring <i>Clupea harengus</i>	Libungan, LA	<i>J Fish Biol</i>	10.1111/jfb.12647
156	Quantitative fatty acid signature analysis: a new method of estimating predator diets	Iverson, SJ	<i>Ecol Monogr</i>	10.1890/02-4105

^a Book title

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Method development (cont'd)</i>				
157	Effectiveness of a high-frequency-sound fish diversion system at the Annapolis Tidal Hydroelectric Generating Station, Nova Scotia	Gibson, AJF	<i>N Am J Fish Manage</i>	10.1577/1548-8675(2002)022<0770:EOAHFS>2.0.CO;2
158	Comparison of low-temperature processes for oil and coenzyme Q10 extraction from mackerel and herring	La-plante, S	<i>Eur J Lipid Sci Tech</i>	10.1002/ejlt.200800133
159	Seasonal and geographical variations of sterol composition in snow crab hepatopancreas and pelagic fish viscera from Eastern Quebec	Sou-chet, N	<i>Comp Biochem Phys A</i>	10.1016/j.cbpb.2007.02.001
160	Seasonal variation of co-enzyme Q10 content in pelagic fish tissues from Eastern Quebec	Sou-chet, N	<i>J Food Compos Anal</i>	10.1016/j.jfca.2006.09.004
161	Parasites as biological tags of marine, freshwater and anadromous fishes in North America from the tropics to the Arctic	Marcoliese, DJ	<i>Parasitology</i>	10.1017/S0031182014000110
162	Detection of Atlantic herring (<i>Clupea harengus</i>) schools in shallow waters using high-frequency sidescan sonars	Trevor-row, MV	<i>Can J Fish Aquat Sci</i>	10.1139/cjfas-55-6-1419
163	Observations of in situ Atlantic bluefin tuna (<i>Thunnus thynnus</i>) with 500-kHz multibeam sonar	Melvin, GD	<i>ICES J Mar Sci</i>	10.1093/icesjms/fsw077
164	Salmon and herring school detection in shallow waters using sidescan sonars	Trevor-row, MV	<i>Fish Res</i>	10.1016/S0165-7836(98)00054-X
165	Scanning sonar as a supplement to conventional acoustic fish stock assessment in Atlantic Canada	Cochrane, NA	<i>Oceans '97 MTS/IEEE Conference Proceedings, Vols 1 And 2^a</i>	
166	Using inshore fishery acoustic data on Atlantic herring (<i>Clupea harengus</i>) spawning aggregations to derive annual stock abundance indices	Surette, T	<i>Fish Res</i>	10.1016/j.fishres.2014.12.010
167	Biochemical tracers reveal intra-specific differences in the food webs utilized by individual seabirds ^b	Hebert, CE	<i>Oecologia</i>	10.1007/s00442-009-1285-1

^a Book title^b Also returned in Search 2 (forage fish)

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Method development (cont'd)</i>				
168	Properties of abundance indices obtained from acoustic data collected by inshore herring gillnet boats	Claytor, RR	<i>Can J Fish Aquat Sci</i>	10.1139/cjfas-58-12-2502
169	Estimating migration rates using tag-recovery data	Schwarz, CJ	<i>Biometrics</i>	10.2307/2532612
170	A new approach to managing a herring fishery: effort vs. quota controls	Tremblay, D	<i>Herring: Expectations for a New Millennium^a</i>	
<i>Inability to confirm peer review</i>				
171	Chasing whose fish? Atlantic fisheries conflicts and institutions	Clancy, P	<i>Canadian Water Politics: Conflicts And Institutions^a</i>	
172	Consumption and harvest of pelagic fishes and squids in the Gulf of Maine-Georges Bank ecosystem	Overholtz, WJ	<i>Ecosystem Approaches for Fisheries Management^a</i>	
173	Evaluation of strategic policies for fisheries systems	Xue, LY	<i>Reconciling Fisheries with Conservation, vols I and II^a</i>	
174	Herring stock structure, stock discreteness, and biodiversity	Stephenson, RL	<i>Herring: Expectations for a New Millennium^a</i>	
175	Spatial-temporal stock assessment: In-season repeated measures and virtual population analysis	Lei, L	<i>Reconciling Fisheries with Conservation, vols I and II^a</i>	
176	Taking stock: an inventory and review of world herring stocks in 2000	Hay, DE	<i>Herring: Expectations for a New Millennium^a</i>	
<i>Irrelevant subject – aquaculture</i>				
177	Apparent digestibility of common feed ingredients by juvenile haddock, <i>Melanogrammus aeglefinus</i> L.	Tibbetts, SM	<i>Aquac Res</i>	10.1111/j.1365-2109.2004.01060.x
178	Apparent protein and energy digestibility of common and alternative feed ingredients by Atlantic cod, <i>Gadus morhua</i> (Linnaeus, 1758)	Tibbetts, SM	<i>Aquaculture</i>	10.1016/j.aquaculture.2006.08.052

^a Book title

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – aquaculture (cont'd)</i>				
179	Effect of artificial light on marine invertebrate and fish abundance in an area of salmon farming	McConnell, A	<i>Mar Ecol Prog Ser</i>	10.3354/meps08822
180	Evaluation of protein-quality in fish meals by chemical and biological assays	Yule, DL	<i>Aquaculture</i>	
181	Fish meal quality assessment for Atlantic salmon (<i>Salmo salar</i> L.) reared in sea water	Anderson, JS	<i>Aquacult Nutr</i>	
182	Impact of aquaculture on commercial fisheries: fishermen's local ecological knowledge	Wiber, MG	<i>Hum Ecol</i>	10.1046/j.1365-2095.1997.00067.x
183	Lack of evidence of infectious salmon anemia virus in pollock <i>Pollachius virens</i> cohabitating with infected farmed Atlantic salmon <i>Salmo salar</i>	McClure, CA	<i>Dis Aquat Organ</i>	10.3354/dao061149
184	Taurine supplementation to alternative dietary proteins used in fish meal replacement enhances growth of juvenile cobia (<i>Rachycentron canadum</i>)	Lunger, AN	<i>Aquaculture</i>	10.1016/j.aquaculture.2007.07.006
<i>Irrelevant subject – archaeology</i>				
185	Documenting 6,000 years of Indigenous fisheries and settlement as seen through Vibracore sampling on the Central Coast of British Columbia, Canada	Shirkhanzadeh, M	<i>Am Antiquity</i>	10.1016/j.actaastro.2007.11.004
<i>Irrelevant subject – astronomy</i>				
186	Remarks concerning the validity of the measured diffusion coefficients in liquid metal systems on the Russian MIR space station	Shirkhanzadeh, M	<i>Acta Astronaut</i>	10.1016/j.actaastro.2007.11.004
<i>Irrelevant subject – aviation</i>				
187	Efficacy of aircraft landing lights in stimulating avoidance behavior in birds	Blackwell, BF	<i>J Wildlife Manage</i>	10.2193/0022-541X(2004)068[0725:EOALLI]2.0.CO;2

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – biography</i>				
188	Charles McLean Fraser (1872-1946) - his contributions to hydroid research and to the development of fisheries biology and academia in British Columbia	Arai, MN	<i>Hydrobiologia</i>	10.1007/s107 50-004-2661- 9
189	Johan Hjort: The Canadian Fisheries Expedition, international scientific networks, and the challenge of modernization	Hubbard, J	<i>ICES J Mar Sci</i>	10.1093/icesj ms/fsu086
190	The contribution of Henry Charles Williamson (1871-1949) to Scottish and Canadian fisheries research	Moore, PG	<i>Arch Nat Hist</i>	10.3366/anh. 2017.0445
<i>Irrelevant subject – biology</i>				
191	Digestion of the 1-O-alkyl diacylglycerol ethers of Atlantic dogfish liver oils by Atlantic salmon <i>Salmo salar</i>	Kang, SJ	<i>Lipids</i>	10.1007/s117 45-997-0004- 5
192	Echolocation clicks from killer whales (<i>Orcinus orca</i>) feeding on herring (<i>Clupea harengus</i>) (L)	Simon, M	<i>J Acoust Soc Am</i>	10.1121/1.24 04922
<i>Irrelevant subject – climate</i>				
193	Fuel use and greenhouse gas emission implications of fisheries management: the case of the New England Atlantic herring fishery	Driscoll, J	<i>Mar Policy</i>	10.1016/j.ma rpol.2009.08. 005
<i>Irrelevant Subject – conservation biology</i>				
194	A biological framework for evaluating whether a species is threatened or endangered in a significant portion of its range	Waples, RS	<i>Conserv Biol</i>	10.1111/j.15 23- 1739.2007.00 730.x
<i>Irrelevant Subject – contaminants</i>				
195	Avian thyroid development in chemically contaminated environments: is there evidence of alterations in thyroid function and development?	McNabb, FMA	<i>Evol Dev</i>	10.1046/j.15 25- 142X.2003.0 3012.x
196	Bioaccumulation of polychlorinated biphenyls (PCBs) in the marine pelagic food web, based on a seasonal study in the southern Gulf of St. Lawrence, 1976-1977	Harding, GC	<i>Mar Chem</i>	

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – contaminants (cont'd)</i>				
197	Chlorinated hydrocarbon concentrations in plasma of the Lake Erie water snake (<i>Nerodia sipedon insularum</i>) and northern water snake (<i>Nerodia sipedon sipedon</i>) from the Great Lakes basin in 1998	Bishop, CA	<i>Arch Environ Con Tox</i>	10.1007/s002440010133
198	Climate Change and <i>Vibrio cholerae</i> in Herring Eggs: The Role of Indigenous Communities in Public Health Outbreak Responses	Turcotte, F	<i>Int J Indig Health</i>	10.32799/ijih.v16i2.33236
199	Colonial marine birds influence island soil chemistry through biotransport of trace elements	Mallory, ML	<i>Water Air Soil Poll</i>	10.1007/s11270-015-2314-9
200	Comprehensive re-analysis of archived herring gull eggs reconstructs historical temporal trends in chlorinated hydrocarbon contamination in Lake Ontario and Green Bay, Lake Michigan, 1971-1982	Norstrom, RJ	<i>J Environ Monitor</i>	10.1039/b602378a
201	Contaminants of emerging concern in Caspian tern compared to herring gull eggs from Michigan colonies in the Great Lakes of North America	Su, G	<i>Environ Pollut</i>	10.1016/j.envpol.2016.12.061
202	Does an association between pesticide use and subsequent declines in catch of Atlantic salmon (<i>Salmo salar</i>) represent a case of endocrine disruption?	Fairchild, WL	<i>Environ Health Persp</i>	10.2307/3434538
203	Effects of the Exxon Valdez oil spill on river otters: injury and recovery of a sentinel species	Bowyer, RT	<i>Wildlife Monogr</i>	
204	Environmental contaminants in colonial waterbirds from Great Slave Lake, NWT: spatial, temporal and food-chain considerations	Wayland, M	<i>Arctic</i>	
205	Environmental contaminants in eggs of the common snapping turtle (<i>Chelydra-serpentina-serpentina</i>) from the Great-Lakes St-Lawrence-River basin of Ontario, Canada (1981, 1984)	Struger, J	<i>J Great Lakes Res</i>	10.1016/S0380-1330(93)71256-3

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – contaminants (cont'd)</i>				
206	Habitat selection and home ranges of river otters in a marine-environment - effects of the Exxon-Valdez oil-spill	Bowyer, RT	<i>J Mammal</i>	10.2307/1382309
207	Heavy-metal and metallothionein concentrations in Atlantic Canadian seabirds	Elliott, JE	<i>Arch Environ Con Tox</i>	10.1007/BF00213303
208	Highly carboxylated porphyrin concentration: a biochemical marker of PCB exposure in herring gulls	Kennedy, SW	<i>Mar Environ Res</i>	10.1016/S0141-1136(97)00062-7
209	Historical changes in PCB patterns in Lake Ontario and Green Bay, Lake Michigan, 1971 to 1982, from herring gull egg monitoring data	Hebert, CE	<i>J Great Lakes Res</i>	10.1016/S0380-1330(99)70730-6
210	Identification of Baltic Sea salmon based on PCB and dioxin profiles	Sorensen, S	<i>Food Control</i>	10.1016/j.foodcont.2015.09.044
211	Inter-annual variation of mercury in aquatic bird eggs and fish from a large subarctic lake under a warming climate	Hebert, CE	<i>Sci Total Environ</i>	10.1016/j.scitotenv.2020.144614
212	A forty-year decline of organic contaminants in eggs of herring gulls (<i>Larus argentatus</i>) from the Great Lakes, 1974 to 2013	de Solla, SR	<i>Waterbirds</i>	10.1675/063.039.sp117
213	Legacy of legacies: chlorinated naphthalenes in lake trout, walleye, herring gull eggs and sediments from the Laurentian Great Lakes indicate possible resuspension during contaminated sediment remediation	McGoldrick, DJ	<i>Sci Total Environ</i>	10.1016/j.scitotenv.2018.04.077
214	Mercury diminishes the cardiovascular protective effect of omega-3 polyunsaturated fatty acids in the modern diet of Inuit in Canada	Hu, XF	<i>Environ Res</i>	10.1016/j.envres.2016.06.001
215	Mercury levels in herring gulls and fish: 42 years of spatio-temporal trends in the Great Lakes	Blukacz-Richards, EA	<i>Chemosphere</i>	10.1016/j.chemosphere.2016.12.148
216	Mercury trends in herring gull (<i>Larus argentatus</i>) eggs from Atlantic Canada, 1972-2008: temporal change or dietary shift?	Burgess, NM	<i>Environ Pollut</i>	10.1016/j.envpol.2012.09.001

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – contaminants (cont'd)</i>				
217	Metal levels in eggs of waterbirds in the New York harbor (USA): trophic relationships and possible risk to human consumers	Burger, J	<i>J Toxicol Env Heal A</i>	10.1080/15287394.2014.941965
218	Modeling Cs-137 bioaccumulation in the salmon-resident killer whale food web of the Northeastern Pacific following the Fukushima Nuclear Accident	Alava, JJ	<i>Sci Total Environ</i>	10.1016/j.scitotenv.2015.11.097
219	Natural exposure of coastal river otters to mercury: relation to age, diet, and survival	Ben-David, M	<i>Environ Toxicol Chem</i>	10.1002/etc.5620200917
220	Organochlorine contaminant levels in waterbird species from Hamilton Harbor, Lake-Ontario - an IJC area of concern	Weseloh, DV	<i>J Great Lakes Res</i>	10.1016/S0380-1330(95)71026-7
221	Organochlorine contaminants, immunocompetence and vitellogenin in herring gulls (<i>Larus argentatus</i>) and great black-backed gulls (<i>Larus marinus</i>) nesting on Lake Ontario in 2001-2002	Pekarik, C	<i>Waterbirds</i>	10.1675/063.039.sp118
222	Perfluorinated carboxylates and sulfonates and precursor compounds in herring gull eggs from colonies spanning the Laurentian Great Lakes of North America	Gebbink, WA	<i>Environ Sci Technol</i>	10.1021/es901755q
223	Perfluorinated sulfonate and carboxylate compounds and precursors in herring gull eggs from across the Laurentian Great Lakes of North America: temporal and recent spatial comparisons and exposure implications	Letcher, RJ	<i>Sci Total Environ</i>	10.1016/j.scitotenv.2015.08.083
224	Perfluoroalkyl acids in the Canadian environment: multi-media assessment of current status and trends	Gewurtz, SB	<i>Environ Int</i>	10.1016/j.envint.2013.05.008
225	Perfluoroalkyl carboxylates and sulfonates and precursors in relation to dietary source tracers in the eggs of four species of gulls (<i>Larids</i>) from breeding sites spanning Atlantic to Pacific Canada	Gebbink, WA	<i>Environ Int</i>	10.1016/j.envint.2011.04.003
226	Polybrominated diphenyl ethers in the environment and in people: a meta-analysis of concentrations	Hites, RA	<i>Environ Sci Technol</i>	10.1021/es035082g

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – contaminants (cont'd)</i>				
227	Polybrominated diphenyl ethers, toxaphenes, and other halogenated organic pollutants in great blue heron eggs	Champoux, L	<i>Environ Toxicol Chem</i>	10.1002/etc.37
228	Polychlorinated biphenyls (PCBs) contamination and aryl hydrocarbon receptor (AhR) agonist activity of omega-3 polyunsaturated fatty acid supplements: Implications for daily intake of dioxins and PCBs	Bourdon, JA	<i>Food Chem Toxicol</i>	10.1016/j.fct.2010.07.051
229	Sources and prevalence of pentachlorobenzene in the environment	Bailey, RE	<i>Chemosphere</i>	10.1016/j.chemosphere.2009.01.038
230	Spatial extent, magnitude, and patterns of persistent organochlorine pollutants in Pacific herring (<i>Clupea pallasii</i>) populations in the Puget Sound (USA) and Strait of Georgia (Canada)	West, JE	<i>Sci Total Environ</i>	10.1016/j.scitotenv.2007.12.027
231	Spatial patterns and rankings of contaminant concentrations in herring gull eggs from 15 sites in the Great Lakes and connecting channels, 1998-2002	Weseloh, DVC	<i>Environ Monit Assess</i>	10.1007/s10661-005-9084-6
232	Spatial trends in a biomagnifying contaminant: application of amino acid compound-specific stable nitrogen isotope analysis to the interpretation of bird mercury levels	Dolgova, S	<i>Environ Toxicol Chem</i>	10.1002/etc.4113
233	Spatio-temporal trends and monitoring design of perfluoroalkyl acids in the eggs of gull (<i>Larid</i>) species from across Canada and parts of the United States	Gewurtz, SB	<i>Sci Total Environ</i>	10.1016/j.scitotenv.2016.04.149
234	Species differences in the sensitivity of avian embryos to methylmercury	Heinz, GH	<i>Arch Environ Con Tox</i>	10.1007/s00244-008-9160-3
235	Temporal trends and sources of PCDDs and PCDFs in the great-lakes - herring gull egg monitoring, 1981-1991	Hebert, CE	<i>Environ Sci Technol</i>	10.1021/es00056a014
236	Total mercury, methylmercury, phosphate, and sulfate inputs to a bog ecosystem from herring gull (<i>Larus smithsonianus</i>) guano	Carscadden, JE	<i>Ecotox Environ Safe</i>	10.1016/j.ecoenv.2021.112845

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – contaminants (cont'd)</i>				
237	Trophodynamics of some PFCs and BFRs in a Western Canadian Arctic marine food web	Tomy, GT	<i>Environ Sci Technol</i>	10.1021/es900162n
238	Two forage fishes as potential conduits for the vertical transfer of microfibres in Northeastern Pacific Ocean food webs	Hipfner, JM	<i>Environ Pollut</i>	10.1016/j.envpol.2018.04.009
239	Use of stable isotope ratios to distinguish sources of lead exposure in wild birds	Scheuhammer, AM	<i>Ecotoxicology</i>	10.1023/A:1008855617453
240	Volatile methylsiloxanes and organophosphate esters in the eggs of European starlings (<i>Sturnus vulgaris</i>) and congeneric gull species from locations across Canada	Lu, Z	<i>Environ Sci Technol</i>	10.1021/acs.est.7b03192
<i>Irrelevant Subject – crabs</i>				
241	A first report of shell disease impacting <i>Cancer borealis</i> (Jonah crab) in the Bay of Fundy	Carlon, DB	<i>Northeast Nat</i>	10.1656/045.025.0411
<i>Irrelevant Subject – demersal fishes</i>				
242	Data recovery from old filing cabinets: seasonal diets of the most common demersal fishes in the Miramichi River Estuary (Atlantic Canada), 1991-1993	von der Porten, S	<i>Northeast Nat</i>	10.1656/045.027.0302
<i>Irrelevant Subject – economics</i>				
243	Becoming a dependent class: Quoddy herring fishermen in the 1920s	Payne, B	<i>Labour- Travail</i>	
244	International cooperative agreements - Scotia-Fundy herring fisheries	Cook, BA	<i>Mar Policy</i>	10.1016/0308-597X(94)90005-1
<i>Irrelevant Subject – genetics</i>				
245	Genetic differentiation, temporal stability, and the absence of isolation by distance among Atlantic herring populations	McPherson, AA	<i>T Am Fish Soc</i>	10.1577/02-106
246	<i>Ichthyophonus irregularis</i> sp nov from the yellowtail flounder <i>Limanda ferruginea</i> from the Nova Scotia shelf	Rand, TG	<i>Dis Aquat Organ</i>	10.3354/dao041031
247	Identification of north-western Atlantic <i>Porphyra</i> (Bangiaceae, Bangiales) based on sequence variation in nuclear SSU and plastid rbcL genes	Klein, AS	<i>Phycologia</i>	10.2216/i0031-8884-42-2-109.1

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant Subject – genetics (cont'd)</i>				
248	Reclassification of <i>Pseudomonas beijerinckii</i> Hof 1935 as <i>Chromohalobacter beijerinckii</i> comb. nov., and emended description of the species	Peconek, J	<i>Int J Syst Evol Micr</i>	10.1099/ij.s.0.64355-0
<i>Irrelevant subject – geography</i>				
249	The Cumulative effects of fishing, plankton productivity, and marine mammal consumption in a marine ecosystem	Hurtubise, JA	<i>Front Mar Sci</i>	10.3389/fmars.2020.565699
250	The maritime experience of a region without ports: Argyll, Scotland, c. 1740-1840	Jackson, G	<i>Int J Mar Coast Law</i>	10.1177/084387140501700215
<i>Irrelevant subject – geology</i>				
251	Sedimentology and geochemistry of the 2930ma Red Lake-Wallace Lake carbonate platform, Western Superior Province, Canada	McIntyre, T	<i>Depos Rec</i>	10.1002/dep2.36
<i>Irrelevant subject – health policy</i>				
252	Avalanche or glacier - health-care and the demographic rhetoric	Barer, ML	<i>Can J Aging</i>	10.1017/S0714980800011818
<i>Irrelevant subject – helminths</i>				
253	The first case of anisakiasis acquired in Austria	Kapral, C	<i>Z Gastroenterol</i>	10.1055/s-0028-1109468
<i>Irrelevant subject – history</i>				
254	Domestic Alchemy Huswifery and Gold in Colonial New England	McBride, RS	<i>Early Am Stud</i>	
255	Geographies and Histories of Fish and Fishing	Olson, SL	<i>Fish, Fishing and Community in North Korea and Neighbours: Vibrant Matter(s)^a</i>	10.1007/978-981-15-0042-8_2
<i>Irrelevant subject – insects</i>				
256	First nearctic records for <i>Orius</i> (<i>Dimorphella</i>) <i>sibiricus</i> Wagner (Hemiptera: Heteroptera: Anthocoridae), a Eurasian Steppe inhabitant	Lewis, TM	<i>P Biol Soc Wash</i>	10.4289/0013-8797.117.3.389

^a Book title

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – insects (cont'd)</i>				
257	Morphological and genetic reappraisal of the Orius fauna of the western United States (Hemiptera: Heteroptera: Anthocoridae)	Horton, DR	<i>Ann Entomol Soc Am</i>	10.1093/aesa/sav155
258	Orius diespeter herring in North America: color variation and updated distribution (Hemiptera: Heteroptera: Anthocoridae)	Lewis, TM	<i>P Biol Soc Wash</i>	10.4289/0013-8797.112.4.541
<i>Irrelevant subject – international relations</i>				
259	Dispute settlement in the Law of the Sea: survey for 2014	Churchill, R	<i>Int J Mar Coast Law</i>	10.1163/15718085-12341372
<i>Irrelevant subject – lakes</i>				
260	A marine origin for the late mesoproterozoic copper harbor and nonesuch formations of the midcontinent rift of Laurentia	Jones, SM	<i>Precambrian Res</i>	10.1016/j.precamres.2019.105510
261	A morphological and genetic re-examination of sympatric shortjaw cisco (<i>Coregonus zenithicus</i>) and lake herring (<i>C. artedi</i>) in Barrow Lake, Alberta, Canada	Steinhilber, M	<i>Advances in Limnology 57: Biology and Management of Coregonid Fishes – 1999^a</i>	
262	Breeding bird use and wetland characteristics of diked and undiked coastal marshes in Michigan	Monfils, MJ	<i>J Wildlife Manage</i>	10.1002/jwmg.637
263	Changes in zooplankton and the phenology of the spiny water flea, bythotrephes, following its invasion of Harp Lake, Ontario, Canada	Yan, ND	<i>Can J Fish Aquat Sci</i>	10.1139/cjfas-58-12-2341
264	Distribution and abundance of nesting pairs of herring gulls (<i>Larus argentatus</i>) on the North American Great Lakes, 1976 to 2000	Morris, RD	<i>J Great Lakes Res</i>	10.1016/S0380-1330(03)70447-X
265	Distribution and abundance of waterbirds in summer in Severn Sound (Georgian Bay), Lake Huron: An IJC Area of Concern	Weseloh, DV	<i>J Great Lakes Res</i>	

^a Book title

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – lakes (cont'd)</i>				
266	Ecosystem change and population declines in gulls: shifting baseline considerations for assessing ecological integrity of protected areas ^a	Laurich, B	<i>J Great Lakes Res</i>	10.1016/j.jglr.2019.08.009
267	Great Lakes double-crested cormorant management affects co-nester colony growth	Wyman, KE	<i>J Wildlife Manage</i>	10.1002/jwmg.21343
268	Historical land use, phosphorus loading, and loss of fish habitat in Lake Simcoe, Canada	Evans, DO	<i>Can J Fish Aquat Sci</i>	10.1139/cjfas-53-S1-194
269	Influence of a contaminated fish diet on germline expanded-simple-tandem-repeat mutation frequency in mice	Somers, CM	<i>Environ Mol Mutagen</i>	10.1002/em.20380
270	Morphometric variation among spawning cisco aggregations in the Laurentian Great Lakes: are historic forms still present?	Yule, DL	<i>Biology And Management of Coregonid Fishes – 2011^b</i>	10.1127/1612-166X/2013/0064-0022
271	Seasonal variation in the size and abundance of the invading bythotrephes in Harp Lake, Ontario, Canada	Yan, ND	<i>Hydrobiologia</i>	
272	The effect of fish introductions on the diatom and cladoceran communities of Lake Opeongo, Ontario, Canada ^a	St Jacques, JM	<i>Hydrobiologia</i>	10.1007/s10750-005-5765-y
273	The effect of light on lake herring (<i>Coregonus artedi</i>) reactive volume	Link, J	<i>Hydrobiologia</i>	10.1007/BF00016692
274	The schooling and foraging ecology of lake herring (<i>Coregonus artedi</i>) in Lake Opeongo, Ontario, Canada	Milne, SW	<i>Can J Fish Aquat Sci</i>	10.1139/F05-030
275	Using stable-isotope analysis to identify endogenous and exogenous sources of nutrients in eggs of migratory birds: Applications to Great Lakes contaminants research	Hobson, KA	<i>Auk</i>	10.2307/4089247
276	Wildlife as sentinels of human health effects in the Great Lakes-St. Lawrence basin	Fox, GA	<i>Environ Health Persp</i>	10.2307/3454647
<i>Irrelevant subject – linguistics</i>				
277	Why stereotypes don't even make good defaults	Connolly, AC	<i>Cognition</i>	10.1016/j.cognition.2006.02.005

^a Also returned in Search 2 (forage fish)^b Book title

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – literature</i>				
278	Between civic festival and identity reconstruction in Holland: Enkhuizen in 1772	Allain, T	<i>Rev Hist Mod Contemp</i>	10.3917/rhm c.551.0074
279	From fishery limits to limits to capital: gendered appropriation and spectres of North Atlantic fishery collapse in The Silver Darlings and Sylvanus Now	Paye, M	<i>Atl. Stud. : Glob. Curr.</i>	10.1080/14788810.2017.1316462
<i>Irrelevant subject – marine organic matter</i>				
280	Detecting marine nutrient and organic matter inputs into multiple trophic levels in streams of Atlantic Canada and France	Jardine, TD	<i>Challenges for Diadromous Fishes in a Dynamic Global Environment^a</i>	
<i>Irrelevant subject – nutrition</i>				
281	Fortification of dairy milk with docosahexaenoic acid (DHA) through feed supplementation of dairy cattle feed - a new horizon in dairy industry	Ahmad, I	<i>J Anim Plant Sci</i>	
282	Omega-3 polyunsaturated fatty acids in adolescents: knowledge and consumption	Harel, Z	<i>J Adolescent Health</i>	10.1016/S1054-139X(00)00179-8
<i>Irrelevant subject – oceanography</i>				
283	An autonomous GNSS wave sensor module for deployment on existing buoy infrastructure comparison and validation of co-located GNSS and accelerometer directional wave sensors ^b	Hoar, G	<i>2019 IEEE/OES Twelfth Current, Waves And Turbulence Measurement (CWTM)^a</i>	
<i>Irrelevant subject – petrochemistry</i>				
284	Biodegradation efficacy of coke oven wastewater inherent co-cultured novel sp. <i>Alcaligenes faecalis</i> JF339228 and <i>Klebsiella oxytoca</i> KF303807 on phenol and cyanide-kinetic and toxicity analysis	Pathak, U	<i>Biomass Convers Biorefin</i>	10.1007/s13399-021-01323-1
<i>Irrelevant subject – physics</i>				
285	Stochastic analysis of the Langevin equation for surface growth	Yoon, SY	<i>J Korean Phys Soc</i>	

^a Book title^b Also returned in Search 2 (forage fish)

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – polar bears</i>				
286	New insights on polar bear (<i>Ursus maritimus</i>) diet from faeces based on next-generation sequencing technologies	Michaux, J	<i>Arctic</i>	10.14430/arctic72239
<i>Irrelevant subject – porpoises</i>				
287	Applications of new technology to the conservation of porpoises	Westgate, AJ	<i>Mar Technol Soc J</i>	
<i>Irrelevant subject – rivers</i>				
288	Comprehensive evaluation of genetic population structure for anadromous river herring with single nucleotide polymorphism data	Reid, K	<i>Fish Res</i>	10.1016/j.fishres.2018.04.014
289	Fecundity of anadromous alewives and blueback herring in New-Brunswick and Nova-Scotia	Jessop, BM	<i>T Am Fish Soc</i>	10.1577/1548-8659(1993)122<0085:FOAAAB>2.3.CO;2
290	Ichthyophoniasis: An emerging disease of Chinook salmon in the Yukon River	Kocan, R	<i>J Aquat Anim Health</i>	10.1577/H03-068.1
291	Parasites of the blueback herring (<i>alosa-aestivalis</i>) and the alewife (<i>alosa-pseudoharengus</i>) in the Miramichi River (New Brunswick, Canada)	Landry, T	<i>Can J Zool</i>	10.1139/z92-223
292	Persistent disturbance by commercial navigation alters the relative abundance of channel-dwelling fishes in a large river	Gutreuter, S	<i>Can J Fish Aquat Sci</i>	10.1139/F06-129
293	The effects of exploitation on alewife and blueback herring stock composition at the Mactaquac Dam, Saint John River, New Brunswick	Jessop, BM	<i>Biodiversity, Status, and Conservation of the World's Shads^a</i>	
294	14th census of seabird populations in the sanctuaries of the north shore of the Gulf-of-St-Lawrence, 1993 ^b	Chapdelaine, G	<i>Can Field Nat</i>	

^aBook title^b Also returned in Search 2 (forage fish)

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – seabirds</i>				
295	Abundance, population trends, and negative associations with lake water levels for six colonial waterbird species over five decades in southern Manitoba	McKellar, AE	<i>Avian Conserv Ecol</i>	10.5751/A CE-01789- 160107
296	Activity periods and questing behavior of the seabird tick <i>Ixodes uriae</i> (Acari : Ixodidae) on Gull Island, Newfoundland: The role of puffin chicks	Muzaffar, CB	<i>J Parasitol</i>	
297	Annual plastic ingestion and isotopic niche patterns of two sympatric gull species at Newfoundland, Canada	Jardine, AM	<i>Mar Pollut Bul</i>	10.1016/j. marpolbul. 2021.11299 1
298	Apparent survival of adult Leach's Storm-petrels (<i>Oceanodroma leucorhoa</i>) breeding on Bon Portage Island, Nova Scotia	Fife, DT	<i>Avian Conserv Ecol</i>	10.5751/A CE-00771- 100201
299	Automatic recognition of harmonic bird sounds using a frequency track extraction algorithm	Heller, JR	<i>J Acoust Soc Am</i>	10.1121/1. 2950085
300	Both short and long distance migrants use energy-minimizing migration strategies in North American herring gulls	Anderson, CM	<i>Mov Ecol</i>	10.1186/s4 0462-020- 00207-9
301	Changes in nesting-habitat use of large gulls breeding in Witless Bay, Newfoundland	Robertson, GJ	<i>Can J Zool</i>	10.1139/cjz -79-12- 2159
302	Colony dynamics of large gulls nesting in Labrador, Canada	Robertson, GJ	<i>Waterbirds</i>	10.1675/06 3.039.sp11 0
303	Continued use of soft-metal bands on gulls in North America reduces the value of recovery data	Gaston, AJ	<i>J Field Ornithol</i>	10.1111/jof o.12039
304	Contrasting foraging tactics by northern gannets (<i>Sula bassana</i>) breeding in different oceanographic domains with different prey fields ^b	Garthe, S	<i>Mar Biol</i>	10.1007/s0 0227-006- 0523-x
305	Cyanobacteria and BMAA: Possible linkage with avian vacuolar myelinopathy (AVM) in the south-eastern United States	Bidigare, RR	<i>Amyotroph Lateral Sc</i>	10.3109/17 482960903 273056

^a Book title

^b Also returned in Search 2 (forage fish)

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – seabirds (cont'd)</i>				
306	Delayed capelin (<i>Mallotus villosus</i>) availability influences predatory behaviour of large gulls on black-legged kittiwakes (<i>Rissa tridactyla</i>), causing a reduction in kittiwake breeding success	Massaro, M	<i>Can J Zool</i>	10.1139/cjz-78-9-1588
307	Deterring coastal birds from roosting on oyster culture gear in eastern New Brunswick, Canada	Comeau, LA	<i>Aquacult Eng</i>	10.1016/j.aquaeng.2008.11.003
308	Development of a murre (<i>Uria</i> spp.) egg control material	Vander Pol, SS	<i>Anal Bioanal Chem</i>	10.1007/s00216-006-0887-2
309	Diet composition of seabirds from Corossol Island, Canada, using direct dietary and stable isotope analyses	Lavoie, RA	<i>Waterbirds</i>	10.1675/063.035.0305
310	Differential declines among nesting habitats of breeding herring gulls (<i>Larus argentatus</i>) and great black-backed gulls (<i>Larus marinus</i>) in Witless Bay, Newfoundland and Labrador, Canada	Bond, AL	<i>Waterbirds</i>	10.1675/063.039.sp105
311	Discriminating between eggs of herring gulls (<i>Larus argentatus</i>) and great Black-backed gulls (<i>Larus marinus</i>) in Eastern Canada	Diamond, AW	<i>Waterbirds</i>	10.1675/063.039.sp124
312	Distribution, abundance and trends of gulls and terns breeding on Sable Island, Nova Scotia, Canada	Ronconi, RA	<i>Waterbirds</i>	10.1675/063.039.sp111
313	Distribution, abundance, and changes of seabird populations of the Gaspé peninsula, Quebec, 1979 to 1989	Chapdelaine, G	<i>Can Field Nat</i>	
314	Effects of an arctic fox visit to a low arctic seabird colony	Burke, CM	<i>Arctic</i>	
315	Estimates of changes in seabird numbers in the Grand Manan Archipelago, New Brunswick, Canada	Ronconi, RA	<i>Waterbirds</i>	10.1675/1524-4695(2003)026[0462:EOCISN]2.0.CO;2
316	Estimating the relative use of anthropogenic resources by Herring Gull (<i>Larus argentatus</i>) in the Bay of Fundy, Canada	Shlepr, KR	<i>Avian Conserv Ecol</i>	10.5751/ACE-01739-160102

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – seabirds (cont'd)</i>				
317	Factors affecting selection of brood-rearing habitat by common eiders (<i>somateria mollissima</i>) in the Bay of Fundy, New Brunswick, Canada	Blinn, BM	<i>Water–birds</i>	
318	Fifteenth census of seabird populations in the sanctuaries of the North Shore of the Gulf of St. Lawrence, 1998-1999	Rail, JF	<i>Can Field Nat</i>	10.22621/cfn.v118i2.924
319	Foraging ecology of great black-backed gulls during brood-rearing in the Bay of Fundy, New Brunswick	Gilliland, SG	<i>Can J Zool</i>	10.1139/Z04-124
320	Genetic structure among breeding herring gulls (<i>Larus argentatus</i>) from the Great Lakes and Eastern Canada	Yauk, CL	<i>J Great Lakes Res</i>	10.1016/S0380-1330(99)70783-5
321	Gull diets reveal dietary partitioning, influences of isotopic signatures on body condition, and ecosystem changes at a remote colony	Ronconi, RA	<i>Mar Ecol Prog Ser</i>	10.3354/meps10980
322	Habitat selection and reproduction performance of food-stressed herring gulls	Rodway, MS	<i>Condor</i>	10.2307/1370186
323	Herring gulls (<i>Larus argentatus</i>) depredate chimney swifts (<i>Chaetura pelagica</i>) at a migratory roost	Evans, D	<i>Wilson J Ornithol</i>	10.1676/16-065.1
324	Herring gulls target profitable Atlantic puffins during kleptoparasitic attack	Busniuk, K	<i>Anim Behav</i>	10.1016/j.anbeha.v.2020.05.012
325	High-sensitivity method for determination of tetrabromobisphenol-s and tetrabromobisphenol-a derivative flame retardants in Great Lakes herring gull eggs by liquid chromatography-atmospheric pressure photoionization-tandem mass spectrometry	Letcher, RJ	<i>Environ Sci Technol</i>	10.1021/es102135n
326	Inter-colony and interspecific differences in the isotopic niche of two sympatric gull species in Newfoundland	Maynard, LD	<i>Mar Ornithol</i>	
327	Kleptoparasitism of herring gulls taking eider eggs by Canada geese	Allard, K	<i>Water–birds</i>	10.1675/1524-4695(2002)025[0235:KOHGTE]2.0.CO;2
328	Lectotypification of <i>Larus smithsonianus</i> Coues, 1862 (Aves : laridae)	Olson, SL	<i>P Biol Soc Wash</i>	10.2988/0006-324X(2007)120[382:LOLSCA]2.0.CO;2

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – seabirds (cont'd)</i>				
329	Morphological variation among herring gulls (<i>Larus argentatus</i>) and great black-backed gulls (<i>Larus marinus</i>) in Eastern North America	Robertson, GJ	<i>Waterbirds</i>	10.1675/063.039.sp123
330	Nest-site selection in savannah sparrows: using gulls as scarecrows?	Wheelwright, NT	<i>Anim Behav</i>	10.1006/anbe.1996.0288
331	Non-breeding distribution of herring gull (<i>Larus argentatus</i>) and great Black-backed gull (<i>Larus marinus</i>) in Eastern Canada from ship-based surveys	Gjerdrum, C	<i>Waterbirds</i>	10.1675/063.039.sp119
332	Nutrient acquisition by female harlequin ducks prior to spring migration and reproduction: evidence for body mass optimization	Bond, JC	<i>Can J Zool</i>	10.1139/Z06-111
333	Nutritional stress in northern gannets during an unprecedented low reproductive success year: Can extreme sea surface temperature event and dietary change be the cause?	Franci, CD	<i>Comp Biochem Phys A</i>	10.1016/j.cbpa.2014.11.017
334	Population trends of tundra-nesting birds at Cape Churchill, Manitoba, in relation to increasing goose populations	Sammler, JE	<i>Condor</i>	10.1525/cond.2008.8438
335	Premature feather loss among common tern chicks in Ontario: the return of an enigmatic developmental anomaly	Arnold, JM	<i>Peerj</i>	10.7717/peerj.1959
336	Relationship between cod fishery activities and the population of herring gulls on the North Shore of the Gulf of St Lawrence, Quebec, Canada	Chapdelaine, G	<i>ICES J Mar Sci</i>	10.1006/jmsc.1997.0248
337	Relationships between black-legged kittiwake nest site characteristics and susceptibility to predation by large gulls	Massaro, M	<i>Condor</i>	10.1650/0010-5422(2001)103[0793:RBBLKN]2.0.CO;2
338	Seabirds vary responses to supplemental food under dynamic natural prey availability and feeding aggregation composition ^a	Maynard, LD	<i>Auk</i>	10.1093/auk/ukz062
339	Seasonal and age-dependent dietary partitioning between the great black-backed and herring gulls	Steenweg, RJ	<i>Condor</i>	10.1525/cond.2011.110004

^a Also returned in Search 2 (forage fish)

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – seabirds (cont'd)</i>				
340	Sources of food delivered to ring-billed, herring and great black-backed gull chicks in marine environments	McLellan, NR	<i>Waterbirds</i>	10.1675/063.032.0403
341	Status and productivity of common eiders in relation to great black-backed gulls and herring gulls in the southern Bay of Fundy and the northern Gulf of Maine	Mawhinney, K	<i>Waterbirds</i>	10.2307/1522213
342	Status of the Nemertea as prey in marine ecosystems	McDermott, JJ	<i>Hydrobiologia</i>	10.1023/A:1013001729166
343	Study of a type E botulism outbreak in gulls (<i>Larus ridibundus</i> and <i>L. argentatus</i>) in the Bay of Canche (Pas-de-Calais, France)	Gourreau, JM	<i>Gibier Fane Sauvage - Game And Wildlife, Vol 15 (Special Number Pts 2 And 3) 1998^a</i>	
344	Survival of adult herring gulls (<i>Larus argentatus</i>) from a Lake Ontario colony over two decades of environmental change ^b	Breton, AR	<i>Waterbirds</i>	10.1675/1524-4695(2008)31[15:SOAHGL]2.0.CO;2
345	Survival of large gulls breeding in eastern Newfoundland, Canada	Robertson, GJ	<i>Waterbirds</i>	10.1675/063.039.sp125
346	Temporal comparisons of encounters of herring gulls (<i>Larus argentatus</i>) banded as chicks in eastern Newfoundland, Canada	Robertson, GJ	<i>Waterbirds</i>	10.1675/063.039.sp116
347	The importance of island surveys in documenting disease-related mortality and Botulism E in Great Lakes colonial waterbirds	Shutt, JL	<i>J Great Lakes Res</i>	10.1016/j.jglr.2014.01.001
348	The influence of multiple industries on the behaviour of breeding gulls from four colonies across the eastern Gulf of Maine, Canada	Gutowsky, SE	<i>Wildlife Biol</i>	10.2981/wlb.00804
349	The Trans-Atlantic Movement of the Spirochete <i>Borrelia garinii</i> : the role of ticks and their seabird hosts	Bin Muzaffar, S	<i>Emerging Avian Disease^a</i>	

^a Book title

^b Also returned in Search 2 (forage fish)

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – seabirds (cont'd)</i>				
350	Variability in egg size and population declines of herring gulls in relation to fisheries and climate conditions	Bennett, JL	<i>Avian Conserv Ecol</i>	10.5751/ACE-01118-120216
351	Winter home range and habitat selection differs among breeding populations of herring gulls in eastern North America	Anderson, CM	<i>Mov Ecol</i>	10.1186/s40462-019-0152-x
352	Yellow-legged gulls (<i>Larus-cachinnans</i>) in North-America	Wilds, C	<i>Wilson Bull</i>	
<i>Irrelevant subject – seals</i>				
353	Blood-chemistry of wild harbor porpoises <i>Phocoena-phocoena</i> (I)	Koopman, HN	<i>Mar Mammal Sci</i>	10.1111/j.1748-7692.1995.tb00512.x
354	Hematology values of wild harbor porpoises (<i>Phocoena phocaena</i>) from the Bay of Fundy, Canada	Koopman, HN	<i>Mar Mammal Sci</i>	10.1111/j.1748-7692.1999.tb00781.x
355	Winter foraging by a top predator, the grey seal <i>Halichoerus grypus</i> , in relation to the distribution of prey	Harvey, V	<i>Mar Ecol Prog Ser</i>	10.3354/meps09844
<i>Irrelevant subject – sociology/anthropology</i>				
356	Island paths: divergent fisheries in the Shetland Islands	Gear, RW	<i>Shima</i>	
357	Netukulimk past and present: Mikmaq ethics and the Atlantic fishery	Barsh, RL	<i>J Can Studies</i>	10.3138/jcs.37.1.15
358	Care, rights and disability	Lai, P	<i>Int J Care Caring</i>	10.1332/239788220X16002700151592
359	Decoupling seascapes: an anthropology of marine stock enhancement science in Japan	Hamada, S	<i>Environ Soc: Adv Res</i>	10.3167/ares.2020.110103
360	Lively conclusions	Winstanley-Chesters, R	Fish, fishing and community in North Korea and Neighbours: Vibrant Matter(s)	10.1007/978-981-15-0042-8_7

Table S2: Excluded articles from WoS Search #1 (herring), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – turtles</i>				
361	Evaluating mandatory reporting of marine turtle bycatch in Atlantic Canadian fisheries	Hurtubise, JA	<i>Mar Pol</i>	10.1016/j.marpol.2020.104084
<i>Irrelevant subject – whales</i>				
362	Population spatial structuring on the feeding grounds in North Atlantic humpback whales (<i>Megaptera novaeangliae</i>)	Stevick, PT	<i>J Zool</i>	10.1111/j.1469-7998.2006.00128.x

Table S3: Articles retained for review from Web of Science Search #2 (forage fish)

No.	Title	First author	Journal	DOI
363	Associations of non-breeding shearwater species on the northeastern Newfoundland coast	Carvalho, PC	<i>Mar Ecol Prog Ser</i>	10.3354/me ps13112
364	Bottom-up limits to Newfoundland capelin (<i>Mallotus villosus</i>) rebuilding: the euphausiid hypothesis	Obradovich, SG	<i>Ices J Mar Sci</i>	10.1093/ices jms/fst184
365	Can Atlantic cod (<i>Gadus morhua</i>) recover? Exploring trophic explanations for the non-recovery of the cod stock on the eastern Scotian Shelf, Canada	Bundy, A	<i>Can J Fish Aquat Sci</i>	10.1139/F05 -086
366	Capelin (<i>Mallotus villosus</i>) fecundity in post-1990s coastal Newfoundland	Penton, PM	<i>Mar Biol</i>	10.1007/s00 227-013- 2215-7
367	Comparing pristine and depleted ecosystems: the Sorfjord, Norway versus the Gulf of St. Lawrence, Canada. Effects of intense fisheries on marine ecosystems	Morissette, L	<i>Prog Oceanogr</i>	10.1016/j.po cean.2009.0 4.013
368	Decline in top predator body size and changing climate alter trophic structure in an oceanic ecosystem	Shackell, NL	<i>P R Soc B</i>	10.1098/rsp b.2009.1020
369	Distribution of marine predator hotspots explained by persistent areas of prey	Davoren, GK	<i>Mar Biol</i>	10.1007/s00 227-013- 2294-5
370	Divergent use of spawning habitat by male capelin (<i>Mallotus villosus</i>) in a warm and cold year	Davoren, GK	<i>Behav Ecol</i>	10.1093/beh eco/ars147
371	Forage fish and the factors governing recovery of Atlantic cod (<i>Gadus morhua</i>) on the eastern Scotian Shelf	Swain, DP	<i>Can J Fish Aquat Sci</i>	10.1139/F20 12-045
372	Genetic Structure of Capelin (<i>Mallotus villosus</i>) in the Northwest Atlantic Ocean	Kenchington, EL	<i>Plos One</i>	10.1371/jou rnal.pone.01 22315
373	Intrinsic factors influence the timing of arrival of capelin (<i>Mallotus villosus</i>) to spawning grounds in coastal Newfoundland	Maxner, E	<i>Fish Res</i>	10.1016/j.fis hres.2016.0 3.002
374	Life history variation across latitudes: observations between capelin (<i>Mallotus villosus</i>) from Newfoundland and the eastern Canadian Arctic	McNicholl, DG	<i>Polar Biol</i>	10.1007/s00 300-017- 2225-x

Table S3: Articles retained for review from Web of Science Search #2 (forage fish) (cont'd)

No.	Title	First author	Journal	DOI
375	Linking predator diet and prey availability: common murre and capelin in the Northwest Atlantic	Buren, AD	<i>Mar Ecol Prog Ser</i>	10.3354/me ps09465
376	Niche dynamics of sympatric non-breeding shearwaters under varying prey availability	Carvalho, PC	<i>Ibis</i>	10.1111/ibi. 12783
377	Quantification of native muskellunge nursery habitat: influence of body size, fish community composition, and vegetation structure	Murry, BA	<i>Environ Biol Fish</i>	10.1007/s10 641-006- 9133-1
378	Re-visiting the drivers of capelin recruitment in Newfoundland since 1991	Murphy, HM	<i>Fish Res</i>	10.1016/j.fis hres.2017.1 2.005
379	Representativity and networks of Marine Protected Areas	Rice, J	<i>Aquat Conserv</i>	10.1002/aqc .1232
380	Shoal behaviour and maturity relations of spawning capelin (<i>Mallotus villosus</i>) off Newfoundland: demersal spawning and diel vertical movement patterns	Davoren, GK	<i>Can J Fish Aquat Sci</i>	10.1139/F05 -204
381	Towards a balanced presentation and objective interpretation of acoustic and trawl survey data, with specific reference to the eastern Scotian Shelf	Jech, JM	<i>Can J Fish Aquat Sci</i>	10.1139/cjfa s-2016-0113
382	Towards a more balanced view of marine ecosystems	Greene, CH	<i>Fish Oceanogr</i>	10.1111/fog. 12006
383	Transient dynamics of an altered large marine ecosystem	Frank, KT	<i>Nature</i>	10.1038/nat ure10285
384	Trophic interactions between key predatory fishes and crustaceans: comparison of two Northwest Atlantic systems during a period of ecosystem change	Dawe, EG	<i>Mar Ecol Prog Ser</i>	10.3354/me ps10136
385	Water temperature and timing of capelin spawning determine seabird diets	Davoren, GK	<i>ICES J Mar Sci</i>	10.1093/ices jms/fss032
386	Seabird species- and assemblage-level isotopic niche shifts associated with changing prey availability during breeding in coastal Newfoundland	Jenkins, EJ	<i>IBIS</i>	10.1111/ibi. 12873
387	Timing of spring sea-ice retreat and summer seabird-prey associations in the northern Bering Sea	Nishizawa, B	<i>Deep Sea Res Pt II</i>	10.1016/j.ds r2.2020.104 898

Table S4: Excl. articles from WoS Search #2 (forage fish), sorted by exclusion reason

No.	Title	First author	Journal	DOI
<i>Irrelevant geography</i>				
388	Distribution and life history of spawning capelin in subarctic Alaska	Ressel, KN	<i>T Am Fish Soc</i>	10.1002/tafs.10207
389	A temporal shift in trophic diversity among a predator assemblage in a warming Arctic	Yurkowski, DJ	<i>Roy Soc Open Sci</i>	10.1098/rso.s.180259
390	Climate warming enhances polar cod recruitment, at least transiently	Bouchard, C	<i>Prog Oceanogr</i>	10.1016/j.pocan.2017.06.008
391	Diet and isotopic niche overlap elucidate competition potential between seasonally sympatric phocids in the Canadian Arctic	Ogloff, WR	<i>Mar Biol</i>	10.1007/s00227-019-3549-6
392	Diet of capelin (<i>Mallotus villosus</i>) in the Eastern Canadian Arctic inferred from stomach contents and stable isotopes	Ogloff, WR	<i>Polar Biol</i>	10.1007/s00300-020-02707-1
393	First documented large-scale horizontal movements of individual Arctic cod (<i>Boreogadus saida</i>)	Kessel, ST	<i>Can J Fish Aquat Sci</i>	10.1139/cjfas-2016-0196
394	Importance of eating capelin: unique dietary habits of Hudson Bay beluga	Kelley, TC	<i>Little Less Arctic: Top Predators in the World's Largest Northern Inland Sea, Hudson Bay^a</i>	10.1007/978-90-481-9121-5_3
395	Spatial patterns, environmental correlates, and potential seasonal migration triangle of polar cod (<i>Boreogadus saida</i>) distribution in the Chukchi and Beaufort seas	Forster, CE	<i>Polar Biol</i>	10.1007/s00300-020-02631-4
396	The Capelin invasion: evidence for a trophic shift in Arctic Char populations from the Cumberland Sound region, Nunavut, Canada	Ulrich, KL	<i>Arct Sci</i>	10.1139/as-2020-0001
397	Ancient dog diets on the Pacific Northwest Coast: zooarchaeological and stable isotope modelling evidence from Tseshaht territory and beyond	Hillis, D	<i>Sci Rep – UK</i>	10.1038/s41598-020-71574-x

Table S4: Excl. articles from WoS Search #2 (forage fish), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant geography (cont'd)</i>				
398	Changing gull diet in a changing world: A 150-year stable isotope (δ C-13, δ N-15) record from feathers collected in the Pacific Northwest of North America	Blight, LK	<i>Glob Change Biol</i>	10.1111/gcb.12796
399	Exploring the implications of the harvest control rule for Pacific sardine, accounting for predator dynamics: a MICE model	Punt, AE	<i>Ecol Model</i>	10.1016/j.ecolmodel.2016.06.004
400	Temporal variations in the pelagic fish community of Lake Winnipeg from 2002 to 2019	Enders, EC	<i>J Great Lakes Res</i>	10.1016/j.jglr.2021.01.004
401	Stable isotope analysis reveals that humpback whales (<i>Megaptera novaeangliae</i>) primarily consume capelin (<i>Mallotus villosus</i>) in coastal Newfoundland, Canada	Johnson, KF	<i>Can J Zool</i>	10.1139/cjz-2020.0257
402	Capelin <i>Mallotus villosus</i> population differentiation among and within regions using relative warps	Ressel, KN	<i>Environ Biol Fish</i>	10.1007/s10641-020-00970-z
403	Chemical signatures in embryonic otoliths of capelin, <i>Mallotus villosus</i> : Influence of family and environmental conditions	Loeppky, AR	<i>J Exp Mar Biol Ecol</i>	10.1016/j.jembe.2017.10.007
404	Otolith chemistry reveals natal region of larval capelin in coastal Newfoundland, Canada	Tripp, A	<i>Front Mar Sci</i>	10.3389/fmars.2020.00258
405	Temperature and salinity influence the chemistry in the pre-hatch otolith region of capelin, <i>Mallotus villosus</i> , during lab and field egg incubation experiments	Loeppky, AR	<i>J Exp Mar Biol Ecol</i>	10.1016/j.jembe.2018.01.003
406	Water strontium concentrations influence strontium concentrations in the pre-hatch otolith region of capelin (<i>Mallotus villosus</i>)	Tripp, A	<i>Can J Zool</i>	10.1139/cjz-2020.0257
<i>Inability to confirm peer review</i>				
407	Interecosystem impacts of forage fish fisheries	Fischer, J	<i>Forage Fishes In Marine Ecosystems^a</i>	

^a Book title

Table S4: Excl. articles from WoS Search #2 (forage fish), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – aquaculture</i>				
408	Impacts of freshwater aquaculture on fish communities: a whole-ecosystem experimental approach	Rennie, MD	<i>Freshwater Biol</i>	10.1111/fwb.13269
<i>Irrelevant subject – contaminants</i>				
409	Accumulation of selenium in aquatic systems downstream of a uranium mining operation in northern Saskatchewan, Canada	Muscatello, JR	<i>Environ Pollut</i>	10.1016/j.envpol.2008.01.039
410	Accumulation of silver in yellow perch (<i>Perca flavescens</i>) and northern pike (<i>Esox lucius</i>) from a lake dosed with nanosilver	Martin, JD	<i>Environ Sci Technol</i>	10.1021/acs.est.8b03146
411	Assessment of mercury exposure and potential effects on common loons (<i>Gavia immer</i>) in Quebec	Champoux, L	<i>Hydrobiologia</i>	10.1007/s10750-006-0066-7
412	Behavior of Co-60 and Cs-134 in a Canadian Shield lake over 5 years	Bird, GA	<i>Sci Total Environ</i>	10.1016/S0048-9697(97)00317-3
413	Biomonitoring in the mercury-contaminated Wabigoon English Winnipeg River (Canada) system - selecting the best available bioindicator	Parks, JW	<i>Appl Organomet Chem</i>	10.1002/aoc.590050606
414	Coastal latrine sites as social information hubs and drivers of river otter fission-fusion dynamics	Barocas, A	<i>Anim Behav</i>	10.1016/j.anbehav.2016.07.016
415	Current status and temporal trends in concentrations of persistent toxic substances in sport fish and juvenile forage fish in the Canadian waters of the Great Lakes	Scheider, WA	<i>Environ Monit Assess</i>	10.1023/A:1005929332152
416	Derivation of screening benchmarks for dietary methylmercury exposure for the common loon (<i>Gavia immer</i>): Rationale for use in ecological risk assessment	Depew, DC	<i>Environ Toxicol Chem</i>	10.1002/etc.1971
417	Fate of Co-60 and Cs-134 added to the hypolimnion of a Canadian Shield lake: accumulation in biota	Bird, GA	<i>Can J Fish Aquat Sci</i>	10.1139/cjfas-55-4-987

Table S4: Excl. articles from WoS Search #2 (forage fish), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – contaminants (cont'd)</i>				
418	Follow-up studies addressing questions identified during cycle 1 of the adult fish survey of the pulp and paper EEM program	McMaster, ME	<i>Water Qual Res J Can</i>	
419	Forage fish and polycyclic aromatic compounds in the Fort McMurray oil sands area: body burden comparisons with environmental distributions and consumption guidelines	Evans, MS	<i>Environ Pollut</i>	10.1016/j.envpol.2019.113135
420	General and histological indicators of health in wild fishes from a biological mercury hotspot in northeastern North America	Graves, SD	<i>Environ Toxicol Chem</i>	10.1002/etc.3611
421	Geographic specificity of Aroclor 1268 in bottlenose dolphins (<i>Tursiops truncatus</i>) frequenting the Turtle/Brunswick River Estuary, Georgia (USA)	Puster, EL	<i>Sci Total Environ</i>	10.1016/j.scitotenv.2007.12.031
422	Historical and contemporary patterns of mercury in a hydroelectric reservoir and downstream fishery: concentration decline in water and fishes	Green, DJ	<i>Arch Environ Con Tox</i>	10.1007/s00244-016-0287-3
423	Improvements in fish polychlorinated biphenyl and other contaminant levels in response to remedial actions in Hamilton Harbour, Ontario, Canada	Neff, MR	<i>Aquat Ecosyst Health</i>	10.1080/14634988.2016.1139996
424	Influence of lake characteristics on the biomagnification of persistent organic pollutants in lake trout food webs	Houde, M	<i>Environ Toxicol Chem</i>	10.1897/08-071.1
425	Limited effects of changing prey fish communities on food quality for aquatic predators in the eastern Canadian Arctic in terms of essential fatty acids, methylmercury and selenium	Pedro, S	<i>Chemosphere</i>	10.1016/j.chemosphere.2018.09.167
426	Long-range transport of legacy organic pollutants affects alpine fish eaten by ospreys in western Canada	Grenier, P	<i>Sci Total Environ</i>	10.1016/j.scitotenv.2019.135889

Table S4: Excl. articles from WoS Search #2 (forage fish), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – contaminants (cont'd)</i>				
427	Mercury bioaccumulation in forage fish communities invaded by rainbow smelt (<i>Osmerus mordax</i>)	Swanson, HK	<i>Environ Sci Technol</i>	10.1021/es0510156
428	Mercury in forage fish from Mexico and Central America: implications for fish-eating Birds	Elliott, JE	<i>Arch Environ Con Tox</i>	10.1007/s00244-015-0188-x
429	Mercury risk to avian piscivores across western United States and Canada	Jackson, A	<i>Sci Total Environ</i>	10.1016/j.scitotenv.2016.02.197
430	Metals, metalloids and metallothionein in tissues of fish from a Canadian freshwater system receiving gold mining effluents	Palace, VP	<i>J Phys IV</i>	10.1051/jp4:20030469
431	Monitoring temporal and spatial trends in polychlorinated dibenzo-p-dioxins (PCDDs) and dibenzofurans (PCDFs) in eggs of great blue heron (<i>Ardea herodias</i>) on the coast of British Columbia, Canada, 1983-1998	Elliott, JE	<i>Ambio</i>	10.1639/0044-7447(2001)030[0416:MTASTI]2.0.CO;2
432	Organohalogen contaminants and total mercury in forage fish preyed upon by thick-billed murres in northern Hudson Bay	Braune, BM	<i>Mar Pollut Bull</i>	10.1016/j.marpolbul.2013.11.003
433	Osprey: worldwide sentinel species for assessing and monitoring environmental contamination in rivers, lakes, reservoirs, and estuaries	Grove, RA	<i>J Toxicol Env Heal B</i>	10.1080/10937400802545078
434	Pelagic food-chain structure in Ontario lakes - a determinant of mercury levels in lake trout (<i>salvelinus-namaycush</i>)	Cabana, G	<i>Can J Fish Aquat Sci</i>	10.1139/f94-039
435	Reduction of mercury concentration in fish through intensive fishing of lakes: a preliminary testing of assumptions	Therrien, N	<i>Int Ser Prog Wat Res</i>	
436	Satellite telemetry and prey sampling reveal contaminant sources to pacific northwest Ospreys	Elliott, JE	<i>Ecol Appl</i>	10.1890/06-1213

Table S4: Excl. articles from WoS Search #2 (forage fish), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – contaminants (cont'd)</i>				
437	Selenium accumulation in aquatic biota downstream of a uranium mining and milling operation	Muscatello, JR	<i>Sci Total Environ</i>	10.1016/j.scitotenv.2008.10.046
438	Temporal changes in mercury bioaccumulation by predatory fishes of boreal lakes following the invasion of an exotic forage fish	Johnston, TA	<i>Environ Toxicol Chem</i>	10.1897/02-265
439	Trophic positions and mercury bioaccumulation in rainbow smelt (<i>Osmerus mordax</i>) and native forage fishes in northwestern Ontario lakes	Swanson, HK	<i>Ecosystems</i>	10.1007/s10021-002-0205-6
<i>Irrelevant subject – ecology</i>				
440	A common garden experiment on capelin (<i>Mallotus villosus</i>) early life history stages to examine use of beach and deep-water spawning habitats	Penton, PM	<i>J Exp Mar Biol Ecol</i>	10.1016/j.jembe.2012.10.009
441	Beach and demersal spawning in capelin (<i>Mallotus villosus</i>) on the northeast Newfoundland coast: egg developmental rates and mortality	Penton, PM	<i>Can J Zool</i>	10.1139/Z11-132
442	Connectivity of capelin (<i>Mallotus villosus</i>) between regions and spawning habitats in Newfoundland inferred from otolith chemistry	Davoren, GK	<i>Fish Res</i>	10.1016/j.fishres.2014.05.010
443	Does otolith chemistry indicate the natal habitat of Newfoundland capelin <i>Mallotus villosus</i> ?	Davoren, GK	<i>J Exp Mar Biol Ecol</i>	10.1016/j.jembe.2014.10.025
444	Physical characteristics of persistent deep-water spawning sites of capelin: Importance for delimiting critical marine habitats	Penton, PM	<i>Mar Biol Res</i>	10.1080/17451000.2012.678858
445	Temperature-based spawning habitat selection by capelin (<i>Mallotus villosus</i>) in Newfoundland	Crook, KA	<i>Ices J Mar Sci</i>	10.1093/icesjms/fsx023
446	Shipping alters the movement and behavior of Arctic cod (<i>Boreogadus saida</i>), a keystone fish in Arctic marine ecosystems	Ivanova, SV	<i>Ecol Appl</i>	10.1002/eap.2050

Table S4: Excl. articles from WoS Search #2 (forage fish), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – lakes</i>				
447	A review of selected ecosystem services provided by coastal wetlands of the Laurentian Great Lakes Basin-specific pollutant	Sierszen, ME	<i>Aquat Ecosyst Health</i>	10.1080/14634988.2011.624970
448	bioaccumulation patterns define Lake Huron forage fish	Paterson, G	<i>Environ Toxicol Chem</i>	10.1002/etc.4794
449	Canada's national aquatic biological specimen bank and database	McGoldrick, DJ	<i>J Great Lakes Res</i>	10.1016/j.jglr.2010.02.011
450	Common loon reproductive success in Canada: the West is best but not for long	Tozer, DC	<i>Avian Conserv Ecol</i>	10.5751/AC-E-00569-080101
451	Community composition of lake zooplankton, benthic macroinvertebrates and forage fish across a pH gradient in Kejimikujik National Park, Nova Scotia, Canada	Bowman, MF	<i>Water Air Soil Poll</i>	10.1007/s11270-014-2211-7
452	Does long-term macrophyte management in lakes affect biotic richness and diversity?	Harman, WN	<i>J Aquat Plant Manage</i>	
453	Effects of non-native fish on lacustrine food web structure and mercury biomagnification along a dissolved organic carbon gradient	Barst, BD	<i>Environ Toxicol Chem</i>	10.1002/etc.4831
454	Effects of stocked trout on native fish communities in boreal foothills lakes	Nasmith, LE	<i>Ecol Freshw Fish</i>	10.1111/j.1600-0633.2010.0412.x
455	Effects of vessel size and trawling on estimates of pelagic fish backscatter in Lake Huron	Trumpickas, J	<i>Fish Res</i>	10.1016/j.fishres.2019.105430
456	Effects of water depth, cover and food resources on habitat use of marsh birds and waterfowl in boreal wetlands of Manitoba, Canada	Baschuk, MS	<i>Waterbirds</i>	10.1675/063035.0105
457	Growth-temperature relation for young-of-the-year ruffe	Edsall, TA	<i>J Great Lakes Res</i>	10.1016/S0380-1330(93)71247-2
458	Limited effects of stocked trout on littoral invertebrates in boreal foothills lakes	Nasmith, LE	<i>Can J Fish Aquat Sci</i>	10.1139/F2011-145

Table S4: Excl. articles from WoS Search #2 (forage fish), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – lakes (cont'd)</i>				
459	Offshore prey densities facilitate similar life history and behavioral patterns in two distinct aquatic apex predators, northern pike and lake trout	Kennedy, PJ	<i>T Am Fish Soc</i>	10.1002/tafs.10090
460	Projected impacts of climate change on three freshwater fishes and potential novel competitive interactions	Van Zuiden, TM	<i>Divers Distrib</i>	10.1111/ddi.12422
461	Quantifying the potential effects of climate change and the invasion of smallmouth bass on native lake trout populations across Canadian lakes	Sharma, S	<i>Ecography</i>	10.1111/j.1600-0587.2008.05544.x
462	Stable isotope evidence for the food web consequences of species invasions in lakes	Vander Zanden, MJ	<i>Nature</i>	10.1038/46762
463	Stocked trout have minimal effects on littoral invertebrate assemblages of productive fish-bearing lakes: a whole-lake BACI study	Hanisch, JR	<i>Freshwater Biol</i>	10.1111/fwb.12095
464	The history and ecology of Cisco <i>Coregonus artedii</i> in the Laurentian Great Lakes	George, E	<i>Aquat Ecosyst Health</i>	10.1080/14634988.2019.1670461
465	Using Ecopath modeling to describe historical conditions for a large, boreal lake ecosystem prior to European settlement	McGregor, AM	<i>N Am J Fish Manage</i>	10.1080/02755947.2013.833559
<i>Irrelevant subject – natal origin of capelin</i>				
466	Lack of genetic divergence in capelin (<i>Mallotus villosus</i>) spawning at beach versus subtidal habitats in coastal embayments of Newfoundland	Penton, PM	<i>Can J Zool</i>	10.1139/cjz-2013-0261
<i>Irrelevant subject – reservoirs</i>				
467	Assessing fish biomass and prey availability in Ohio reservoirs	Hale, RS	<i>Am Fish S S</i>	
468	Improved growth of a white crappie population following stocking of saugeyes (Sauger x Walleye): A top-down, density-dependent growth response	Boxrucker, J	<i>N Am J Fish Manage</i>	10.1577/1548-8675(2002)022<1425:IGOAWC>2.0.CO;2

Table S4: Excl. articles from WoS Search #2 (forage fish), sorted by exclusion reason (cont'd)

No.	Title	First author	Journal	DOI
<i>Irrelevant subject – rivers</i>				
469	Feeding strategies and diets of young-of-the-year muskellunge from two large river ecosystems	Kapuscinski, KL	<i>N Am J Fish Manage</i>	10.1080/02755947.2012.675964
470	Transferability of habitat suitability curves for a benthic minnow, <i>Rhinichthys cataractae</i>	Glozier, NE	<i>J Freshwater Ecol</i>	10.1080/02705060.1997.9663548
471	Using bioenergetics modeling to estimate consumption of native juvenile salmonids by nonnative northern pike in the upper Flathead River System, Montana	Muhlfeld, CC	<i>N Am J Fish Manage</i>	10.1577/M07-004.1
<i>Irrelevant subject – seabirds</i>				
472	13th census of seabird populations in the sanctuaries of the north shore of the gulf of St-Lawrence, 1982-1988	Chapdelaine, G	<i>Can Field Nat</i>	
473	A century of change in glaucous-winged gull (<i>Larus glaucescens</i>) populations in a dynamic coastal environment	Blight, LK	<i>Condor</i>	10.1650/CONDOR-14-113.1
474	Consequences of foraging trip duration on provisioning behaviour and fledging condition of common murre <i>Uria aalge</i>	Davoren, GK	<i>J Avian Biol</i>	10.1034/j.1600-048X.2003.03008.x
475	Effects of gill-net fishing on marine birds in a biological hotspot in the northwest Atlantic	Davoren, GK	<i>Conserv Biol</i>	10.1111/j.1523-1739.2007.00694.x
476	Seabird foraging behaviour indicates prey type	Elliott, KH	<i>Mar Ecol Prog Ser</i>	10.3354/meps07221
477	The breeding seabird community reveals that recent sea ice loss in the Pacific Arctic does not benefit piscivores and is detrimental to planktivores	Will, A	<i>Deep-Sea Res Pt II</i>	10.1016/j.dsr2.2020.104902
478	Underwater behaviour of common murre foraging on capelin: influences of prey density and antipredator behaviour	Crook, KA	<i>Mar Ecol Prog Ser</i>	10.3354/meps10696

Table S5: Conceptual food web (predator-prey matrix) for the Southern Gulf of St. Lawrence. Species categories are numbered on each row. Species with a commercial fishery (e.g., 7a, 7b) are named within their corresponding species category (e.g., 7). Column numbers refer to the same numbered species. X denotes predator-prey interaction (e.g., species categories 2, 3, 4, etc., prey on species category 1). Categories are constructed to minimize intra-category predation, hence black squares on diagonal.

		Prey→																		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
↓Predator↓																				
1	Primary producers (phytoplankton)	■																		
2	Moss animals, sponges, tusk shells and corals	X	■																	
3	Zooplankton (< 1000 µm)	X		■																
4	Zooplankton (≥ 1000 µm)	X		X	■															
5	Marine worms (primarily Polychaeta spp.)	X	X			■														
6	Barnacles (larger Maxillopoda spp.)	X	X	X			■													
7	Chitons (Polyplacophora spp.) and bivalves	X		X				■												
7a	Softshell clam (<i>Mya arenaria</i>)								■											
7b	American cupped oyster (<i>Crassostrea virginica</i>)									■										
7c	Scallops (<i>Pectinidae</i> spp.)										■									
8	Sea squirts (<i>Asciacea</i> spp.)	X		X	X						■									
9	Sea spiders (<i>Pycnogonida</i> spp.)	X	X	X	X	X							■							
10	Gastropods	X		X	X		X													
11	Echinodermata	X	X	X	X		X	X						■						
12	Crustaceans (excluding zooplankton)	X	X	X	X	X	X	X		X	X	X								
12a	Atlantic rock crab (<i>Cancer irroratus</i>)																			
12b	American lobster (<i>Homarus americanus</i>)																			
12c	Snow crab (<i>Chionocetes opilio</i>)																			
12d	Northern shrimp (<i>Pandalus borealis</i>)																			
13	Small pelagic fish	X	X	X	X															
13a	Atlantic herring (<i>Clupea harengus</i>)																			
13b	Capelin (<i>Mallotus villosus</i>)																			
13c	Rainbow smelt (<i>Osmeus mordax</i>)																			
13d	Atlantic mackerel (<i>Scomber scombrus</i>)																			
14	Small benthic and benthopelagic fish					X				X		X	X		■					
15	Big benthic and benthopelagic fish						X	X			X	X	X	X						
15a	Redfish (<i>Sebastes</i> spp.)																			
15b	Atlantic halibut (<i>Hippoglossus hippoglossus</i>)																			
15c	Other flatfish (plaice + flounders; <i>Pleuronectiformes</i> spp.)																			
15d	Eel (<i>Anguilla</i> spp.)																			
15e	Atlantic cod (<i>Gadus morhua</i>)																			
16	Jellies, hydrozoans and anemones (excluding zooplankton)			X	X							X								
17	Squid (<i>Cephalopoda</i> spp.)								X											
18	Big pelagic fish												X	X	X	X	X			
18a	Atlantic bluefin tuna (<i>Thunnus thynnus</i>)																			
19	Marine mammals						X	X				X	X	X	X		X	X		