

Location: Devil's Lake
Species: Black Crappie (*Pomoxis nigermaculatus*)
Age: variable
Number of Fish: 2007-60
 2008-17
 0-Lake Winnipeg

Results of parasite survey in tissue sections:

Tissue	Parasite	Number of Fish hosting Parasite (Class Identification) Detected in Devil's Lake 2007	Number of Fish hosting Parasite (Class Identification) Detected in Devil's Lake 2008	Comments	Number of Fish hosting Parasite (Class Identification) Detected in Lake Winnipeg 2007
Gill	Protozoa: <i>Ichthyobodo sp (costia)</i>	58/60	6/17	ubiquitous	BLC not examined
GI-viscera	Cestode: <i>Liquula sp</i>	37/60	0/60		BLC not examined
Kidney	Myxosporean: <i>Myxobolus sp</i>	3/60	1/60		BLC not examined
Urinary Bladder	Myxosporean: <i>Henneguya sp</i>	3/60			
Gall Bladder	Myxosporean: <i>Chloromyxum sp</i>	2/60		Requires two host life cycle. Common in gall bladders of freshwater fish	BLC not examined
GI-viscera	Nematode	0	12/17	Encysted worms primarily in adipose/pancreatic tissue and occasionally in muscularis of stomach.	BLC not examined

Location: Devil's Lake
Species White Bass (*Morone chrysops*)
Age: variable
Number of Fish: 2007-59
 2008-57
 56-Lake Winnipeg

Results of parasite survey in tissue sections:

Tissue	Parasite	Number of Fish hosting Parasite (Class Identification) Detected in Devil's Lake 2007	Number of Fish hosting Parasite (Class Identification) Detected in Devil's Lake 2008	Comments	Number of Fish hosting Parasite (Class Identification) Detected in Lake Winnipeg 2007
Gill	Protozoa: <i>Trichodina</i> sp <i>Caprinia</i> sp (<i>Trichophyra</i>) Chilodenella-like	28/59 0 0	55/57 0 0		36/56 total protozoans
Gill	Rickettsia-like	0	0		23/56
Gill	monogenetic trematode (a)	0	18/57		2/56
Gill	monogenetic trematode (b)	0	0		51/56
Gill	microsporidean	0	0		2/56
GI-intestine	cestode	34/59	34/57	<i>Morphology suggestive of proteocephalus sp in 2008 Devil's Lake WHB</i>	35/56
Intra-hepatic	cestode	0	0		2/56
GI-intestine	nematode	0	22/57	encysted in muscularis or submucosa of stomach and occasionally in pancreatic tissue	0
Liver	nematode	0	1/57		0

Location: Devil's Lake
Species Walleye (*Sander vitreus*)
Age: variable
Number of Fish: 2007-60
 2008-60
 60-Lake Winnipeg

Results of parasite survey in tissue sections:

Tissue	Parasite	Number of Fish hosting Parasite (Class Identification) Detected in Devil's Lake 2007	Number of Fish hosting Parasite (Class Identification) Detected in Devil's Lake 2008	Comments	Number of Fish hosting Parasite (Class Identification) Detected in Lake Winnipeg 2007
Gill	Protozoa: <i>Ichthyophthirius multifiliis</i> <i>Trichodina</i> sp <i>Apiosomas</i> sp flagellate	11/60 58/60 2/60 1/60	1/60 21/60 0 0	L.W. had multiple species of protozoa	36/60
GI-Intestine	Cestode: suspect <i>Proeocephalus</i> sp	40/60	46/60		28/60
GI-Intestine	Nematode <i>Contraceaum</i> sp		1/60		
Heart	Myxosporean	0	1/60		
Liver	Larval Nematode <i>Contraceaum</i> sp	0	3/60		
Muscle-skeletal	Myxosporean	0	1/60		
Ovary	Microsporea suspect <i>Ovipleitophora ovariae</i>	0	1/60		

Location: Devil's Lake
Species Northern Pike (*Esox lucius*)
Age: variable
Number of Fish: 2007-23
 2008-35
 60-Lake Winnipeg

Results of parasite survey in tissue sections:

Tissue	Parasite	Number of Fish hosting Parasite (Class Identification) Detected in Devil's Lake 2007	Number of Fish hosting Parasite (Class Identification) Detected in Devil's Lake 2008	Comments	Number of Fish hosting Parasite (Class Identification) Detected in Lake Winnipeg 2007
Gill	Protozoa:				
	<i>Ichthybodo sp</i>	0/23	1/35		0
	<i>Tricodina sp</i>	0/23	1/35		2/60
	<i>Apiosoma sp</i>	0/23	2/35		0
Gill	Trematode (monogenean) <i>Gyrodactylus sp</i>	3/23	1/35		7/7 trematodes noted (?mono vs di)
Gill	Hirudinea: Leech	0/23	1/35		0
GI	Cestode sections did not present characteristic morphology to allow genus identification	2/23	20/35		19/60 genus unidentifiable
GI	Nematode sections did not present characteristic morphology to allow genus identification	2/23	0/35		3/60 genus unidentifiable
Kidney	Myxosporean:				2 separate renal myxosporeans noted, 10/60 and 7/60 fish
	<i>Thelohanellus sp</i>	2/23	0/35		
	<i>Myxidium sp</i>	0/23	19/35		

Location: Devil's Lake
Species Yellow Perch (*Perca flavescens*)
Age: variable
Number of Fish: 2007-17
 2008-60
 60-Lake Winnipeg

Results of parasite survey in tissue sections:

Tissue	Parasite	Number of Fish hosting Parasite (Class Identification) Detected in Devil's Lake 2007	Number of Fish hosting Parasite (Class Identification) Detected in Devil's Lake 2008	Comments	Number of Fish hosting Parasite (Class Identification) Detected in Lake Winnipeg 2007
Gill	Protozoa: <i>Ichthyophthirius multifiliis</i> Costia-like <i>Trichodina</i> sp	1/17 0/17 0/17	0/60 1/60 48/60	brachial chamber and dermal in L. Winnipeg YEP	0/60 0/60 5/60
Gill	Trematode (Monogenean): <i>Gyrodactylus</i> sp	0/17	5/60	*	*
GI-Intestine	Cestode: <i>Ligula</i> sp.(?) -2 sucker attachment	5/17	28/60	**	**
GI-Muscle/vis	Nematode low prevalence	0/17	3/60	encysted nematodes in L. Winnipeg YEP	
GI-mucosal epithelium	Sporozoan: <i>Eimeria</i> sp	0/17	1/60		0/60
Muscle-skeletal	Trematode (Digenean): encysted	0/17	5/60	*	*
Skin (oral cavity)	Protozoa: <i>Apiosomas</i> sp	0/17	3/60		0/60
Connective tissue (lower jaw)	Myxosporean <i>Henneguya</i> sp	0/17	1/60		0/60
Nerve (spinal cord)	Myxosporean <i>Henneguya</i> sp	0/17	2/60	myxosporean cysts 100 um diameter noted in L. Winnipeg YEP	

* trematodes noted in L. Winnipeg YEP intramuscularly, and in peritoneal tissue (?-monogenean vs digenean)

** Intestinal cestodes noted in L. Winnipeg YEP -no scolex present

Location: Devil's Lake
Species: Fathead Minnow (*pimephales promelas*)
Age: variable
Number of Fish: 2007-60
 2008-60
 60-Lake Winnipeg

Results of parasite survey in tissue sections:

Tissue	Parasite	Number of Fish hosting Parasite (Class Identification) Detected in Devil's Lake 2007	Number of Fish hosting Parasite (Class Identification) Detected in Devil's Lake 2008	Comments	Number of Fish hosting Parasite (Class Identification) Detected in Lake Winnipeg 2007
Gill	Protozoa: <i>Trichodina sp</i> <i>Apiosomas sp</i>	12/60 1/60	42/60 7/60	L.W. fish 9,57	2/60 0
Gill	Trematode (Monogenean): <i>Gyrodactylus sp</i>	13/60	1/60		9/60
Gill	Myxosporean: distinct round spores with round shaped polar capsules <i>Henneguya sp</i> (like)	2/60 2/60	0/60 3/60		5/60 5/60
Gill	Annelid leech-like	3/60	0/60		0
Skin/fin	Trematode (Monogenean): <i>Gyrodactylus sp</i>	0/60	1/60		0
Nerve (peripheral)	Myxosporean:	6/60	4/60		
Brain (meninges)	Trematode (Digenean):	5/60	29/60		31/60
Thymus	Myxosporean: (similar morphology to the peripheral nerve myxosporeans)	2/60	0/60		2/60
Cartilage/Bone	Myxosporean: few foci, poor morphological characteristics	1/60	4/60		0
Connective Tissue	Myxosporean:				

	Henneguya sp (like), similar morphology to brachial tissue myxosporeans	0/60	3/60		0
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fathead minnow (continued)

Tissue	Parasite	Number of Fish hosting Parasite (Class Identification) Detected in Devil's Lake 2007	Number of Fish hosting Parasite (Class Identification) Detected in Devil's Lake 2008	Comments	Number of Fish hosting Parasite (Class Identification) Detected in Lake Winnipeg 2007
Skeletal muscle (intra-muscular)	Myxosporean: ellipsoid to oval shapes with deep staining polar capsules	15/60	52/60		38/60
Skeletal muscle	Trematode (Digenean): (encysted-some with melanized capsules)	12/60	18/60		15/60
GI-Intestine	Sporozoan-coccidian <i>eimeria</i> sp	0/60	12/60		0
GI-Intestine	Cestode suspect <i>Procteocephalus</i> sp lacked identifiable characteristics, seen in both intestinal wall and viscera	12/60 0/60	0/60 4/60		
Kidney (tubule)	Myxosporean: Large, ellipsoid to oval, 2 pyriform polar capsules Small, spherical values and polar capsules.	8/60 42/60	53/60 0/60		2/60
Kidney (interstitium)	Myxosporean: elongated and elliptical shaped	5/60	5/60		5/60

nematodes noted in Lake Winnipeg Fish # 6,19,29,36,40

Location: Devil's Lake
Species White Sucker (*Catostomus commersonii*)
Age: variable
Number of Fish: 2007-8
 2008-5
 0-Lake Winnipeg

Results of parasite survey in tissue sections:

Tissue	Parasite	Number of Fish hosting Parasite (Class Identification) Detected in Devil's Lake 2007	Number of Fish hosting Parasite (Class Identification) Detected in Devil's Lake 2008	Comments	Number of Fish hosting Parasite (Class Identification) Detected in Lake Winnipeg 2007
Gill	Myxosporean <i>Myxobolus sp</i>	3/8	0/5		WHS not examined