

Pathology Service

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
# cases submitted to the diagnostic service	35	39	44	49	38	80	95	96	60	51	64	53	48	46	36
# submitting facilities	26	25	27	29	23	43	46	68	28	28	33	35	29	26	21
# facilities reporting clinical disease	19	23	22	19	10	19	30	47	18	17	22	25	27	16	20
total # fish submitted	277	348	496	576	591	1111	1441	1294	1279	762	737	698	511	766	425

Percentages of total fish examined and submitting facilities diagnosed with the disease

	fish	facilities	fish	facilities	fish	facilities	fish	facilities	fish	facilities	fish	facilities	fish	facilities	fish	facilities	fish	facilities	fish	facilities	fish	facilities	fish	facilities	fish	facilities			
<i>Pseudoloma neurophila</i>	10.93	19.23	11.21	32.00	21.37	62.96	20.49	51.72	17.46	46.31	11.12	30.38	11.44	30.38	11.17	30.29	7.74	45.41	9.09	39.39	14.00	34.29	9.39	27.59	9.40	49.15	11.76	42.36	
<i>Pleistophora hyphessobryconis</i>	0.00	0.00	0.00	0.00	0.00	0.00	1.22	6.90	0.34	4.35	0.27	4.65	1.53	4.35	0.00	0.00	0.13	3.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Mycobacterium</i> spp.	6.86	48.15	6.32	36.00	9.88	49.15	4.69	24.48	5.25	41.68	5.17	32.56	6.18	33.92	3.44	42.86	5.77	39.29	2.85	21.21	3.58	25.71	5.48	34.48	2.74	28.92	4.71	33.33	
Bacterial infection (non-acid fast)	4.33	26.92	0.57	8.00	0.40	7.41	0.52	10.34	0.00	0.00	0.36	6.98	0.42	10.87	0.39	2.94	0.08	3.57	0.39	10.71	0.81	12.12	0.39	6.90	0.13	3.85	0.71	9.52	
<i>Pseudocapillaria ramontosa</i>	0.00	0.00	3.16	20.00	0.60	11.11	0.17	3.45	1.18	13.04	3.60	18.28	1.37	13.04	1.47	8.82	1.31	14.29	0.66	14.29	0.88	9.09	0.00	0.00	0.39	3.45	1.04	7.69	
Other helminths	0.00	0.00	2.30	12.00	0.00	0.00	0.17	3.45	0.09	2.33	0.14	4.35	0.08	1.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Myxidium streissneri</i>	3.25	13.54	3.45	20.00	2.82	22.22	1.91	29.69	4.06	30.43	4.23	27.91	4.02	34.78	2.32	14.71	2.74	25.00	4.72	25.00	2.31	18.18	5.87	17.14	7.83	20.69	4.83	34.62	
Fungal infection	0.00	0.00	0.29	4.00	0.29	3.76	0.00	0.00	0.09	2.33	0.35	2.17	0.00	0.00	0.00	0.00	0.13	1.57	0.27	6.06	0.29	5.71	0.39	6.90	0.52	6.69	0.71	5.54	
hepatic metacystosis	3.25	13.54	2.59	12.00	2.26	25.93	14.76	34.48	13.71	30.43	6.11	32.61	8.04	17.65	12.04	64.29	12.47	28.57	0.54	6.06	1.58	20.00	4.31	20.69	6.02	11.54	6.59	28.57	
Egg associated inflammation/ophoritis	13.72	61.54	10.92	36.00	19.76	55.56	12.15	68.97	6.26	43.48	5.22	39.53	4.44	52.17	10.59	36.76	11.88	67.86	11.29	57.14	3.26	33.33	3.87	22.86	6.07	37.93	3.52	34.62	
Nephrocalcosis	1.08	11.54	0.86	4.00	2.82	18.52	2.08	29.69	1.35	26.09	2.24	25.38	2.15	30.43	3.25	19.12	2.44	39.29	2.62	25.00	1.83	21.21	1.13	13.79	4.05	28.92	4.00	23.81	
Gill lesions	5.78	15.38	0.86	8.00	2.62	11.11	2.78	17.24	3.21	8.70	6.84	32.56	2.91	23.91	3.55	20.59	2.03	35.71	1.97	25.00	9.36	30.30	5.87	42.86	5.87	27.59	0.78	11.54	
<i>Edwardsiella ictaluri</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oxid hyperplasia (pancreatic or biliary)	2.17	23.08	1.44	16.00	4.03	44.44	1.22	29.69	1.69	13.95	1.11	19.57	1.08	14.71	1.05	21.43	2.49	35.71	1.99	12.12	2.44	20.00	2.74	13.79	1.17	15.38	1.18	19.05	
Intestinal neoplasia, dysplasia, or hyperplasia	2.53	11.54	1.44	16.00	4.03	22.22	1.39	10.34	3.21	8.70	7.11	11.63	1.94	6.52	2.01	11.76	2.27	21.43	1.97	17.86	3.93	21.21	3.87	25.71	6.76	17.24	4.70	23.08	
Seminoma	6.86	23.08	1.72	12.00	2.82	25.93	1.74	29.69	0.85	17.95	1.89	18.60	1.60	29.29	1.38	14.71	1.85	28.57	2.10	21.43	1.83	18.18	1.43	17.14	1.08	15.78	3.26	19.23	
Ultrabranial adenoma or adenocarcinoma	0.00	0.00	0.29	4.00	1.41	14.81	1.74	13.79	1.02	21.74	0.90	13.95	0.28	8.70	0.77	8.82	0.39	7.14	0.66	7.14	0.41	9.09	0.57	8.57	0.60	0.91	7.69		
Chordoma	0.36	3.85	0.00	0.00	0.20	3.70	0.17	3.45	0.34	8.70	0.09	2.33	0.00	0.00	0.00	0.00	1.57	25.00	0.00	0.00	0.00	0.00	0.59	10.34	0.13	3.85	0.00	0.00	
Other neoplasia	1.81	15.38	1.44	12.00	2.22	25.93	1.04	10.34	1.35	8.70	0.81	13.95	0.56	13.04	1.31	14.71	0.63	17.86	2.23	25.00	2.12	24.24	2.72	22.86	2.59	10.34	2.61	34.62	
Spinal deformity (in histologic sections)	2.53	15.38	0.29	4.00	1.21	11.11	1.91	29.69	0.34	4.35	0.99	9.30	1.00	26.09	0.93	11.76	2.97	42.86	0.00	0.00	1.99	18.18	1.15	17.14	5.68	24.14	1.57	23.08	
<i>Piscinodinium pillulare</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Aeromonas - etiology unknown	1.44	11.54	2.30	20.00	1.61	25.93	0.52	6.90	0.00	0.00	1.08	6.98	0.21	6.52	0.70	7.35	1.17	21.43	0.79	14.29	0.88	9.09	0.57	11.43	0.59	13.45	0.39	11.54	
Coliforms - etiology unknown	1.44	13.38	0.57	8.00	0.60	7.41	1.39	17.24	2.43	18.60	1.18	19.57	2.01	20.59	3.47	35.71	0.00	0.00	0.88	12.12	0.86	11.43	2.94	13.79	0.78	15.38	6.12	19.05	
Intense	0.00	0.00	0.57	8.00	0.20	3.76	0.17	3.45	0.34	8.70	0.09	2.33	0.21	4.35	0.15	2.94	0.18	3.57	0.13	3.57	0.27	6.06	0.00	0.00	0.00	0.00	0.13	3.85	

SUMMARY OF ZIRC IN-HOUSE DIAGNOSTIC TESTING

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total # Main Room fish sampled	170	132	1	395	411	889	497	787	1938	1330	1435	1374	1145	1454	1020
Quarantine Room fish sampled	0	0	1	0	0	11	125	112	308	N/A	382	177	180	89	28

Total number of fish diagnosed with the disease in the ZIRC Main Fish Room (M) and Quarantine Room (Q)

	M	Q	M	Q	M	Q	M	Q	M	Q	M	Q	M	Q	M	Q	M	Q	M	Q	M	Q	M	Q	M	Q	M	Q	M	Q
<i>Pseudoloma neurophila</i>	0	0	182	0	0	0	0	0	0	15	130	28	134	0	265	4	203	0	343	31	31	289	1	91	0	0	0	0		
<i>Pleistophora hyphessobryconis</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
<i>Mycobacterium</i> spp.	46	3	50	7	0	0	0	0	15	4	20	1	13	12	24	9	24	9	24	9	24	9	24	9	24	9	24	9	24	
Bacterial infection (non-acid fast)	2	0	0	0	0	0	0	0	1	0	0	0	0	0	1	3	0	0	3	0	0	1	0	0	0	0	0	0		
<i>Pseudocapillaria ramontosa</i>	0	0	0	1	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Other helminths	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
<i>Myxidium streissneri</i>	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	32	0	0	0	9	0	47	0	7	0	0	0			
Fungal infection	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
hepatic metacystosis	12	0	9	0	31	0	28	33	59	1	62	6	104	9	157	14	163	0	356	29	443	18	287	4	181	2	116	0		
Egg associated inflammation/ophoritis	20	0	23	0	123	0	28	0	8	0	0	55	9	58	1	75	0	81	1	63	5	102	0	66	0	0	0			
Nephrocalcosis	2	0	9	0	4	0	2	0	15	1	18	0	16	0	12	0	11	0	6	0	11	0	76	0	12	0				
Gill lesions	0	0	0	0	0	0	0	0	1	10	3	20	0	14	0	0	0	0	2	14	1	14	7	3	0	5				
<i>Edwardsiella ictaluri</i>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Oxid hyperplasia (pancreatic or biliary)	0	0																												