

AQUATIC ANIMAL DISEASE REPORT - 2021

Country/territory: **NEW ZEALAND**

Item	Disease status/occurrence code a/b/												Level of diagnosis	Epidemiological comment numbers
	Month													
DISEASES PREVALENT IN THE REGION	January	February	March	April	May	June	July	August	September	October	November	December		
FINFISH DISEASES														
OIE-listed diseases														
1. Infection with epizootic haematopoietic necrosis virus	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
2. Infection with infectious haematopoietic necrosis virus	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
3. Infection with spring viremia of carp virus	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
4. Infection with viral haemorrhagic septicaemia virus	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
5. Infection with <i>Aphanomyces invadans</i> (EUS)	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
6. Infection with red sea bream iridovirus	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
7. Infection with koi herpesvirus	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
Non OIE-listed diseases														
8. Grouper iridoviral disease	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
9. Viral encephalopathy and retinopathy	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
10. Enteric septicaemia of catfish	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
11. Carp Edema Virus Disease	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
12. Tilapia lake virus (TILV)	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
MOLLUSC DISEASES														
OIE-listed diseases														
1. Infection with <i>Bonamia exitiosa</i>	-(2020)	+	-(2021)	-(2021)	-(2021)	-(2021)	-(2021)	+	-(2021)	-(2021)	-(2021)	-(2021)	III	1
2. Infection with <i>Perkinsus olseni</i>	+	+	+	-(2021)	-(2021)	-(2021)	-(2021)	-(2021)	-(2021)	-(2021)	+	+	III	2
3. Infection with abalone herpesvirus	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
4. Infection with <i>Xenohalotis californiensis</i>	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
5. Infection with <i>Bonamia ostreae</i>	-(2020)	+	-(2021)	-(2021)	-(2021)	-(2021)	-(2021)	-(2021)	-(2021)	-(2021)	-(2021)	+	III	3
Non OIE-listed diseases														
6. Infection with <i>Marteilioides chungmuensis</i>	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
7. Acute viral necrosis (in scallops)	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
CRUSTACEAN DISEASES														
OIE-listed diseases														
1. Infection with Taura syndrome virus	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
2. Infection with white spot syndrome virus	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
3. Infection with yellow head virus genotype 1	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
4. Infection with infectious hypodermal and haematopoietic necrosis virus	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
5. Infection with infectious myonecrosis virus	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
6. Infection with <i>Macrobrachium rosenbergii</i> nodavirus (White Tail disease)	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
7. Infection with <i>Hepatobacter penaei</i> (Necrotising hepatopancreatitis)	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
8. Acute hepatopancreatic necrosis disease (AHPND)	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
9. Infection with <i>Aphanomyces astaci</i> (Crayfish plague)	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
Non OIE-listed diseases														
10. Hepatopancreatic Microsporidiosis caused by <i>Enterocytozoon hepatopenaei</i> (HPM-EHP)	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
11. Viral covert mortality disease (VCMD) of shrimps	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
12. <i>Spiroplasma eriocheiris</i> infection	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
13. Decapod iridescent virus 1 (DIV-1)	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
AMPHIBIAN DISEASES														
OIE-listed diseases														
1. Infection with <i>Ranavirus</i> species	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	0000	III	
2. Infection with <i>Batrachochytrium dendrobatidis</i>	-(2019)	-(2019)	-(2019)	-(2019)	-(2019)	-(2019)	-(2019)	-(2019)	-(2019)	-(2019)	-(2019)	-(2019)	III	4

1. Epidemiological comments:	
(Comments should include: 1) Origin of the disease or pathogen (history of the disease); 2) Species affected; 3) Disease characteristics (unusual clinical signs or lesions); 4) Pathogen (isolated/sero-typed); 5) Mortality rate (high/low; decreasing/increasing); 6) Death toll (economic loss, etc); 7) Size of infected areas or names of infected areas; 8) Preventive/control measures taken; 9) Samples sent to national or international laboratories for confirmation (indicate the names of laboratories); 10) Published paper (articles in journals/website, etc). and 11) Unknown diseases: describe details as much as possible.)	
Comment No.	
1	<p>1) Origin of the disease or pathogen (history of the disease): Detected via targeted surveillance</p> <p>2) Species affected: wild flat oysters (<i>Ostrea chilensis</i>)</p> <p>3) Disease characteristics (unusual clinical signs or lesions): n/a</p> <p>4) Pathogen (isolated/sero-typed): <i>Bonamia exitiosa</i></p> <p>5) Mortality rate (high/low; decreasing/increasing): [insert estimated mortality rate or "low"]</p> <p>6) Death toll (economic loss, etc): n/a</p> <p>7) Size of infected areas or names of infected areas: Foveaux Strait, Southland</p> <p>8) Preventive/control measures taken: n/a</p> <p>9) Samples sent to national or international laboratories for confirmation (indicate the names of laboratories): histopathology and ddPCR (National Institute Water and Atmospheric Research)</p> <p>10) Published paper (articles in journals/website, etc): n/a</p> <p>11) Unknown diseases: describe details as much as possible.): n/a</p> <p><i>Bonamia exitiosa</i> occurs in commercial oyster beds in Foveaux Strait, Southland where it is highly prevalent and associated with mortalities in mid to late summer. It occurs intermittently around the South Island and in Wellington Harbour (southern end of the North Island) and the North Island. Previous reports of detection in flat oysters (<i>Ostrea chilensis</i>) have been from Hauraki Gulf (Auckland region), Tauranga (Bay of Plenty region), the Marlborough Sounds and Wellington Harbour. Annual monitoring of the presence of <i>B. exitiosa</i> infection is undertaken in the flat oyster (<i>O. chilensis</i>) population in the Foveaux Strait, and in February 2021 4.8 % of surveyed flat oysters were positive. Furthermore, additional surveillance carried out in August 2021 detected <i>B. exitiosa</i> in Horseshoe Bay, Stewart Island from 16/150 wild flat oysters and 31/150 farmed oysters. These detections were not associated with unusual mortality.</p>
2	<p>1) Origin of the disease or pathogen (history of the disease): Detected via targeted surveillance.</p> <p>2) Species affected: farmed and wild greenlipped mussels <i>Perna canaliculus</i></p> <p>3) Disease characteristics (unusual clinical signs or lesions): none</p> <p>4) Pathogen (isolated/sero-typed): <i>Perkinsus olseni</i></p> <p>5) Mortality rate (high/low; decreasing/increasing): none</p> <p>6) Death toll (economic loss, etc): n/a</p> <p>7) Size of infected areas or names of infected areas: Detected in farmed greenlipped mussels <i>Perna canaliculus</i> near Coromandel (Waikato region) and in Pelorus Sound (Marlborough region) and in wild greenlipped mussels near Nelson (Nelson region).</p> <p>8) Preventive/control measures taken: none</p> <p>9) Samples sent to national or international laboratories for confirmation (indicate the names of laboratories): RFTM and real time PCR, National Animal Health Laboratory – Wallaceville</p> <p>10) Published paper (articles in journals/website, etc): none</p> <p>11) Unknown diseases: describe details as much as possible.): n/a</p> <p><i>Perkinsus olseni</i> was first detected in New Zealand in 1999, in wild wedge shells (<i>Macomona liliana</i>). It was then found in wild populations of New Zealand cockles (<i>Austrovenus stutchburyi</i>), ark shells (<i>Barbatia novaezelandiae</i>) and pipi (<i>Paphies australis</i>) in 2000-2001. In July 2013, <i>P. olseni</i> was detected for the first time in farmed black foot pāua (<i>Haliotis iris</i>), an abalone species native to New Zealand. Further detections were made in wild <i>H. iris</i> populations in 2014. These mollusc species occur widely around the coast of New Zealand, but to date <i>P. olseni</i> has only been detected in these species from the Auckland region northwards. <i>Perkinsus olseni</i> was found for the first time on the South Island in New Zealand green lipped mussels (<i>Perna canaliculus</i>) in a land based aquaculture facility in September 2014, and then in wild New Zealand scallops (<i>Pecten novaezelandiae</i>) in November 2014. Both of these findings were in the Marlborough region, and were incidental and not associated with mortality events. In November 2017, passive surveillance detected <i>P. olseni</i> from New Zealand scallops in two sites within Kaipara harbour, Auckland region, and again was thought to be incidental and not associated with significant pathology in scallops. In August 2018, there was another incidental finding of <i>P. olseni</i> in farmed green lipped mussels (<i>Perna canaliculus</i>) in the Coromandel region (North Island), that was not associated with mortalities. In October 2019, <i>P. olseni</i> was detected in <i>P. canaliculus</i> in a land based aquaculture facility in Nelson that was experiencing low level mortalities. It remains unknown if <i>P. olseni</i> was related to the mortalities in <i>P. canaliculus</i> in this case. In January - March 2021, <i>P. olseni</i> was reported from a targeted survey of farmed greenlipped mussels (<i>Perna canaliculus</i>) in the Coromandel (Waikato region) and in Pelorus Sound (Marlborough region) and in wild greenlipped mussels in the Nelson region. A further detection of <i>P. olseni</i> was made during routine surveillance of broodstock greenlipped mussels in a land based facility in November - December 2021. No detections from 2021 were associated with unusual mortalities.</p>

3	<p>1. Reported in Big Glory Bay and Foveaux Strait via targeted surveillance;</p> <p>2. Species affected – wild flat oysters (<i>Ostrea chilensis</i>)</p> <p>3. Clinical signs – n/a</p> <p>4. Pathogen – <i>Bonamia ostreae</i></p> <p>5. Mortality rate – n/a</p> <p>6. Economic loss – n/a</p> <p>7. Geographic extent – Big Glory Bay, Stewart Island and Foveaux Strait (Southland)</p> <p>8. Containment measures – n/a;</p> <p>9. Laboratory confirmation – ddPCR (National Institute Water and Atmospheric Research), qPCR and nucelotide sequencing (Investigation and Diagnostic Centre - Wallaceville);</p> <p>10. Publications – None. <i>Bonamia ostreae</i> was detected for the first time in New Zealand flat oysters (<i>Ostrea chilensis</i>) in January 2015. It was found in two regions in the northern part of the South Island: on one land-based aquaculture facility in the Nelson region, and on two marine farms in the Marlborough region. Since that time, movement controls have been in place to regulate the movement of susceptible shellfish from the northern regions of the South Island and active surveillance has been conducted for the purposes of early detection of spread. In 2016, <i>B. ostreae</i> was detected in both farmed and wild flat oysters within the Marlborough region (the same region as initially reported), and was associated with pathology and mortality in the farmed population. In May 2017 surveillance detected <i>B. ostreae</i> in marine flat oyster farms in Big Glory Bay, Stewart Island (situated in the Southland region, at the southern end of the South Island). No clinical signs or elevated mortality was observed in association with <i>B. ostreae</i> in farmed flat oysters in Big Glory Bay. Following this detection, movement controls to manage risk movements from Stewart Island were issued, and depopulation of all flat oyster farms within areas where <i>B. ostreae</i> had been detected commenced. Depopulation of farms in Big Glory Bay commenced on the 19 June 2017 and was completed September 2017. Depopulation of farms in Marlborough Sounds commenced on the 11 July and was completed in December 2017. In February 2021, surveillance detected <i>B. ostreae</i> in 1/150 wild flat oysters collected from Big Glory Bay, Stewart Island (Southland region). In December 2021, surveillance detected <i>B. ostreae</i> in a further 6/150 wild flat oysters collected from the same area (Big Glory Bay, Stewart Island). These detections were not associated with unusual mortality.</p>
4	<p>The first isolation of <i>Batrachochytrium dendrobatidis</i> was made in 1999 in New Zealand. Since then the fungus has been detected both on the North and South Islands in both native and introduced frog species. The last detection of <i>B. dendrobatidis</i> was in July 2019 from Southern brown tree frogs (<i>Litoria ewingii</i>) that had been caught in the wild in the Wellington region of the North Island. Southern brown tree frogs are an introduced species of Australian frog that has established in New Zealand.</p>
5	
<p>2. New aquatic animal health regulations introduced within past six months (with effective date):</p>	