

Summary of diseases affecting salmonid culture in Tasmania, 2004-2007.

The DPIW Animal Health and Branch have compiled the table below using information collected as part of the Tasmanian Salmonid Health Surveillance Program. Exact mortality figures caused by each specific disease are not available, therefore only indicative comments have been given.

Salmonid freshwater hatcheries

Year	Disease	Disease agent	Species affected	Comments
2004	Yersiniosis	<i>Yersinia ruckeri</i> (non-Haggerman strain)	Atlantic salmon	Increasing problem in most major flow-through hatcheries. Yersinia vaccine currently under development within DPIW. Clinical cases treated with oxolinic acid antibiotic.
	Fungal infection of eggs	Saprolegnia sp.	Atlantic salmon, rainbow trout	Significant problem for egg survival during incubation. Industry has opted for voluntary withdrawal of the use of malachite green and is now trialing formaldehyde treatment of eggs and UV treatment of the incubation water.
	Fungal infection of broodstock	Saprolegnia sp.	Atlantic salmon	Minor problem, managed by improving water quality.
	Environmental gill disease	Various endemic bacterial and fungi	Atlantic salmon, Rainbow trout.	Moderate problem in young fry and fingerlings. Education program for hatchery staff initiated to detect problem early and resolve problem quickly. Improved water quality, stocking densities and treatment with chloramine-T used to address clinical cases.
	Flank ulcers	Flavobacteria sp.	Atlantic salmon	Minor problem restricted to a small number of hatcheries. No treatment necessary.
2005	Yersiniosis	<i>Yersinia ruckeri</i> (non-Haggerman strain)	Atlantic salmon	As for 2004. Vaccine trials continue to assess efficacy. Clinical cases treated with OTC antibiotic.
	Fungal infection of eggs	Saprolegnia sp.	Atlantic salmon, rainbow trout	As for 2004. No major problems of egg saprolegnia reported
	Environmental gill disease	Various endemic bacterial and fungi	Atlantic salmon, Rainbow trout.	As for 2004.
2006	Yersiniosis	<i>Yersinia ruckeri</i> (non-Haggerman strain)	Atlantic salmon	As for 2005, most significant disease issue for hatcheries. Clinical cases treated with oxolinic acid and OTC antibiotics. Full field trials of vaccine undertaken. Assessment of vaccine efficacy continues.
	Fungal infection of eggs	Saprolegnia sp.	Atlantic salmon, rainbow trout	As for 2005
	Environmental gill disease	Various endemic bacterial and fungi	Atlantic salmon, Rainbow trout.	As for 2005

2006 (hatcheries continued)	Collumnaris disease	Flexibacter collumnaris	Rainbow trout, brown trout, Atlantic salmon	Associated with high water temperatures >20°C during February. Isolated cases treated with small quantities of OTC
2007	Yersiniosis	<i>Yersinia ruckeri</i> (non-Haggerman strain)	Atlantic salmon	As for 2005, most significant disease issue for hatcheries. Industry voluntarily opted to withdraw use of oxolinic acid antibiotic. Clinical cases now treated with OTC antibiotic.
	Fungal infection of eggs	Saprolegnia sp.	Atlantic salmon, rainbow trout	As for 2005
	Environmental gill disease	Various endemic bacterial and fungi	Atlantic salmon, Rainbow trout.	As for 2005
	Collumnaris disease	Flexibacter collumnaris	Rainbow trout, brown trout, Atlantic salmon	As for 2006. Affected hatcheries reviewing hatchery systems to improve water quality and manage high water temps during February.
	Nocardiosis	Nocardia sp.	Altatlantic salmon	Minor problem restricted to two hatcheries.

Salmonid marine farms

Year	Disease	Disease agent	Species affected	Comments
2004	Amoebic gill disease	<i>Neoparamoeba sp.</i>	Atlantic salmon	Major disease cost to industry. Restricted mainly to farms located in the south-east of the state. Primary control treatment is freshwater bathing. Work on developing a vaccine and disease resistant breeding programs are currently under way.
	Vibriosis	<i>Vibrio anguillarum</i>	Rainbow trout	Major disease affecting ocean trout production. DPIW working with producers to assess modifications to the vaccination strategy. Disease has traditionally been treated with OTC antibiotics.
	Marine aeromonas disease of salmonids	<i>Aeromonas salmonicida</i> (acheron)	Atlantic salmon	Atypical <i>A. salmonicida</i> strain affecting Atlantic salmon located within Macquarie Harbour. Pathogen originally identified during 2000 and incidence of clinical disease is increasing.
	Marine yersiniosis	<i>Yersinia ruckeri</i> (non-Haggerman strain)	Atlantic salmon	Results in clinical expression of yersiniosis post transfer to marine sites. Level of subclinical carriage in stock within hatcheries affects level of disease expression post-transfer. Occasional problem requiring treatment with chlortetracycline or trimethoprim.
	Tasmanian rickettsial disease	Rickettsial-like organism specific to Tasmania	Atlantic salmon	Minor disease affecting isolated cages during summer on farms located in the south-east growing regions. Disease originally discovered during 2001 and has occurred periodically since that time. Occurs in closed association with reovirus infection. Cases respond well to treatment with OTC.
	Cutaneous erosive disease/mouth rot	<i>Tenachibacteria maritimum</i>	Atlantic salmon	Commonly affects Atlantic salmon post transfer to marine farms. Commonly does not require treatment, but responds well to treatment with trimethoprim in severe cases.
	gill necrosis	various	Atlantic salmon	Caused by irritant algae damaging gills and allowing secondary infection with <i>Flavobacteria sp.</i> and <i>Neoparamoeba sp.</i>
	Moon jellyfish toxicosis	<i>Aurelia aurita</i>	All species	Isolated cage mortalities occurred on some farms following blooms of jellyfish occurring in the Huon Estuary.
	Marine algal toxicosis	various	All species	Major mortalities occurred periodically following algae blooms in south-east farms during the summer period. Primarily caused by <i>Heterosigma</i> species
2005	Amoebic gill disease	<i>Neoparamoeba sp</i>	Atlantic salmon	As per 2004.
	Vibriosis	<i>Vibrio anguillarum</i>	Rainbow trout	Major disease affecting ocean trout production. Modifications to vaccination management made dramatic reductions on the number of fish affected during this year. No medication of fish for this disease undertaken during 2005.
	Marine aeromonas disease of salmonids	<i>Aeromonas salmonicida</i> (acheron)	Atlantic salmon	Atypical <i>A. salmonicida</i> strain affecting Atlantic salmon located within Macquarie Harbour. Pathogen originally identified during 2000 and increased in impact on production again during 2005. Resulted in an increase in the use of OTC during this year. Work on vaccine development currently under way.

2005 (marine farms continued)	Marine yersiniosis	<i>Yersinia ruckeri</i> (non-Haggerman strain)	Atlantic salmon	As per 2004.
	Tasmanian rickettsial disease	Rickettsial-like organism specific to Tasmania	Atlantic salmon	As per 2004.
	Cutaneous erosive disease/mouth rot	<i>Tenachibacteria maritimum</i>	Atlantic salmon	As per 2004.
2006	Amoebic gill disease		Atlantic salmon	As per 2005.
	Vibriosis	<i>Vibrio anguillarum</i>	Rainbow trout	Impact of disease on farms significantly reduced with adoption of modified vaccination strategy. No medication of fish for this disease undertaken during 2006.
	Marine aeromonas disease of salmonids	<i>Aeromonas salmonicida</i> (acheron)	Atlantic salmon	Atypical <i>A. salmonicida</i> strain affecting Atlantic salmon located within Macquarie Harbour. Pathogen originally identified during 2000 and os gradually increasing in severity. Disease causing significant impacts in unvaccinated stock. Vaccination of stock being introduced to marine sites began during 2006 with excellent results. Treatment of older unvaccinated stock with OTC still required on one farm.
	Marine yersiniosis	<i>Yersinia ruckeri</i> (non-Haggerman strain)	Atlantic salmon	As per 2005.
	Tasmanian rickettsial disease	Rickettsial-like organism specific to Tasmania	Atlantic salmon	Significant and widespread disease event occurred during summer of 2006 in south-eastern Tasmania resulting in significant mortalities. Affected companies treated large volumes of stock using OTC.
	Cutaneous erosive disease/mouth rot	<i>Tenachibacteria maritimum</i>	Atlantic salmon	As per 2005.
	BSKD	<i>Ichthyophonus sp.</i>	Rainbow trout , Atlantic salmon	Increased prevalence of infection with the fungal-like organism <i>Ichthyophonus sp.</i> noted in one farm in Macquarie Harbour. Condition monitored without treatment.
2007	Amoebic gill disease		Atlantic salmon	As per 2006
	Vibriosis	<i>Vibrio anguillarum</i>	Rainbow trout	As per 2006, however one farm that had not yet fully incorporated vaccination changes did medicate using OTC.
	Marine aeromonas disease of salmonids	<i>Aeromonas salmonicida</i> (acheron)	Atlantic salmon	As per 2006. No medication of vaccinated fish undertaken during 2007. Incidence of disease significantly reduced. Medication of older unvaccinated stock still required.

2007 (marine farms continued)	Marine yersiniosis	<i>Yersinia ruckeri</i> (non-Haggerman strain)	Atlantic salmon	Impact of disease significantly reduced following production of vaccination in hatcheries.
	Tasmanian rickettsial disease	Rickettsial-like organism specific to Tasmania	Atlantic salmon	Episodic detentions of pathogen during summer but full clinical expression of the disease did not occur during 2007.
	Cutaneous erosive disease/mouth rot	<i>Tenacibacteria maritimum</i>	Atlantic salmon	As per 2006
	Irritable GUT syndrome*	Unknown, cause currently under investigation.	Atlantic salmon	Widespread inappetence without increased mortality noted by one company. True aetiology of condition still under investigation. Resulted in increased use of OTC in Atlantic salmon farmed in the south-east region. (* Irritable GUT syndrome is a term used by industry to described the condition, the true aetiology is yet to be determined)