

Executive Summary

The Mersey-Forth Water Management Review technical study investigated opportunities to reduce the risk of the introduction and spread of freshwater pests and pathogens into waterways of the Mersey-Forth catchments and wider Tasmania. The project built capacity and raised awareness about the threat of pests and pathogens through education and training, the building of a wash-down trailer and working collaboratively on the Tasmanian Wilderness World Heritage Area (TWWHA) Biosecurity Project undertaken by NRM South.

Pests and pathogens training was delivered by Hydro Tasmania to over 250 people from government agencies, recreational groups working or undertaking recreational activities in the Mersey-Forth catchments and Hydro Tasmania field and operational staff. The training is now included in Hydro Tasmania's Health, Safety and Environment (HSE) training program which stipulates that staff from Hydro Tasmania and Entura are required to undertake the training.

Community engagement and distribution of awareness material including the *Keeping it Clean Hygiene Manual*, posters, flyers and stickers occurred at the Liawenee Open Day and Devonport Anglers Junior Presentation and Awareness day.

A wash-down trailer was built by Hydro Tasmania to be used during fieldwork or construction activities and as a display to raise awareness at key community and recreation events. The trailer is available for Hydro Tasmania and stakeholders to use as appropriate.

This project built on the NRM South's TWWHA Biosecurity Project (2010-2012). Hydro Tasmania served on the Steering Committee, and the project built knowledge and capacity for government agencies, industry and recreational groups to engage in best-practice environmental biosecurity practices. Key outcomes of the project included the production of educational biosecurity videos, building of hygiene infrastructure and collection of critical information on threatened frog populations. Five boot cleaning stations and two helipads were installed in the Mersey-Forth catchments through the Biosecurity Project.

Acknowledgements

Contributions to producing this report were received from the following people:

Geir Rodven, Laura Joss and Vani Welling (NRM South, Tasmania).

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Alison Howman and Michael Bidwell (Hydro Tasmania).

Cover photographs: Top: Tasmanian Green and Gold frog; Bottom left: Hydro Tasmania's mobile wash-down unit; Bottom middle: Helipad at Walls of Jerusalem; Bottom right: Boot wash-down before entering the Tasmanian Wilderness World Heritage Area (TWWHA)

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List of Abbreviations and Acronyms

2	DPIPWE	Department of Primary Industries, Parks, Water and Environment
2	HSE	Hydro Tasmania's Health, Safety and Environment system
2	NRM	Natural Resources Management
3	TWWHA	Tasmanian Wilderness World Heritage Area

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1. Introduction

Hydro Tasmania has undertaken a Water Management Review in the Mersey-Forth catchments with the aim of achieving more sustainable land and water management practises. Stakeholder consultation resulted in the identification of 14 technical and social studies, one of which is aquatic pests and pathogens management in the Mersey-Forth catchments and wider Tasmania.

The aim of this technical study was to reduce the risk of the introduction and spread of aquatic pests and pathogens into waterways of the Mersey-Forth catchments and wider Tasmania.

The objectives were as follows:

- Deliver pests and pathogens training to Government agencies, recreational groups from the Mersey-Forth catchments and Hydro Tasmania field and operational staff;
- Engage with the community and distribute awareness material at key recreational events;
- Build a mobile wash-down trailer to be used during field or construction related activities and as a display to raise awareness; and
- Build on knowledge gained from NRM South's TWWHA (Tasmanian Wilderness World Heritage Area) Biosecurity Project to educate the community about key hygiene messages, and install hygiene equipment and infrastructure in key locations around Tasmania including the Mersey-Forth catchments.

2. Background

Native freshwater biodiversity in Tasmania are under threat from freshwater pests and pathogens including *Phytophthora cinnamomi* (root rot), *Batrachochytrium dendrobatidis* (Chytrid frog disease), *Mucor amphibiorum* (platypus Mucor disease) and the freshwater algal pest *Didymosphenia geminata* (Didymo) (Allan and Gartenstein, 2010). Although Didymo has not yet been found in Tasmania or on the mainland there is a high risk that it may be introduced from overseas in fishing gear and other freshwater recreational equipment. The arrival of Didymo in Tasmania could result in devastating impacts to our environment, recreational values and hydropower system. Once Didymo and other pest and pathogens become present in a water system they are usually impossible to eradicate (Allan and Gartenstein, 2010).

Freshwater pests and pathogens are spread to new areas when contaminated water, mud, gravel, soil and plant material or infected animals are moved between sites. Contaminated materials are commonly transported on boots, equipment, vehicles tyres and during road construction and maintenance activities.

Since 2006 Hydro Tasmania has been working collaboratively with Tasmanian Government agencies, industry and

recreational groups to support lead agency Department of Primary Industries, Parks, Water and Environment (DPIPWE) to increase awareness amongst Tasmanian, national and international stakeholders about the threat of freshwater pests and pathogens.

Raising awareness and communicating key messages has been achieved through education and training. In addition, wash-down equipment has been developed to minimise the ecological threat of pest and pathogens in the State.

This project continues the collaborative work Hydro Tasmania has been undertaking with its partners including Natural Resource Management (NRM) South, DPIPWE, Quarantine Tasmania and Forestry Tasmania, with a focus on the Mersey-Forth catchments.

3. Processes and Outcomes

The process and outcomes for fulfilling the project objectives are now presented:

3.1 Training

3.1.1 Background

Based on the *Keeping it Clean: a Tasmanian Field Hygiene Manual* (Allan and Gartenstein, 2010), Hydro Tasmania staff, government agencies and recreational groups received pests and pathogens training from September 2012 to March 2013. People and organisations selected to receive the training were those whose activities have the potential to spread pests and pathogens, and who have the capacity to take ownership of the issue and raise awareness and undertake training in their own organisations.

The training was delivered by Hydro Tasmania with assistance from NRM South. The training incorporated the following aspects:

1. What are the main pests and disease threats;
2. Mechanisms of spread;
3. *Keeping it Clean* manual and hygiene protocols;
4. Wash-down equipment checklist and demonstration; and
5. Biosecurity Steering Committee and what you can do.

The training provides a practical step-by-step guide to cleaning clothing, boots, waders, equipment, vehicles and machinery. By following the simple hygiene protocols, incursion of pest and pathogen threats can be considerably reduced.

With the skills obtained from the training personnel now have the capacity to contribute to the protection of Tasmania's lakes and rivers from environmentally destructive pests and pathogens. Attendees were provided with wash-down kits and were encouraged to incorporate the hygiene protocols into their work procedures.

The training supports the objectives of the TWWHA Biosecurity project (see Section 3.4).

3.1.2 Delivery of training to Mersey-Forth organisations

Training was delivered to over 30 representatives from 16 organisations that manage and/or undertake their recreational activities in the Mersey-Forth catchments (Table 3.1). Most of the training occurred over a two day period in Latrobe and Burnie during March 2013. The Parks and Wildlife Service Discovery Rangers were trained in Hobart in December 2012 (Photograph 3.1).

3.1.3 Delivery of training to Hydro Tasmania staff

Over 200 Hydro Tasmania managers, field and technical staff received pests and pathogens training from September 2012 to November 2013. As part of Hydro Tasmania's Health, Sustainability and Environment (HSE) training program, Hydro Tasmania and Entura managers, field and technical staff are now required to undertake pests and pathogens training.

Table 3.1: Mersey-Forth organisations that received pests and pathogens training from Hydro Tasmania

Type of Organisation	Organisation name
Clubs	Devonport Anglers, Devonport Junior Anglers, Devonport Fly Fishing, Kentish Aquatic, Lake Roseberry Ski Club, North West Fly Fishers and Wynyard Angling Club.
Community Group	Spreyton Latrobe Rotary.
Councils	Latrobe, Kentish and Inland Fisheries Advisory Council.
Government Agencies	Parks and Wildlife Service Discovery Rangers and Sport and Recreation Tasmania.
School	Latrobe High School.
Shop	Devonport Boat and Tackle.



Photograph 3.1: Simon Gartenstein (Hydro Tasmania) delivering pests and pathogens training to Tasmanian Parks and Wildlife Service Discovery Rangers in December 2012. Photograph courtesy of Laura Joss (NRM South)

3.2 Community engagement and distribution of awareness material

To spread the messages amongst the local community about the importance of pests and pathogens prevention Hydro Tasmania set up an information stall at the Liawenee Open Day (May 2013 and May 2012) and the Devonport Anglers Club Junior Presentation and Awareness Day (July 2012). *Keeping it Clean* hygiene manuals and awareness materials such as flyers, posters and stickers were distributed to members of the community.

3.3 Hydro Tasmania's wash-down trailer

Hydro Tasmania organised the production of a mobile wash-down trailer in October 2012, to be used as a wash-down facility during field or construction related activities (Photograph 3.2). The trailer is designed to wash-down small vehicles, equipment and personal clothing that may have come into contact with contaminated soil, animals, plants/organic material and water. The trailer can also be used as a display at key community and recreation events to raise awareness about the importance of applying hygiene protocols.

The trailer is available to Hydro Tasmania staff and external organisations if required. Step by step instructions on how to use and maintain the trailer are provided. External organisations should contact the Hydro Tasmania Aquatic Environment Program Manager if wanting to book the trailer.



Photograph 3.2: Hydro Tasmania's wash-down trailer

3.4 Collaborative work with the Biosecurity Steering Committee

The TWWHA Biosecurity Project was initiated in 2010 by NRM South in collaboration with Hydro Tasmania, DPI/PWE and Forestry Tasmania. The key objective of the project was to maintain a healthy resilient TWWHA ecosystem free of pests, weeds and pathogens through building the knowledge and capacity of government agencies, industry and recreational groups to engage in best-practice environmental biosecurity practices. The project was completed in December 2012.

The TWWHA Biosecurity Project delivered the following key elements:

- Infrastructure including boot cleaning stations and helipads at key locations within the TWWHA and reserves. The boot cleaning stations (Photograph 3.3) were installed during 2012 and helipads in June 2013;
- Production of World Heritage Area Biosecurity educational videos (search for NRMS WHA biosecurity to see the series of videos on You Tube);
- Production of three mobile wash-down trailers (additional to Hydro Tasmania's wash-down trailer); and
- Establish baseline information on amphibian and pathogen distribution throughout the TWWHA so that continued pathogen spread and impact can be determined in the future.

In the Mersey-Forth catchments five boot cleaning stations and two helipads were installed as part of the TWWHA Biosecurity project.

To find out more about the TWWHA Biosecurity project go to the NRM South website, www.nrmsouth.org.au.



Photograph 3.3: Boot Cleaning Station prior to installation at Cradle Mountain

4. Commitment and Way Forward

Pests and Pathogens training will continue to be delivered to Hydro Tasmania and Entura staff. Refresher training will be delivered every 3 years to re-iterate key messages and update staff with new information.

Hydro Tasmania will continue to collaborate with Tasmanian Government agencies, industry and recreational groups to increase awareness amongst Tasmanian, national and international stakeholders about the threat of freshwater pests and pathogens. Raising awareness and communicating key messages will continue at key community and recreation events.

5. For More Information

The fact sheet for this study is available at www.hydro.com.au/MFWMR-studies

To see all the Mersey-Forth Water Management Review technical and social studies go to www.hydro.com.au/MFWMR-studies

Find out more about the Mersey-Forth Water Management Review at www.hydro.com.au/MFWMR

6. References

Allan K and Gartenstein S. 2010. *Keeping it Clean: a Tasmanian field hygiene manual to prevent the spread of freshwater pests and pathogens*. Natural Resource Management (NRM) South, Tasmania.

Appendix

A. Locations of Boot Cleaning Stations and Helipads in the TWWHA.



TASMANIAN WILDERNESS WORLD HERITAGE AREAS

Hygiene Stations Location



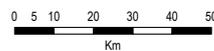
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Dec 10, 2012
1:725,000



DATUM: GDA 94 - PROJECTION: MGA55

Base data from the LIST
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Legend

Hygiene Station Location

- Boot Cleaning Station
- Helipad
- Tasmanian Wilderness World Heritage Area



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