

Bellinger River Snapping Turtle Management Program

April 2015

Background

Since February 2015, a significant mortality event has been observed for the Bellinger River Snapping Turtle (*Myuchelys georgesi*) (BRST) in the Bellinger River, northern NSW. The BRST is endemic to a 70km stretch of the Bellinger River (Figure 1). Population size for the species prior to the mortality event was estimated at 1500-4500 individuals.

Impacted turtles were first observed early in the week of 16/2/2015. As at 24/3/2015, a total of 343 turtles were confirmed as having died as a result of the mortality event, although anecdotal reports from the local community suggest a much higher number. Affected turtles that were initially held for rehabilitation were provided with a range of veterinary treatment; however animals experienced a 100% mortality rate.

Veterinary assessment indicates turtles have suffered blindness and succumbed to internal organ necrosis, particularly of the spleen, liver and kidney. Affected turtles present with acute, sudden and inflammatory lesions, which is most consistent with the presence of an infectious or parasitic agent. A large amount of support has been forthcoming from state, national and international diagnosticians to identify the potential cause of the mortality event and the investigation continues.

Preliminary testing by the Environment Protection Authority (EPA) found no water pollution issues. NSW Health has confirmed no implications for human health from the event.

A multi-agency Incident Management Team (IMT) was established in the township of Bellingen on the 9/03/2015. The purpose of the IMT was emergency management, built around objectives of ensuring public health and safety, understanding the extent of mortality, maximising animal welfare, minimising the spread of any potential pathogens and maintaining good information flows to the local community. The IMT was supported in its work by a large team of specialists from the Office of Environment and Heritage (OEH, including NSW National Parks & Wildlife Service (NPWS) and Regional Operations Group and Heritage Division (ROGHD)), the EPA, Department of Primary Industries (DPI), Local Land Services (LLS), NSW Health and Bellingen Shire Council.

The peak of turtle mortalities appears to have now passed. However, very few apparently healthy animals have been recovered and affected turtles have been found in over 66% of the 73km length of river known to be occupied by the species. The combined influence of a small and restricted natural population, the high mortality rate and the possibility that that very few healthy animals remain in the population create an urgent need to initiate species recovery measures. The IMT, whose focus was emergency management, has therefore stood down and the response will continue under an over-arching BRST Species Management Program. This program will comprise four Sub-Plans to maintain effort around 1) Species Conservation; 2) Diagnostics; 3) Surveillance; and 4) Containment. Implementation of the BRST Species Management Program will be coordinated by a committee comprising managers from each of the agencies involved (i.e. OEH, NSW DPI, Bellingen Shire Council and the LSS) and the leaders of each of the Sub-Plans. The committee will meet as required by teleconference and will be chaired by the NSW Chief Veterinary Officer (CVO) or nominee.

This document outlines the objectives of the BRST Species Management Program and describes the priority actions required to maintain effort and maximise the likelihood that BRST will survive over the longer-term.

Community Engagement

Ensuring the Bellinger and broader communities remain informed and up-dated on the BRST response remains a key objective of the BRST Species Management Program. The agencies involved in the on-going response remain committed to promoting awareness of future actions and outcomes, using a range of communication and community engagement tools. This will include normal agency media (e.g. newsletters and alerts), public briefings and news releases. In addition, agencies will continue to revise and up-date this document as new diagnostic information comes to light and the many uncertainties around species recovery are revealed.

The objectives of on-going community engagement are to:

- Ensure the community remains informed and up-dated of the status of the on-going response.
- To provide clear information and guidance to the community to enable them to:
 - Help manage the risks associated with the spread of any potential pathogen
 - Assist with on-going collection or reporting of sick and dead turtles
 - Report observations of BRST or other fauna potentially affected by the mortality event
 - Have confidence in using and recreating in the Bellinger River

Over-arching Objectives of the BRST Management Program

1. Maximise the chances that *Myuchelys georgesii* will persist in the wild in the long-term.
2. Minimise risks from the spread of any potential pathogen to other wild and domestic animals, industries, communities and other catchments.
3. Ensure the Bellinger and wider communities remain informed and updated about the on-going response.

The following section introduces the four Sub-Plans that make up the BRST Species Management Program. The actions that follow represent the essential next steps required to maintain effort around the BRST mortality event. As the situation and information base around the BRST mortality event is fluid, this document will need to be revised as additional information and analysis is revealed.

Species Conservation Sub-Plan

Lead Agency – OEH

Support Agency/s – University of Western Sydney, Taronga, DPI, Wildlife Health Australia

Purpose: To:

- undertake preparation and implementation of a BRST Conservation Plan
- implement an Emergency Transfer Plan to temporarily establish a healthy ex situ population of BRST as soon as possible as insurance against the immediate disease threat to the species in the wild.
- Inform the community about efforts to recover the BRST.

Current Situation and Priority Actions:

- An Emergency Transfer Plan has been approved. This is the first, operational stage of the conservation program for the species.
- The aim of the Transfer Plan is to collect at least twelve healthy adults, place them in quarantine and obtain as many hatchlings as possible. Further collection would be undertaken as facilities became available.
- Initial components of the transfer plan will cost an estimated \$150K. This funding will be provided by OEH and covers the capture, transport and quarantine of animals until the end of June 2015. Funding to cover costs beyond this has been applied for.

- A species recovery team will be established for the BRST to guide future species conservation efforts.

Diagnostic Sub-Plan

Lead Agency: DPI (Mel Gabor Principal Veterinary Pathologist, EMAI).

Support Agencies: Taronga Wildlife Health Registry, Universities, Australian Animal Health Laboratory (AAHL), various other laboratories

Purpose: To:

- investigate and define the cause of the current mortality of BRST
- inform and up-date the community about the results of diagnostic investigations

Current Situation and Priority Actions:

- A multi- agency working group has been convened to progress the diagnostic investigation.
- An excellent range of samples has been collected and distributed to at least seven institutions for analysis.
- An agreed process is in place to fund laboratory testing
- Further field submissions are currently not required.
- Review the results of all testing and analysis to date and provide advice on interpretation of laboratory testing.
- Provide advice as to whether and when additional samples are required
- Continue to coordinate transport of samples to laboratories.

Surveillance Sub-Plan

Lead Agency: DPI –Paul Freeman, assisted by NSW Wildlife Health Coordinator

Support Agencies: OEH; LLS; Local Councils and Community Groups; Animal Carers; Herpetological Groups; Wildlife Health Australia

Purpose: To:

- monitor the potential spread of any disease process involved in BRST mortality event.
- inform the community how they can help by reporting sightings of sick turtles.

Current Situation and Priority Actions:

- Zones of the Bellinger River in which mortality of BRSTs was and was not observed have been recorded and mapped.
- Active surveillance of upper Kalang River found no BRST, but results must be treated as inconclusive.
- No active surveillance has yet been conducted in other catchments.
- Animal welfare, biosecurity and zoonotic risk management protocols have been developed.
- Current case definition for BRST: BRST found dead, or beached on river bank in a moribund state, or swimming in a disoriented manner with swollen inflamed eyes and lids and emaciation. This may need to be refined as more information becomes available.
- Arrange further submissions if BRST show new clinical signs or disease pattern.
- Raise awareness of BRST disease and potential spread to other species by CVO bulletin to:
 - DPI and LLS staff
 - Private veterinarians
 - Wildlife carers
 - Herpetologists
 - Adjacent catchments.
- Communicate the following protocols for passive surveillance to the community:
 - Public to avoid handling BRST to minimise potential spread of any disease agent

- New sick or dead BRSTs reported to 131 555 to arrange collection to Bellingen Veterinary Clinic. Bellingen Vet Clinic (funded by DPI) to record data on sick and dead turtles and report to DPI and OEH.
- Community (including veterinarians, herpetology societies, local residents and volunteer wildlife carers) to report unusual mortalities/events of BRST or other aquatic fauna, particularly if signs consistent with disease in BRST to:
 - NSW wildlife coordinator Greg Curran 08 8088 9336 or greg.curran@dpi.nsw.gov.au
 - alternate NSW wildlife coordinator Sarah Britton on 02 6391 3717, or sarah.britton@dpi.nsw.gov.au or
 - EAD Hotline on 1800 675 888.
- Reports will be assessed and an investigation arranged if appropriate, including submission of samples.
- Where isolated sick turtles with none of the clinical signs of this disease event are located, people are to contact WIRES or other licenced wildlife care group/individual.
- If sick/dead turtles present from new areas, or different species present with similar clinical signs, then NPWS, LLS or private vet to assist in arranging for sample submission.
- Progress epidemiological analysis of surveillance data
- Report changes to existing risk profiles, or identification of new risk profiles to DPI Biosecurity for inclusion in the Biosecurity Risk Assessment for BRST.

Containment/Biosecurity Sub-Plan

Lead Agency: DPI - Melissa Walker

Support Agencies: LLS; OEH; Bellingen Shire Council

Purpose: To:

- minimise the risk of spread of potential pathogens both within and outside of the Bellingher catchment.
- To inform the community and other stakeholders on hygiene protocols that should be followed to minimise the risk of spread of potential pathogens outside of the affected area.

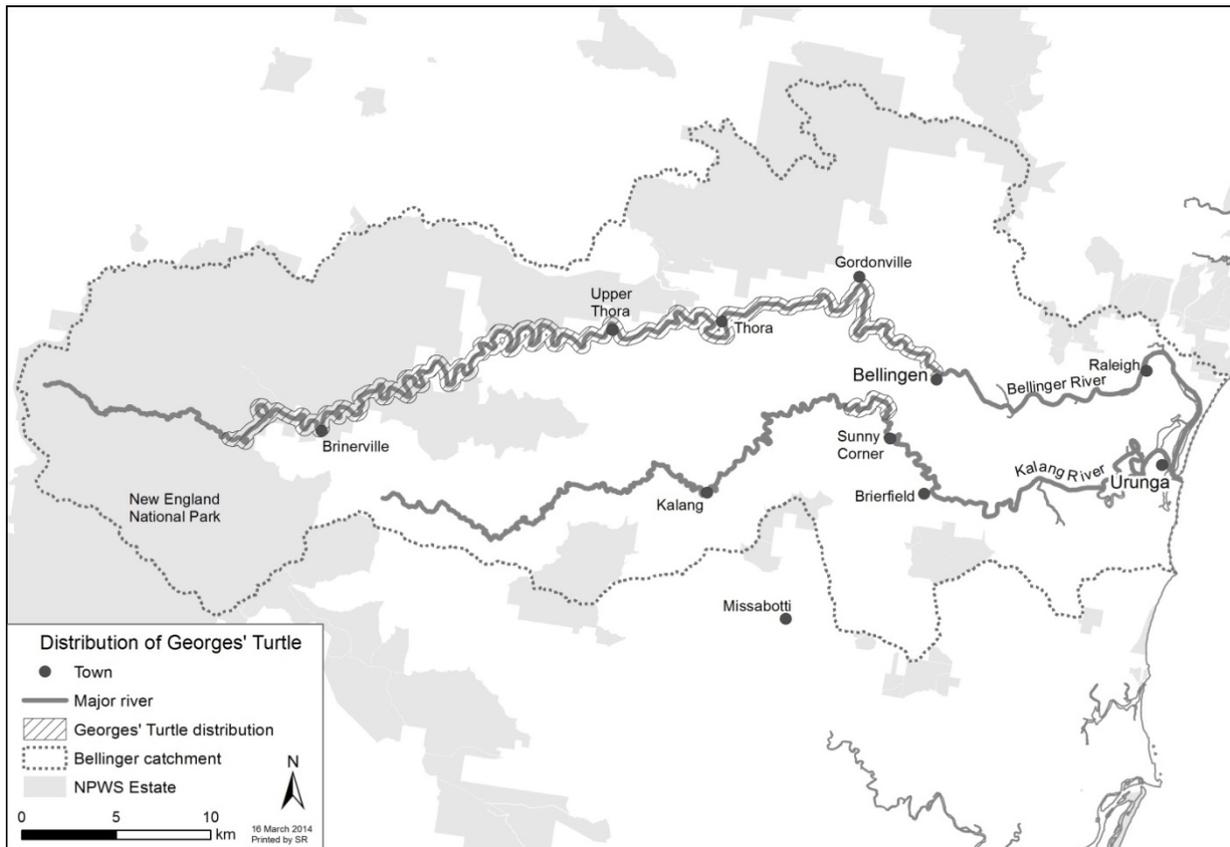
Current Situation and Priority Actions:

- Biosecurity and hygiene protocols developed and implemented since incident management phase.
- Review biosecurity protocols for passive surveillance program, including PPE and disinfection, and ensure these are made available and understood by community, veterinarians, wildlife carers, herpetologists and Agency staff.
- Update risk assessment based on new information and coordinate implementation of highest priority risk controls.
- Maintain closure of National Park in upper reaches of river whilst diagnostic activity is being completed
- Ensure all agencies involved are provided with and understand how to follow appropriate hygiene protocols
- Council to install signage at key locations to reinforce biosecurity/hygiene messaging for local community and visitors
- Reinforce need to implement existing protocols to minimise risk that surveillance activities will transfer potential pathogen/disease agents to unaffected areas.
- Source/secure equipment for on-going surveillance work.
- Continue to revise need for short-term park closures to reduce risk of transmission of potential pathogen and liaise with NPWS re implementation.
- Where spread is detected outside of the Bellingher catchment, consider options to minimise further spread, including location specific containment measures.
- Revise the need of short-term National Park closures in upstream areas of Bellingher River and liaise with NPWS for changes to implementation.

Acronyms

AAHL	Australian Animal Health Laboratory
BRST	Bellingher River Snapping Turtle
BSC	Bellingher Shire Council
CVO	Chief Veterinary Officer
DPI	Department of Primary Industries
EMAI	Elizabeth Macarthur Agricultural Institute
EPA	Environmental Protection Authority
IMS	Incident Management System
IMT	Incident Management Team
LLS	Local Land Services
NPWS	National Parks & Wildlife Service
OEH	Office of Environment and Heritage
ROGHD	Regional Operations Group and Heritage Division

Figure 1: Distribution of Bellingher River Snapping Turtle



More information

Ian Roth, NSW DPI

Acknowledgments

Office of Environment and Heritage (OEH) including NSW National Parks & Wildlife Service (NPWS), Environmental Protection Agency (EPA), Local Land Services (LLS), NSW Health, Bellingen Shire Council, Wildlife Health Australia (WHA), Taronga Wildlife Health Registry, University of Western Sydney, Australian Animal Health Laboratory (AAHL), Wildlife Animal Carers, Community Groups, Herpetological Groups.

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