Frogwatch

October 2009

Peron's Tree Frog

Spotted Grass Frog Egg Mass

Green and Golden Bell Frog

ACT and Region
Community Frogwatch Census Report

FROGWATCH ACT AND REGION

Ginninderra Catchment Group

ACT GOVERNMENT

CARING FOR OUR COUNTRY

ACT & Region Frogwatch Program

Community Frogwatch Census Report

October 2009

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The ACT & Region Frogwatch Program is coordinated by the Ginninderra Catchment Group with the assistance of funds made available through the Caring for our Country Initiative with the support of the ACT Natural Resource Management Council.

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Acknowledgments

The ACT & Region Frogwatch census would not be possible without the energy and enthusiasm of the Frogwatch volunteers. Their willingness to head out into the field each October to record and report on frog activity across the ACT region is what makes the Frogwatch Census such a success. Thank you to each and every one of you for your commitment to this excellent community based monitoring project.

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To the Ginninderra Catchment Group and the ACT NRM Council, thank you for initiating and administering the Frogwatch program.

About Frogwatch

The ACT & Region Frogwatch program is a community frog-monitoring program that conducts a frog census in spring each year. The major aim of the program is to engage community volunteers in monitoring frogs in the region in order to generate significant information about the presence and abundance of frog populations. This report presents the results of the 2009 Frogwatch spring census.

Frogs are widely recognised as indicators of environmental health because adult frogs, their eggs and tadpoles may be susceptible to a range of aquatic pollutants (Duellman and Trueb, 1994; Tyler, 1994). There are two main ways in which frogs can behave as indicators: 1) measures of frog presence/absence and/or species richness, and 2) evidence of developmental abnormalities.

The presence of amphibians can indicate good water quality and the availability of high quality habitat, whereas the absence or decline of frog populations can indicate unhealthy or degraded catchments. A number of studies have used frogs as environmental indicators (see Beebee and Griffiths, 2005; Boyer and Grue, 1995; DeGarady and Halbrook, 2006; Kavanagh and Stanton, 2005; Lauck, 2006; Lofvenhaft et al., 2004; Price et al., 2007; Weygoldt, 1989). For example, Jansen & Healey (2003) measured frog species richness, abundance and reproductive success to determine the effect of grazing on wetland condition (as measured by parameters such as vegetation and bank structure and complexity, and water quality).

Figure 1. Deformed *Limnodynastes tasmaniensis*

Frogs are known to develop tissue and skeletal abnormalities, such as extra digits or limbs, in response to the presence of aquatic pollutants. However, it can be difficult to determine the exact cause of such developmental abnormalities, particularly as amphibian populations naturally display relatively high rates of developmental abnormalities (approximately 3% in any given population) (Tyler, 1994).
Evidence of one such abnormality was found in one *Limnodynastes tasmaniensis* at the FAD300 site in 2009, as can be seen in Figure 1.

The Ginninderra Catchment Group initiated the Frogwatch program in 2002 when approximately 40 volunteers monitored frog populations at 29 sites. Since then, the program has expanded dramatically to provide an annual snapshot of frog species richness and abundance in the ACT and surrounding NSW. In 2009, approximately 212 volunteers participated in the census, monitoring at 161 sites. An total of 351 field data sheets were completed and submitted in 2009.

The information gathered by the Frogwatch census is used to identify future community monitoring and action priorities, particularly in relation to the creation and protection of frog-friendly habitats in the ACT and surrounding region.

Information objectives

- Increase understanding of the distribution and abundance of frogs in the ACT & region;
- Increase knowledge and understanding about the health of our wetlands and waterways;
- Monitor the impacts of bushfires and drought on our local ecosystems and catchments;
- Monitor the impacts of bushfires on local wildlife and track recovery rates;
- Provide supplementary information to the ACT Government's professional frog monitoring program; and
- Continue the collection of important frog monitoring data to enhance previous studies.

Community capacity building objectives

- Provide an exciting, hands-on opportunity for community members to engage in natural resource management (NRM);
- Provide opportunities for community involvement in wildlife monitoring;
- Provide CAMPFIRE (Community Assessment Monitoring Program for Fire Impacted River Ecology) and Waterwatch groups with the opportunity to broaden their monitoring activities;
- Increase community capacity to understand a range of important environmental issues such as biodiversity, introduced species, water quality, habitat loss and other impacts on natural ecosystems;
- Facilitate community monitoring and evaluation of NRM on-ground works, e.g. wetland development, willow removal and revegetation projects;
- Increase awareness of frog populations and their habitat requirements, and provide support for the creation and protection of high quality habitat; and
- Ensure that Frogwatch participants do not contribute to the spread of frog pathogens.

Methods

Frogwatch participants attended an introductory training seminar in the lead up to the Frogwatch spring census (23 September & 7 October 2009). Seminar participants learned from Dr Will Osborne of the Institute of Applied Ecology, University of Canberra, about:

- why and how frogs call;
- frog species from the region and their mating calls;
- frog identification techniques; and how to estimate frog abundance; and
- the importance of monitoring.

The ACT Frogwatch Coordinator outlined procedures for undertaking and recording Frogwatch observations including:

- basic safety guidelines
- site selection information;
- how to fill in datasheets and take audio recordings; and
- procedures for preventing the spread of potential frog pathogens.

Experienced Frogwatch participants attended a field trip to Tidbinbilla Nature Reserve where they gained extra experience in identification techniques, estimating abundance and identifying important habitat components (30 September 2009). Dr Will Osborne led the field trip and provided valuable advice about amphibian ecology, behaviour, and monitoring strategies.

All participants received a copy of the Frogwatch Kit (Figure 2), which contains:

- The Frogwatch monitoring plan;
- Information about frog species of the ACT and surrounding Region, including habitat information and identification tips;
- Pathogen control guidelines;
- Procedures for monitoring frog calls;
- A list of available frog resources;
- Frogwatch field data sheets and other forms;
- "Glove-box Guide to Frogs of the ACT Region";
- Audio CD "Frog Calls of the ACT and South East NSW" by Ederic Slater; and
- Frogwatch thermometer.

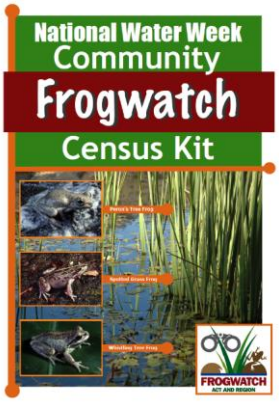


Figure 2. Cover image of the 2009 Community Frogwatch Census Kit.

Each participant or group registered their Frogwatch site(s) with the Frogwatch coordinator. Participants were encouraged to monitor at one of thirty 'Key Frogwatch sites' that are selected as to take priority for annual monitoring. Prioritising these sites ensures that they are consistently and comprehensively monitored from year to year, and that the Frogwatch data will be statistically robust to permit in-depth analysis over the longer term. Monitoring at other sites was also encouraged to allow for the inclusion of sites of particular interest to Frogwatch participants.

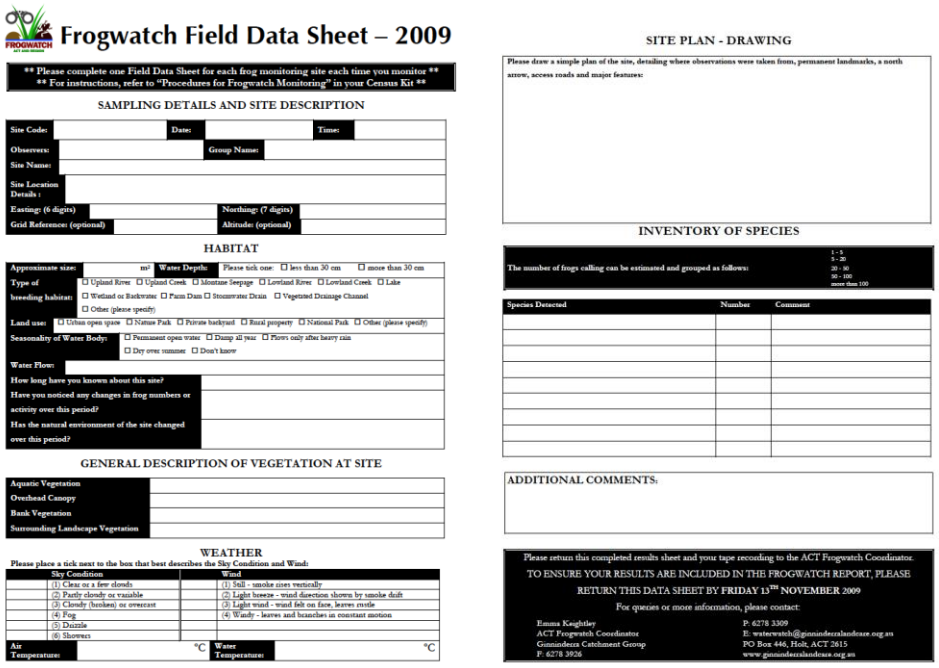
Frog calls and other details were observed and recorded at 161 sites across the ACT and region during the Frogwatch monitoring period in October 2009. During the Frogwatch census week (18 - 24 October) Frogwatch sites were monitored on at least one occasion. To increase the statistical reliability of the data, participants were encouraged to monitor on more than one evening during census week, while Key sites were monitored on at least three evenings during the week. See Appendix 1 for a complete list of all Frogwatch 2009 volunteers and Appendix 2 for a summary of monitoring occasions for each site.

At each site Frogwatchers recorded details about:

- site location;
- habitat;
- vegetation;
- weather conditions; and
- frog species heard/observed.

This data was recorded onto official field data sheets (Figure 3). Participants took site photographs and audio recordings of frog vocalisations (if present) at their site during the early evening. The data sheets, audio recordings and site photographs were sent to the Frogwatch coordinator for processing.

All audio recordings and subsequent frog identifications were checked for accuracy by the Frogwatch coordinator, while staff from the ACT Government and the University of Canberra confirmed unusual species or calls that were difficult to identify.



Frogwatch Field Data Sheet – 2009

** Please complete one Field Data Sheet for each frog monitoring site each time you monitor **
** For instructions, refer to "Procedures for Frogwatch Monitoring" in your Census Kit **

SAMPLING DETAILS AND SITE DESCRIPTION

Site Code: | Date: | Time:
Observers: | Group Name:
Site Name:
Site Location Details :
Eastings: (6 digits) | Northings: (7 digits)
Grid Reference: (optional) | Altitude: (optional)

HABITAT

Approximate size: m² | Water Depth: Please tick one: ☐ less than 30 cm ☐ more than 30 cm
Type of breeding habitat: ☐ Upland River ☐ Upland Creek ☐ Montane Seepage ☐ Lowland River ☐ Lowland Creek ☐ Lake ☐ Wetland or Backwater ☐ Farm Dam ☐ Stormwater Drain ☐ Vegetated Drainage Channel ☐ Other (please specify)
Land use: ☐ Urban open space ☐ Nature Park ☐ Private backyard ☐ Rural property ☐ National Park ☐ Other (please specify)
Seasonality of Water Body: ☐ Permanent open water ☐ Damp all year ☐ Flows only after heavy rain ☐ Dry over summer ☐ Don't know
Water Flow:
How long have you known about this site?
Have you noticed any changes in frog numbers or activity over this period?
Has the natural environment of the site changed over this period?

GENERAL DESCRIPTION OF VEGETATION AT SITE

Aquatic Vegetation
Overhead Canopy
Bank Vegetation
Surrounding Landscape Vegetation

WEATHER

Please place a tick next to the box that best describes the Sky Condition and Wind:

	Sky Condition		Wind
	(1) Clear or a few clouds		(1) Still - smoke rises vertically
	(2) Partly cloudy or variable		(2) Light breeze - wind direction shown by smoke drift
	(3) Cloudy (broken) or overcast		(3) Light wind - wind felt on face, leaves rustle
	(4) Fog		(4) Windy - leaves and branches in constant motion
	(5) Drizzle		
	(6) Showers		

Air Temperature: °C | Water Temperature: °C

SITE PLAN - DRAWING

Please draw a simple plan of the site, detailing where observations were taken from, permanent landmarks, a north arrow, access roads and major features:

INVENTORY OF SPECIES

The number of frogs calling can be estimated and grouped as follows: 1 - 5 | 5 - 20 | 20 - 50 | 50 - 100 | more than 100

Species Detected	Number	Comment

ADDITIONAL COMMENTS:

Please return this completed results sheet and your tape recording to the ACT Frogwatch Coordinator.
TO ENSURE YOUR RESULTS ARE INCLUDED IN THE FROGWATCH REPORT, PLEASE RETURN THIS DATA SHEET BY FRIDAY 13TH NOVEMBER 2009
For queries or more information, please contact:

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Figure 3. Field data sheet for the 2009 Frogwatch census

Quality assurance and quality control

The accuracy and precision of the collected data was assured by strict quality control processes, including:

- Monitoring of calls at all sites on at least one evening in October 2009, during the first two hours after dark;
- Taking audio recordings at all monitoring sites to confirm the identity of each species and the number of frogs calling. Figure 4 shows the audio recordings received on physical media, a proportion of recordings were received via email in digital format;
- Verification of data by the Frogwatch Ccordinator, with assistance from ACT Government and University of Canberra staff. Any data that was unable to be confirmed was not included in this report; and
- Detailed information about Frogwatch procedures and guidelines were provided to all participants at Frogwatch training events, and in the Frogwatch kit. A copy of the Frogwatch kit can be provided by contacting the Frogwatch coordinator.

Figure 4. Audio recordings from 2009 Frogwatch census

Frogwatch sites

A total of 161 Frogwatch sites were monitored during October 2009. Of these, 117 were located within the ACT border, while the remaining 44 sites were situated in the surrounding NSW region (Figure 5). Frogwatch site codes, names and locations are detailed in Appendix 2.

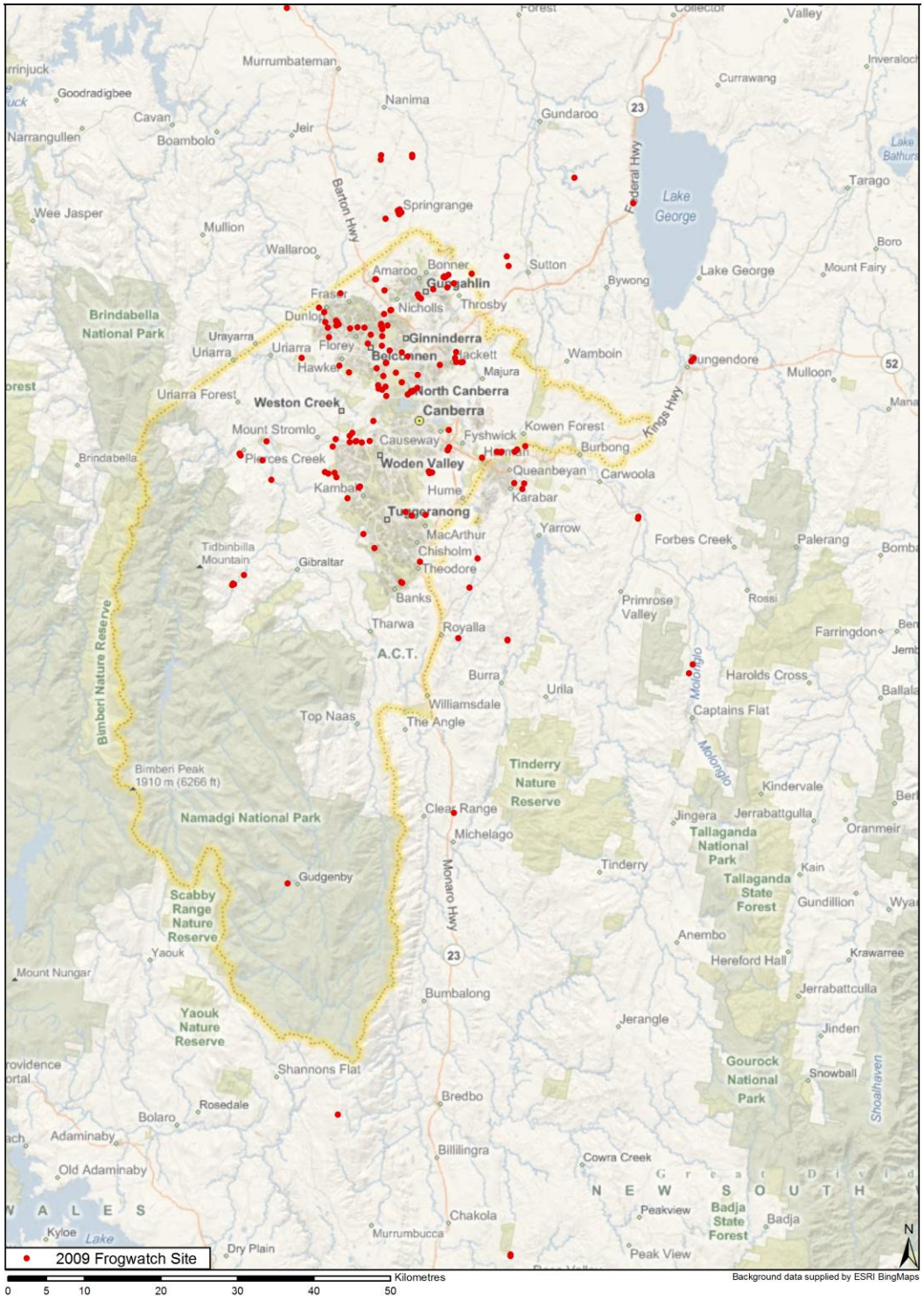


Figure 5. Site locations for the 2009 Frogwatch census.

Summary of results

The prolonged drought that had been affecting the ACT and surrounding NSW Region for the past several years had abated somewhat prior to the 2009 census. Close to average rainfall was experienced in the region for the winter and spring periods (BOM, 2009). During the month of October (monitoring period) the ACT received 42.4mm of rain, while the historical average is 62.1mm (BOM, 2009). October was however a relatively cloudy month, with higher than average humidity and three thunderstorm events (BOM, 2009).

The general trend in 2009 was a positive one. More species were detected overall and the average number of species found per site increased. Each species was found at a greater percentage of sites in 2009 than in 2008 except *Litora vereauxii vereauxii* which remained stable.

Species detected

A total of 10 species were detected throughout the ACT and region during the 2009 census (Table 1). The three most commonly-detected species were the **Spotted grass frog** (*Limnodynastes tasmaniensis*), **Plains froglet** (*Crinia parinsignifera*) and **Common eastern froglet** (*Crinia signifera*). These species were present in at least 50% of the monitored sites in 2009 (Table 1).

Table 1. Frog species detected during the 2009 Frogwatch Census, and each species' overall abundance.

Species	Detection Frequency 2009 (no. sites)	% of Sites 2009
Limnodynastes tasmaniensis (Spotted grass frog)	121	75
Crinia parinsignifera (Plains froglet)	98	61
Crinia signifera (Common eastern froglet)	111	69
Limnodynastes dumerilii (Eastern banjo frog)	57	35
Litoria verreauxii (Whistling treefrog)	33	20
Litoria peroni (Peron's treefrog)	57	35
Uperoleia laevigata (Smooth toadlet)	47	29
Limnodynastes peronii (Brown-striped frog)	27	17
Nebatrachus sudelli (Spotted burrowing frog)	4	2
Litoria aurea (Green and golden bell frog)	1	1
No calls recorded	9	6

Of note was the **Green and golden bell frog** (*Litoria aurea*) which was detected at one Frogwatch site in 2009. This is the first census record of this species since 2006. This species is nationally threatened and has vanished from much of its former range, including in the ACT. The site where this species was recorded has been monitored in previous years however this is the first time the Green and Golden bell frog has been observed.

Also of interest is the **Spotted burrowing frog** (*Neobatrachus sudelli*) that was detected at four Frogwatch sites in 2009, whereas during 2008 only it was only recorded at one site and prior to that not since 2005. This species undergoes aestivation, which is a type of hibernation, in response to relatively warm and dry conditions. Aestivating frogs create an underground burrow and secrete a watertight cocoon from sloughed skin in order to inhibit evaporative water loss during dormancy. These frogs require significant rain events in order to arouse from aestivation and escape from the underground burrow, therefore it is not unusual for these animals to remain underground for many years at a time during protracted drought conditions. It is encouraging that the census was able to detect this species at four sites in 2009.

Species diversity and abundance

An abundance of frogs at a particular site can indicate the availability of good quality habitat that fulfills the requirements of a number of different species. On-going observations of frog species diversity at Frogwatch sites can highlight sites of significant environmental value, and can assist with decision-making, priority setting and management of an area.

Species Diversity	
Min. no. species per site	0
Max. no. species per site	7
Mean no. species per site	3.5
Median no. species per site	4.0

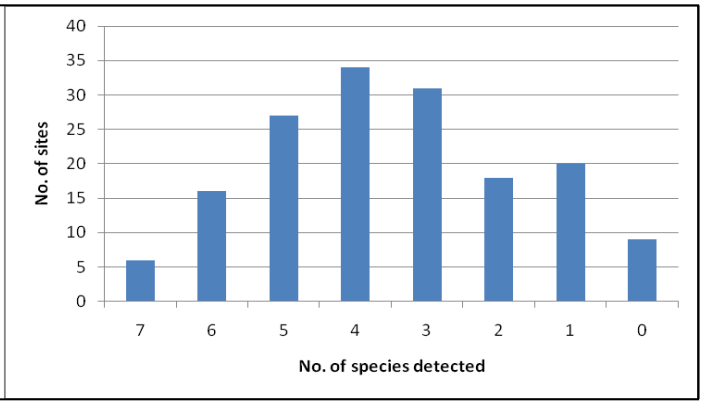


Figure 6. Relative abundance of species at sites surveyed during the 2009 Frogwatch census.

The average number of species per site in 2009 was 3.5, up from 2.6 in 2008. This increase could be related to the increase in rainfall in the months prior to the census period in comparison to previous years.

The greatest number of species found at any one site during the 2009 Frogwatch census was seven species, one more than in 2008.

Six sites reported the presence of seven frog species. These were:

- End Dam at Sanctuary, Tidbinbilla Nature Reserve - FTD165;
- Little Whiskers Rd, Molonglo River, Carwoola - LWR100;
- Mulligans Flat – Site 2, Mulligans Flat Nature Reserve - MFL002;
- Mulligans Flat – Site 7, Mulligans Flat Nature Reserve - MFL007 (Figure 8);
- Dam 2 McFarlene Property Spring Range Road via Hall - 0SR002; and
- Rose Cottage horse paddock dam - RCD001 (Figure 7).

Figure 7. Rose Cottage dam RCD001 – a site where seven species were identified, including *Neobatrachus sudelli*

These sites illustrate the significance of the rural fringes in our region. Sites both inside and outside the reserve system feature in this list. All but one of these sites are dams indicating the high habitat value of dams for frogs in the region.

Figure 8. Mulligans Flat site 2 – a site where seven species were identified.

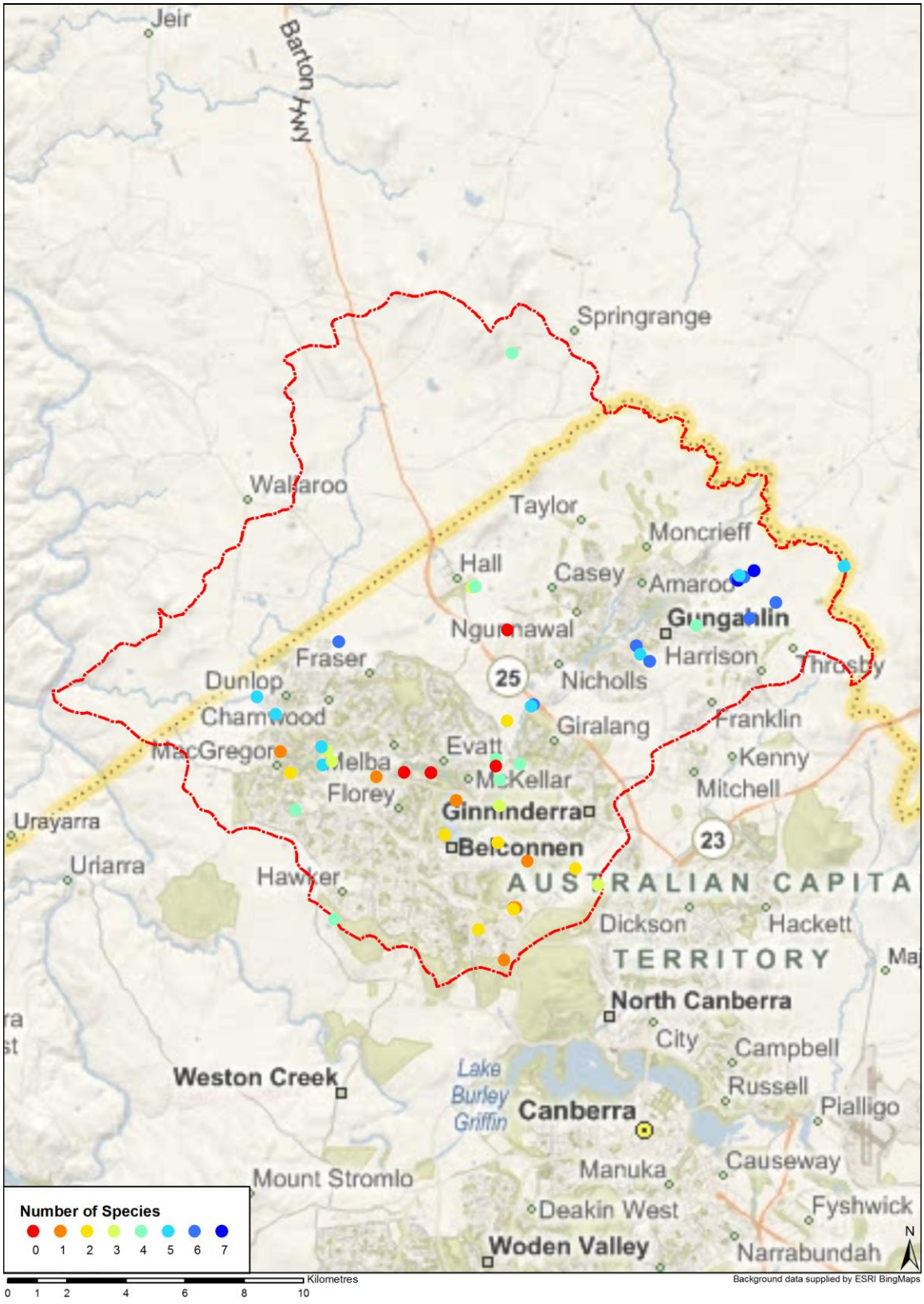


Figure 9. Species abundance at Frogwatch sites located in the Ginninderra Catchment.

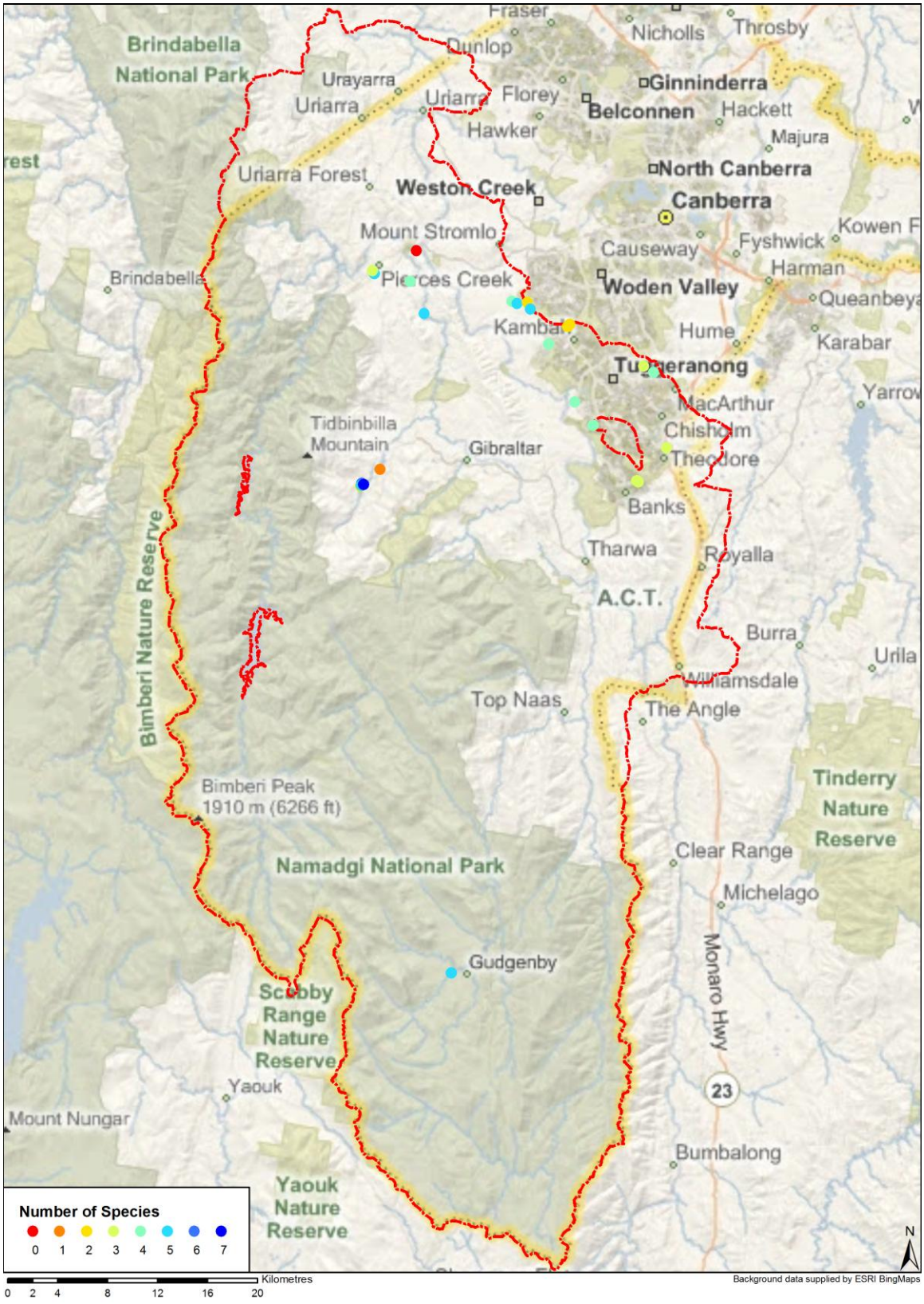


Figure 10. Species abundance at Frogwatch sites located in the Southern ACT Catchment.

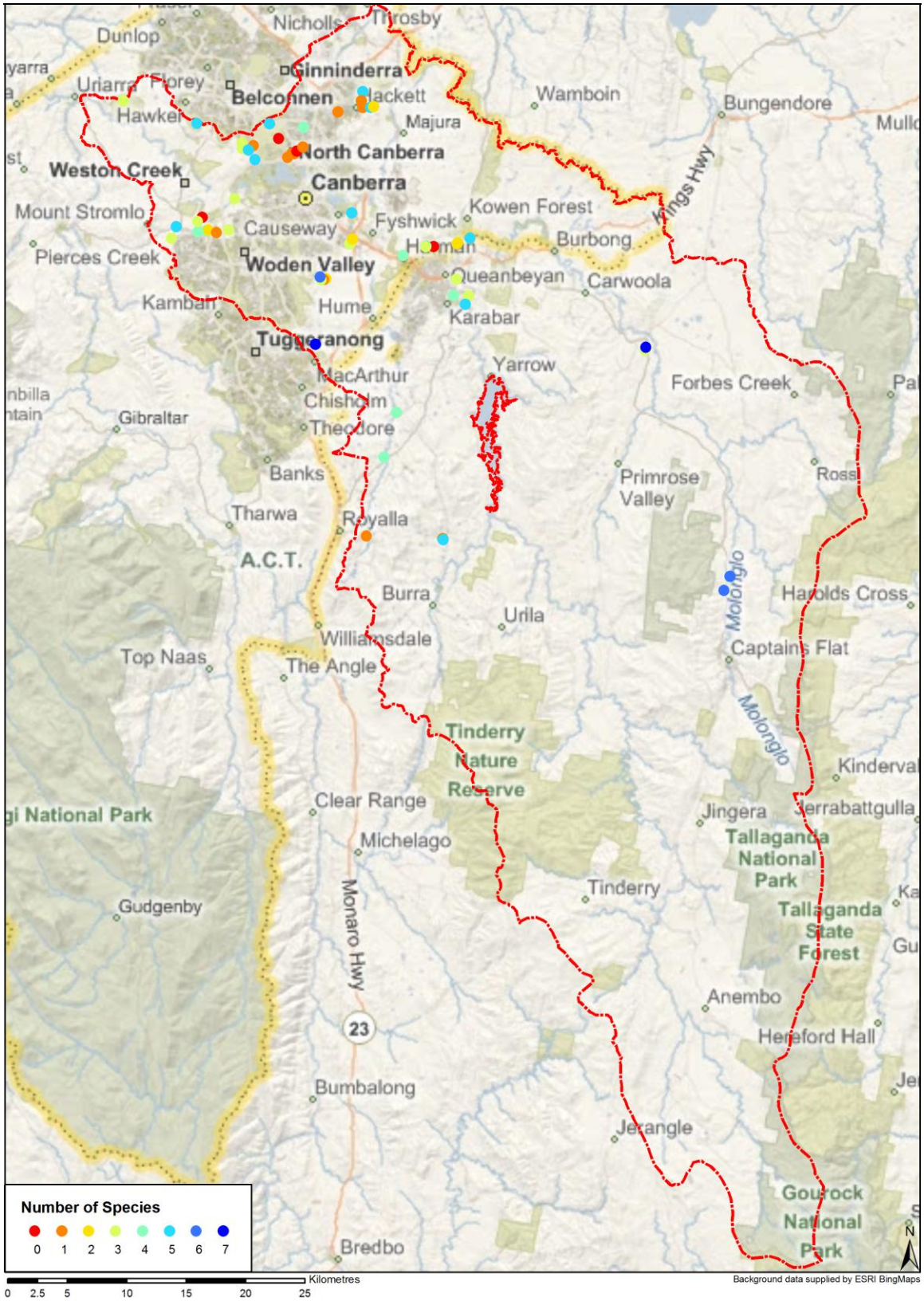


Figure 11. Species abundance at Frogwatch sites located in the Molonglo Catchment.

Species results

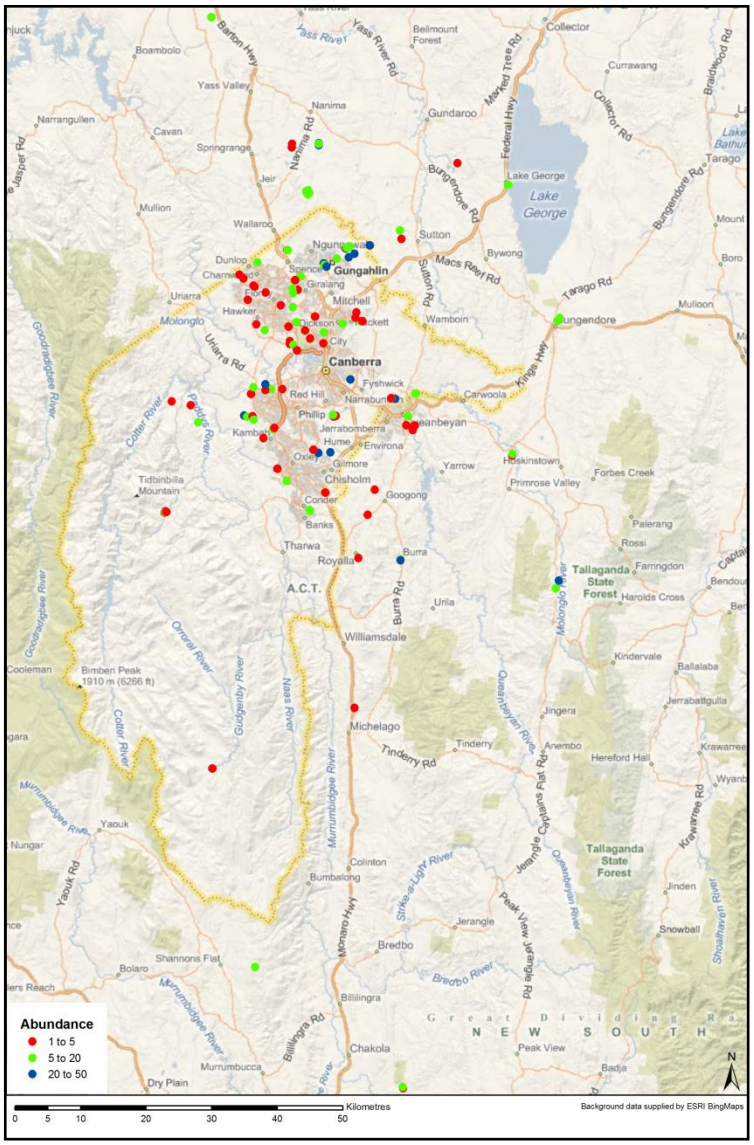
Limnodynastes tasmaniensis[1]

Spotted Grass Frog

- Blotched appearance with dark & light markings.
- Red or orange stripe along spine.
- Length = 50mm.
- Call = “uck, uck, uck”.

Census Year	2002	2003	2004	2005	2006	2007	2008	2009
No. of sites where detected	9	64	91	102	55	95	79	121
% of total sites surveyed	31	53	67	71	33	59	58	75
Median no. of individuals observed	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5

Site Code	Abundance	Site Code	Abundance
ANU023	1 to 5	FMW010	5 to 20
ARA100	1 to 5	FTB010	1 to 5
ARA200	1 to 5	FTD010	1 to 5
BON100	5 to 20	FTD015	1 to 5
BUN100	5 to 20	FTD120	5 to 20
BUN200	5 to 20	FTD165	1 to 5
BUR300	5 to 20	GIN007	5 to 20
BUR350	20 to 50	GIN008	5 to 20
CAV100	1 to 5	GUN100	20 to 50
CBR001	1 to 5	GUN200	5 to 20
CBR003	1 to 5	GUN300	20 to 50
CBR004	5 to 20	GUN400	5 to 20
CEQ100	20 to 50	HAC100	1 to 5
CEQ200	5 to 20	HAL001	1 to 5
CFR200	5 to 20	HAL002	5 to 20
CFR300	20 to 50	HAN100	5 to 20
CHC102	5 to 20	HOL100	1 to 5
CMC100	1 to 5	ICH003	1 to 5
CMC150	5 to 20	JER010	1 to 5
CMC600	1 to 5	JER100	20 to 50
CMC700	5 to 20	JER101	1 to 5
CMC750	1 to 5	JER500	20 to 50
CMW500	1 to 5	LAW100	1 to 5
CMW550	5 to 20	LGC001	5 to 20
CON100	5 to 20	LWP100	1 to 5
CON110	5 to 20	LWR100	5 to 20
COO001	1 to 5	MCW001	5 to 20
COO002	5 to 20	MCW002	5 to 20
CTP450	5 to 20	MFL001	1 to 5
CTT300	1 to 5	MFL002	20 to 50
DGP001	5 to 20	MFL003	5 to 20
DUF200	1 to 5	MFL004	5 to 20
DUF300	5 to 20	MFL005	20 to 50
FAD100	20 to 50	MFL007	5 to 20
FAD300	1 to 5	MFL011	20 to 50
FBM200	1 to 5	MFL013	20 to 50
FBM400	1 to 5	MOL150	5 to 20
FER200	1 to 5	MOL605	20 to 50
FGC009	1 to 5	MUR010	5 to 20
FGC030	1 to 5	MYA100	1 to 5
FGC050	5 to 20	MYR100	1 to 5
FGD010	1 to 5	MYR300	1 to 5
FGD020	1 to 5	OSR001	5 to 20
FGD040	5 to 20	OSR002	5 to 20
FGD045	1 to 5	OSR003	5 to 20
FGG010	1 to 5	OSR004	5 to 20
FGW100	1 to 5	OSR005	5 to 20
FGW200	1 to 5	OSR006	5 to 20
FLO200	1 to 5	PCF001	1 to 5
FMC040	5 to 20	PIN010	1 to 5
FMC200	5 to 20	PIN100	5 to 20
FMC210	1 to 5	PLM300	5 to 20
FMC220	1 to 5	PNG100	20 to 50



PNG200	20 to 50	QBN011	1 to 5	SFF100	20 to 50	TRA100	1 to 5
PNG300	5 to 20	QBN012	5 to 20	SUT100	5 to 20	TSP100	1 to 5
QBN002	1 to 5	QBN200	1 to 5	SUT101	1 to 5	UCP100	1 to 5
QBN010	1 to 5	RCD001	20 to 50	TAL001	1 to 5		

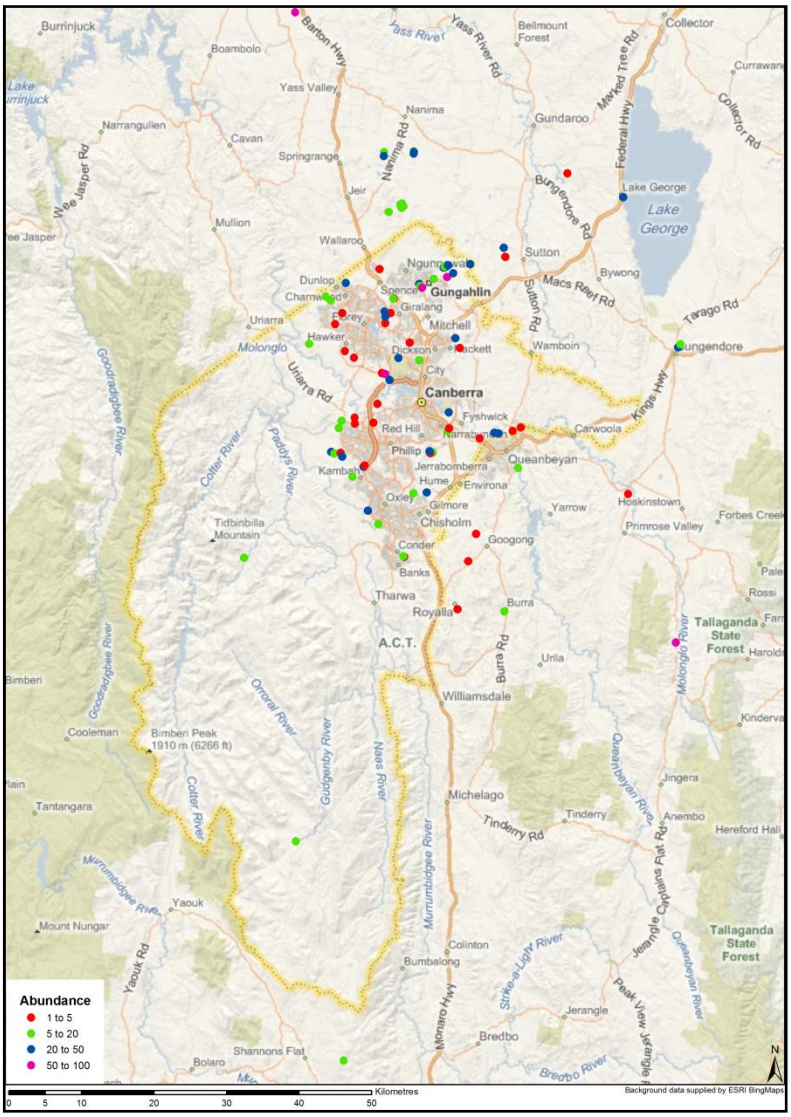
Crinia parinsignifera[1]

Plains Froglet

- Highly variable species ranging from plain-coloured to strongly-marked individuals with raised ridges & bumps.
- Length = 30mm.
- Call = drawn-out “wwrreeeek” repeated regularly.

Census Year	2002	2003	2004	2005	2006	2007	2008	2009
No. of sites where detected	11	57	84	87	56	85	78	98
% of total sites surveyed	38	48	62	60	34	53	57	61
Median no. of individuals observed	1 to 5	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	1 to 5	5 to 20

Site code	Abundance	Site code	Abundance
ARA100	1 to 5	JER101	1 to 5
BON100	5 to 20	JER300	1 to 5
BUN100	20 to 50	JER310	5 to 20
BUN200	5 to 20	JER320	1 to 5
BUR350	5 to 20	JER500	20 to 50
CBR001	5 to 20	LAW100	1 to 5
CBR002	5 to 20	LDM100	5 to 20
CBR003	1 to 5	LGC001	20 to 50
CBR004	20 to 50	LWR100	1 to 5
CEQ100	20 to 50	MCW001	20 to 50
CEQ200	5 to 20	MCW002	20 to 50
CFR200	50 to 100	MFL001	20 to 50
CMC100	1 to 5	MFL002	20 to 50
CMC150	20 to 50	MFL003	20 to 50
CMC600	5 to 20	MFL004	5 to 20
CMC700	20 to 50	MFL005	20 to 50
CMC750	1 to 5	MFL007	20 to 50
CON100	1 to 5	MFL011	50 to 100
CON110	5 to 20	MFL013	20 to 50
DGP001	20 to 50	MOL150	1 to 5
DUF200	5 to 20	MOL600	1 to 5
DUF300	5 to 20	MOL605	20 to 50
FAD100	5 to 20	MOL608	1 to 5
FBM400	20 to 50	MUR010	5 to 20
FER200	1 to 5	MYA050	1 to 5
FGC009	5 to 20	MYR100	5 to 20
FGC010	1 to 5	MYR300	20 to 50
FGC030	5 to 20	OSR001	5 to 20
FGD020	1 to 5	OSR002	5 to 20
FGD040	50 to 100	OSR003	5 to 20
FGD045	20 to 50	OSR004	5 to 20
FGG010	1 to 5	OSR005	5 to 20
FMC200	1 to 5	OSR006	5 to 20
FMC220	20 to 50	PIN010	1 to 5
FMW010	5 to 20	PIN100	1 to 5
FTB010	5 to 20	PLM300	20 to 50
FTD015	5 to 20	PLM400	50 to 100
GIN007	1 to 5	PNG100	20 to 50
GIN008	5 to 20	PNG200	5 to 20
GIN024	1 to 5	PNG300	20 to 50
GUN100	20 to 50	QBN010	5 to 20
GUN200	5 to 20	QBN012	20 to 50
GUN300	50 to 100	RCD001	20 to 50
GUN400	5 to 20	SFF100	1 to 5
HAL002	1 to 5	SUT100	20 to 50
HOL100	1 to 5	SUT101	1 to 5
ICH003	1 to 5	TRA100	1 to 5
JER010	1 to 5	TSP100	20 to 50
JER100	5 to 20	WEE100	5 to 20



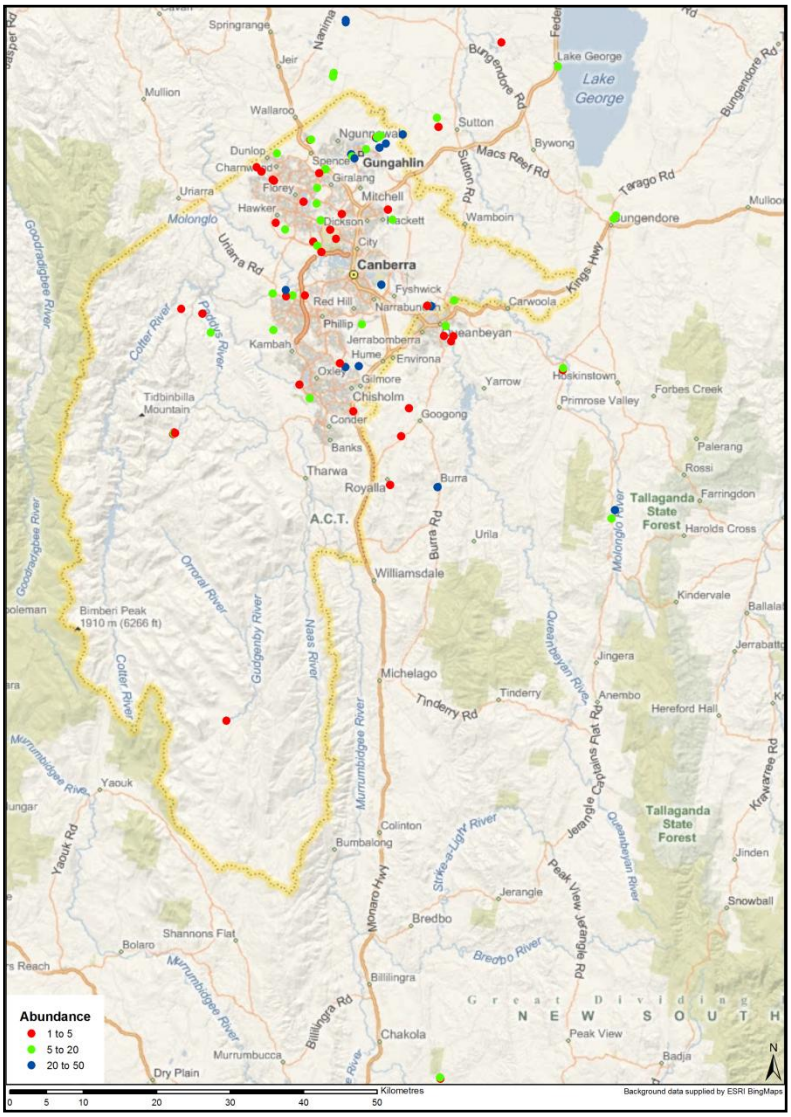
Crinia signifera[1]

Common Eastern Froglet

- Variable colouration from grey-brown to reddish, and can be smooth or covered in ridges.
- Underside granular with black & white blotches.
- Length = 25-30mm.
- Call = repeated clicking “crick, crick, crick”.

Census Year	2002	2003	2004	2005	2006	2007	2008	2009
No. of sites where detected	11	57	84	87	56	85	78	111
% of total sites surveyed	38	48	62	60	34	53	57	69
Median no. of individuals observed	1 to 5	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	1 to 5	5 to 20

Site code	Abundance	Site code	Abundance
ARA017	1 to 5	HAL001	5 to 20
ARA200	5 to 20	HAL002	5 to 20
ARA300	5 to 20	HOL100	1 to 5
BON100	5 to 20	ICH003	5 to 20
BUN100	5 to 20	JER010	5 to 20
BUN200	5 to 20	JER100	20 to 50
BUR350	5 to 20	JER101	5 to 20
CAV100	5 to 20	JER300	5 to 20
CBR004	5 to 20	JER310	5 to 20
CFR200	20 to 50	JER320	5 to 20
CFR300	5 to 20	JER500	20 to 50
CHC101	20 to 50	KIP001	1 to 5
CHC102	20 to 50	LDM100	1 to 5
CMC150	5 to 20	LGC001	1 to 5
CMW550	5 to 20	LWP100	1 to 5
COO001	1 to 5	LWR100	5 to 20
COO002	1 to 5	MCW001	5 to 20
CTP450	20 to 50	MFL001	1 to 5
CTT300	5 to 20	MFL002	1 to 5
DGP001	5 to 20	MFL003	1 to 5
DUF300	5 to 20	MFL004	1 to 5
FAD100	20 to 50	MFL005	1 to 5
FAD300	1 to 5	MFL007	5 to 20
FBM200	5 to 20	MFL011	20 to 50
FBM400	1 to 5	MFL013	20 to 50
FER100	5 to 20	MOL150	5 to 20
FER200	1 to 5	MOL600	5 to 20
FGC009	5 to 20	MOL605	20 to 50
FGC010	1 to 5	MOL608	1 to 5
FGC030	5 to 20	MOL609	1 to 5
FGC050	5 to 20	MYA050	1 to 5
FGC091	1 to 5	ORA001	1 to 5
FGD010	5 to 20	OSR002	1 to 5
FGD020	1 to 5	OSR004	1 to 5
FGD030	5 to 20	OSR006	1 to 5
FGD040	20 to 50	PCF001	5 to 20
FGD045	5 to 20	PCF002	1 to 5
FGW100	1 to 5	PIN010	1 to 5
FGW200	1 to 5	PIN100	5 to 20
FMC040	5 to 20	PLM400	5 to 20
FMC120	1 to 5	PNG100	5 to 20
FMC200	1 to 5	PNG200	1 to 5
FMC220	1 to 5	QBN002	1 to 5
FTB010	20 to 50	QBN010	5 to 20
FTD010	20 to 50	QBN011	1 to 5
FTD015	20 to 50	QBN012	20 to 50
FTD120	20 to 50	QBN200	5 to 20
FTD160	20 to 50	RCD001	5 to 20
FTD165	5 to 20	SFF100	5 to 20
GIN007	1 to 5	SUT100	5 to 20
GIN008	5 to 20	SUT101	1 to 5
GIN024	20 to 50	SWA100	1 to 5
GUN100	5 to 20	TRA100	1 to 5
GUN200	5 to 20	TSP100	1 to 5
GUN300	5 to 20	UCP100	1 to 5
GUN400	1 to 5		



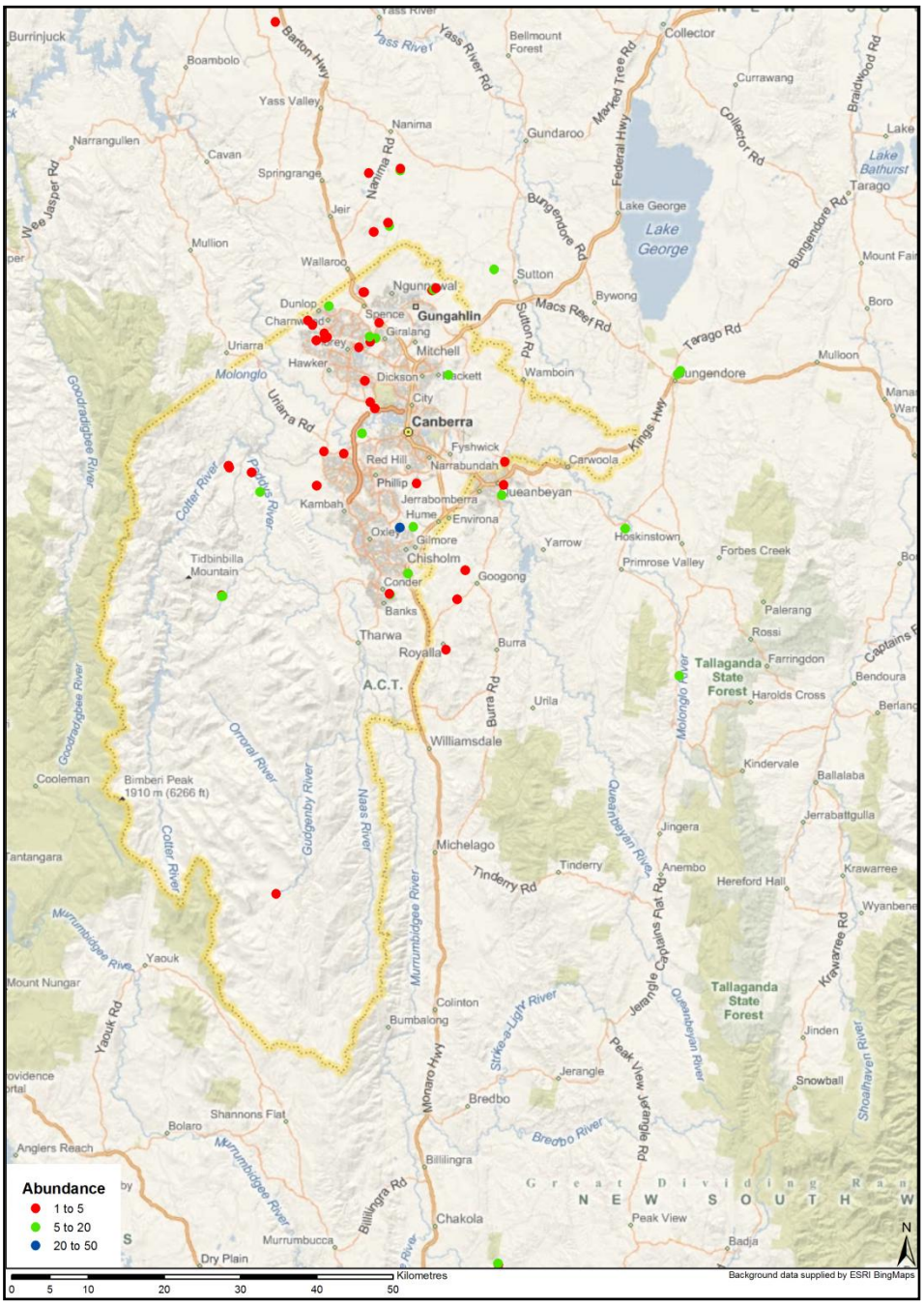
Limnodynastes dumerili[1]

Eastern Banjo Frog or Pobblebonk

- Grey-brown in colour with a large glandular strip running from the top of the shoulder to the mouth.
- Sides of body with blotched markings.
- Length = up to 85mm.
- Call = repeated “bonk” or “thunk” from the water.

Census Year	2002	2003	2004	2005	2006	2007	2008	2009
No. of sites where detected	17	43	26	60	27	47	40	57
% of total sites surveyed	59	36	19	42	16	29	29	35
Median no. of individuals observed	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5

Site code	Abundance
BUN100	5 to 20
BUN200	5 to 20
CAV100	1 to 5
CBR004	1 to 5
CEQ200	1 to 5
CFR300	5 to 20
CMW500	1 to 5
CON100	5 to 20
CON110	1 to 5
COO001	1 to 5
COO002	5 to 20
CTP450	5 to 20
CTT300	5 to 20
DGP001	5 to 20
DUF300	1 to 5
FAD100	20 to 50
FER200	1 to 5
FGC009	1 to 5
FGC030	1 to 5
FGC040	1 to 5
FGD040	1 to 5
FGD045	1 to 5
FGG010	5 to 20
FGW200	1 to 5
FMC040	1 to 5
FMC200	5 to 20
FTB010	1 to 5
FTD015	1 to 5
FTD120	5 to 20
FTD165	5 to 20
GIN007	1 to 5
GIN024	1 to 5
HAL001	1 to 5
HAL002	1 to 5
JER010	1 to 5
JER100	1 to 5
KIP001	1 to 5
LWR100	5 to 20
MCW001	1 to 5
MCW002	5 to 20
MFL002	1 to 5
MFL003	5 to 20
MFL007	1 to 5
MOL609	1 to 5
MYA050	5 to 20
MYA100	1 to 5
MYR300	1 to 5
OSR001	5 to 20
OSR002	1 to 5
PCF001	1 to 5
PCF002	1 to 5
PLM300	1 to 5
PNG100	5 to 20
PNG300	1 to 5
QBN200	5 to 20
RCD001	5 to 20
SUT100	5 to 20
SWA100	1 to 5
WEE100	1 to 5



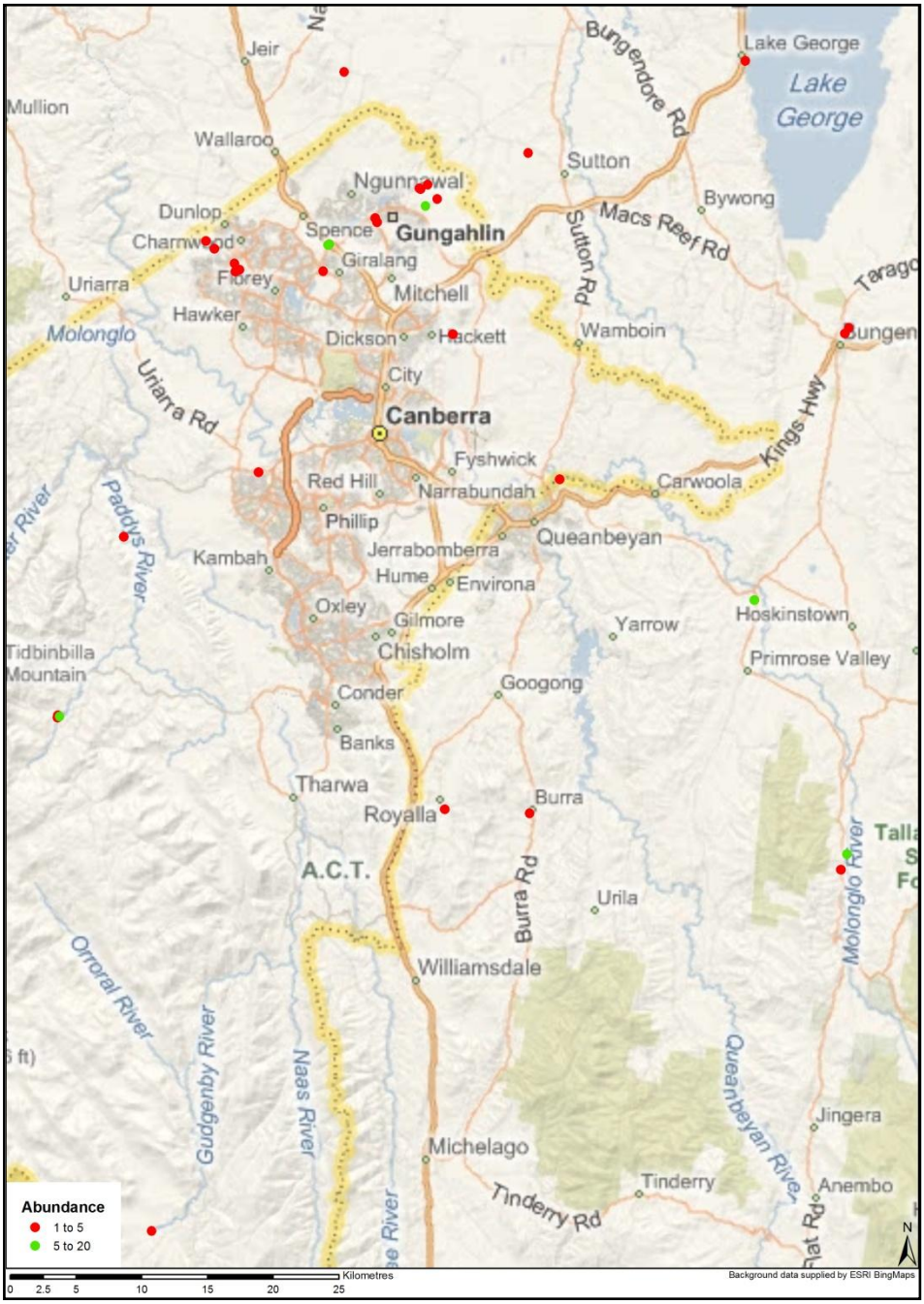
Litoria verreauxii[1]

Whistling Tree Frog

- Dark brown or black stripe in front of the eye to the base of the forelimb.
- Broad brownish mid-dorsal marking.
- Length = 30mm.
- Call = repeated whistling “cree…, cree…, cree…”.

Census Year	2002	2003	2004	2005	2006	2007	2008	2009
No. of sites where detected	5	14	32	11	30	33	32	34
% of total sites surveyed	17	12	24	8	18	21	23	21
Median no. of individuals observed	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5

Site code	Abundance
BUN100	1 to 5
BUN200	1 to 5
BUR350	1 to 5
CFR200	1 to 5
CFR300	5 to 20
CTP450	1 to 5
FGC009	1 to 5
FGC030	1 to 5
FGG010	1 to 5
FGW200	1 to 5
FMC210	1 to 5
FTB010	1 to 5
FTD015	1 to 5
FTD120	1 to 5
FTD165	5 to 20
GIN007	5 to 20
GIN008	5 to 20
GIN024	1 to 5
GUN100	1 to 5
GUN200	1 to 5
HOL100	1 to 5
JER100	1 to 5
JER101	1 to 5
LGC001	1 to 5
LWR100	5 to 20
MFL001	1 to 5
MFL002	1 to 5
MFL007	1 to 5
MFL011	5 to 20
MFL013	1 to 5
MOL150	1 to 5
OSR002	1 to 5
SUT100	1 to 5
SWA100	1 to 5



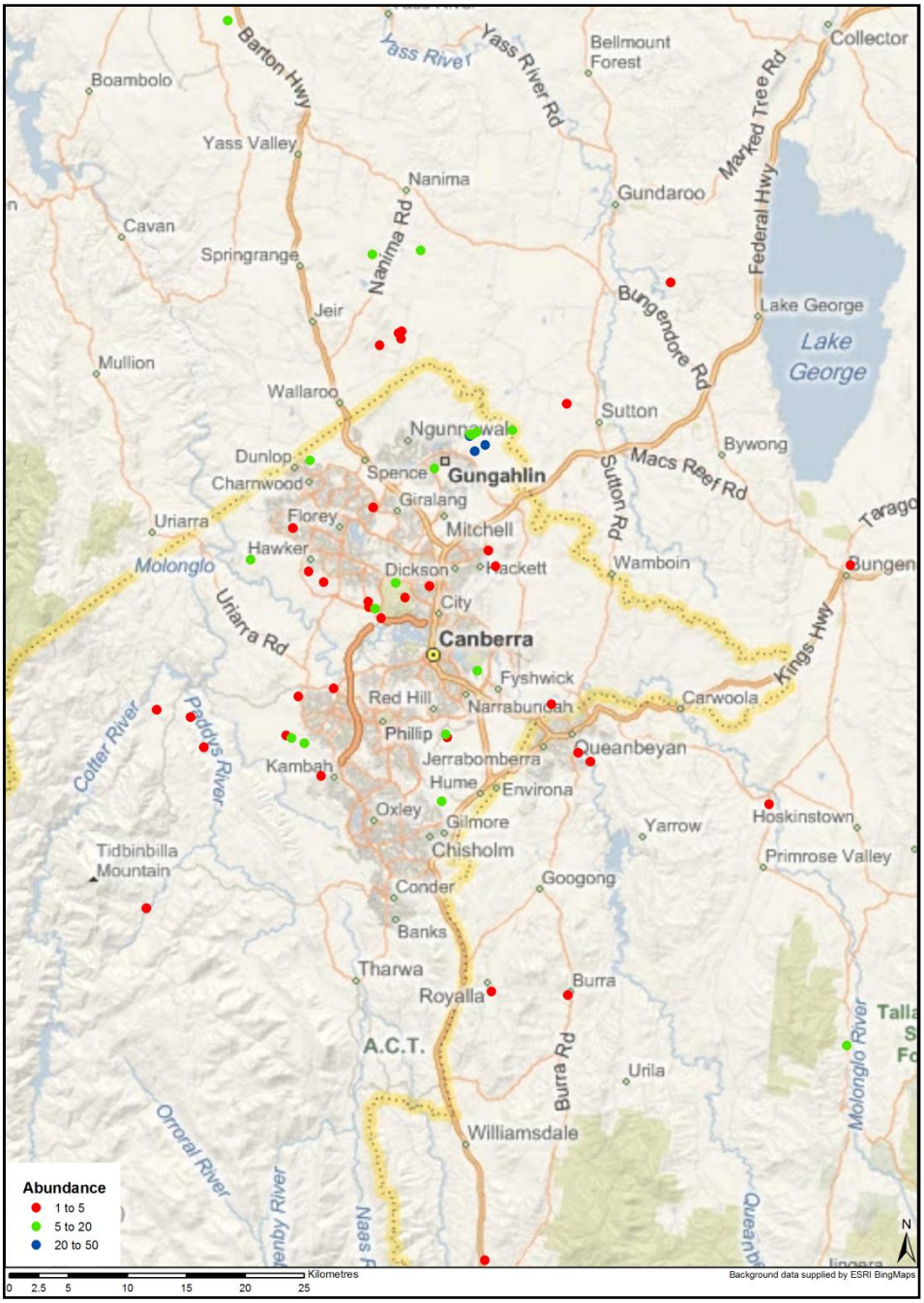
Litoria peroni[1]

Peron's Tree Frog

- Broad round toe discs, yellow & black mottling behind the back legs, & tiny emerald flecks on the dorsal surface.
- Length = 50mm.
- Call = loud, descending rattle or cackle.

Census Year	2002	2003	2004	2005	2006	2007	2008	2009
No. of sites where detected	3	27	36	44	28	52	31	57
% of total sites surveyed	10	23	26	31	17	33	23	35
Median no. of individuals observed	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5

Site code	Abundance
ARA100	1 to 5
ARA200	1 to 5
BUN100	1 to 5
BUR350	1 to 5
CAV100	1 to 5
CBR003	1 to 5
CBR004	5 to 20
CEQ100	1 to 5
CEQ200	5 to 20
CFR200	5 to 20
CMC150	5 to 20
CMC600	1 to 5
CMW500	1 to 5
CTP450	1 to 5
DGP001	5 to 20
DUF200	1 to 5
FBM200	1 to 5
FBM400	5 to 20
FGD040	5 to 20
FGD045	1 to 5
FMC200	1 to 5
FMC220	1 to 5
FMW010	1 to 5
FTD165	1 to 5
GUN300	5 to 20
JER102	1 to 5
JER500	5 to 20
LAW100	1 to 5
LDM100	5 to 20
LWR100	1 to 5
MCW002	1 to 5
MFL001	5 to 20
MFL002	20 to 50
MFL003	5 to 20
MFL004	5 to 20
MFL005	5 to 20
MFL007	5 to 20
MFL011	20 to 50
MFL013	20 to 50
MYR300	5 to 20
OSR002	1 to 5
OSR003	1 to 5
OSR005	1 to 5
PCF001	1 to 5
PIN010	1 to 5
PIN100	1 to 5
PLM300	5 to 20
PLM400	5 to 20
PNG100	5 to 20
QBN010	1 to 5
QBN012	1 to 5
QBN200	1 to 5
RCD001	5 to 20
SUT100	1 to 5
TAL001	1 to 5
TRA100	1 to 5
WEE100	1 to 5



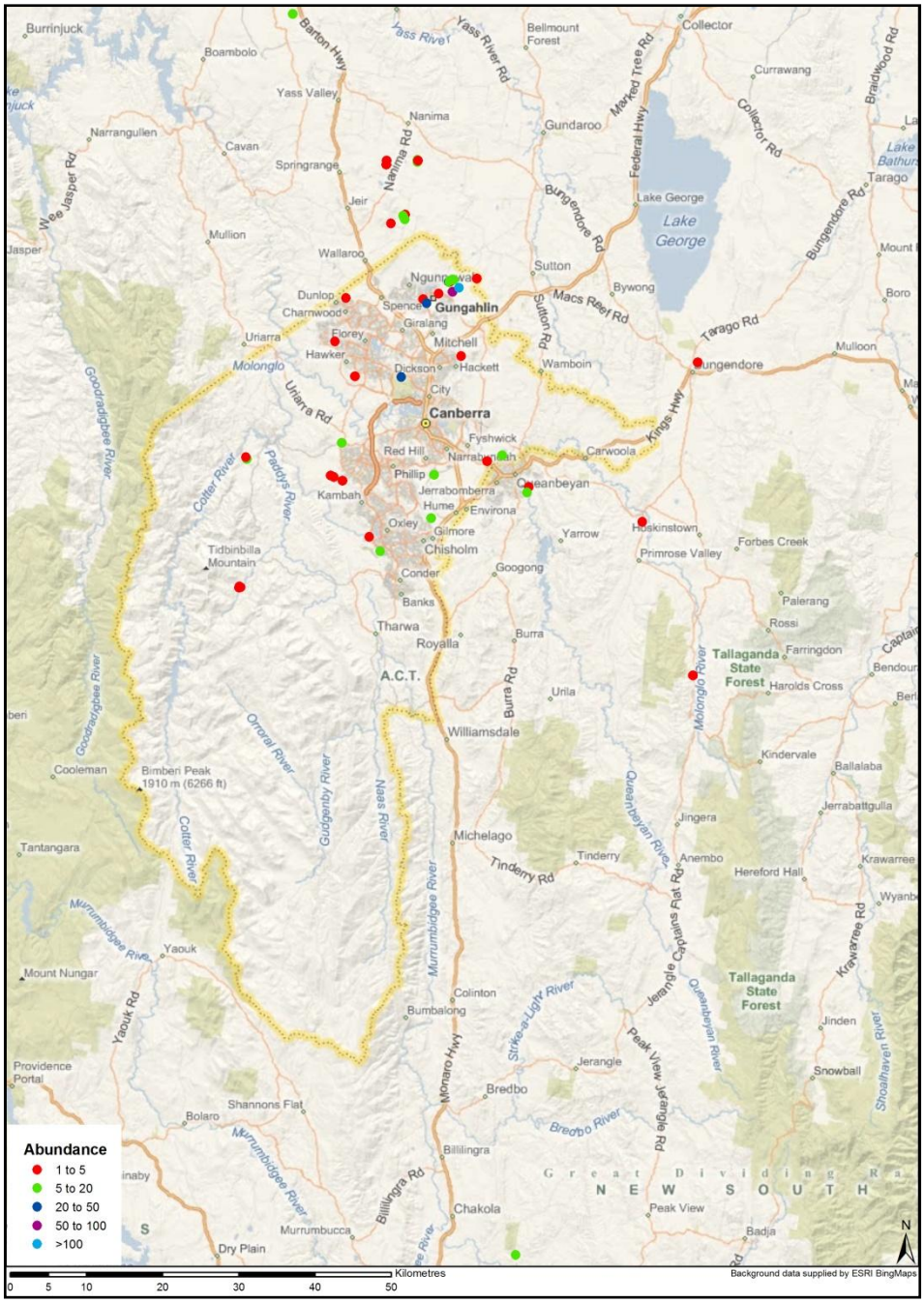
Uperoleia laevigata[1]

Smooth Toadlet

- Warty appearance with an orange patch behind & in front of each thigh.
- Pale triangular patch between the eyes.
- Length = 25mm.
- Call = low pitched, drawn out “wwhhrrkkkkk”.

Census Year	2002	2003	2004	2005	2006	2007	2008	2009
No. of sites where detected	3	27	36	44	28	52	31	47
% of total sites surveyed	10	23	26	31	17	33	23	29
Median no. of individuals observed	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5

Site code	Abundance
BON100	5 to 20
BUN200	1 to 5
CBR004	5 to 20
CEQ100	1 to 5
CEQ200	1 to 5
CFR200	1 to 5
CMC150	1 to 5
COO001	5 to 20
DGP001	1 to 5
DUF300	5 to 20
FBM400	20 to 50
FMC220	1 to 5
FTD015	1 to 5
FTD120	1 to 5
FTD165	1 to 5
GUN100	1 to 5
GUN300	20 to 50
GUN400	1 to 5
LAW100	1 to 5
LWP100	1 to 5
MFL001	20 to 50
MFL002	5 to 20
MFL003	1 to 5
MFL004	5 to 20
MFL005	1 to 5
MFL007	5 to 20
MFL011	50 to 100
MFL013	>100
MOL600	1 to 5
MYR100	1 to 5
MYR300	1 to 5
OSR002	1 to 5
OSR003	5 to 20
OSR005	5 to 20
OSR006	5 to 20
PCF001	5 to 20
PCF002	1 to 5
PIN100	1 to 5
PLM400	5 to 20
PNG100	5 to 20
PNG200	5 to 20
PNG300	1 to 5
QBN002	1 to 5
QBN010	5 to 20
QBN012	5 to 20
RCD001	5 to 20
TSP100	1 to 5
WEE100	1 to 5



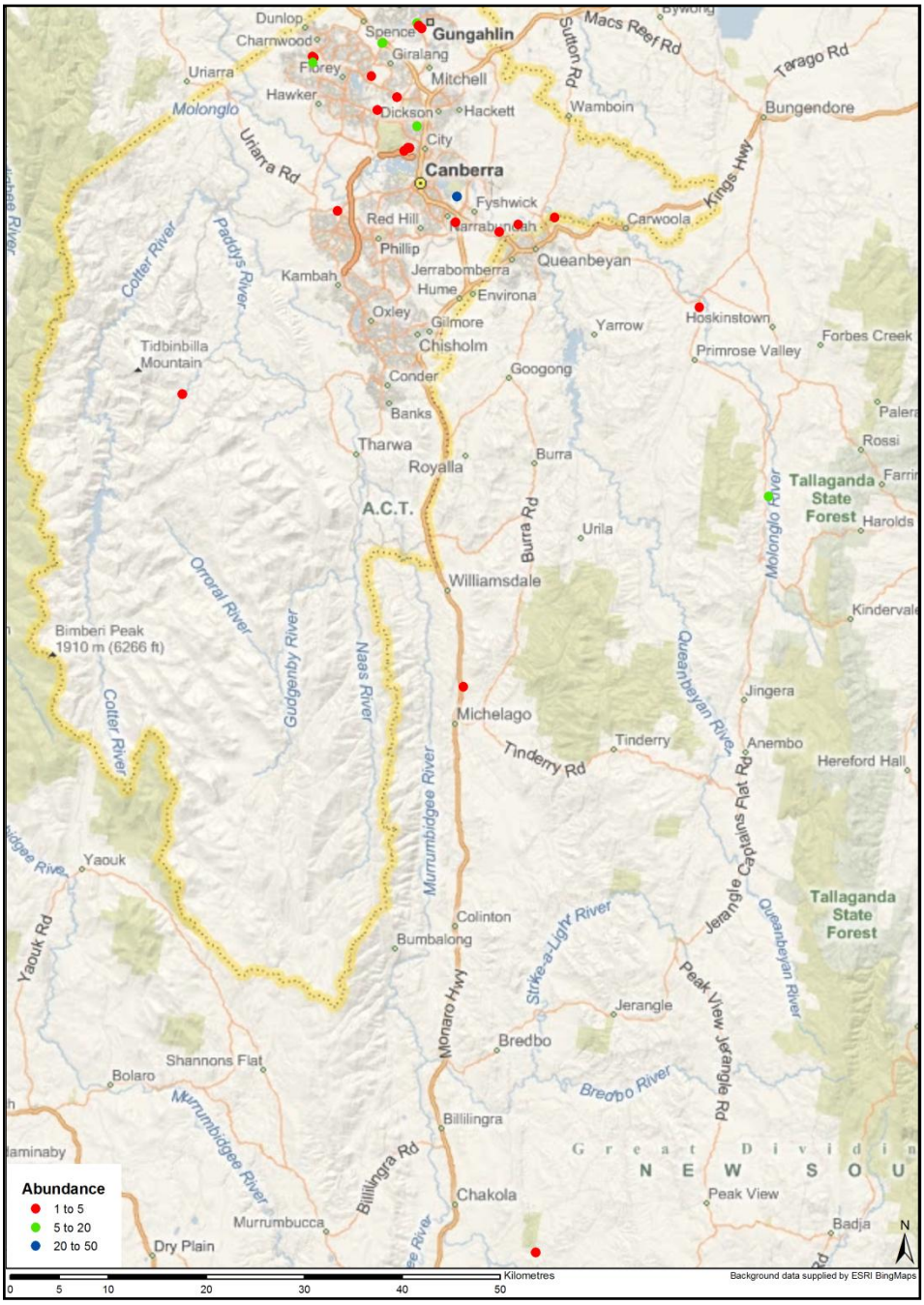
Limnodynastes peronii[1]

Brown Striped Frog

- Distinctive light and dark brown stripes on the dorsal surface.
- Slightly raised glandular stripe along the mouth and behind the eye.
- Length = 70mm.
- Call = single “tock” repeated.

Census Year	2002	2003	2004	2005	2006	2007	2008	2009
No. of sites where detected	3	8	8	19	14	33	10	27
% of total sites surveyed	10	7	6	13	8	21	7	17
Median no. of individuals observed	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5

Site code	Abundance
ANU018	1 to 5
ANU019	1 to 5
ANU020	1 to 5
CFR300	5 to 20
CHC100	1 to 5
CMW500	1 to 5
COO002	1 to 5
FGC010	1 to 5
FGD030	1 to 5
FGW100	1 to 5
FGW200	1 to 5
FMW010	5 to 20
FTD165	1 to 5
GIN007	5 to 20
GIN008	5 to 20
GIN024	5 to 20
GUN100	5 to 20
GUN200	1 to 5
GUN300	1 to 5
JER300	5 to 20
JER310	1 to 5
JER500	20 to 50
LWR100	1 to 5
MOL150	1 to 5
MOL600	1 to 5
QBN011	1 to 5
TAL001	1 to 5



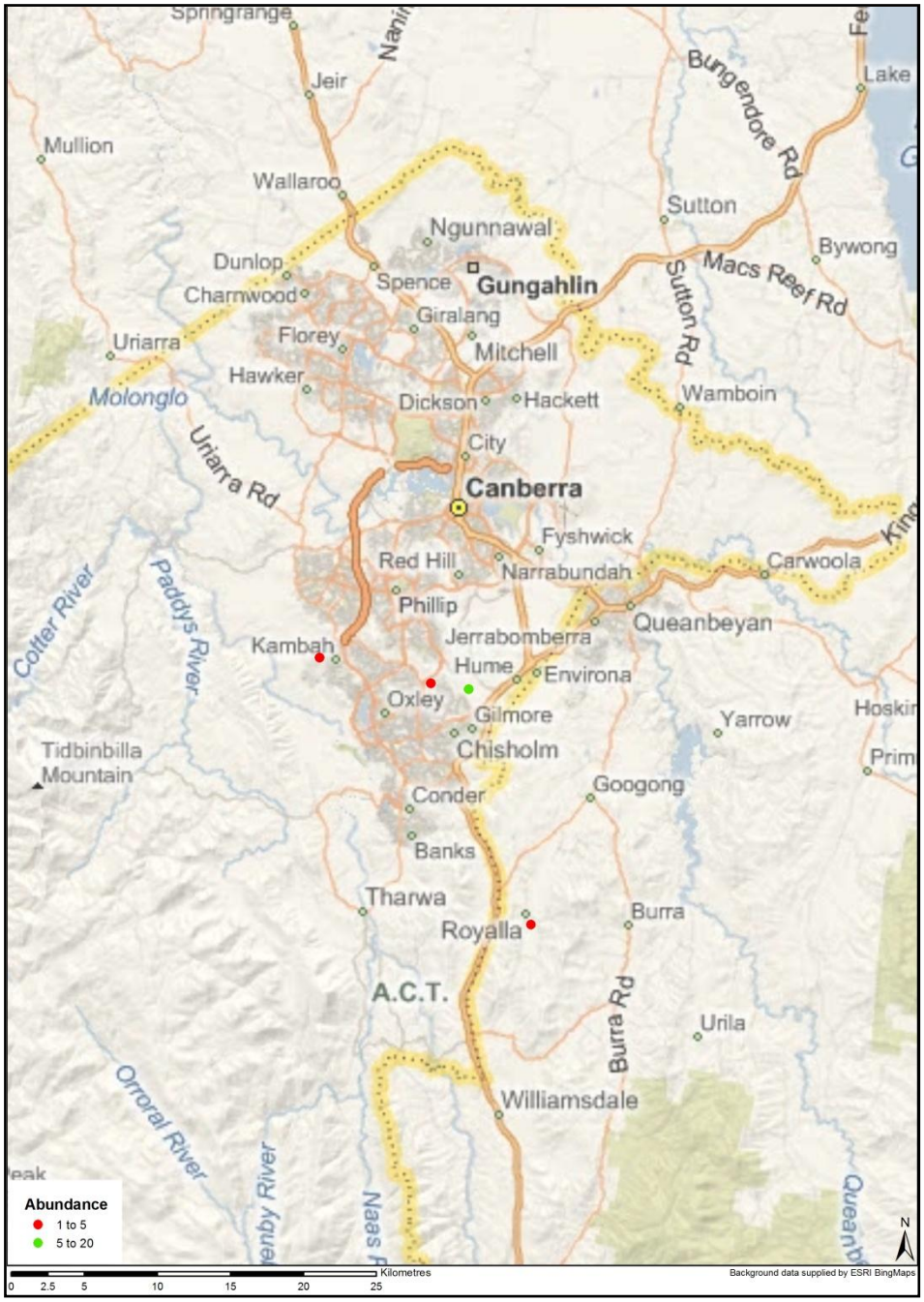
Neobatrachus sudelli[1]

Spotted Burrowing Frog

- Squat, short-legged frog with numerous wart-like bumps that give a sand-paper appearance.
- Broad pattern of greenish-brown & darker blotches on the back.
- Length = 50mm.
- Call = soft, rapidly repeated clucking sounds.

Census Year	2002	2003	2004	2005	2006	2007	2008	2009
No. of sites where detected	0	0	2	2	0	0	1	4
% of total sites surveyed	0	0	1	1	0	0	1	2
Median no. of individuals observed	-	-	1 to 5	1 to 5	-	-	1 to 5	1 to 5

Site code	Abundance
CMC600	1 to 5
FAD300	1 to 5
JER101	1 to 5
RCD001	5 to 20



Litoria aurea[1]

Green and Golden Bell Frog

- Large green or green and brown/gold in colour.
- Smooth back and bright blue or purple on hind side of thighs.
- Length = 80mm – 120mm.
- Call = soft, distinctive drawn out deep 'wrrraaaaagh wrrraaaaagh wrrrkk, wrrkkk wrrk'.

Census Year	2002	2003	2004	2005	2006	2007	2008	2009
No. of sites where detected	0	0	0	0	1	0	0	1
% of total sites surveyed	0	0	0	0	1	0	0	1
Median no. of individuals observed	-	-	-	-	1 to 5	-	-	5 to 20

For the second time in the eight years of the Frogwatch Census, a record of *Litoria aurea* was detected. This species was detected at one site during the 2009 census period and more than five individuals were calling. The location of the site is not publically available.

Dr Will Osborne of the University of Canberra and Dr David Hunter, Threatened Species Officer at NSW Dept of Environment and Climate Change and Water visited the site and were able to undertake an initial survey during a daytime visit. A number of individual frogs were spotted sunning themselves on the reeds (the photo above taken by David Wong at the site visit). Further survey work at the site is to be undertaken in the future.

Habitat requirements

Litoria aurea is a semi-aquatic species preferring marshes, dams and stream sides, particularly those containing bulrushes or spikerushes. According to a study by White and Pyke (1996), their optimum habitat includes water bodies which are un-shaded, free of predatory fish *Gambusia holbrooki*, have a grassy area nearby and diurnal sheltering sites available such as vegetation and/or rocks. More recently however, this species has frequently been found in disturbed sites such as disused industrial sites, brick pits, mines, recently cleared bushland or council tips.

Status and distributions

Litoria aurea is listed as Vulnerable on the ICUN (International Union for the Conservation of Nature and Natural Resources) Red list; nationally vulnerable under the EPBC (Environment Protection and Biodiversity Conservation) Act; and is listed as an Endangered Species under the NSW Threatened Species Conservation Act.

In the 1960s the species was considered to be widespread, and was distributed from the NSW north coast to eastern Victoria, including the Hunter Valley, southern highlands and Monaro districts of NSW and the ACT. From 1978 to 1981, this species virtually disappeared from the ACT and Southern Highlands region and until a few years ago was thought to be extinct in the region. In coastal areas, their distribution is patchy. Researchers believe that the declines were most likely due to the amphibian *chytrid* fungus, but that the spread of exotic fish, combined with habitat loss and climate change are also likely to be contributing.

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[1] Species information taken from Lintermans, M. and Osborne, W. (2002). Wet & Wild: A Field Guide to the Freshwater Animals of the Southern Tablelands and High Country of the ACT and NSW. Canberra: Environment ACT.

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Appendix 1

Frogwatch volunteers 2009

N. Aitken
C. Allen
J. Arnold
B. Asquith
P. Atkinson
L. Barnsley
M. Barnsley
L. Barrett
G. Beaumont
N. Beaumont
J. Begg
J. Bird
R. Blackwell
M. Blume
C. Blunt
P. Blunt
L. Bourke
S. Bourke
M. Brooks
B. Buckley
G. Buffington
P. Burrell
R. Burrell
A. Callaway
E. Callaway
K. Callaway
M. Callaway
R. Callaway
Y. Callaway
M. Clark
W. Clark
J. Clarke
M. Clough
C. Constance
C. Craig-Smith
H. Crawley
L. Crawley
N. Cubb
B. Cuthbertson
Z. Cuthbertson
K. Dace
B. Davies
B. Driscoll
C. Driscoll
D. Driscoll
J. Dryzek
R. Dryzek
Elysia
F. Fawke
P. Fawke
F. FitzGibbon
P. Fountain
D. French
A. Gaze
R. Gaze
T. Gaze
C. Gee
R. Gee
N. Gibb
J. Gibson
K. Gillespie
K. Gould
K. Gowland
R. Hall
W. Hall
K. Heiman
S. Heiman
K. Henderson
J. Hibberd
S. Hibberd
K. Higgins
R. Hnatiuk
S. Hnatiuk
L. Hodgman
M. Hodgman
S. Hodgman
C. Hope
F. Horan
A. Horseman
J. Ireland
P. Jalowenko
L. Jenkins
H. Jerjen
D. Kay
K. Kefous
E. Keightley
B. Kertesz
T. Khan
S. Knight
A. Koskinen
V. Kurz
J. Lansdowne
A. Lashko
D. Lassam
A. Laver
E. Laver
L. Laver
M. Laver
P. Laver
I. Lawrence
R. Lazzari
I. Lee
C. Lemann
N. Lewis
P. Lilley
M. Lind & Family
C. Malam
M. Malam
G. Manning
A. Marks
G. Marks
P. McClaren
J. McEwan
R. McFarlane
M. McGregor
J. McRae
G. Medlin
P. Medlin
S. Mills
A. Morrison
P. Morrison
G. Moseley
J. Moseley
R. Noakes
T. Noakes
J. O'Dea
K. O'Dea
F. O'Laighin
E. Oliver
E. Olson
P. O'Neil
S. Owen
F. Pick
R. Pick
X. Pick
C. Raderschall
S. Radoll
S. Rae
S. Richard
T. Roan
S. Robertson
H. Rowlands
J. Ruxton
J. Santen
G. Sargent
K. Schwarz
D. Shaw
M. Sim
Sita
S. Skinner
A. Smith
R. Smith
F. Spier
G. Stephenson
C. Sutton
T. Swain
S. Sydnych
R. Tait
B. Taloni
E. Taloni
J. Taloni
P. Taloni
J. Thompson
J. Thompson
J. Tomkins
K. Tomkins
N. Travica
C. Turton
A. van Kleeff
K. Waddell
A. Welsh
L. Welsh
A. Westcott
J. Widdowson
T. Widdowson
B. Wilken
J. Wilkins
C. Williams
N. Williams
W. Williams
D. Woollcombe
L. Woollcombe
S. Wright
1st Murrumbateman Cubs (18)
1st Murrumbateman Scouts (12)

Appendix 2

Site location details – October 2009

Note: sites listed in red are Key Frogwatch sites (see page 3 for more detail).

Site Code	Site Name	State	Observers	Monitoring Occasions 2009	Latitude	Longitude
ANU018	Sullivan's Creek	ACT	R. Tait	1	-35.2819	149.1121
ANU019	Western Bank	ACT	R. Tait	1	-35.2797	149.1151
ANU020	Sullivan's Creek, western side of creek	ACT	E. Olson	2	-35.2796	149.1169
ANU021	Sullivan's Creek	ACT	E. Olson	2	-35.2779	149.1191
ANU023	Sullivan's Creek, downstream of Barry Drive	ACT	E. Olson	1	-35.2754	149.1235
ARA017	Backyard Pond, Araba St, Aranda	ACT	S. Robertson	1	-35.2643	149.0836
ARA100	Farm Dam	ACT	K. & J. O'Dea	2	-35.2764	149.0779
ARA200	Large Dam North of ARA100	ACT	J. Arnold	1	-35.2730	149.0775
ARA300	Carne Creek Aranda	ACT	M. Clark, J. & R Dryzek	1	-35.2746	149.0862
BON100	Stranger Pond, Bonython	ACT	K. Dace, V. Kurz	3	-35.4291	149.0733
BUN100	Elmslea Water Quality Ponds, Bungendore	NSW	S. Radoll & J. Bird	3	-35.2502	149.4448
BUN200	Elmslea Estate Pond, Bungendore	NSW	S. Radoll & J. Bird	3	-35.2472	149.4476
BUR300	Private property Pond	NSW	J. Ireland	9	-35.5167	149.2292
BUR350	Private property Dam	NSW	J. Ireland	9	-35.5175	149.2294
CAV100	Caves Quarry Dam, Peirce's Creek Forest	ACT	S. & R. Hnatiuk	1	-35.3447	148.9420
CBR001	Callum Brae Site 1	ACT	J. Begg	1	-35.3567	149.1409
CBR002	Callum Brae Site 2	ACT	J. Begg	1	-35.3571	149.1395
CBR003	Callum Brae Site 3	ACT	J. Begg	1	-35.3573	149.1376
CBR004	Callum Brae Site 4	ACT	J. Begg	1	-35.3555	149.1367
CEQ100	Canberra Equestrian Centre	ACT	A. & L. Welsh, H. & L. Crawley	3	-35.3563	149.0150
CEQ200	Canberra Equestrian Centre	ACT	A. & L. Welsh, H. & L. Crawley	3	-35.3577	149.0188
CFR200	Hodgman property, large dam	NSW	L. & S. Hodgman	2	-35.5487	149.4420
CFR300	Molonglo River. Just off Captains Flat Rd	NSW	S., L. & M. Hodgman	2	-35.5401	149.4463
CHC100	Calvary Hopsital Drain at overflow adjacent to path	ACT	R. Tait & D. French	1	-35.2513	149.0872
CHC101	Calvary Hopsital Drain - approx 100m west of outflow	ACT	R. Tait & D. French	1	-35.2513	149.0865
CHC102	Calvary Hopsital Drain - adjacent to Goldsworthy place, 75m south of CMC101	ACT	R. Tait & D. French	1	-35.2517	149.0864
CMC100	Cooleman Ridge, Old Dam	ACT	H. & L. Crawley	3	-35.3570	149.0263
CMC150	Cooleman Ridge, Tank Dam	ACT	H. & L. Crawley	2	-35.3610	149.0285
CMC600	Mt Neighbour Horse Paddock Dam	ACT	V. Kurz, H. & L. Crawley	4	-35.3813	149.0414
CMC700	Vikings BMX Park, Kambah	ACT	S. & K. Heiman	3	-35.3712	149.0549
CMC750	Fisher Dam, Fisher	ACT	S. & K. Heiman	3	-35.3699	149.0565
CMW500	Stromlo Gross pollutant trap	ACT	H. & L. Crawley, E. Keightley & G. Manning	2	-35.3268	149.0511
CMW550	Adjacent to Weston Creek Gross Pollutant Trap	ACT	H. & L. Crawley	1	-35.3267	149.0520
CON100	Condor Wetlands, pond A	ACT	P. & C. Blunt, N. & W. Williams, H. Rowlands	1	-35.4622	149.1057
CON110	Condor Wetlands, pond B	ACT	P. & C. Blunt, N. & W. Williams, H. Rowlands	1	-35.4615	149.1046

Site Code	Site Name	State	Observers	Monitoring Occasions 2009	Latitude	Longitude
COO001	Frog pond Koskinen Property Cooma	NSW	A. Koskinen	2	-36.1033	149.2329
COO002	Dam at Koskinen Property Cooma	NSW	A. Koskinen	1	-36.1021	149.2326
CTP450	Murrays Corner	ACT	M. Blume & F. Horan, J. Begg	2	-35.3636	148.9521
CTT300	Upper Tuggeranong Creek Theodore	ACT	B. Wilken & C. Williams	2	-35.4423	149.1264
DGP001	Dunlop Grasslands Dam	ACT	C. Lemann, C. & M. Malam	4	-35.1850	149.0332
DUF200	Narrabundah Hill, North Dam	ACT	E. Keightley & G. Manning	1	-35.3320	149.0241
DUF300	Bushfire Memorial Dam	ACT	E. Keightley & G. Manning	1	-35.3246	149.0278
FAD100	Fadden Hills Silt Pond	ACT	J. Begg, A., K., R., E., Y. & M. Callaway	2	-35.3980	149.1170
FAD300	Wanniassa Hills Dam	ACT	J. Begg, B. Buckley, K. Higgins & J. Wilkins	6	-35.3942	149.1098
FBM200	Black Mountain Storage Yard Pool	ACT	S. Rae	1	-35.2703	149.1053
FBM300	Black Mountain Path Pool	ACT	S. Rae	1	-35.2703	149.1053
FBM400	Black Mountain Dam	ACT	D., C. & B. Driscoll	2	-35.2612	149.0982
FER100	Fernhill Tech Park, Bruce	ACT	J. Arnold	1	-35.2397	149.0908
FER200	Jerrabomberra Creek Bridge - Fernleigh Park	ACT	B. Davies, W. Hall, M. Brooks, B., E., J. & P. Taloni, T. Khan	1	-35.4390	149.1943
FGC009	Jarramlee Pond (Dunlop Pond 1)	ACT	D. Lassam, F. & P. Fawke	4	-35.2031	149.0140
FGC010	Lake Ginninderra & College Creek	ACT	C. Hope	3	-35.2258	149.0821
FGC030	Gooromon Ponds Creek, Dunlop	ACT	D. Lassam, D. Driscoll, F. & P. Fawke	5	-35.1988	149.0083
FGC040	Lake Ginninderra	ACT	C. Sutton	2	-35.2246	149.0689
FGC050	Pantowora Rd Creek	ACT	J. Arnold	1	-35.2351	149.0817
FGC091	Ginninderra Creek, at Macgregor, via Crago Place	ACT	L. Jenkins & D. Lassam	3	-35.2125	149.0154
FGD010	Lake Ginninderra West side	ACT	C. Sutton	2	-35.2331	149.0655
FGD020	Oconnor Ridge Dam	ACT	C. Allen	1	-35.2456	149.1123
FGD030	Australian Institute of Sport, Drain near bike path	ACT	D. & L. Woollcombe	1	-35.2415	149.1053
FGD040	Aranda Paddock Large Dam	ACT	P. Lilley & S. Robertson, S. Knight & N. Lewis	4	-35.2772	149.0823
FGD045	Aranda Bushland Dam	ACT	P. Fountain & I. Lee	1	-35.2833	149.0872
FGG010	Giralang Ponds	ACT	D. Kay	3	-35.2156	149.0883
FGW100	Board Walk Bog	ACT	R. Smith & P. O'Neil	3	-35.2122	149.0295
FGW200	Herron Creek	ACT	R. Smith & P. O'Neil	3	-35.2112	149.0280
FLO200	Stormwater drainage channel, cnr Ginninderra Drive and Kingsford Smith Drive, Florey	ACT	J. McEwan, Elysia & Sita	3	-35.2187	149.0447
FMC040	Buttles Creek	NSW	S. Skinner	1	-35.3569	148.8749
FMC120	Mt Majura Drainage Line, Downstream swamp near transact pole	ACT	K. Henderson & T. Swain	1	-35.2510	149.1688
FMC200	Mt Majura Dam, bottom, via McKenzie St.	ACT	L. & M. Barnsley, J. Gibson, J. Ruxton, M. Clough	4	-35.2510	149.1745
FMC210	Mt Majura Nature Reserve Top Dam	ACT	J. Gibson, J. Ruxton, M. Clough	1	-35.2506	149.1769
FMC220	Mt Majura Dam	ACT	Z. & B. Cuthbertson, A. & P. Morrison, J. Gibson, J. Ruxton, M. Clough, T. Roan & C. Raderschall	3	-35.2412	149.1688
FMW010	David St Wetlands, O'Connor	ACT	Z. & B. Cuthbertson, A. & P. Morrison, J. & S. Hibberd	4	-35.2633	149.1239
FTB010	Bogong Creek, Namadgi National Park	ACT	M. Lind & family	2	-35.7491	148.9713
FTD010	Rippers Pond, Tidbinbilla Nature Reserve	ACT	J. McRae	1	-35.4645	148.9063

Site Code	Site Name	State	Observers	Monitoring Occasions 2009	Latitude	Longitude
FTD015	Vets Centre, TNR - changed from Rippers Pond as no access since Sanctuary built 2007	ACT	F. Spier, G. Stephenson, J. & T. Widdowson, M. Sim, K., R. & E Callaway, K. Gould, S. Mills, C. Craig-Smith, J. Thompson & J. McRae	1	-35.4630	148.9072
FTD120	Boardwalk Pond, Tidbinbilla Nature Reserve	ACT	F. Spier, G. Stephenson, J. & T. Widdowson, M. Sim, K., R. & E Callaway, K. Gould, S. Mills, C. Craig-Smith, J. Thompson & J. McRae	2	-35.4641	148.9069
FTD160	Barbeque Swamp, Tidbinbilla Nature Reserve	ACT	F. Spier, G. Stephenson, J. & T. Widdowson, M. Sim, K., R. & E Callaway, K. Gould, S. Mills, C. Craig-Smith, J. Thompson & J. McRae	1	-35.4548	148.9203
FTD165	Bottom Dam, Tidbinbilla Nature Reserve	ACT	F. Spier, G. Stephenson, J. & T. Widdowson, M. Sim, K., R. & E Callaway, K. Gould, S. Mills, C. Craig-Smith, J. Thompson & J. McRae	1	-35.4636	148.9084
GBY100	Fleetwood Smith St, Backyard pond, Nicholls	ACT	G. Medlin	2	-35.1821	149.0847
GFW006	Ginninderra Creek, Footbridge near Spain Pl Evatt. Previously FGC006.	ACT	P. Burrell & N. Aitken	2	-35.2177	149.0613
GIN007	Ginninderra creek, downstream of Barton Hwy	ACT	A. R. & T. Gaze & B. Asquith	2	-35.2007	149.0925
GIN008	Ginninderra Creek outside Nature Park	ACT	A., R. & T. Gaze & B. Asquith	2	-35.2011	149.0918
GIN024	Stepping Stones Crossing, Ginninderra Creek	ACT	R. Smith & P. O'Neil, K. Gillespie & K. Schwarz	4	-35.2158	149.0284
GUN100	Gungahlin Scout Hall Dam	ACT	A. Smith	2	-35.1861	149.1238
GUN200	Burgmann Anglican School Pond	ACT	A. Smith	3	-35.1882	149.1251
GUN300	Pond in the paddock south east of Burgmann Anglican School.	ACT	A. Smith	3	-35.1900	149.1279
GUN400	Gundaroo / Horsepark Drive Ponds	ACT	A. Smith	1	-35.1810	149.1422
HAC100	Rivett St, Hackett (private pond)	ACT	K. Henderson & T. Swain	1	-35.2469	149.1676
HAL001	Halls Creek Showground Bridge	ACT	G. & P. Medlin	3	-35.1715	149.0739
HAL002	Halls Creek Pong Club	ACT	G. & P. Medlin	3	-35.1713	149.0748
HAN100	Backyard pond Ainslie	ACT	M. Clough	1	-35.2537	149.1499
HOL100	Holder drainage channel	ACT	E. Keightley & G. Manning	1	-35.3277	149.0443
ICH003	Illoura Creek below bridge	ACT	K. Kefous	1	-35.3267	149.0675
JBT001	Melba BMX track. Stormwater tributary	ACT	P. & R. Burrell & N. Aitken	2	-35.2176	149.0532
JER010	Jerrabomberra Creek Old Cooma Rd	NSW	D. Shaw	1	-35.4668	149.1846
JER100	Jerrabomberra Creek at Barrett's	NSW	S. Owen, S. Richard, J. Santen, S. Sydnych	3	-35.5151	149.1715
JER101	Jerrabomberra Creek at Barrett's	NSW	L. Barrett	1	-35.5151	149.1715
JER102	Jerrabomberra Creek at Barrett's	NSW	L. Barrett	1	-35.5151	149.1715
JER300	Jerrabomberra Dairy Creek - Mill Creek	ACT	F. O'Laighin & R. Lazzari	2	-35.3353	149.1591
JER310	Jerrabomberra Dairy Creek - Mill Creek	ACT	F. O'Laighin & R. Lazzari	2	-35.3351	149.1591
JER320	Jerrabomberra Dairy Creek - Mill Creek	ACT	F. O'Laighin & R. Lazzari	2	-35.3324	149.1609
JER500	Jerrabomberra Wetlands. First bird hide from Dairy Rd Carpark	ACT	J. Begg, J. & S. Hibberd, F. O'Laighin	7	-35.3160	149.1605
KIP001	Kippax Creek, Holt	ACT	D. Lassam, L. Jenkins & P. Fawke	2	-35.2177	149.0184
LAW100	Lawrence Pond, Higgins	ACT	I. Lawrence	3	-35.2270	149.0200
LDM100	Lookout Dam, Holt	ACT	J. Arnold	2	-35.2469	148.9877
LGC001	Nerin Nerin Ck, Lake George	NSW	R. McFarlane, R., F. & X. Pick	1	-35.0983	149.3768
LWP100	Little Whiskers Rd Pond	NSW	F. FitzGibbon	5	-35.4007	149.3824
LWR100	Little Whiskers Rd River	NSW	F. FitzGibbon	6	-35.3989	149.3828
MCW001	McKellar wetland, constructed 2000	ACT	N. Gibb & P. Jalowenko	1	-35.2194	149.0823

Site Code	Site Name	State	Observers	Monitoring Occasions 2009	Latitude	Longitude
MCW002	McKellar wetland, constructed 2004	ACT	N. Gibb & P. Jalowenko	1	-35.2143	149.0811
MCW010	Frog highway, drainage line between two McKellar wetlands	ACT	N. Gibb & P. Jalowenko	1	-35.2161	149.0812
MFL001	Mulligans Flat Site 1	ACT	A. Lashko & E. Oliver, K. & J. Tomkins, M. McGregor, A. Horseman, R. Blackwell, C. Malam, K. Waddell, W. Clark, G. Buffington	2	-35.1694	149.1541
MFL002	Mulligans Flat Site 2	ACT	A. Lashko & E. Oliver & K. Gowland	2	-35.1697	149.1549
MFL003	Mulligans Flat Site 3	ACT	A. Lashko & E. Oliver & K. Gowland	3	-35.1689	149.1568
MFL004	Mulligans Flat Site 4	ACT	K. & J. Tomkins, M. McGregor, A. Horseman, R. Blackwell, C. Malam, K. Waddell, W. Clark, G. Buffington	1	-35.1686	149.1553
MFL005	Mulligans Flat Site 5	ACT	A. Lashko & E. Oliver	3	-35.1662	149.1871
MFL007	Mulligans Flat Site 7	ACT	A. Lashko & E. Oliver, K. & J. Tomkins, M. McGregor, A. Horseman, R. Blackwell, C. Malam, K. Waddell, W. Clark, G. Buffington	2	-35.1673	149.1598
MFL011	Mulligans Flat Site 11	ACT	A. Smith	3	-35.1793	149.1584
MFL013	Mulligans Flat Site 13	ACT	A. Smith	3	-35.1753	149.1664
MOL150	Molonglo River Park	NSW	B. Kertesz	3	-35.3316	149.2500
MOL300	Southwells Crossing	ACT	J. Begg	1	-35.3188	149.0472
MOL600	Creek near Tannery Beard	NSW	S. Skinner & A. Westcott	1	-35.3424	149.1992
MOL605	Molonglo River at Oaks Estate Rd Causeway	NSW	J. Begg	2	-35.3374	149.2219
MOL606	Molonglo River at Oaks Estate Rd Causeway	NSW	J. Begg	2	-35.3368	149.2222
MOL608	Molonglo River Bridge on Yass Rd Qbyn	NSW	J. Begg	2	-35.3350	149.2401
MOL609	Molonglo River Bridge on Yass Rd Qbyn	NSW	J. Begg	1	-35.3346	149.2407
MUR010	Jones Park	NSW	1st Murrumbateman Cubs and Scouts – Leaders: L. Bourke, C. Constance, S. Wright, S. Bourke, P. McClaren, J. Landsdowne, and 18 cubs, 12 scouts.	2	-35.9692	149.0303
MYA050	Yarralumla Ck	ACT	J. Thompson	3	-35.3074	149.0720
MYA100	Yarralumla Ck, Curtin Oval	ACT	A. & G. Marks	1	-35.2567	149.0757
MYR100	Myrtle Rise. Shallow Valley Dam. Mcauliffe Lane, Nanima Rd, Hall	NSW	S. & R Hnatiuk	1	-35.0523	149.0808
MYR300	Myrtle Rise. Top dam. Mcauliffe Lane, Nanima Rd, Hall	NSW	S. & R. Hnatiuk	1	-35.0564	149.0804
ORA001	Orana School Drainage Gully	ACT	E. Keightley & G. Manning	1	-35.3281	149.0583
OSR001	Dam 1. Front gate	NSW	R. McFarlane & R. Pick	1	-35.1074	149.1047
OSR002	Dam 2.	NSW	R. McFarlane & F. Pick	1	-35.1045	149.1028
OSR003	Dam 3. Big back dam	NSW	R. McFarlane & F. Pick	1	-35.1055	149.1004
OSR004	Dam 4. Swim Dam	NSW	R. McFarlane, R. & F. Pick	1	-35.1062	149.1019
OSR005	Dam 5. Hidden Dam	NSW	R. McFarlane	1	-35.1091	149.1024
OSR006	Dam 6.	NSW	R. McFarlane & F. Pick	1	-35.1083	149.1016
PCF001	Dam near Pierces Creek, Pierces Creek Forest	ACT	S. & R. Hnatiuk	1	-35.3402	148.9160
PCF002	Pierces Creek	ACT	S. & R. Hnatiuk	1	-35.3385	148.9148
PIN010	Backyard pond, Ambalindum St, Hawker	ACT	C. Turton	11	-35.2542	149.0318
PIN100	Pinnacle Dam, Hawker	ACT	S. Rae	1	-35.2608	149.0433
PLM300	Laver Farm, Gully Dam	NSW	P., M., A., L. & E. Laver	1	-34.9105	148.9703
PLM400	Laver Farm Big Dam	NSW	P., M., A., L. & E. Laver	1	-34.9105	148.9703
PNG100	Pinenut Grove House Dam	NSW	G. Sargent	3	-35.0539	149.1172
PNG200	Pinenut Grove Pond	NSW	G. Sargent	3	-35.0518	149.1173

Site Code	Site Name	State	Observers	Monitoring Occasions 2009	Latitude	Longitude
PNG300	Driveway Dam, Pinenut Grove	NSW	G. Sargent	3	-35.0523	149.1176
QBN002	Pond in Greenleigh	NSW	G. & N. Beaumont	1	-35.3672	149.2488
QBN012	Mountain Rd Dam	ACT	J. Begg	1	-35.3367	149.2170
QBN011	Mountain Rd Drainage Ditch	ACT	J. Begg	1	-35.3369	149.2166
QBN010	Private Pond, Lonergan Dr Queanbeyan	NSW	J. Clarke	8	-35.3724	149.2464
QBN200	Queanbeyan River	NSW	S. Skinner	1	-35.3670	149.2372
RCD001	Rose Cottage horse paddock 8 and Dam	ACT	R. & C. Gee & Aaron van Kleeff	3	-35.3972	149.1331
SFF100	Stromlo Forest Retention Dam	ACT	J. Begg	3	-35.3215	149.0440
SRC100	Cotter Campground	ACT	M. Blume & F. Horan	1	-35.3267	148.9465
SUT100	Dam 1, "Macrorrhyncha", Moseley Property, Sutton	NSW	J. & G. Moseley	1	-35.1496	149.2285
SUT101	Dam 2, "Macrorrhyncha", Moseley Property, Sutton	NSW	J. & G. Moseley	1	-35.1588	149.2306
SWA100	Ginninderra Creek, Fellows Ponds	ACT	R. Smith & P. O'Neil	3	-35.2148	149.0312
TAL001	Tallulah	NSW	T. & R. Noakes	1	-35.6820	149.1664
TRA100	Travica property, Gundaroo. Lower Dam	NSW	N. Travica	8	-35.0740	149.3076
TSP100	Tuggeranong Sporting Club Dam	ACT	H. Jerjen	2	-35.4155	149.0604
UCP100	UC, manmade pond near Early Childhood Centre	ACT	J. Arnold	1	-35.2048	149.0846
WEE100	Weemalla, Fairview Rd, Wallaroo	NSW	S. & R. Hnatiuk	1	-35.1131	149.0860

Appendix 3

Monitoring summary

Note: sites listed in red text are Key Frogwatch sites (see page 3 for more detail).

Summary of results, October – November 2009													Monitoring History					
SITE CODE	Total number of species 2009	*Crinia parinsignifera*	*Crinia signifera*	*Limnodynastes dumerilii*	*Limnodynastes peronii*	*Limnodynastes tasmaniensis*	*Uperoleia laevigata*	*Litoria peronii*	*Litoria verreauxii*	*Neobatrachus sudelli*	None heard	Monitoring occasions 2009	2003	2004	2005	2006	2007	2008
ANU018	1	-	-	-	1 to 5	-	-	-	-	-	-	1			✓	✓	✓	
ANU019	1	-	-	-	1 to 5	-	-	-	-	-	-	1			✓	✓	✓	
ANU020	1	-	-	-	1 to 5	-	-	-	-	-	-	2			✓	✓	✓	
ANU021	0	-	-	-	-	-	-	-	-	-	1	2			✓	✓	✓	
ANU023	1	-	-	-	-	1 to 5	-	-	-	-	-	1			✓	✓	✓	✓
ARA017	1	-	1 to 5	-	-	-	-	-	-	-	-	1					✓	✓
ARA100	3	1 to 5	-	-	-	1 to 5	-	1 to 5	-	-	-	2				✓	✓	
ARA200	3	-	5 to 20	-	-	1 to 5	-	1 to 5	-	-	-	1						
ARA300	1	-	5 to 20	-	-	-	-	-	-	-	-	1						✓
BON100	4	5 to 20	5 to 20	-	-	5 to 20	5 to 20	-	-	-	-	3		✓	✓		✓	✓
BUN100	6	20 to 50	5 to 20	5 to 20	-	5 to 20	-	1 to 5	1 to 5	-	-	3				✓	✓	✓
BUN200	6	5 to 20	5 to 20	5 to 20	-	5 to 20	1 to 5	-	1 to 5	-	-	3						
BUR300	1	-	-	-	-	5 to 20	-	-	-	-	-	9						
BUR350	5	5 to 20	5 to 20	-	-	20 to 50	-	1 to 5	1 to 5	-	-	9						✓
CAV100	4	-	5 to 20	1 to 5	-	1 to 5	-	1 to 5	-	-	-	1					✓	
CBR001	2	5 to 20	-	-	-	1 to 5	-	-	-	-	-	1						
CBR002	1	5 to 20	-	-	-	-	-	-	-	-	-	1						
CBR003	3	1 to 5	-	-	-	1 to 5	-	1 to 5	-	-	-	1						
CBR004	6	20 to 50	5 to 20	1 to 5	-	5 to 20	5 to 20	5 to 20	-	-	-	1						✓
CEQ100	4	20 to 50	-	-	-	20 to 50	1 to 5	1 to 5	-	-	-	3		✓	✓	✓	✓	✓
CEQ200	5	5 to 20	-	1 to 5	-	5 to 20	1 to 5	5 to 20	-	-	-	3		✓	✓	✓	✓	✓
CFR200	6	50 to 100	20 to 50	-	-	5 to 20	1 to 5	5 to 20	1 to 5	-	-	2			✓	✓	✓	✓
CFR300	5	-	5 to 20	5 to 20	5 to 20	20 to 50	-	-	5 to 20	-	-	2					✓	
CHC100	1	-	-	-	1 to 5	-	-	-	-	-	-	1						
CHC101	1	-	20 to 50	-	-	-	-	-	-	-	-	1						
CHC102	2	-	20 to 50	-	-	5 to 20	-	-	-	-	-	1						
CMC100	2	1 to 5	-	-	-	1 to 5	-	-	-	-	-	3	✓	✓	✓	✓	✓	
CMC150	5	20 to 50	5 to 20	-	-	5 to 20	1 to 5	5 to 20	-	-	-	2						✓
CMC600	4	5 to 20	-	-	-	1 to 5	-	1 to 5	-	1 to 5	-	4	✓	✓	✓	✓	✓	✓
CMC700	2	20 to 50	-	-	-	5 to 20	-	-	-	-	-	3	✓	✓	✓	✓		✓
CMC750	2	1 to 5	-	-	-	1 to 5	-	-	-	-	-	3	✓	✓	✓			
CMW500	4	-	-	1 to 5	1 to 5	1 to 5	-	1 to 5	-	-	-	2	✓	✓	✓	✓	✓	
CMW550	2	-	5 to 20	-	-	5 to 20	-	-	-	-	-	1						✓

Summary of results, October – November 2009													Monitoring History					
SITE CODE	Total number of species 2009	*Crinia parinsignifera*	*Crinia signifera*	*Limnodynastes dumerilii*	*Limnodynastes peronii*	*Limnodynastes tasmaniensis*	*Uperoleia laevigata*	*Litoria peronii*	*Litoria verreauxii*	*Neobatrachus sudelli*	None heard	Monitoring occasions 2009	2003	2004	2005	2006	2007	2008
CON100	3	1 to 5	-	5 to 20	-	5 to 20	-	-	-	-	-	1			✓			✓
CON110	3	5 to 20	-	1 to 5	-	5 to 20	-	-	-	-	-	1			✓			
COO001	4	-	1 to 5	1 to 5	-	1 to 5	5 to 20	-	-	-	-	2						
COO002	4	-	1 to 5	5 to 20	1 to 5	5 to 20	-	-	-	-	-	1						✓
CTP450	5	-	20 to 50	20 to 50	-	5 to 20	-	1 to 5	1 to 5	-	-	2		✓	✓		✓	✓
CTT300	3	-	5 to 20	5 to 20	-	1 to 5	-	-	-	-	-	2	✓	✓				✓
DGP001	6	20 to 50	5 to 20	5 to 20	-	5 to 20	1 to 5	5 to 20	-	-	-	4	✓	✓	✓	✓	✓	
DUF200	3	5 to 20	-	-	-	1 to 5	-	1 to 5	-	-	-	1						
DUF300	5	5 to 20	5 to 20	1 to 5	-	5 to 20	5 to 20	-	-	-	-	1						✓
FAD100	4	5 to 20	20 to 50	20 to 50	-	20 to 50	-	-	-	-	-	2	✓	✓	✓	✓	✓	
FAD300	3	-	1 to 5	-	-	1 to 5	-	-	-	1 to 5	-	6	✓	✓	✓	✓	✓	
FBM200	3	-	5 to 20	-	-	1 to 5	-	1 to 5	-	-	-	1						
FBM300	0	-	-	-	-	-	-	-	-	-	1	1						
FBM400	5	20 to 50	1 to 5	-	-	1 to 5	20 to 50	5 to 20	-	-	-	2						✓
FER100	1	-	5 to 20	-	-	-	-	-	-	-	-	1		✓				✓
FER200	4	1 to 5	1 to 5	1 to 5	-	1 to 5	-	-	-	-	-	1				✓	✓	✓
FGC009	5	5 to 20	5 to 20	1 to 5	-	1 to 5	-	-	1 to 5	-	-	4	✓	✓	✓	✓	✓	✓
FGC010	3	1 to 5	1 to 5	-	1 to 5	-	-	-	-	-	-	3	✓	✓	✓	✓	✓	✓
FGC030	5	5 to 20	5 to 20	1 to 5	-	1 to 5	-	-	1 to 5	-	-	5	✓	✓				
FGC040	1	-	-	1 to 5	-	-	-	-	-	-	-	2		✓				
FGC050	2	-	5 to 20	-	-	5 to 20	-	-	-	-	-	1		✓	✓			✓
FGC091	1	-	1 to 5	-	-	-	-	-	-	-	-	3	✓	✓	✓	✓	✓	
FGD010	2	-	5 to 20	-	-	1 to 5	-	-	-	-	-	2						✓
FGD020	3	1 to 5	1 to 5	-	-	1 to 5	-	-	-	-	-	1	✓				✓	✓
FGD030	2	-	5 to 20	-	1 to 5	-	-	-	-	-	-	1	✓	✓	✓		✓	✓
FGD040	5	50 to 100	20 to 50	1 to 5	-	5 to 20	-	5 to 20	-	-	-	4	✓		✓	✓	✓	✓
FGD045	5	20 to 50	5 to 20	1 to 5	-	1 to 5	-	1 to 5	-	-	-	1					✓	✓
FGG010	4	1 to 5	-	5 to 20	-	1 to 5	-	-	1 to 5	-	-	3	✓	✓	✓			
FGW100	3	-	1 to 5	-	1 to 5	1 to 5	-	-	-	-	-	3	✓	✓	✓	✓	✓	
FGW200	5	-	1 to 5	1 to 5	1 to 5	1 to 5	-	-	1 to 5	-	-	3	✓	✓	✓	✓	✓	✓
FLO200	1	-	-	-	-	1 to 5	-	-	-	-	-	3			✓			✓
FMC040	3	-	5 to 20	1 to 5	-	5 to 20	-	-	-	-	-	1				✓	✓	
FMC120	1	-	1 to 5	-	-	-	-	-	-	-	-	1			✓		✓	✓
FMC200	5	1 to 5	1 to 5	5 to 20	-	5 to 20	-	1 to 5	-	-	-	4	✓	✓	✓	✓	✓	✓
FMC210	2	-	-	-	-	1 to 5	-	-	1 to 5	-	-	1	✓	✓	✓	✓	✓	✓
FMC220	5	20 to 50	1 to 5	-	-	1 to 5	1 to 5	1 to 5	-	-	-	3	✓	✓	✓	✓	✓	✓
FMW010	4	5 to 20	-	-	5 to 20	5 to 20	-	1 to 5	-	-	-	4	✓	✓	✓	✓	✓	✓
FTB010	5	5 to 20	20 to 50	1 to 5	-	1 to 5	-	-	1 to 5	-	-	2	✓	✓	✓	✓	✓	✓
FTD010	2	-	20 to 50	-	-	1 to 5	-	-	-	-	-	1	✓	✓	✓		✓	

Summary of results, October – November 2009													Monitoring History					
SITE CODE	Total number of species 2009	*Crinia parinsignifera*	*Crinia signifera*	*Limnodynastes dumerilii*	*Limnodynastes peronii*	*Limnodynastes tasmaniensis*	*Uperoleia laevigata*	*Litoria peronii*	*Litoria verreauxii*	*Neobatrachus sudelli*	None heard	Monitoring occasions 2009	2003	2004	2005	2006	2007	2008
FTD015	6	5 to 20	20 to 50	1 to 5	-	1 to 5	1 to 5	-	1 to 5	-	-	1						✓
FTD120	5	-	20 to 50	5 to 20	-	5 to 20	1 to 5	-	1 to 5	-	-	2	✓	✓	✓	✓	✓	✓
FTD160	1	-	20 to 50	-	-	-	-	-	-	-	-	1	✓	✓	✓	✓	✓	
FTD165	7	-	5 to 20	5 to 20	1 to 5	1 to 5	1 to 5	1 to 5	5 to 20	-	-	1						✓
GBY100	0	-	-	-	-	-	-	-	-	-	1	2	✓	✓	✓	✓	✓	
GFW006	0	-	-	-	-	-	-	-	-	-	1	2		✓				
GIN007	6	1 to 5	1 to 5	1 to 5	5 to 20	5 to 20	-	-	5 to 20	-	-	2	✓			✓		
GIN008	5	5 to 20	5 to 20	-	5 to 20	5 to 20	-	-	5 to 20	-	-	2						
GIN024	5	1 to 5	20 to 50	1 to 5	5 to 20	-	-	-	1 to 5	-	-	4			✓	✓		
GUN100	6	20 to 50	5 to 20	-	5 to 20	20 to 50	1 to 5	-	1 to 5	-	-	2						
GUN200	5	5 to 20	5 to 20	-	1 to 5	5 to 20	-	-	1 to 5	-	-	3						
GUN300	6	50 to 100	5 to 20	-	1 to 5	20 to 50	20 to 50	5 to 20	-	-	-	3			✓			
GUN400	4	5 to 20	1 to 5	-	-	5 to 20	1 to 5	-	-	-	-	1		✓				
HAC100	1	-	-	-	-	1 to 5	-	-	-	-	-	1						✓
HAL001	3	-	5 to 20	1 to 5	-	1 to 5	-	-	-	-	-	3	✓	✓	✓	✓	✓	
HAL002	4	1 to 5	5 to 20	1 to 5	-	5 to 20	-	-	-	-	-	3		✓	✓			✓
HAN100	1	-	-	-	-	5 to 20	-	-	-	-	-	1				✓	✓	
HOL100	4	1 to 5	1 to 5	-	-	1 to 5	-	-	1 to 5	-	-	1		✓				
ICH003	3	1 to 5	5 to 20	-	-	1 to 5	-	-	-	-	-	1						
JBT001	0	-	-	-	-	-	-	-	-	-	1	2	✓	✓	✓	✓		
JER010	4	1 to 5	5 to 20	1 to 5	-	1 to 5	-	-	-	-	-	1						✓
JER100	5	5 to 20	20 to 50	1 to 5	-	20 to 50	-	-	1 to 5	-	-	3	✓	✓	✓	✓	✓	
JER101	5	1 to 5	5 to 20	-	-	1 to 5	-	-	1 to 5	-	-	1						
JER102	1	-	-	-	-	-	-	1 to 5	-	-	-	1						
JER300	3	1 to 5	5 to 20	-	5 to 20	-	-	-	-	-	-	2		✓	✓	✓	✓	
JER310	3	5 to 20	5 to 20	-	1 to 5	-	-	-	-	-	-	2		✓	✓	✓	✓	
JER320	2	1 to 5	5 to 20	-	-	-	-	-	-	-	-	2		✓	✓	✓	✓	✓
JER500	5	20 to 50	20 to 50	-	20 to 50	20 to 50	-	5 to 20	-	-	-	7	✓	✓	✓	✓	✓	✓
KIP001	2	-	1 to 5	1 to 5	-	-	-	-	-	-	-	2	✓	✓	✓	✓	✓	✓
LAW100	4	1 to 5	-	-	-	1 to 5	1 to 5	1 to 5	-	-	-	3					✓	✓
LDM100	3	5 to 20	1 to 5	-	-	-	-	5 to 20	-	-	-	2	✓	✓		✓	✓	
LGC001	4	20 to 50	1 to 5	-	-	5 to 20	-	-	1 to 5	-	-	1						✓
LWP100	3	-	1 to 5	-	-	1 to 5	1 to 5	-	-	-	-	5				✓	✓	✓
LWR100	7	1 to 5	5 to 20	5 to 20	1 to 5	5 to 20	-	1 to 5	5 to 20	-	-	6				✓	✓	✓
MCW001	4	20 to 50	5 to 20	1 to 5	-	5 to 20	-	-	-	-	-	1	✓	✓	✓	✓	✓	✓
MCW002	4	20 to 50	-	5 to 20	-	5 to 20	-	1 to 5	-	-	-	1	✓	✓	✓	✓	✓	✓
MCW010	0	-	-	-	-	-	-	-	-	-	1	1			✓	✓	✓	✓
MFL001	6	20 to 50	1 to 5	-	-	1 to 5	20 to 50	5 to 20	1 to 5	-	-	2	✓	✓	✓	✓	✓	✓

Summary of results, October – November 2009													Monitoring History					
SITE CODE	Total number of species 2009	*Crinia parinsignifera*	*Crinia signifera*	*Limnodynastes dumerilii*	*Limnodynastes peronii*	*Limnodynastes tasmaniensis*	*Uperoleia laevigata*	*Litoria peronii*	*Litoria verreauxii*	*Neobatrachus sudelli*	None heard	Monitoring occasions 2009	2003	2004	2005	2006	2007	2008
MFL002	7	20 to 50	1 to 5	1 to 5	-	20 to 50	5 to 20	20 to 50	1 to 5	-	-	2	✓	✓	✓	✓	✓	✓
MFL003	6	20 to 50	1 to 5	5 to 20	-	5 to 20	1 to 5	5 to 20	-	-	-	3	✓	✓	✓	✓	✓	✓
MFL004	5	5 to 20	1 to 5	-	-	5 to 20	5 to 20	5 to 20	-	-	-	1	✓	✓	✓	✓	✓	✓
MFL005	5	20 to 50	1 to 5	-	-	20 to 50	1 to 5	5 to 20	-	-	-	3	✓	✓	✓	✓	✓	✓
MFL007	7	20 to 50	5 to 20	1 to 5	-	5 to 20	5 to 20	5 to 20	1 to 5	-	-	2	✓	✓	✓	✓	✓	✓
MFL011	6	50 to 100	20 to 50	-	-	20 to 50	50 to 100	20 to 50	5 to 20	-	-	3		✓	✓	✓	✓	✓
MFL013	6	20 to 50	20 to 50	-	-	20 to 50	>100	20 to 50	1 to 5	-	-	3		✓	✓	✓	✓	✓
MOL150	5	1 to 5	5 to 20	-	1 to 5	5 to 20	-	-	1 to 5	-	-	3			✓	✓	✓	
MOL300	0	-	-	-	-	-	-	-	-	-	1	1						
MOL600	4	1 to 5	5 to 20	-	1 to 5	-	1 to 5	-	-	-	-	1						
MOL605	3	20 to 50	20 to 50	-	-	20 to 50	-	-	-	-	-	2						
MOL606	0	-	-	-	-	-	-	-	-	-	1	2						
MOL608	2	1 to 5	1 to 5	-	-	-	-	-	-	-	-	2						
MOL609	2	-	1 to 5	1 to 5	-	-	-	-	-	-	-	1						✓
MUR010	2	5 to 20	-	-	-	5 to 20	-	-	-	-	-	2			✓		✓	✓
MYA050	3	1 to 5	1 to 5	5 to 20	-	-	-	-	-	-	-	3	✓	✓		✓	✓	
MYA100	2	-	-	1 to 5	-	1 to 5	-	-	-	-	-	1						
MYR100	3	5 to 20	-	-	-	1 to 5	1 to 5	-	-	-	-	1				✓	✓	
MYR300	5	20 to 50	-	1 to 5	-	1 to 5	1 to 5	5 to 20	-	-	-	1						
ORA001	1	-	1 to 5	-	-	-	-	-	-	-	-	1						
OSR001	3	5 to 20	-	5 to 20	-	5 to 20	-	-	-	-	-	1						
OSR002	7	5 to 20	1 to 5	1 to 5	-	5 to 20	1 to 5	1 to 5	1 to 5	-	-	1						
OSR003	4	5 to 20	-	-	-	5 to 20	5 to 20	1 to 5	-	-	-	1						
OSR004	3	5 to 20	1 to 5	-	-	5 to 20	-	-	-	-	-	1						
OSR005	4	5 to 20	-	-	-	5 to 20	5 to 20	1 to 5	-	-	-	1						
OSR006	4	5 to 20	1 to 5	-	-	5 to 20	5 to 20	-	-	-	-	1						
PCF001	5	-	5 to 20	1 to 5	-	1 to 5	5 to 20	1 to 5	-	-	-	1						
PCF002	3	-	1 to 5	1 to 5	-	-	1 to 5	-	-	-	-	1						
PIN010	4	1 to 5	1 to 5	-	-	1 to 5	-	1 to 5	-	-	-	11						✓
PIN100	5	1 to 5	5 to 20	-	-	5 to 20	1 to 5	1 to 5	-	-	-	1		✓	✓	✓	✓	✓
PLM300	4	20 to 50	-	1 to 5	-	5 to 20	-	5 to 20	-	-	-	1					✓	✓
PLM400	4	50 to 100	5 to 20	-	-	-	5 to 20	5 to 20	-	-	-	1					✓	
PNG100	6	20 to 50	5 to 20	5 to 20	-	20 to 50	5 to 20	5 to 20	-	-	-	3						
PNG200	4	5 to 20	1 to 5	-	-	20 to 50	5 to 20	-	-	-	-	3						
PNG300	4	20 to 50	-	1 to 5	-	5 to 20	1 to 5	-	-	-	-	3						
QBN002	3	-	1 to 5	-	-	1 to 5	1 to 5	-	-	-	-	1						
QBN010	5	5 to 20	5 to 20	-	-	1 to 5	5 to 20	1 to 5	-	-	-	8						✓
QBN011	3	-	1 to 5	-	1 to 5	1 to 5	-	-	-	-	-	1						
QBN012	5	20 to 50	20 to 50	-	-	5 to 20	5 to 20	1 to 5	-	-	-	1						

Summary of results, October – November 2009													Monitoring History					
SITE CODE	Total number of species 2009	*Crinia parinsignifera*	*Crinia signifera*	*Limnodynastes dumerilii*	*Limnodynastes peronii*	*Limnodynastes tasmaniensis*	*Uperoleia laevigata*	*Litoria peronii*	*Litoria verreauxii*	*Neobatrachus sudelli*	None heard	Monitoring occasions 2009	2003	2004	2005	2006	2007	2008
QBN200	4	-	5 to 20	5 to 20	-	1 to 5	-	1 to 5	-	-	-	1		✓	✓	✓	✓	✓
RCD001	7	20 to 50	5 to 20	5 to 20	-	20 to 50	5 to 20	5 to 20	-	5 to 20	-	3	✓		✓	✓	✓	✓
SFF100	3	1 to 5	5 to 20	-	-	20 to 50	-	-	-	-	-	3			✓			
SRC100	0	-	-	-	-	-	-	-	-	-	1	1						✓
SUT100	6	20 to 50	5 to 20	5 to 20	-	5 to 20	-	1 to 5	1 to 5	-	-	1		✓	✓	✓	✓	✓
SUT101	3	1 to 5	1 to 5	-	-	1 to 5	-	-	-	-	-	1		✓	✓	✓	✓	
SWA100	3	-	1 to 5	1 to 5	-	-	-	-	1 to 5	-	-	3						
TAL001	3	-	-	-	1 to 5	1 to 5	-	1 to 5	-	-	-	1						✓
TRA100	4	1 to 5	1 to 5	-	-	1 to 5	-	1 to 5	-	-	-	8				✓	✓	✓
TSP100	4	20 to 50	1 to 5	-	-	1 to 5	1 to 5	-	-	-	-	2						
UCP100	2	-	1 to 5	-	-	1 to 5	-	-	-	-	-	1						✓
WEE100	4	5 to 20	-	1 to 5	-	-	1 to 5	1 to 5	-	-	-	1				✓	✓	