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## Acknowledgments

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- Dr Murray Evans (Senior Wildlife Ecologist with the ACT Government),
- Dr David Hunter (Threatened Species Officer at the NSW Environment Department)

We are also very much appreciate all their other contributions to the program, including their ever-popular presentations at the Introductory Training Seminars and the Field Trips.

Events in 2010:

**Seminars**→Queanbeyan 15.09.10, ANBG 22.09.10

**Field Trip**→Queanbeyan 11.10.10, Tidbinbilla Nature Reserve 12.10.10, Mulligans Flat 13.10.10

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**This report has been written and produced by:**

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## About FROGWATCH

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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 to monitor frogs in the region in order to generate significant information about the presence and abundance of frog populations.

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; DeGarday 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).



Photo: Jamie

Figure 1: Deformed *L. 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 a *Limnodynastes tasmaniensis* at the FAD300 site in 2009, as can be seen in Figure 1.

The Ginninderra Catchment Group initiated the FROGWATCH Census 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 region. 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

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- ✚ to increase understanding of the distribution and abundance of frogs in the ACT & Region
- ✚ to increase knowledge and understanding about the health of our wetlands and waterways
- ✚ to monitor the impacts of bushfires and drought on our local ecosystems and catchments
- ✚ to monitor the impacts of bushfires on local wildlife and track recovery rates
- ✚ to provide supplementary information to the ACT Government's professional frog monitoring program and
- ✚ to continue the collection of important frog monitoring data to enhance previous studies.

## Community Capacity Building Objectives

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- ✚ to provide an exciting, hands-on opportunity for community members to engage in natural resource management (NRM)
- ✚ to provide opportunities for community involvement in wildlife monitoring
- ✚ to provide CAMPFIRE (Community Assessment Monitoring Program for Fire Impacted River Ecology) and Waterwatch groups with the opportunity to broaden their monitoring activities
- ✚ to 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
- ✚ to facilitate community monitoring and evaluation of NRM on-ground works, e.g. wetland development, willow removal and re-vegetation projects
- ✚ to increase awareness of frog populations and their habitat requirements, and provide support for the creation and protection of high quality habitat and
- ✚ to ensure that FROGWATCH participants prevent the spread of frog pathogens.

## Methods

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All new FROGWATCH participants must attend an Introductory Training Seminar before commencing monitor activities. Keen Frogwatchers can partake in a field trip to gain extra experience in identification techniques, estimating abundance and identifying important habitat components. Seminar participants learn about:

- why and how frogs call
- frog identification techniques
- how to estimate frog abundance and
- the importance of monitoring.

Additionally, volunteers learn about all procedures for undertaking and recording FROGWATCH observations including:

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

All FROGWATCH volunteers receive a Community FROGWATCH Census Kit which contains:

- The FROGWATCH monitoring plan
- Information about frog species of the ACT and surrounding Region
- 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 E. Slater
- FROGWATCH thermometer.



Frogwatch has registered monitoring sites across the ACT and surrounding NSW Region. Participants are required to register their FROGWATCH site(s) and intended monitoring dates online to avoid double bookings. Monitoring-priority is given to 30 ‘Key FROGWATCH Sites’ to ensure consistent and comprehensive monitoring from year to year, producing statistically robust data to permit in-depth analysis over the longer term. Once all key sites are booked for monitoring, volunteers can register to monitor at other established FROGWATCH sites.

The annual Frogwatch Census monitors frog calls during all of October, with a traditional focus on National Water Week (starting with the third Sunday in October). During Census Week a minimum of 3 monitoring events is required for key sites and a repeat visit is encouraged for all other sites. Not all established Frogwatch sites are monitored every year. This report summarizes all monitoring undertaken between the 1<sup>st</sup> and 31<sup>st</sup> of October this year. Some Frogwatch sites are monitored regularly throughout the year. The results of these events can be found on our webpage.

All monitoring takes place in the first 2-3 hours after dark and consists of an audio recording of frog calls for 2-5 minutes and the measurement of some environmental parameters, recorded onto official Field Data Sheets (e.g. Site location, Habitat type, Vegetation, Weather conditions, and Frog species heard/observe). All data is then submitted online for processing (see below). Audio recordings and subsequent frog identifications are checked for accuracy by the FROGWATCH Coordinator, while staff from the ACT Government and the University of Canberra confirm unusual species or calls difficult to identify. Appendix 3 shows a monitoring summary for all Frogwatch Census sites. This includes a species list for each site surveyed in October this year. It also shows the monitoring history of every Frogwatch site and gives an understanding of how regular individual sites have been visited over the past years.

## Quality Assurance & Quality Control

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Data accuracy and precision is assured by strict quality control processes, including:

- Detailed information about FROGWATCH procedures and guidelines are provided to all participants at the FROGWATCH training events, and in the FROGWATCH Kit.
- Monitoring of calls at all observed sites is undertaken on at least one evening during the Census week, during the first two to three hours after dark.
- Audio recordings from each monitoring event are used to confirm identity of species and number of individuals calling.
- Each audio recording is verified by the FROGWATCH Coordinator with assistance from ACT Government and University of Canberra staff when needed.
- Any unconfirmed data is excluded from this report.

2010 marked a change in data submission as for the first time participants had access to a online registration and data entry option (eCensus), which had been developed during 2010. eCensus was well received and has already proven to significantly reduce data handling time and errors (see Figure 4). The new eCensus is a crucial tool in the future online availability of FROGWATCH data. It allows faster processing of Census information, which means that communities and decision makers have access to results earlier.



Figure 4: Audio recordings from the 2009 FROGWATCH Census (no eCensus) and the 2010 FROGWATCH Census (first year of the eCensus)

## Summary of Results

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In 2010 approximately 165 volunteers participated in the Census, monitoring at 187 sites. Of these, 127 were located within the ACT border, while the remaining 60 sites were situated in the surrounding NSW region. An amazing total of 450 field data sheets were completed and submitted. See Appendix 1 for a complete list of all FROGWATCH 2012 volunteers and Appendix 2 for FROGWATCH site codes, names and locations. A summary of monitoring occasions per site can be found in Appendix 3.

### Weather:

The prolonged drought that had been affecting the ACT and surrounding NSW Region for the previous 8 years had abated somewhat prior to the 2009 census and had definitely broken by 2010. The yearly rainfall in 2010 lay with 959.6mm well over the average yearly rainfall of 629mm. The three months prior to the FROGWATCH Census received well above the average rainfall and October 2010 received 50% more than its monthly average (102.8mm and 67mm of rain, respectively). Dams were full and rivers and streams were flowing. Frog heaven. And with the boom of frog activity came an amazing increase in numbers for participating volunteers and observed sites.

### Species Detected

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A total of 9 species were detected throughout the ACT & Region this spring (Table 1). As in previous years the three most commonly-detected species were the **Common eastern froglet** (*Crinia signifera*), **Plains froglet** (*Crinia parinsignifera*) and **Spotted grass frog** (*L. tasmaniensis*). These species were present in at least 60% of the monitored sites.

The average number of species per site in 2010 was 3.21, down from 3.44 in 2009.

The greatest number of species found at any one site during the 2010 FROGWATCH census was 7 species, as in 2009.

**Table 1: Frog species detected during the 2010 FROGWATCH Census, and each species' overall abundance**

Species	Common name	Detection frequency (# sites)	% of sites detected at
<i>Crinia signifera</i>	Common Eastern Froglet	132	71
<i>Limnodynastes tasmaniensis</i>	Spotted Grass Frog	122	65
<i>Crinia parinsignifera</i>	Plains Froglet	112	60
<i>Limnodynastes dumerilii</i>	Banjo Frog or Pobblebonk	69	37
<i>Litoria peroni</i>	Peron's Tree Frog	64	34
<i>Uperoleia laevigata</i>	Smooth Toadlet	52	28
<i>Limnodynastes peronii</i>	Striped Marsh Frog	23	12
<i>Litoria verreauxii</i>	Whistling Tree Frog	23	12
<i>Neobatrachus sudelli</i>	Spotted Burrowing Frog	4	2
(No calls recorded)	(No calls recorded)	16	9

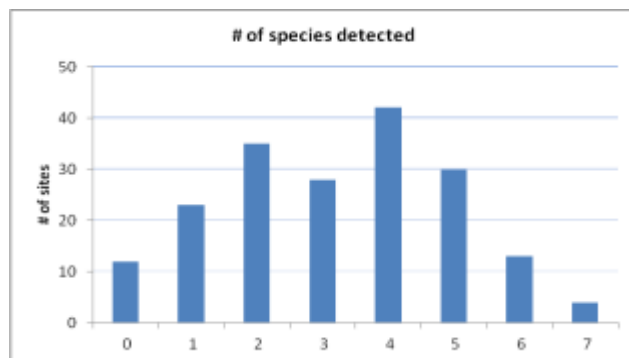
The **Green and Golden bell frog** (*Litoria aurea*) was detected at 1 FROGWATCH site in 2009, which was the first census record of this species since 2006, and the second one since the program started. This species is nationally threatened and has vanished from much of its former range, including in the ACT. In 2010, Green and Golden bell frog were seen but not heard at the site at the Molonglo River. Therefore, the species is not included into this report.

As in 2009, the **Spotted burrowing frog** (*Neobatrachus sudelli*) was detected at four FROGWATCH sites in 2010. In 2008 it had only been recorded at one site which was the first record since 2005. Spotted burrowing frog undergo 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.

### Species Diversity & 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.

Min # of species per site	0
Maximum # of species per site	7
Mean # of species per site	3.2
Median # of species per site	3



**Figure 6: Relative abundance of species at sites surveyed during the 2010 FROGWATCH Census**

The greatest number of species found at any one site during the 2010 FROGWATCH Census was 7 species, same as in 2009 (Figure 6).

Four sites reported the presence of 7 frog species (from 6 sites with 7 species in 2009):

- Mulligans Flat – Site 7, Mulligans Flat Nature Reserve (MFL007)
- Rose Cottage horse paddock dam (RCD001)
- Weetalabah - private property site 4 (WEE004)
- Wamboin Community Centre Dam (WAM001)

Rose Cottage and Mulligans Flat - Site 7 had also accommodated 7 species in 2009. Weetalabah and Wamboin Community Centre Dam were both new sites to the program. All 4 sites are situated within the rural fringe of our region, dams with permanent water.



## Species Results

*Limnodynastes tasmaniensis*<sup>1</sup>

### 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	2010
# of sites where recorded	9	64	91	102	55	95	79	121	122
% of total sites surveyed	31	53	67	71	33	59	58	75	65
Median # 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	1 to 5

#### Side codes with corresponding abundance

ANU012	5 to 20	DUF300	1 to 5	FTB010	5 to 20	MUR010	5 to 20	RCD001	1 to 5
ARA100	5 to 20	FAD100	20 to 50	FTD200	1 to 5	MUR100	1 to 5	RCD002	5 to 20
BAR020	1 to 5	FAD300	5 to 20	FTD250	1 to 5	MUR200	1 to 5	RIV001	1 to 5
BIL100	5 to 20	FAR003	1 to 5	FTR010	1 to 5	MUR250	5 to 20	RIV002	1 to 5
BMT100	1 to 5	FBM200	5 to 20	FYS200	5 to 20	MUR500	1 to 5	RIV003	1 to 5
BRU200	1 to 5	FBM300	1 to 5	GIN007	5 to 20	MUR510	5 to 20	SFF100	1 to 5
BSW001	1 to 5	FBP001	1 to 5	GUN001	1 to 5	NAD011	1 to 5	SFF101	1 to 5
BUN100	5 to 20	FGC030	5 to 20	HAL001	1 to 5	NAS100	1 to 5	SUT200	1 to 5
BUN200	5 to 20	FGC090	1 to 5	HAL002	5 to 20	NUM040	1 to 5	TAL001	1 to 5
BUR400	1 to 5	FGC091	5 to 20	HAR001	20 to 50	NUM050	1 to 5	TAY200	1 to 5
CAV100	1 to 5	FGD005	1 to 5	ICH001	5 to 20	NUM060	1 to 5	TAY600	1 to 5
CBR001	5 to 20	FGD020	1 to 5	ICH003	1 to 5	NUM070	1 to 5	TRA100	1 to 5
CBR002	1 to 5	FGD040	1 to 5	JER100	1 to 5	NUM080	5 to 20	UCP100	1 to 5
CBR004	20 to 50	FGG010	1 to 5	JER300	1 to 5	NUM200	1 to 5	UMD004	1 to 5
CEQ100	5 to 20	FMC020	5 to 20	JER500	1 to 5	NUM220	1 to 5	WAM001	5 to 20
CEQ200	5 to 20	FMC040	1 to 5	LAW100	1 to 5	ORA001	5 to 20	WAM002	1 to 5
CFR200	5 to 20	FMC060	5 to 20	LWP100	1 to 5	ORA002	5 to 20	WAM004	5 to 20
CMC100	1 to 5	FMC120	1 to 5	LWR100	1 to 5	ORA003	5 to 20	WAN001	1 to 5
CMC700	20 to 50	FMC140	1 to 5	MFL001	5 to 20	PCF001	1 to 5	WEE001	5 to 20
CMC750	5 to 20	FMC180	1 to 5	MFL004	5 to 20	PIN100	1 to 5	WEE002	1 to 5
CMM350	1 to 5	FMC200	1 to 5	MFL007	1 to 5	PLM100	1 to 5	WEE004	1 to 5
CON100	1 to 5	FMC220	1 to 5	MFL011	20 to 50	PLM310	1 to 5	WEE100	1 to 5
COO020	1 to 5	FMW010	5 to 20	MFL013	20 to 50	PLM400	1 to 5		
DGP001	5 to 20	FMW020	1 to 5	MOL150	1 to 5	QBN455	1 to 5		
DUF100	1 to 5	FOR001	5 to 20	MOL606	1 to 5	QBN466	1 to 5		

**Plains Froglet**

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

Census year	2002	2003	2004	2005	2006	2007	2008	2009	2010
# of sites where detected	11	57	84	87	56	85	78	98	112
% of total sites surveyed	38	48	62	60	34	53	57	61	60
Median # 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	5 to 20

**Side codes with corresponding abundance**

ARA100	20 to 50	FAR001	5 to 20	JER310	1 to 5	QBN450	20 to 50
ARA200	5 to 20	FAR003	5 to 20	JER320	1 to 5	QBN455	1 to 5
ARA300	5 to 20	FBM100	5 to 20	JER500	5 to 20	QRS001	1 to 5
BIL100	20 to 50	FBM200	20 to 50	JUM010	1 to 5	RBG001	5 to 20
BMT100	1 to 5	FBM300	1 to 5	LAW100	1 to 5	RCD001	20 to 50
BON200	5 to 20	FBP001	5 to 20	MFL001	20 to 50	RCD002	5 to 20
BUN100	20 to 50	FER200	5 to 20	MFL004	5 to 20	RIV001	5 to 20
BUN200	20 to 50	FGC009	5 to 20	MFL007	5 to 20	RIV002	20 to 50
BUR400	5 to 20	FGC091	5 to 20	MFL011	20 to 50	RIV003	5 to 20
CBR001	5 to 20	FGD020	5 to 20	MFL013	50 to 100	STW009	5 to 20
CBR002	5 to 20	FGD040	20 to 50	MOL150	1 to 5	SUT100	5 to 20
CBR003	20 to 50	FGG010	5 to 20	MOL606	20 to 50	SUT101	1 to 5
CBR004	20 to 50	FMC040	1 to 5	MUR010	20 to 50	SUT200	5 to 20
CEQ100	1 to 5	FMC060	1 to 5	MUR100	5 to 20	TAL001	5 to 20
CEQ200	5 to 20	FMC180	1 to 5	MUR200	1 to 5	TAY100	1 to 5
CFR200	5 to 20	FMC200	5 to 20	MUR250	20 to 50	TRA100	1 to 5
CMC100	5 to 20	FMC210	5 to 20	NAD011	1 to 5	TSC100	5 to 20
CMC700	100+	FMC220	5 to 20	NAD034	5 to 20	UMD003	1 to 5
CMC750	20 to 50	FOR001	20 to 50	ORA002	5 to 20	UMD005	1 to 5
CMM350	1 to 5	FYS200	5 to 20	ORR100	1 to 5	WAM001	20 to 50
CON100	1 to 5	GUN001	1 to 5	PCF001	1 to 5	WAM002	5 to 20
COO100	5 to 20	HAL001	5 to 20	PIN100	5 to 20	WAM003	5 to 20
CTT300	1 to 5	HAL002	5 to 20	PLM100	5 to 20	WAM004	5 to 20
DGP001	5 to 20	HAR001	20 to 50	PLM200	5 to 20	WAN001	5 to 20
DUF100	20 to 50	ICH001	5 to 20	PLM300	20 to 50	WEE001	20 to 50
DUF200	5 to 20	ICH003	1 to 5	PLM310	5 to 20	WEE002	5 to 20
DUF300	5 to 20	JER100	5 to 20	PLM400	5 to 20	WEE004	5 to 20
FAD300	5 to 20	JER300	1 to 5	QBN009	1 to 5	WEE100	5 to 20

*Crinia signifera*<sup>1</sup>

**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	2010
# of sites where detected	17	76	94	96	51	81	78	111	132
% of total sites surveyed	59	63	69	67	31	51	46	48	71
Median # 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	5 to 20

**Side codes with corresponding abundance**

ANU012	5 to 20	FGC091	20 to 50	MFL002	5 to 20	RCD001	1 to 5
ARA017	1 to 5	FGD020	20 to 50	MFL007	1 to 5	RCD002	1 to 5
ARA300	5 to 20	FGD040	20 to 50	MFL011	5 to 20	RIV001	1 to 5
BAD200	1 to 5	FGG010	1 to 5	MFL013	5 to 20	RIV002	5 to 20
BAD300	1 to 5	FMC020	5 to 20	MOL150	5 to 20	RIV003	5 to 20
BAR050	5 to 20	FMC040	1 to 5	MOL600	5 to 20	SFF100	1 to 5
BIL100	5 to 20	FMC060	1 to 5	MUR100	1 to 5	SFF101	5 to 20
BUN100	5 to 20	FMC120	5 to 20	MUR250	1 to 5	STW009	1 to 5
BUN200	5 to 20	FMC140	5 to 20	MUR510	5 to 20	SUT100	5 to 20
BUR400	5 to 20	FMC160	5 to 20	NAD011	1 to 5	SUT101	1 to 5
CAV100	5 to 20	FMC180	1 to 5	NUM040	5 to 20	SUT200	5 to 20
CBR004	5 to 20	FMC200	1 to 5	NUM050	20 to 50	TAL001	1 to 5
CEQ200	5 to 20	FMC210	1 to 5	NUM060	1 to 5	TAY100	1 to 5
CFR200	5 to 20	FMW020	20 to 50	NUM070	1 to 5	TAY200	5 to 20
CFR300	1 to 5	FOR001	5 to 20	NUM080	5 to 20	TAY400	1 to 5
CMC100	5 to 20	FTB010	50 to 100	NUM090	5 to 20	TAY500	1 to 5
CMM350	5 to 20	FTD200	20 to 50	NUM200	5 to 20	TAY600	5 to 20
CON100	5 to 20	FTD250	5 to 20	NUM220	1 to 5	TRA100	1 to 5
COO020	5 to 20	FTR010	1 to 5	ORA001	20 to 50	TSC100	5 to 20
COO100	1 to 5	GIN007	5 to 20	ORA002	20 to 50	UMD003	5 to 20
CTP450	5 to 20	HAL001	1 to 5	ORA003	5 to 20	UMD004	1 to 5
CTT300	5 to 20	HAR001	5 to 20	ORR100	1 to 5	UMD005	5 to 20
DGP001	1 to 5	ICH002	5 to 20	PCF001	5 to 20	UMD006	1 to 5
DUF200	5 to 20	ICH003	1 to 5	PIN010	1 to 5	UMD007	5 to 20
DUF300	1 to 5	JER100	20 to 50	PIN100	20 to 50	WAM001	5 to 20
FAD100	20 to 50	JER300	5 to 20	PLM100	5 to 20	WAM002	5 to 20
FAD300	1 to 5	JER310	1 to 5	PLM200	1 to 5	WAM003	5 to 20
FAR001	1 to 5	JER320	5 to 20	QBN009	5 to 20	WAM004	5 to 20
FBM200	5 to 20	JER500	5 to 20	QBN200	20 to 50	WAN001	5 to 20
FBP001	1 to 5	JUM010	5 to 20	QBN455	5 to 20	WEE001	5 to 20
FER200	5 to 20	KIP001	5 to 20	QBN466	5 to 20	WEE002	5 to 20
FGC009	20 to 50	LWR100	1 to 5	QRS001	1 to 5	WEE004	5 to 20
FGC030	20 to 50	MFL001	5 to 20	RBG001	5 to 20	WEE100	1 to 5

**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	2010
# of sites where observed	17	43	26	60	27	47	40	57	69
% of total sites surveyed	59	36	19	42	16	29	29	35	37
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	1 to 5

**Side codes with corresponding abundance**

BAD200	1 to 5	FMC220	1 to 5	ORA002	5 to 20
BUN100	20 to 50	FTB010	5 to 20	ORR100	5 to 20
CAV100	1 to 5	FTD200	1 to 5	PCF001	1 to 5
CBR002	1 to 5	FTD250	1 to 5	PIN100	1 to 5
CBR004	5 to 20	FTR010	1 to 5	QBN200	1 to 5
CFR200	1 to 5	HAL001	1 to 5	QBN455	1 to 5
CFR300	1 to 5	HAL002	1 to 5	QBN466	1 to 5
CMM350	1 to 5	ICH001	1 to 5	RBG001	1 to 5
CON100	1 to 5	JER100	5 to 20	RCD001	5 to 20
COO020	1 to 5	KIP001	1 to 5	SFF100	1 to 5
CTP450	1 to 5	LWR100	1 to 5	SUT100	5 to 20
DGP001	1 to 5	MFL001	1 to 5	SUT200	1 to 5
DUF300	1 to 5	MFL007	1 to 5	TAL001	1 to 5
FAD100	5 to 20	MOL150	1 to 5	TAY200	1 to 5
FAD300	1 to 5	MUR100	1 to 5	TRA100	1 to 5
FBM200	1 to 5	MUR500	1 to 5	UMD004	1 to 5
FER200	1 to 5	MYA050	1 to 5	UMD005	1 to 5
FGC009	1 to 5	MYA100	5 to 20	WAM001	5 to 20
FGC091	5 to 20	NUM050	1 to 5	WAM002	1 to 5
FGG010	5 to 20	NUM060	1 to 5	WAM003	1 to 5
FMC140	1 to 5	NUM080	1 to 5	WAN001	1 to 5
FMC200	5 to 20	NUM220	1 to 5	WEE004	1 to 5
FMC210	1 to 5	ORA001	1 to 5		

*Litoria verreauxii*<sup>1</sup>

## 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	2010
# of sites where detected	5	14	32	11	30	33	32	34	23
% of total sites surveyed	17	12	24	8	18	21	23	21	12
Median # 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	1 to 5

### Side codes with corresponding abundance

BAD200	1 to 5	MOL150	1 to 5
BIL100	1 to 5	MUR500	1 to 5
COO020	1 to 5	NUM040	1 to 5
FGC091	1 to 5	NUM050	1 to 5
FOR001	1 to 5	NUM060	1 to 5
FTB010	1 to 5	NUM080	1 to 5
FTD200	1 to 5	NUM090	1 to 5
FTR010	1 to 5	NUM220	1 to 5
HAL002	1 to 5	WAM001	1 to 5
LWP100	1 to 5	WEE001	1 to 5
LWR100	1 to 5	WEE004	1 to 5
MFL007	1 to 5		



*Litoria peroni*<sup>1</sup>  
**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	2010
# of sites where observed	3	27	36	44	28	52	31	57	32
% of total sites surveyed	10	23	26	31	17	33	23	35	12
Median # 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	1 to 5

**Side codes with corresponding abundance**

ARA100 1 to 5	DGP001 5 to 20	MFL002 5 to 20	RIV002 5 to 20
ARA200 1 to 5	DUF100 1 to 5	MFL004 1 to 5	RIV003 1 to 5
ARA300 1 to 5	DUF200 1 to 5	MFL007 1 to 5	SUT100 5 to 20
BMT100 1 to 5	FAD300 5 to 20	MFL011 20 to 50	SUT101 1 to 5
BUR400 5 to 20	FAR001 1 to 5	MFL013 20 to 50	TAL001 1 to 5
CAV100 1 to 5	FGD040 5 to 20	MUR100 1 to 5	TRA100 1 to 5
CBR001 1 to 5	FMC060 1 to 5	MUR250 1 to 5	UMD004 1 to 5
CBR002 1 to 5	FMC200 1 to 5	ORA002 1 to 5	WAM001 1 to 5
CBR004 1 to 5	FMC210 1 to 5	PCF001 1 to 5	WAM003 1 to 5
CEQ100 1 to 5	FMC220 1 to 5	PIN100 1 to 5	WAN001 20 to 50
CEQ200 1 to 5	FOR001 1 to 5	PLM100 5 to 20	WEE001 1 to 5
CFR200 5 to 20	FTD200 1 to 5	PLM200 1 to 5	WEE002 1 to 5
CMC100 20 to 50	FTD250 1 to 5	PLM300 1 to 5	WEE004 5 to 20
CMC700 1 to 5	ICH001 1 to 5	PLM400 1 to 5	WEE100 5 to 20
CMM350 1 to 5	JER500 1 to 5	RBG001 1 to 5	
COO100 1 to 5	LWR100 1 to 5	RCD001 5 to 20	
	MFL001 5 to 20	RIV001 1 to 5	

*Uperoleia laevigata*<sup>1</sup>

**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 “wwhrrkkkkk”.



Census year	2002	2003	2004	2005	2006	2007	2008	2009	2010
# of sites where detected	3	27	36	44	28	52	31	47	52
% of total sites surveyed	10	23	28	31	17	33	23	29	28
Median # of individuals observed	1 to 5	1 to 5	1 to 5	5 to 20	1 to 5	1 to 5	1 to 5	1 to 5	5 to 20

**Side codes with corresponding abundance**

ARA200	1 to 5	COO100	5 to 20	MFL002	20 to 50	RCD002	5 to 20
ARA300	1 to 5	DUF100	20 to 50	MFL004	1 to 5	RIV001	5 to 20
BIL100	1 to 5	DUF200	20 to 50	MFL007	1 to 5	RIV002	5 to 20
BUN200	1 to 5	FAD300	1 to 5	MFL011	20 to 50	RIV003	5 to 20
CBR001	1 to 5	FAR001	1 to 5	MFL013	50 to 100	SUT100	5 to 20
CBR002	5 to 20	FAR003	1 to 5	ORA002	20 to 50	SUT101	1 to 5
CBR003	5 to 20	FBP001	1 to 5	PLM100	5 to 20	UMD005	1 to 5
CBR004	1 to 5	FMC220	5 to 20	PLM200	1 to 5	WAM004	5 to 20
CEQ100	1 to 5	FTD200	20 to 50	PLM300	1 to 5	WAN001	1 to 5
CEQ200	5 to 20	FTD250	5 to 20	PLM400	1 to 5	WEE001	5 to 20
CFR200	5 to 20	LAW100	5 to 20	QBN200	5 to 20	WEE002	5 to 20
CMC100	5 to 20	LWP100	1 to 5	QBN450	5 to 20	WEE004	5 to 20
CMC700	1 to 5	MFL001	5 to 20	RCD001	5 to 20	WEE100	1 to 5

**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	2010
# of sites where recorded	3	8	8	19	14	33	10	27	23
% of total sites surveyed	10	7	6	13	8	21	7	17	12
Median # 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	1 to 5

**Side codes with corresponding abundance**

- ANU019 5 to 20
- BUN200 1 to 5
- FBM200 1 to 5
- FBM300 1 to 5
- FGC009 1 to 5
- FGC091 1 to 5
- FGG010 1 to 5
- FMC040 1 to 5
- FMC200 1 to 5
- FMW010 1 to 5
- FMW020 1 to 5
- JER500 1 to 5
- LWR100 1 to 5
- MUR100 1 to 5
- MUR200 1 to 5
- MUR250 1 to 5
- PLM200 1 to 5
- PLM300 5 to 20
- PLM310 1 to 5
- PLM400 1 to 5
- QBN466 1 to 5
- RCD001 1 to 5
- WAM001 1 to 5



*Neobatrachus sudelli*<sup>1</sup>

## 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	2010
# of sites where recorded	0	0	2	2	0	0	1	4	4
% of total sites surveyed	0	0	1	1	0	0	1	2	2
Median # of individuals observed	/	/	1 to 5	1 to 5	/	/	1 to 5	1 to 5	1 to 5

### Side codes with corresponding abundance

MFL013 1 to 5  
TAY300 1 to 5  
TAY400 1 to 5  
TAY500 1 to 5

**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 = 80 - 120mm.
- Call = soft, distinctive drawn out deep 'wrrraaaaagh wrrraaaaagh wrrrkk, wrrkkk wrkk'.

Census year	2002	2003	2004	2005	2006	2007	2008	2009	2010
# of sites where observed	0	0	0	0	1	0	0	1	0
% of total sites surveyed	0	0	0	0	1	0	0	1	0
Median no. of individuals observed	/	/	/	/	1 to 5	/	/	5 to 20	/

So far, *Litoria aurea* was detected three times at a FROGWATCH site during the annual FROGWATCH Census. In 2006 and 2009 calling males were recorded at one site each. In 2010 only basking individuals were observed but no calls were heard at the same site as in 2009. The location of the site is not publicly available.

**Habitat requirements**

*Litoria aurea* is a semi-aquatic species preferring marshes, dams and stream sides, particularly those containing bulrushes (*Typha sp.*) or spikerushes (*Eleocharis sp.*). 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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<sup>1</sup> 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 2010

<b>A</b> Charles Anyon Cameron Allen Bryony Alden Rowan Alden Helen Alexander Jim Arnold Rosemary Anyon Petrina Alcock Amy	Frances FitzGibbon Friends of Cooleman Ridge PC Matthew Frawley Liz Ferguson	Cate Lemann Dennis P. Lassam Kirsty Ledger Martin Lind & family Penny Lilley Ted Lilley Tony Lawson Neryl Lewis Marco Larocca Juliana Lazzari Ian Lawrence Fintan O Laighin J. Lewis	Samuel Radoll Stuart Rae Sue Richard Susan Robertson T. Robinson Freya Robinson
<b>B</b> 1st Murrumbateman Cub Pack, Lisa Bourke Antia Brademann MorganBrademann Raen Brademann Reni Brademann Ella Banks James Beckman Jamie Begg Jenni Bird Kara Banks Simon Banks Malcolm Brooks Maree Blume Mark Ballard Sandra Bentley Karen Butler Louisa Barnsley	<b>G</b> John Giacon Charlotte Gardner Katherine Gardner Larry Gardner Madelene Gardner Louise Gardner Rebecca Gee Leslea Gruber	<b>M</b> Graham Moseley Glenis Medlin Paul Medlin Gary Marshall Fiona Matthews Andrew Matthews Dennis McNevin David McDonald Isa Menzies Jan Moseley Jenny Marsh Joel Mitchell Noela McDonald Ray Martin Raymond Martin Rebecca Mills Roxanne Miller Sue McIntire	<b>S</b> Adam Smith Jurgen Santen Sally Saunders Sarah Seckold Stephen Skinner Alice Scott Deborah Scheele Anne from "Sands Waterwatch" Martin from "Sands Waterwatch" Wendy from "Sands Waterwatch"
<b>C</b> Brian Cooke Pam Cooke Lucy Costas Jo Caffery James Caffery Mark Caffery Emi Callaway Ryu Callaway Kumiko Callaway Margaret Clark Sally Crossman Anne-Marie Collins	<b>H</b> Bob Hartley Phyll Hartley Fleur Horan John Hibberd Sylvia Hibberd Kath Heiman Lewin Hodgman Mitchell Hodgman Lucas Hayden Mark Hall Steve Hodgman Roger Hantiuk Sarah Hnatiuk Scott Heiman	<b>N</b> Tanya Noakes Margaret Nyssen Katherina Ng and Dimitris	<b>T</b> Blue Water Rover Crew, KatyTomkins Chris Turton James Trezise Nada Travica Bruce Taloni James Taloni Sarah Taloni Emma Taloni Peter Taloni Peter Treyde Suzanne Tunks Tracey
<b>D</b> Bruce Davies Hugh McDonald J O'Dea	<b>J</b> David Judge Lyn Jenkins Veena Jovic	<b>O</b> Andrew O'Sullivan Brendan O'Sullivan Shelley Owen K O'Dea	<b>W</b> Andrew Westcott James Westcott Kerry Webber Craig Webber Alan Welsh Mary Welsh Bradley Wilken Martin Wright
<b>F</b> Fred Fawke	<b>K</b> A. Koskinen Aaron Van Kleeff Bernard Kertesz Denise Kay Deb Kellock Emma Keightley Vera Kurz Clare Kerr Mt Majura Cub Pack, Kris Kleeman	<b>P</b> Clinton Paine Sandra Parsons	
	<b>L</b> Anikki Laver Lara Laver Penny Laver	<b>R</b> Bonnie Reynolds A. Ryan Sam Reid	

## Appendix 2

### Site Location Details – October 2010

Note: sites listed in **red** are Key FROGWATCH Sites (see page 5 for more detail).

Site code	Site name	State	Observers	Monitoring occasions	Latitude	Longitude
ANU012	ANU site 12. Dickson Rd Carpark - dam	ACT	Katherine Garder , Clare Kerr, Veena Jocic, Freya Robinson	2	-35.2805	149.1117
ANU018	ANU site 18. Sullivans Creek, downstream of Burgmann College.	ACT	Veena Jocic, Freya Robinson , Clare Kerr, Katherine Gardner	2	-35.2819	149.1121
ANU019	ANU site 19. Sullivans Creek near corner of Daley Rd and Ward Rd	ACT	James Trezise, Clare Kerr, Veena Jocic, Freya Robinson, Katherine Gardner	3	-35.2797	149.1151
ANU020	ANU site 20. Sullivans Creek Stepping Stones, Adjacent to Building 46.	ACT	Clare Kerr, Veena Jocic, Freya Robinson, Katherine Gardner	2	-35.2796	149.1169
ANU021	ANU site 21. Sullivans Creek, adjacent to building 45.	ACT	Clare Kerr, Freya Robinson, Veena Jocic	1	-35.2779	149.1191
ANU022	ANU site 22. Sullivans Creek, upstream of University Ave bridge	ACT	Clare Kerr, Freya Robinson & Veena Jocic	1	-35.2786	149.1202
ANU022B	Sullivans Creek, upstream of University Ave bridge	ACT	Clare Kerr, Freya Robinson & Veena Jocic	1	-35.2786	149.1202
ANU023	ANU site 23. Sullivans Creek, downstream of Barry Drive GPT	ACT	Clare Kerr, Freya Robinson & Veena Jocic	1	-35.2754	149.1235
ARA017	Backyard Pond, Araba St, Aranda	ACT	Susan Robertson	4	-35.2643	149.0836
ARA100	Aranda Paddock Dam, adjacent to William Hovell Drive.	ACT	Sandra Parsons, J and K O'Dea	4	-35.2764	149.0779
ARA200	Large Dam North of ARA100	ACT	Jim Arnold	1	-35.2730	149.0775
ARA300	Carne Creek, Aranda	ACT	Margaret Clark, Jim Arnold	2	-35.2747	149.0863
BAD200	Badja River below Maggies Xing	NSW	Antia Brademann	1	-36.1672	149.3828
BAD300	Badja River Doghole	NSW	Antia, Raen & Remi	1	-36.1622	149.3878
BAR020	Upper Dam, west arm Barracks Creek Queanbeyan	NSW	Stephen Skinner, Andrew and James Westcott	1	-35.3804	149.2307
BAR050	Lower Dam, west arm Barracks Creek Queanbeyan	NSW	Stephen Skinner, Andrew and James Westcott	1	-35.3802	149.2323
BIL100	Billabong Park stormwater retention pond, Watson	ACT	Isa Menzies and Clinton Paine, Mt Majura Cub Pack	2	-35.2340	149.1553
BMT100	Black Mountain Dam, near pass under Caswell Drive.	ACT	Roger and Sarah Hnatiuk	3	-35.2726	149.0890
BON200	Stranger Pond Central - Bonython	ACT	Kirsty Ledger & Rebecca Mills	1	-35.4296	149.0714
BRU200	Bruce CIT water storage pond	ACT	Bruce Davies, Plant Protection 2 Horticultural students	1	-35.2484	149.0956
BSW001	Banksia Street Wetland - Oconnor	ACT	Cameron Allen	1	-35.2576	149.1180

Site code	Site name	State	Observers	Monitoring occasions	Latitude	Longitude
BUN100	Elmslea water quality ponds, Bungendore	NSW	Jenni Bird & Samuel Radoll	2	-35.2502	149.4448
BUN200	Elmslea Estate Pond, Bungendore	NSW	Jenni Bird & Samuel Radoll	2	-35.2472	149.4476
BUR400	Dam on Matthews property	NSW	Andrew and Fiona Matthews	1	-35.5863	149.2306
CAV100	Caves Quarry Dam, Pierce's Creek Forest	ACT	Roger and Sarah Hnatiuk	1	-35.3447	148.9420
CBR001	Callum Brae Site 1	ACT	Jamie Begg	2	-35.3567	149.1412
CBR002	Callum Brae Site 2	ACT	Jamie Begg	2	-35.3571	149.1398
CBR003	Callum Brae Site 3	ACT	Jamie Begg	2	-35.3573	149.1379
CBR004	Callum Brae Site 4	ACT	Jamie Begg	1	-35.3555	149.1370
CEQ100	Canberra Equestrian Park, Pond 1, Chapman.	ACT	Mary Welsh, Alan Welsh	3	-35.3563	149.0150
CEQ200	Canberra Equestrian Park, Pond 2, Chapman.	ACT	Mary Welsh, Alan Welsh	3	-35.3577	149.0188
CFR200	Hodgman Property, large dam	NSW	S. Hodgman, L. Hodgman, M. Hodgman	3	-35.5487	149.4420
CFR300	Molonglo River, just off Captains Flat Rd	NSW	Steve Hodgman, Mitchell Hodgman	1	-35.5401	149.4463
CMC100	Cooleman Ridge, Old Dam	ACT	Mark Hall	1	-35.3570	149.0263
CMC700	Vikings BMX Park, Kambah	ACT	Scott and Kath Heiman	3	-35.3712	149.0549
CMC750	Fisher Dam, Fisher	ACT	Scott and Kath Heiman	3	-35.3699	149.0565
CMM350	Downriver from Lanyon Homestead	ACT	Deb Kellock	4	-35.4664	149.0642
CON100	Condor Wetlands, pond A	ACT	Vera Kurz	1	-35.4622	149.1057
COO020	Cooma Back Creek at Lambie Gorge	NSW	Antia, Raen & Remi	1	-36.2464	149.1169
COO100	Cooleman Ridge, North-west Dam	ACT	Martin Lind, A. Ryan & friends Cooleman ridge PC	1	-35.3501	149.0226
CTP450	Murrays Corner	ACT	Maree Blume and Fleur Horan	1	-35.3636	148.9521
CTT300	Upper Tuggeranong Creek, Theodore	ACT	Brad Wilken & Rebecca Gee	2	-35.4405	149.1261
DGP001	Dunlop Grasslands Dam	ACT	Cate Lemann	2	-35.1850	149.0332
DUF100	Southern dam on Narrabundah Hill	ACT	Jamie Begg	1	-35.3437	149.0230
DUF200	Narrabundah Hill, North Dam	ACT	Emma Keightley & Adam Smith	2	-35.3320	149.0241
DUF300	Dam near bushfire memorial	ACT	Emma Keightley & Adam Smith	1	-35.3246	149.0278
FAD100	Fadden Hills Silt Pond	ACT	Jamie Begg, Kumiko Callaway, Ryu Callaway & Emi Callaway	2	-35.3980	149.1170
FAD300	Waniassa Hills Dam	ACT	Jamie Begg	3	-35.3942	149.1098
FAR001	Farrer Ridge Dam 1	ACT	Jamie Begg	1	-35.3904	149.1066
FAR003	Farrer Ridge drainage line	ACT	Jamie Begg	1	-35.3903	149.1076
FBM100	Glenloch interchange dam	ACT	Jim Arnold	1	-35.2833	149.0871
FBM200	Black Mountain Storage Yard Pool	ACT	Stuart Rae	2	-35.2705	149.1051
FBM300	Black Mountain Path Pool	ACT	Stuart Rae	2	-35.2703	149.1053
FBP001	West Belconnen Pond. GPT Outflow Pt	ACT	Kat, Dimitris	1	-35.1879	149.0201
FER100	Fernhill Technology Park pond, Bruce	ACT	Jim Arnold	1	-35.2397	149.0908
FER200	Fernleigh Park at Jerrabomberra Creek Bridge	ACT	Bruce Davies, Malcolm Brooks, B. Hartley, P. Hartley, B. Taloni, E. Taloni, J. Taloni, P. Taloni, S. Taloni	1	-35.4390	149.1943

Site code	Site name	State	Observers	Monitoring occasions	Latitude	Longitude
FGC009	Jarramlee Pond (Dunlop Pond 1)	ACT	Kerry and Craig Webber, D. P. Lassam, Lyn Jenkins, Fred Fawke	7	-35.2031	149.0140
FGC030	Gooromon Ponds Creek, Dunlop	ACT	D.P.Lassam, Lyn Jenkins	5	-35.1988	149.0083
FGC040	Diddums Close beach, Lake Ginninderra	ACT	Jim Arnold	1	-35.2246	149.0689
FGC090	Ginninderra Creek, Macgregor	ACT	Mark Hall	1	-35.2144	149.0141
FGC091	Ginninderra Creek, at Macgregor, via Crago Place	ACT	Mark Hall, Dennis P.Lassam, Lyn Jenkins	6	-35.2125	149.0154
FGD005	John Knight Park Pond, Belconnen	ACT	Jim Arnold	1	-35.2370	149.0749
FGD020	Oconnor Ridge Dam	ACT	Cameron Allen, Mark Hall, Liz Ferguson	2	-35.2456	149.1123
FGD040	Aranda Bushland Dam	ACT	Penny Lilley, Susan Robertson, Ted Lilley, Sandra Parsons, Neryl Lewis, Dennis McNevin and Gary Marshall	6	-35.2772	149.0823
FGG010	Giralang Pond, Giralang	ACT	Denise Kay	4	-35.2156	149.0883
FMC020	Queanbeyan River at River Reserve Barracks Flat	NSW	Andrew & Brendan O'Sullivan	2	-35.3718	149.2381
FMC040	Buttles Creek, Queanbeyan aka BUT095	NSW	Amy and Tracey, Stephen Skinner, Andrew Westcott	2	-35.3486	149.2412
FMC060	Levee Bank, Fisher St, Ainslie	ACT	Freya Robinson	2	-35.2646	149.1492
FMC120	Mt Majura drainage line, downstream. Swamp near transact pole.	ACT	Jenni Marsh, Raymond Martin, Louisa Barnsley	5	-35.2510	149.1688
FMC140	Mt Majura drainage line, middle. Rocky section.	ACT	Jenni Marsh, Raymond Martin	4	-35.2525	149.1687
FMC160	Mt Majura drainage line, upstream. At grey stump.	ACT	Jenni Marsh & Raymond Martin	4	-35.2529	149.1692
FMC180	Grassy swampy section of creek Mt Majura	ACT	Jenny Marsh and Ray Martin	1	-35.2514	149.1719
FMC200	Mt Majura Dam, bottom, via McKenzie St.	ACT	Jenni Marsh & Raymond Martin, Louisa Barnsley	5	-35.2510	149.1745
FMC210	Mt Majura Nature Reserve, top dam, via McKenzie St	ACT	Isa and Clinton	1	-35.2506	149.1769
FMC220	Mt Majura Dam, lower, via Jukes St	ACT	Isa Menzies & Clinton Paine	2	-35.2412	149.1688
FMW010	David St Wetland, Oconnor	ACT	Petrina Alock	2	-35.2633	149.1239
FMW020	Dryandra St Wetland, Oconnor	ACT	Petrina Alcock, John and Sylvia Hibberd	3	-35.2580	149.1086
FOR001	Forde Wetland between Horse Park Drive and Neil Harris Cres	ACT	Emma Keightley	1	-35.1742	149.1399
FTB010	Bogong Creek, Namadgi National Park	ACT	Martin Lind & family	1	-35.7491	148.9713
FTD200	Tidbinbilla - Flints(?), large dam at top	ACT	TNR FROGWATCH Field trip - 17 participants	1	-35.4598	148.9207
FTD250	Tidbinbilla - Flints(?), smaller dam at bottom	ACT	TNR FROGWATCH Field trip - 17 participants	1	-35.4591	148.9208
FTR010	Orroral River Campsite, Namadgi National Park	ACT	Mark Hall, Liz Ferguson	1	-35.6656	148.9870
FYS200	DFO Dam, Fyshwick	ACT	John Giacom, Jo Caffery, James Caffery, Mark Caffery,	1	-35.3383	149.1843

Site code	Site name	State	Observers	Monitoring occasions	Latitude	Longitude
GIN007	Ginninderra Creek d/s of Barton Highway, Giralang	ACT	Kerry and Craig Webber	1	-35.2007	149.0925
GIN012	Ginninderra Creek below Melba-Copland Junior Campus	ACT	Anne-Marie Collins, Sarah Seckold, Roxanne Miller, Sam Reid	1	-35.2154	149.0544
GUN001	Gungahlin Pond	ACT	Kerry and Craig Webber	1	-35.1916	149.1099
HAL001	Halls Creek Showground Bridge	ACT	Glenis & Paul Medlin	3	-35.1715	149.0739
HAL002	Halls Creek, Pony Club, Hall	ACT	Glenis & Paul Medlin	3	-35.1713	149.0748
HAR001	Harrison pond	ACT	Sally Crossman	4	-35.1940	149.1568
ICH001	Illoura Paddock Dam	ACT	Rowan and Bryony Alden, Joel Mitchell	1	-35.3229	149.0665
ICH002	Illoura Paddock Creek Bridge	ACT	Rowan and Bryony Alden, Joel Mitchell	1	-35.3278	149.0662
ICH003	Illoura Creek below bridge	ACT	Rowan and Bryony Alden, Joel Mitchell	1	-35.3267	149.0675
JER100	Jerrabomberra Creek at Barrett's	NSW	Sue Richard and Shelley Owen, Helen Alexander, Jurgen Santen	3	-35.5151	149.1715
JER300	Jerrabomberra Dairy Creek - Mill Creek	ACT	Fintan O Laighin and Juliana Lazzari	1	-35.3353	149.1591
JER310	Jerrabomberra Dairy Creek - Mill Creek	ACT	Fintan O Laighin and Juliana Lazzari	1	-35.3351	149.1591
JER320	Jerrabomberra Dairy Creek - Mill Creek	ACT	Fintan O Laighin and Juliana Lazzari	1	-35.3324	149.1609
JER500	Jerrabomberra Wetlands. First bird hide from Dairy Rd Carpark	ACT	J.and S. Hibberd, M. Ballard, D. Scheele, M. Nysen, L. Gruber, F. O Laighin and J. Lazzari	5	-35.3160	149.1605
JUM010	Jumping Creek, 400m upstream from Queanbeyan River	NSW	Andrew O'Sullivan	1	-35.3737	149.2539
KIP001	Kippax Creek, Holt	ACT	D. P. Lassam	2	-35.2177	149.0184
LAW100	Lawrence Pond, Higgins	ACT	Ian Lawrence	1	-35.2270	149.0200
LWP100	Little Whiskers Rd, Pond Site	NSW	Frances FitzGibbon	3	-35.3921	149.3804
LWR100	Little Whiskers Rd, River Site	NSW	Frances FitzGibbon	3	-35.3907	149.3807
MFL001	Mulligans Flat Site 1	ACT	Blue Water Rover Crew, FROGWATCH Field Trip	2	-35.1673	149.1548
MFL002	Mulligans Flat Site 2	ACT	FROGWATCH Field Trip	1	-35.1674	149.1562
MFL004	Mulligans Flat Site 4	ACT	Blue Water Rover Crew	1	-35.1651	149.1563
MFL007	Mulligans Flat Site 7	ACT	Blue Water Rover Crew	1	-35.1636	149.1638
MFL011	Mulligans Flat Site 11	ACT	Adam Smith	3	-35.1793	149.1584
MFL013	Mulligans Flat Site 13	ACT	Adam Smith	3	-35.1753	149.1664
MOL150	Molonglo River Park	ACT	Bernard Kertesz	4	-35.3316	149.2500
MOL600	Creek near Tannery Beard	NSW	A. Westcott and S. Skinner	1	-35.3424	149.1992
MOL606	Molonglo River Upstream at Oaks Estate Rd Causeway	ACT	Amy and Tracey	1	-35.3378	149.2222
MUR010	Jones Park	NSW	1st Murrumbateman Cub Pack	1	-34.9692	149.0303
MUR100	Top dam on Lewis property, 'Gang Gang', Murrumbateman	NSW	J. Lewis and Sue McIntire	1	-34.9751	149.2018
MUR200	Chain of ponds on Lewis property 'Gang Gang', Murrumbateman	NSW	J. Lewis and Sue McIntire	1	-34.9750	149.2073
MUR250	Lake Kevin	NSW	J. Lewis and Sue McIntire	1	-34.9751	149.2051
MUR500	Murrumbidgee River at Mittagang Road Xing	NSW	Antia Brademann	1	-36.1681	149.2750



Site code	Site name	State	Observers	Monitoring occasions	Latitude	Longitude
MUR510	Murrumbidgee River at Billilingra Xing	NSW	Antia Brademann	1	-36.0236	149.1383
MYA050	Yarralumla Creek	ACT	James Trezise	3	-35.3074	149.0720
MYA100	Yarralumla Ck, Curtin Oval	ACT	Bonnie Reynolds and Hugh McDonald	1	-35.3167	149.0797
NAD011	National Arboretum Dam	ACT	Roger Hnatiuk, Tony Lawson, Martin Wright	1	-35.2911	149.0734
NAD034	National Arboretum Dam near Cork oak Lot 34	ACT	Roger Hnatiuk, Tony Lawson, Martin Wright	1	-35.2840	149.0814
NAS100	Southern Tablelands Environmental Park	ACT	Roger Hnatiuk, Tony Lawson, Martin Wright	1	-35.2846	149.0661
NUM040	Numeralla River Mt Forest Xing	NSW	Antia, Raen & Remi	1	-36.2842	149.3117
NUM050	Numeralla River Stokes' Xing	NSW	Antia, Raen and Remi	1	-36.2217	149.3639
NUM060	Kybeyan River at Numeralla River confluence	NSW	Antia, Raen & Remi	1	-36.2222	149.3572
NUM070	Numeralla River below Kybeyan River confluence	NSW	Antia, Raen & Remi	1	-36.2200	149.3569
NUM080	Numeralla River below Badja River confluence	NSW	Antia & Raen	1	-36.1736	149.3472
NUM090	Numeralla River Ford at Arnika	NSW	Antia, Morgan, Raen & Remi	1	-36.1567	149.3217
NUM200	Numeralla River West	NSW	Antia, Raen, Remi & Morgan	1	-36.1414	149.2303
NUM220	Numeralla River at Murrumbidgee River confluence	NSW	Antia Brademann	1	-36.0775	149.1575
ORA001	Orana School Drainage Gully	ACT	Emma Keightley	1	-35.3281	149.0583
ORA002	Orana School Dam	ACT	Emma Keightley	1	-35.3256	149.0589
ORA003	Orana Kindergarten Carpark Pond/depression	ACT	Emma Keightley	1	-35.3262	149.0608
ORR100	Orroral Valley: Rock waterfall Stream, Namadgi National Park	ACT	Mark Hall / Liz Ferguson	1	-35.6646	148.9889
PCF001	Dam near Pierces Creek	ACT	Sarah and Roger Hnatiuk	1	-35.3402	148.9160
PIN010	Backyard pond, Ambalindum St, Hawker	ACT	Chris Turton	3	-35.2542	149.0318
PIN100	Pinnacle Dam, Hawker	ACT	Stuart Rae	3	-35.2608	149.0433
PLM100	Laver Farm Dam 1	NSW	Penny Laver, Anikki and Lara Laver	1	-34.9104	148.9703
PLM200	Laver Farm Dam 2	NSW	Penny Laver, Anikki and Lara Laver	1	-34.9106	148.9703
PLM300	Laver Farm, Gully Dam	NSW	Penny Laver, Anikki and Lara Laver	1	-34.9105	148.9703
PLM310	Laver Farm, Gully Dam - 100m upstream from PLM300	NSW	Penny Laver, Anikki and Lara Laver	1	-34.9106	148.9703
PLM400	Laver Farm Dam 3 (on adjacent property)	NSW	Penny Laver, Anikki and Lara Laver	1	-34.9105	148.9703
QBN009	25 Lonergran Dr, Dodsworth	NSW	Andrew O'Sullivan	2	-35.3715	149.2444
QBN200/QBN465	Queanbeyan River adj Dane St	NSW	J. and A. Westcott and Stephen Skinner	2	-35.3689	149.2373
QBN450	Queanbeyan River at Doeberl Reserve	NSW	J. and A. Westcott and Stephen Skinner	1	-35.3756	149.2511
QBN455	Queanbeyan River adj Barracks Flat Drive east of Doerbel St.	NSW	Stephen Skinner	1	-35.3746	149.2501
QBN466	Queanbeyan River adj Dane St near clum of elms	NSW	Stephen Skinner	1	-35.3694	149.2375

Site code	Site name	State	Observers	Monitoring occasions	Latitude	Longitude
RBG001	Redbrow Gardens Lake	NSW	David Judge	5	-35.0350	149.0998
RCD001	Rose Cottage horse paddock 8 and Dam	ACT	Rebecca Gee, Lucas Hayden, K. Banks, E. Banks, S. Banks, Aaron Van Kleeff, Jamie Begg	4	-35.3972	149.1331
RCD002	Rose Cottage horse paddock 7 and dam	ACT	Jamie Begg	1	-35.3996	149.1363
RIV001	Riverview Dam Paddock Dam	ACT	Bonnie Reynolds and Emma Keightley	1	-35.3355	148.9656
RIV002	Riverview River Paddock Dam	ACT	Bonnie Reynolds and Emma Keightley	1	-35.3404	148.9675
RIV003	Riverview Conservation Area Dam	ACT	Bonnie Reynolds and Emma Keightley	1	-35.3385	148.9691
SFF100	Stromlo Forest Retention Dam	ACT	Jamie Begg	3	-35.3215	149.0443
SFF101	Below Stromlo Forest Retention Dam	ACT	Jamie Begg	3	-35.3213	149.0444
STW009	West Belconnen Pond Sth Inflow	ACT	Kat, Dimitris	1	-35.1903	149.0166
SUT100	Dam 1, "Macrorrhyncha", Moseley Property, Sutton	NSW	Jan and Graham Moseley	1	-35.1496	149.2285
SUT101	Dam 2, "Macrorrhyncha", Moseley Property, Sutton	NSW	Jan and Graham Moseley	1	-35.1588	149.2306
SUT200	Amungula Creek, Gambles TSR	NSW	David McDonald & Noela McDonald	3	-35.2226	149.2687
TAL001	Tallulah Dam 1	NSW	T. Noakes	1	-35.6821	149.1500
TAY100	Mt Taylor Dam 1	ACT	L., L., C. and M. Gardner, Brian Cooke	4	-35.3656	149.0659
TAY200	Mt Taylor Dam 2	ACT	L., L., C. and M. Gardner, Pam Cooke, Brian Cooke	4	-35.3606	149.0692
TAY300	Mt Taylor Drainage Creek	ACT	Matthew Frawley and Suzanne Tunks	1	-35.3705	149.0673
TAY400	Mt Taylor Drainage Line adj Inkster	ACT	Jamie Begg	2	-35.3760	149.0699
TAY500	Mt Taylor Drainage Line adj Manheim	ACT	Jamie Begg, Rosemary Anyon and Charles Anyon	4	-35.3793	149.0767
TAY600	Mt Taylor Pond	ACT	Pam Cooke, Brian Cooke	1	-35.3603	149.0724
TRA100	Travica property, Gundaroo. Lower Dam	NSW	Nada Travica and James Beckman	4	-35.0740	149.3076
TSC100	Tuggeranong Sporting Club Dam	ACT	Matthew Frawley and Suzanne Tunks	2	-35.4156	149.0604
UCP100	UC, pond near childcare centre	ACT	Jim Arnold	1	-35.2048	149.0846
UMD003	Angle Crossing, Williamsdale	NSW	T. Noakes	1	-35.5833	149.1099
UMD004	Tharwa Sandwash, Tharwa	ACT	Deb Kellock	3	-35.5289	149.0785
UMD005	Point Hut Crossing, Gordon	ACT	Deb Kellock	4	-35.4515	149.0657
UMD006	Kambah Pool, Kambah	ACT	Martin Lind	1	-35.3949	149.0083
UMD007	Casuarina Sands, Cotter	ACT	Martin, Wendy & Anne "Sands Waterwatch"	1	-35.3189	148.9605
WAM001	Wamboin Community Centre Dam	NSW	David McDonald & Noela McDonald	5	-35.2588	149.3060
WAM002	Alice & Mario's Dam	NSW	Alice Scott and Marco Larocca	1	-35.2576	149.2756
WAM003	Sylvia's Dam	NSW	Alice Scott and Marco Larocca	1	-35.2574	149.2763
WAM004	Sally's Dam	NSW	Alice Scott, Sally Saunders and Marco Larocca	1	-35.2482	149.3613

Site code	Site name	State	Observers	Monitoring occasions	Latitude	Longitude
WAN001	Dam at 232 Wanna Wanna Road	NSW	Lucy Costas, Sandra Bentley	3	-35.3786	149.2845
WEE001	Weetalabah - Dam at entry gates	NSW	Queanbeyan FROGWATCH field trip participants	3	-35.3442	149.2807
WEE002	Weetalabah - private property site 2	NSW	Karen Butler, Peter Treyde, T. Robinson	3	-35.3419	149.2771
WEE004	Weetalabah - private property site 4	NSW	Karen Butler, Peter Treyde	3	-35.3395	149.2756
WEE100	Weemalla, Fairview Rd, Wallaroo	NSW	Sarah and Roger Hnatiuk	1	-35.1131	149.0860

## Appendix 3

### Monitoring Summary - Key sites in red

Site code	Summary of results, 1. - 31. October 2010										Monitoring history									
	# of species in 2010	<i>Crinia parinsignifera</i>	<i>Crinia signifera</i>	<i>Limnodynastes dumerilii</i>	<i>Limnodynastes peronii</i>	<i>Limnodynastes tasmaniensis</i>	<i>Litoria peroni</i>	<i>Litoria verreauxii</i>	<i>Neobatrachus sudelli</i>	<i>Uperoleia laevigata</i>	Monitoring occasions	2002	2003	2004	2005	2006	2007	2008	2009	2010
ANU012	2		2			2				2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ANU018	0									2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ANU019	1				2					3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ANU020	0									2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ANU021	0									1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ANU022	0									1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ANU022B	0									1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ANU023	0									1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ARA017	1		1							4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ARA100	3	3				2	1			4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ARA200	3	2					1		1	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ARA300	4	2	2				1		1	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
BAD200	3		1	1				1		1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BAD300	1		1							1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BAR020	1					1				1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BAR050	1		2							1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BIL100	5	3	2			2	1		1	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BMT100	3	1				1	1			3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BON200	1	2								1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BRU200	1					1				1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BSW001	1					1				1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BUN100	4	3	2	3		2				2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
BUN200	5	3	2		1	2			1	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
BUR400	4	2	2			1	2			1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
CAV100	4		2	1		1	1			1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CBR001	4	2				2	1		1	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CBR002	5	2		1		1	1		2	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CBR003	2	3							2	2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
CBR004	6	3	2	2		3	1		1	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Summary of results, 1. - 31. October 2010											Monitoring history									
	Note: Abundance: 1-5 = 1, 6-20 = 2, 21-50 =3, 51-100 = 4, >100 = 5																			
Site code	# of species in 2010	<i>Crinia parinsignifera</i>	<i>Crinia signifera</i>	<i>Limnodynastes dumerilii</i>	<i>Limnodynastes peronii</i>	<i>Limnodynastes tasmaniensis</i>	<i>Litoria peroni</i>	<i>Litoria verreauxii</i>	<i>Neobatrachus sudelli</i>	<i>Uperoleia laevigata</i>	Monitoring occasions	2002	2003	2004	2005	2006	2007	2008	2009	2010
CEQ100	4	1				2	1			1	3	☐	☐	✓	✓	✓	✓	✓	✓	✓
CEQ200	5	2	2			2	1			2	3	☐	☐☐	✓	✓	✓	✓	✓	✓	✓
CFR200	6	2	2	1		2	2			2	3	☐	☐	☐	✓	✓	✓	✓	✓	✓
CFR300	2		1	1							1	☐	☐	☐	☐	☐	✓	✓	✓	✓
CMC100	5	2	2			1	3			2	1	☐	✓	✓	✓	✓	✓	☐	✓	✓
CMC700	4	5				3	1			1	3	☐	☐	✓	✓	✓	☐	✓	✓	✓
CMC750	2	3				2					3		☐	✓	✓			✓	✓	✓
CMM350	5	1	2	1		1	1				4		☐							✓
CON100	4	1	2	1		1					1		☐		✓			✓	✓	✓
COO020	4		2	1		1		1			1									✓
COO100	4	2	1				1			2	1		✓	✓	✓	✓	✓			✓
CTP450	2		2	1							1			✓	✓		✓	✓	✓	✓
CTT300	2	1	2								2		✓	✓	✓			✓	✓	✓
DGP001	5	2	1	1		2	2				2		✓	✓	✓	✓	✓	✓	✓	✓
DUF100	4	3				1	1			3	1									✓
DUF200	4	2	2				1			3	2								✓	✓
DUF300	4	2	1	1		1					1								✓	✓
FAD100	3		3	2		3					2		✓	✓	✓	✓	✓	✓	✓	✓
FAD300	6	2	1	1		2	2			1	3		✓	✓	✓	✓	✓		✓	✓
FAR001	4	2	1				1			1	1									✓
FAR003	3	2				1				1	1									✓
FBM100	1	2									1		✓	✓	✓	✓	✓	✓	✓	✓
FBM200	5	3	2	1	1	2					2								✓	✓
FBM300	4	1		0	1	1					2								✓	✓
FBP001	4	2	1			1				1	1		✓				✓			✓
FER100	0										1			✓				✓	✓	✓
FER200	3	2	2	1							1				✓	✓	✓	✓	✓	✓
FGC009	4	2	3	1	1						7	✓	✓	✓	✓	✓	✓	✓	✓	✓
FGC030	2		3			2					5	✓	✓	✓	✓	✓	✓	✓	✓	✓
FGC040	0										1		✓	✓				✓	✓	✓
FGC090	1					1					1		✓		✓			✓		✓
FGC091	6	2	3	2	1	2		1			6				✓	✓	✓	✓	✓	✓
FGD005	1					1					1	✓								✓
FGD020	3	2	3			1					2		✓				✓	✓	✓	✓

Summary of results, 1. - 31. October 2010											Monitoring history									
Note: Abundance: 1-5 = 1, 6-20 = 2, 21-50 =3, 51-100 = 4, >100 = 5																				
Site code	# of species in 2010	<i>Crinia parinsignifera</i>	<i>Crinia signifera</i>	<i>Limnodynastes dumerilii</i>	<i>Limnodynastes peronii</i>	<i>Limnodynastes tasmaniensis</i>	<i>Litoria peroni</i>	<i>Litoria verreauxii</i>	<i>Neobatrachus sudelli</i>	<i>Uperoleia laevigata</i>	Monitoring occasions	2002	2003	2004	2005	2006	2007	2008	2009	2010
FGD040	4	3	3			1	2				6		✓		✓	✓	✓	✓	✓	✓
FGG010	5	2	1	2	1	1					4	✓	✓		✓			✓	✓	✓
FMC020	2		2			2					2	✓				✓	✓			✓
FMC040	4	1	1		1	1					2	✓				✓	✓	✓	✓	✓
FMC060	4	1	1			2	1				2		✓							✓
FMC120	2		2			1					5				✓		✓		✓	✓
FMC140	3		2	1		1					4				✓		✓			✓
FMC160	1		2								4				✓		✓			✓
FMC180	3	1	1			1					1									✓
FMC200	6	2	1	2	1	1	1				5		✓	✓	✓	✓	✓	✓	✓	✓
FMC210	4	2	1	1			1				1		✓	✓	✓	✓	✓	✓	✓	✓
FMC220	5	2		1		1	1			2	2		✓	✓	✓	✓	✓	✓	✓	✓
FMW010	2				1	2					2	✓	✓	✓	✓	✓	✓	✓	✓	✓
FMW020	3		3		1	1					3	✓	✓	✓	✓		✓			✓
FOR001	5	3	2			2	1	1			1									✓
FTB010	4		4	2		2		1			1	✓	✓	✓	✓	✓	✓	✓	✓	✓
FTD200	6		3	1		1	1	1		3	1									✓
FTD250	5		2	1		1	1			2	1									✓
FTR010	4		1	1		1		1			1	✓		✓	✓					✓
FYS200	2	2				2					1									✓
GIN007	2		2			2					1		✓			✓		✓	✓	✓
GIN012	0										1									✓
GUN001	2	1				1					1									✓
HAL001	4	2	1	1		1					3		✓	✓	✓	✓	✓	✓	✓	✓
HAL002	4	2		1		2		1			3			✓					✓	✓
HAR001	3	3	2			3					4									✓
ICH001	4	2		1		2	1				1				✓		✓			✓
ICH002	1		2								1				✓		✓			✓
ICH003	3	1	1			1					1									✓
JER100	4	2	3	2		1					3		✓	✓	✓	✓	✓	✓	✓	✓
JER300	3	1	2			1					1		✓	✓	✓	✓	✓		✓	✓
JER310	2	1	1								1			✓	✓	✓	✓		✓	✓
JER320	2	1	2								1			✓	✓	✓	✓		✓	✓
JER500	5	2	2		1	1	1				5		✓	✓	✓	✓	✓	✓	✓	✓

Summary of results, 1. - 31. October 2010											Monitoring history									
Note: Abundance: 1-5 = 1, 6-20 = 2, 21-50 =3, 51-100 = 4, >100 = 5																				
Site code	# of species in 2010	<i>Crinia parinsignifera</i>	<i>Crinia signifera</i>	<i>Limnodynastes dumerilii</i>	<i>Limnodynastes peronii</i>	<i>Limnodynastes tasmaniensis</i>	<i>Litoria peroni</i>	<i>Litoria verreauxii</i>	<i>Neobatrachus sudelli</i>	<i>Uperoleia laevigata</i>	Monitoring occasions	2002	2003	2004	2005	2006	2007	2008	2009	2010
JUM010	2	1	2							1										✓
KIP001	2		2	1						2			✓		✓	✓	✓	✓	✓	✓
LAW100	3	1				1				2	1					✓	✓	✓	✓	✓
LWP100	3					1		1		1	3				✓	✓	✓	✓	✓	✓
LWR100	6		1	1	1	1	1	1			3				✓	✓	✓	✓	✓	✓
MFL001	6	3	2	1		2	2			2	2		✓	✓	✓	✓	✓	✓	✓	✓
MFL002	3		2				2			3	1		✓	✓	✓	✓	✓	✓	✓	✓
MFL004	4	2				2	1			1	1		✓	✓	✓	✓	✓	✓	✓	✓
MFL007	7	2	1	1		1	1	1		1	1		✓	✓	✓	✓	✓	✓	✓	✓
MFL011	5	3	2			3	3			3	3			✓	✓	✓	✓	✓	✓	✓
MFL013	6	4	2			3	3		1	4	3			✓	✓	✓	✓	✓	✓	✓
MOL150	5	1	2	1		1		1			4			✓	✓	✓	✓	✓	✓	✓
MOL600	1		2								1								✓	✓
MOL606	2	3				1					1								✓	✓
MUR010	2	3				2					1							✓	✓	✓
MUR100	6	2	1	1	1	1	1				1			✓						✓
MUR200	3	1			1	1					1			✓						✓
MUR250	5	3	1		1	2	1				1									✓
MUR500	3			1		1		1			1									✓
MUR510	2		2			2					1									✓
MYA050	1			1							3		✓	✓		✓	✓	✓	✓	✓
MYA100	1			2							1								✓	✓
NAD011	3	1	1			1					1									✓
NAD034	1	2									1									✓
NAS100	1					1					1									✓
NUM040	3		2			1		1			1									✓
NUM050	4		3	1		1		1			1									✓
NUM060	4		1	1		1		1			1									✓
NUM070	2		1			1					1									✓
NUM080	4		2	1		2		1			1									✓
NUM090	2		2								1									✓
NUM200	2		2			1					1			✓						✓
NUM220	4		1	1		1		1			1									✓
ORA001	3		3	1		2					1								✓	✓

Summary of results, 1. - 31. October 2010											Monitoring history											
Note: Abundance: 1-5 = 1, 6-20 = 2, 21-50 =3, 51-100 = 4, >100 = 5																						
Site code	# of species in 2010	<i>Crinia parinsignifera</i>	<i>Crinia signifera</i>	<i>Limnodynastes dumerilii</i>	<i>Limnodynastes peronii</i>	<i>Limnodynastes tasmaniensis</i>	<i>Litoria peroni</i>	<i>Litoria verreauxii</i>	<i>Neobatrachus sudelli</i>	<i>Uperoleia laevigata</i>	Monitoring occasions	2002	2003	2004	2005	2006	2007	2008	2009	2010		
ORA002	6	2	3	2		2	1			3	1										✓	
ORA003	2		2			2					1											✓
ORR100	3	1	1	2							1			✓	✓	✓						✓
PCF001	5	1	2	1		1	1				1										✓	✓
PIN010	1		1								3									✓	✓	✓
PIN100	5	2	3	1		1	1				3			✓	✓	✓	✓	✓				✓
PLM100	5	2	2			1	2			2	1		✓	✓	✓		✓					✓
PLM200	5	2	1		1		1			1	1		✓	✓	✓							✓
PLM300	4	3			2		1			1	1						✓	✓	✓			✓
PLM310	3	2			1	1					1						✓					✓
PLM400	5	2			1	1	1			1	1						✓	✓	✓			✓
QBN009	2	1	2								2											✓
QBN200	3		3	1						2	2			✓	✓	✓	✓	✓	✓			✓
QBN450	2	3								2	1											✓
QBN455	4	1	2	1		1					1											✓
QBN466	4		2	1	1	1					1											✓
RBG001	4	2	2	1			1				5											✓
RCD001	7	3	1	2	1	1	2			2	4		✓		✓	✓	✓	✓	✓	✓		✓
RCD002	4	2	1			2				2	1		✓		✓	✓						✓
RIV001	5	2	1			1	1			2	1											✓
RIV002	5	3	2			1	2			2	1											✓
RIV003	5	2	2			1	1			2	1											✓
SFF100	3		1	1		1					3		✓	✓	✓	✓	✓	✓	✓			✓
SFF101	2		2			1					3											✓
STW009	2	2	1								1											✓
SUT100	5	2	2	2			2			2	1			✓		✓	✓	✓	✓	✓		✓
SUT101	4	1	1				1			1	1			✓		✓	✓	✓	✓	✓		✓
SUT200	4	2	2	1		1					3											✓
TAL001	5	2	1	1		1	1				1										✓	✓
TAY100	2	1	1								4											✓
TAY200	3		2	1		1					4											✓
TAY300	1									1	1											✓
TAY400	2		1							1	2											✓
TAY500	2		1							1	4											✓



Summary of results, 1. - 31. October 2010											Monitoring history										
Note: Abundance: 1-5 = 1, 6-20 = 2, 21-50 =3, 51-100 = 4, >100 = 5																					
Site code	# of species in 2010	<i>Crinia parinsignifera</i>	<i>Crinia signifera</i>	<i>Limnodynastes dumerilii</i>	<i>Limnodynastes peronii</i>	<i>Limnodynastes tasmaniensis</i>	<i>Litoria peroni</i>	<i>Litoria verreauxii</i>	<i>Neobatrachus sudelli</i>	<i>Uperoleia laevisgata</i>	Monitoring occasions	2002	2003	2004	2005	2006	2007	2008	2009	2010	
TAY600	2		2			1					1										✓
TRA100	5	1	1	1		1	1				4					✓	✓	✓	✓	✓	✓
TSC100	2	2	2								2							✓	✓	✓	✓
UCP100	1					1					1				✓				✓	✓	✓
UMD003	2	1	2								1										✓
UMD004	4		1	1		1	1				3										✓
UMD005	4	1	2	1						1	4										✓
UMD006	1		1								1										✓
UMD007	1		2								1										✓
WAM001	7	3	2	2	1	2	1	1			5										✓
WAM002	3	2	2			1					1										✓
WAM003	4	2	2	1			1				1										✓
WAM004	5	2	2	1		2				2	1										✓
WAN001	6	2	2	1		1	3			1	3										✓
WEE001	6	3	2			2	1	1		2	3										✓
WEE002	5	2	2			1	1			2	3										✓
WEE004	7	2	2	1		1	2	1		2	3										✓
WEE100	5	2	1			1	2			1	1					✓	✓	✓	✓	✓	✓