

APPENDIX 13.5 AMPHIBIANS

Appendix 13.5.1. Amphibian species recorded in the Study Area in this and/or previous studies. Where study boundaries of previous studies extended beyond the current study area boundary, only records from within the area covered by this study are included. Note that for some sources, lists are incomplete and/or only some records are attributed to a specific locality.

Species	Conservation and Protection Status ¹	Habitat Utilised ²	NENT Study – KTN ³	Present Study - KTN	AFCD Biodiversity Database 2002 to June 2012 - KTN	Hung & Pang (2008)	Wan (2010)	NENT Study – FLN ³	Present Study - FLN	AFCD Biodiversity Database 2002 to June 2012- FLN	Other Studies ⁴
Asian Common Toad <i>Bufo melanostictus</i>	-	Wide range of habitats	Y	Y	Y	Y	Y*	Y	Y	Y	Y
Short-legged Toad <i>Xenophrys brachykolos</i>	PGC, IUCN(EN)	Well wooded mountain streams									Y
Spotted Narrow-mouthed Frog <i>Kalophrynus interlineatus</i>	-	Cultivated fields, grassy hillsides, forests	Y	Y	Y	Y	Y	Y	Y	Y	Y
Asiatic Painted Frog <i>Kaloula pulchra</i>	-	Agricultural lands, shrubby grasslands, wooded areas around village	Y	Y	Y	Y	Y		Y	Y	Y
Butler's Pigmy Frog <i>Microhyla butleri</i>	-	Wide range of habitats e.g. grasslands, wet agricultural land, under leaf litter in woodland		Y	Y	Y	Y#		Y	Y	Y
Ornate Pigmy Frog <i>Microhyla ornata</i>	-	Marshes, agricultural lands, under leaf litter in wooded area.	Y	Y	Y	Y	Y#		Y	Y	Y
Marbled Pigmy Frog <i>Microhyla pulchra</i>	-	Agricultural lands, grasslands, forest edges	Y	Y	Y	Y	Y#		Y	Y	Y
Paddy Frog <i>Fejervarya limnocharis</i>	-	Agricultural lands, ponds, slow flowing streams, marshes, even in construction sites	Y	Y	Y	Y	Y*		Y	Y	Y

Species	Conservation and Protection Status ¹	Habitat Utilised ²	NENT Study – KTN ³	Present Study - KTN	AFCD Biodiversity Database 2002 to June 2012 - KTN	Hung & Pang (2008)	Wan (2010)	NENT Study – FLN ³	Present Study - FLN	AFCD Biodiversity Database 2002 to June 2012- FLN	Other Studies ⁴
Chinese Bullfrog <i>Hoplobatrachus chinensis</i>	Class II in China, PRC	Agricultural lands, ponds, rivers and marshes (lowland species)	Y	Y	Y	Y	Y	Y	Y	Y	Y
Lesser Spiny Frog <i>Paa exilispinosa</i>	PGC, IUCN (VU)	Hill streams in a wide range of altitudes							Y		
Günther's Frog <i>Rana guentheri</i>	-	Wide range of habitats e.g. ponds, grasslands, catchwaters	Y	Y	Y	Y	Y		Y	Y	Y
Brown Wood Frog <i>Rana latouchii</i>	LC	Secondary forests (under leaf litter/ in pools)							Y		
Three-striped Grass Frog <i>Rana macrodactyla</i>	-	Vegetated banks of streams, marshes, ponds (lowland species)				Y					
Two-striped Grass Frog <i>Rana taipehensis</i>	LC	Ponds, streams, agricultural lands (lowland species)				Y					
Brown Tree Frog <i>Polypedates megacephalus</i>	-	Wide range of altitudes and habitats	Y	Y	Y		Y	Y	Y	Y	Y
Greenhouse Frog <i>Eleutherodactylus planirostris</i>	-	(not stated)			Y						

Note:

- Conservation and protection status refers to Cap 170, <http://www.sepa.gov.cn>, UNEP-WCMC (2012), Fellowes *et al.* (2002), IUCN (2013), CSIS (2013) and China Red Data Book (Zhao 1998).
 - Cap. 170 = Chapter 170 Wild Animals Protection Ordinance.
 - Conservation Status by Fellowes *et al.* (2002): PGC = Potential Global Concern; PRC = Potential Regional Concern; LC = Local Concern.
 - Conservation Status by IUCN (2013): EN = Endangered; VU = Vulnerable.
- Chan *et al.* (2005).
- Maunsell (2003).
- Arup (2010), Atkins (2010), Binnie, Black and Veatch (2002), Dudgeon and Corlett (2001), Maunsell (1997), Mott MacDonald (2010 & 2012), field survey data from Agreement No. CE/2008 (CE). Planning and Engineering Study on Development of Lok Ma Chau Loop - Investigation, 白鼻心 (2013b).

Key:

Y = Species recorded in the corresponding study.

* = Tadpoles were recorded.
= Tadpoles of *Microhyla* sp. recorded.

Appendix 13.5.2. Maximum count of amphibian species recorded in the Kwu Tung North NDA and observations during further surveys for this study.

Species	Conservation Status (Fellowes <i>et al.</i> , 2002; IUCN, 2013)	Hong Kong Status (Chan <i>et al.</i> 2005)	Habitat Type ¹														
			WA	DA	PO	MA	MW	CS	NS	SWG	LG	GR/SH	SH	FSW/ SecW	PL/ MP	VA	WG
Day-time Survey																	
Asian Common Toad <i>Bufo melanostictus</i>	-	Widespread and very common	*											1	1	3	
Spotted Narrow-mouthed Frog <i>Kalophrynus interlineatus</i>	-	Widespread and common						√									
Ornate Pigmy Frog <i>Microhyla fissipes</i>	-	Widespread and common	1					*		2		1		2	1	1	2
Paddy Frog <i>Fejervarya limnocharis</i>	-	Widespread and very common						2									
Chinese Bullfrog <i>Hoplobatrachus chinensis</i>	Potential Regional Concern	Common					√	1@		1							
Günther's Frog <i>Rana guentheri</i>	-	Widespread and very common	1				√	10		1							
Brown Tree Frog <i>Polypedates megacephalus</i>	-	Widespread and very common		10													
Total number of amphibian species recorded during the day-time survey			3	1	0	2	4	1	3	0	1	0	1	2	2	2	0
Night-time Survey																	
Asian Common Toad <i>Bufo melanostictus</i>	-	Widespread and common	31	10	19			1	1	4	6	1	2	7			5
Spotted Narrow-mouthed Frog <i>Kalophrynus interlineatus</i>	-	Widespread and common	30	1	10						20	5	30+	20			
Asiatic Painted Frog <i>Kaloula pulchra</i>	-	Widespread and very common	40	1	2				2	12	41	10	30+	31			15
Butler's Pigmy Frog <i>Microhyla butleri</i>	-	Common			31						22						
Ornate Pigmy Frog <i>Microhyla fissipes</i>	-	Widespread and very common	400+		90			100+			100+	50	100+				100+
Marbled Pigmy Frog <i>Microhyla pulchra</i>	-	Widespread and common	43	5							10						20
Paddy Frog <i>Fejervarya limnocharis</i>	-	Widespread and very common	137	2	35			2	1	5	44	5	2	2			3
Chinese Bullfrog <i>Hoplobatrachus chinensis</i>	Potential Regional Concern	Common	3	1	2					1	2						1
Günther's Frog <i>Rana guentheri</i>	-	Widespread and very common	61	1	86	5		5	2	3	5		3				5
Brown Tree Frog <i>Polypedates megacephalus</i>	-	Widespread and very common	22	10^	42			2		3	12		7	2			7
Total number of amphibian species recorded during the night-time survey			9	8	9	1	5	4	6	10	5	7	5	0	0	7	5

Note:

1. Habitats: WA = Wet Agricultural Land; DA = Dry Agricultural Land; PO = Pond; MA = Marsh; MW = Mitigation Wetland; CS = Channelised Watercourse; NS = Natural Watercourse; SWG = Seasonally Wet Grassland; LG = Lowland Grassland; GR/SH = Grassland/Shrubland; SH = Shrubland; FSW/SecW = *Fung Shui* Wood/Secondary Woodland; PL/MP = Plantation/Mitigation Plantation; VA = Village Area; WG = Waste Ground. No records from habitat types not listed.

Key:

√ = Observed but not during transect surveys.

@ = Froglet observed.

* = Tadpoles observed.

^ = Eggs observed.

Appendix 13.5.3. Maximum count of amphibian species recorded in the Fanling North NDA and observations during further surveys for this study.

Species	Conservation Status (Fellowes <i>et al.</i> , 2002; IUCN, 2013)	Hong Kong Status (Chan <i>et al.</i> 2005)	Habitat Type ¹															
			WA	DA	PO	MW	CS	NS	SWG	LG	UG	GR/ SH	Sec W	OR	PL /MP	VA	UR	WG
Day-time survey																		
Asian Common Toad <i>Bufo melanostictus</i>	-	Widespread and very common		1						2*					1*			
Spotted Narrow-mouthed Frog <i>Kalophrynus interlineatus</i>	-	Widespread and common		1	2				10	14	3							
Asiatic Painted Frog <i>Kaloula pulchra</i>	-	Widespread and very common			5				2	1								
Butler's Pigmy Frog <i>Microhyla butleri</i>	-	Common			1													
Ornate Pigmy Frog <i>Microhyla fissipes</i>	-	Widespread and very common		1	5	1	1		1	2					1			
Marbled Pygmy Frog <i>Microhyla pulchra</i>	-	Widespread and common	*															
Paddy Frog <i>Fejervarya limnocharis</i>	-	Widespread and very common								3								
Chinese Bullfrog <i>Hoplobatrachus chinensis</i>	Potential Regional Concern	Common					*	4										
Günther's Frog <i>Rana guentheri</i>	-	Widespread and very common	10		16	2	1	10+	1	2					1	2		
Brown Tree Frog <i>Polypedates megacephalus</i>	-	Widespread and very common			2				6	4	1		4^	1	24*		1	
Total number of amphibian species recorded during the day-time survey			2	3	6	2	3	2	5	7	2	0	1	1	4	1	1	0
Night-time survey																		
Asian Common Toad <i>Bufo melanostictus</i>	-	Widespread and common	3	7		10	*	1	17	5	1				2	8		
Spotted Narrow-mouthed Frog <i>Kalophrynus interlineatus</i>	-	Widespread and common		91	3	1			490+	2		100+			50			
Asiatic Painted Frog <i>Kaloula pulchra</i>	-	Widespread and very common	20	50	3	10	2		130	32	3	53			39	30		5
Butler's Pigmy Frog <i>Microhyla butleri</i>	-	Common	12	30	30				120									
Ornate Pigmy Frog <i>Microhyla fissipes</i>	-	Widespread and very common	150+	400+	100+	106			510+	12		200+			100+			
Marbled Pigmy Frog <i>Microhyla pulchra</i>	-	Widespread and common	80	100	5	20			51						30			

Species	Conservation Status (Fellowes <i>et al.</i> , 2002; IUCN, 2013)	Hong Kong Status (Chan <i>et al.</i> 2005)	Habitat Type ¹															
			WA	DA	PO	MW	CS	NS	SWG	LG	UG	GR/ SH	Sec W	OR	PL /MP	VA	UR	WG
Paddy Frog <i>Fejervarya limnocharis</i>	-	Widespread and very common	41	70			3		77			5			5			
Chinese Bullfrog <i>Hoplobatrachus chinensis</i>	Potential Regional Concern	Common	1	11		2									5			
Lesser Spiny Frog <i>Paa exilispinosa</i>	Potential Global Concern, IUCN (Vulnerable)	Occurs throughout the territory.													2			
Günther's Frog <i>Rana guentheri</i>	-	Widespread and very common	41	25	31	41		10	61						5			1
Brown Wood Frog <i>Rana latouchii</i>	Local Concern	Distributed in woodlands in Central and East New Territories													1			
Brown Tree Frog <i>Polypedates megacephalus</i>	-	Widespread and very common	43	52 [^]	38	2		2	91	12		15	20		20	11		1
Total number of amphibian species recorded during the night-time survey			9	10	7	8	3	3	9	5	2	5	1	0	11	3	0	3

Note:

1. Habitats: WA = Wet Agricultural Land; DA = Dry Agricultural Land; PO = Pond; MW = Mitigation Wetland; CS = Channelised Watercourse; NS = Natural Watercourse; SWG = Seasonally Wet Grassland; LG = Lowland Grassland; UG = Upland Grassland; GR/SH = Grassland/Shrubland; SecW = Secondary Woodland; OR = Orchard; PL/MP = Plantation/Mitigation Plantation; VA = Village Area; UR = Urban/Residential Area; WG = Waste Ground. No records from habitat types not listed.

Key:

@ = Froglet observed.

* = Tadpoles observed.

[^] = Eggs observed.