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9. Acknowledgements

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Appendix 1

KIWI FIRST AID FIELD KIT

A first aid kit useful for birds can be constructed from a modified human first aid kit. The following table lists suggested essential items:

ITEM	QUANTITY (MINIMUM)
Sterile saline solution for injection (0.9% NaCl) vials (10 mL, 5 mL)	50–100 mL
Or lactated Ringer's solution (LRS) or saline (0.9% NaCl) flexibag (For wound lavage, oral or subcutaneous fluids)	500 mL
Melolin™ non-adherent dressings	3
Sterile gauze swabs (pkt of 5)	2
Vetrap™—5 cm width	2
Sofban™—5 cm width	2
Syringes—5 mL	3
Syringes—20 mL	1
Needles—25 gauge, 22 gauge	6
Snap-type heat pack	2
Scissors	1
Crop tubes (silicone)	1

Veterinarians undertaking field work could also consider taking:

- Analgesia (Butorphanol)
- Antibiotics (e.g. 2.5% injectable enrofloxacin (Baytril™), Clavulox™ palatable drops)
- Equipment for an IV fluid set up

Appendix 2

VETERINARY ADVICE AND REFERRAL CENTRES

The following contacts are available for advice when dealing with injured or sick kiwi, and may include the option of referral for further diagnostics and treatment.

New Zealand Wildlife Health Centre (NZWHC)

Veterinary Teaching Hospital
Institute of Veterinary, Animal and Biomedical Sciences
Massey University
Palmerston North
Phone: (06) 350 5329 (Weekdays)
(06) 350 5955 (Weekends)

Veterinarians

Dr Brett Gartrell, BVSc, MACVSc (Avian Health), PhD
Senior Lecturer in Avian and Wildlife Health, Director NZWHC
Email: B.Gartrell@massey.ac.nz

Kerri Morgan, BVSc, MACVSc (Avian Health), PGDipVCS (dist.)
Lecturer in Avian and Wildlife Health
Email: K.J.Morgan@massey.ac.nz

Facilities available through the NZWHC include radiography, CT and MRI, endoscopy, anaesthesia and a full surgical suite. The wildlife clinic at the NZWHC is geared towards treating threatened and endangered species on a national scale, as well as local common native species. The NZWHC is currently contracted to the Department of Conservation to provide the diagnostic pathology service for endangered and threatened species (see section 8).

Kiwi from throughout New Zealand may be referred to the NZWHC for treatment. Sponsorship covers costs of treatment of endangered species.

Contact the NZWHC at the Massey University Veterinary Teaching hospital (phone numbers above) for advice and to arrange transportation of kiwi to the wildlife clinic.

New Zealand Centre for Conservation Medicine (NZCCM)

Auckland Zoo
Motions Road
Western Springs
Auckland

Phone: (09) 360 3814 or (09) 360 4704 (Weekdays)
(09) 360 3800 (Weekends)

Veterinarians

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Berend Westera, BVSc
Maureen Forsyth, DVM, MACVSc

The Auckland Zoo is an active participant in the Operation Nest Egg Programme, breeds North Island brown kiwi on site and has a progressive public education and advocacy programme for kiwi.

Veterinary facilities at the NZCCM at Auckland Zoo include a fully equipped wildlife hospital and quarantine facility. Partnerships with local veterinary and human medical specialists enable NZCCM to utilise the most up-to-date diagnostic and treatment options.

Staff veterinarians at NZCCM provide clinical, diagnostic, pathological and research services for both captive and free-living wildlife. Kiwi are a major species of interest. Technical advice is provided through the Department of Conservation's Wildlife Health Co-ordinator.

Other avian veterinarians

The Wildlife Society of the New Zealand Veterinary Association has a database listing veterinarians with avian and wildlife experience. This database may be accessed by contacting the New Zealand Wildlife Health Centre.

Appendix 3

KIWI HAEMATOLOGY AND BIOCHEMISTRY REFERENCE RANGES

HAEMATOLOGICAL/ BIOCHEMICAL VALUES	NORTH ISLAND BROWN KIWI (*Apteryx mantelli*)[a]	OKARITO BROWN KIWI (*Apteryx rowi*)[b]	*n*	GREAT SPOTTED KIWI (*Apteryx haasti*)[c]	*n*
PCV (%)	46 (38–54)	40.1 (37.1–43.1)	9	39.4 (35.3–43.5)	25
Hb (g/L)					
MCHC (g/L)	250 (110–333)				
WBC ($\times 10^9$/L)	11.6 (8.7–14.5)			15.7 (7.9–23.5)	29
Heterophils ($\times 10^9$/L)	6.0 (4.0–8.2)			8.7 (4.3–13.1)	29
Heterophils (%)				55.0 (45.0–65.0)	29
Lymphocytes ($\times 10^9$/L)	4.2 (2.5–5.9)			4.8 (1.9–7.7)	29
Lymphocytes (%)				32.0 (22.0–42.0)	29
Eosinophils ($\times 10^9$/L)	0.18 (0.7–1.29)			0.8 (0.0–1.9)	28
Eosinophils (%)				4.0 (0.0–8.0)	28
Monocytes ($\times 10^9$/L)	0.3 (0.1–0.5)			0.5 (0.0–1.1)	28
Monocytes (%)				2.0 (0.0–5.0)	28
Basophils ($\times 10^9$/L)	0.56 (0.09–1.3)			0.9 (0.4–1.4)	29
Basophils (%)				6.0 (3.0–9.0)	
CK (IU/L)	521–971	758.8 (446.5–1071.1)	9		
AST (IU/L)	64–138	204.2 (132.4–276.1)	9		
Bile acids (µmol/L)		<35	9		
Serum protein (g/L)	54–62	52.1 (47.0–57.2)	9	46 (39–53)	25
Uric acid (µmol/L)	300–380	476.6 (343.4–609.7)	9		
Ca (mmol/L)	1.85–3.1	2.49 (2.45–2.54)	9		
Glucose (mmol/L)	3.0–3.9				
LDH (IU/L)	2380				
Phosphorus (mmol/L)		2.02 (1.80–2.23)	9		
Sodium (mmol/L)		147.1 (145.2–149.0)	9		

[a] Doneley 2006.

[b] Unpubl. data 2007.

[c] Robertson 2006.

Appendix 4

CAPTIVE DIET FORMULATION

(Courtesy of Kiwi Encounter, Rainbow Springs, Rotorua)

3 kg minced ox heart (N.B. remove fat first)

2 cups rolled oats cooked with 4 cups water, allow to cool

1 cup wheat germ

2 cups cat biscuits (premium quality), soaked and mashed

2 mashed bananas

2 pieces grated fruit (e.g. kiwifruit, nectarine, peach, pear)

250 g grated veges (e.g. corn, peas, beans, silverbeet, broccoli)

Mix together. Immediately prior to feeding, add 1 g kiwi pre-mix (see Appendix 5) per 100 g of food. Food should be presented in bowls on the ground.

FOOD PRESENTATION FOR LONG-TERM CARE

(Courtesy of Auckland Zoo)

Food is presented in flat stainless steel trays on the ground in the late afternoon for birds held outdoors. Food presented in tubes placed into the ground in the morning for birds held in nocturnal exhibits. Tubes used to encourage probing action when feeding and allow for the feeding sites to be moved easily for enrichment. Earthworms are provided daily as available scattered throughout enclosure for the birds housed in nocturnal exhibits. Rotten logs should be provided as often as possible. Birds should have access to small pebbles (2–3 mm).

Appendix 5

AVAILABILITY OF DIETARY PRODUCTS MENTIONED IN THE TEXT

Kiwi Vitamin and mineral Premix
Contact Tony Billing
Westshore Wildlide Reserve, Napier
Phone (06) 834 4136
Email tonyb@napier.govt.nz

Hills a/d™
Available in cans from most veterinary clinics

Wombaroo Insectivore Mix
Contact: Karen Wiley
Native Bird Rescue Trust, Wellington
Phone/fax (04) 479 2936
Email nativebirdrescue@actrix.co.nz

Appendix 6

AVIAN THERAPEUTICS FORMULARY

Unfortunately, there are relatively few pharmacokinetic studies of medications for use in avian species, and most dosages used in avian medicine are based on empirical data, observations and experience. Dosages given here are extrapolated from published data applicable to avian species other than kiwi.

Therapeutic contraindications in kiwi

Levamisole	Can cause death. Kiwi appear to be acutely sensitive to levamisole toxicity at doses that are well within the safe range for domestic poultry. Levamisole should not be used as an anthelmintic in kiwi[a].
Organophosphates	Birds are extremely sensitive to organophosphates, and these products should not be used on birds as they may cause death[b].
Corticosteroids	Corticosteroids may be contraindicated for use in birds (B.D. Gartrell, Massey University, pers. comm.) (see section 2.2.9).

Antibiotics

AGENT	COMMENTS	PREPARATION AND PRODUCT EXAMPLES	SUGGESTED DOSAGES
Amikacin sulfate	Least nephrotoxic of the aminoglysosides; active against gram-negative bacteria including *Pseudomonas* spp., and gram-positive bacteria including *Staphylococcus* spp. and *Streptococcus* spp. Maintain hydration during use[c]. Pain on injection; causes myositis in ostriches[c].	Injectable (Amikin™).	10–15 mg/kg IV, IM, SQ bid-tid (most species)[c,d]; Nebulisation: 5–6 mg/mL in sterile water or saline, × 15 min bid-tid[c].
Amoxicillin	Broad spectrum bactericidal penicillin antibiotic, minimal activity for common gram-negative infections of birds[c].	Oral suspension (Amoxil™ paediatric drops, Ranbaxy-Amoxi™); injectable (Moxylan™, Betamox LA™).	100–150 mg/kg PO, IV, IM bid-tid (most species)[c,d]. 15–22 mg/kg PO tid (ratites)[c].
Amoxycillin/clavulanate	β-Lactamase inhibitor—use with allopurinol is contraindicated[c]. Intramuscular injections can be very irritant.	Oral suspension (Clavulox™ palatable drops); tablets (Clavulox™, Noroclav™); injectable (Clavulox™); IV powder (Augmentin™).	70 mg/kg PO, IV, IM bid (kiwi, pers. obs.). 10–15 mg/kg PO bid (ratites)[c]. 125–150 mg/kg PO bid (most species)[c].
Cefotaxime	Third-generation cephalosporin with broad-spectrum activity for many gram-positive and gram-negative pathogens, penetrates cerebrospinal fluid[c].	IV powder (Cefotaxime sodium).	75–100 mg/kg IM, IV bid-tid (most species)[c]. 25 mg/kg IM tid (ratites)[c]. Nebulisation: 10 mg/ml saline × 10–30 min bid-qid[c].

Antiobiotics continued on next page

Antiobiotics continued from previous page

AGENT	COMMENTS	PREPARATION AND PRODUCT EXAMPLES	SUGGESTED DOSAGES
Cephalexin	First-generation cephalosporin; active against many gram-positive and gram-negative bacteria, including *E. coli* and *Proteus* spp., but not *Pseudomonas* spp; useful for *Staphylococcus* spp. dermatitis[c].	Oral suspension; tablets (Keflex™); Injectable (Ceporex™).	40–100 mg/kg PO, IM tid-qid (most species)[c]. 15–22 mg/kg PO tid (ratites)[c].
Ciprofloxacin	Broad-spectrum quinolone[c].	Oral suspension, tablets (Ciproxin™).	15–40 mg/kg PO bid (most species)[c]. 10 mg/kg PO bid (ostrich chicks)[c]. 3–6 mg/kg PO bid (ratites)[c].
Clindamycin	Lincosamide: indicated for bone, joint and tendon sheath infections; may be used for up to 12 weeks without ill effects; monitor kidneys and liver with long-term use as well as for yeast overgrowth.	Oral suspension, capsules (Antirobe™).	50–150 mg/kg PO sid-tid[c].
Doxycycline	Drug of choice for *Chlamydophilia* spp. and *Mycoplasma* spp.[c] (N.B. neither of these have previously been identified in kiwi).	Oral paste, tablets (Vibravet™).	25–50 mg/kg PO sid-bid (most species)[c]. 2.0–3.5 mg/kg PO bid (ratites)[c].
Enrofloxacin	Given orally, the IM formulation (2.5%) produces therapeutic plasma concentration. IM formulation is extremely painful and should not be given repeatedly. In general, avoid IV use in birds.[c]	Tablet, injectable (Baytril™).	10–15 mg/kg IM, PO sid-bid. (most species)[c]. 5 mg/kg IM bid (ratites)[c]. Nebulisation: 10 mg/ml saline[c].
Gentamicin	Aminogylcoside—not generally recommended, narrow margin of safety, nephrotoxic [c]. Bird should be well hydrated, avoid doses higher than 2.5–5.0 mg/kg q8-12h [c].	Injection (Gentamax 100™, Genta 50™).	3–5 mg/kg IM sid-bid (most species, including ostriches and emus)[c]. 1–2 mg/kg IM tid (ratites, use only as last resort)[c]. Nebulisation: 5 mg/mL saline × 15 min tid[c].
Metronidazole	Active against most anaerobes, also antiprotozoal[c].	Tablet (Stomorgyl™); oral suspension (Flagyl™).	10–50 mg/kg PO bid (most species)[c].
Trimethoprim/ Sulfamethoxazole	Broad spectrum, contraindicated with dehydration, liver disease or bone marrow suppression. Side effects include GI upset, regurgitation. Resistance to *Pseudomonas* spp. common[c].	Oral suspension; tablets (Trisul™).	20–100 mg/kg PO bid (most species)[c]. 21 mg/kg PO bid (ostriches)[c].

Antifungals

AGENT	COMMENTS	PREPARATION AND PRODUCT EXAMPLES	SUGGESTED DOSAGES
Amphotericin B	Fungicidal, preferred IV agent for aspergillosis. IT administration for syringeal aspergilloma may cause tracheitis. Potentially nephrotoxic, maintain good patient hydration. Resistance may develop[c].	IV powder (Fungizone™); oral lozenges (Fungilin™).	1.5 mg/kg IV tid 3–7 days (most species)[c]. 1 mg/kg IT bid-tid (syringeal aspergilloma, raptors)[c]. Nebulisation: 1 mg/ml sterile water or saline, 15 min bid (most species)[c]. 100–200 mg/kg PO tid-qid[d] (for GI candidiasis, avian gastric yeast).
Fluconazole	Fungistatic. Penetrates well into brain, CSF and eyes. Only indicated if topical treatment (e.g. nystatin) not feasible. Effective against *Candida* spp., but may be ineffective against aspergillosis[c].	Capsules (Diflucan™, Flucazole™). Syrup (Diflucan™ suspension).	2–5 mg/kg PO sid (most species)[c].
Flucytosine	Fungistatic agent. May be administered as adjunctive treatment for aspergillosis, but about 50% *Aspergillus* spp. strains are resistant[c].	Flucytosine capsules.	20–100 mg/kg PO bid (most species)[c]. 80–100 mg/kg PO bid (ratites)[c].
Itraconazole	Fungistatic, indicated for systemic mycoses including aspergillosis (currently the drug of choice). Commonly used for prophylaxis. Suspension is first choice, if using capsules, each granule is approximately 0.05–0.39 mg (approximately 285–290 granules/capsule but highly variable number and drug concentration). Method of compounding with strong acid and orange juice has been reported[c]. May cause anorexia.	Oral suspension, capsules (Sporanox™).	5–10 mg/kg PO sid-bid[c].
Ketaconazole	Fungistatic. Indicated for systemic mycoses, including aspergillosis, and candidiasis. Less toxic than amphotericin B, more toxic than itroconazole. Side effects include regurgitation[c].	Tablets (Nizoral™).	15–30 mg/kg PO sid-bid (most species, including ratites)[c].
Nystatin	Drug of choice for treatment of candidiasis, not systemically absorbed across intact GI tract, oral lesions must be treated by direct contact with medication[c].	Oral suspension (Nilstat Oral™).	250 000–500 000 IU/kg PO bid (ratites)[c].
Voriconazole	Indicated for aspergillosis, can be used in conjunction with amphotericin B[c].	Tablets (Vfend™).	10 mg/kg PO bid[c].

Analgesics

AGENT	COMMENTS	PREPARATION AND PRODUCT EXAMPLES	SUGGESTED DOSAGES
Butorphanol	Opioid agonist-antagonist.	Injection (Dolorex™, Torbugesic™).	1–4 mg/kg IM, IV bid-qid (most species)[c].
Carprofen	Analgesic, anti-inflammatory. Use in conjunction with fluid supplementation.	Injectable, tablets (Rimadyl™).	1–2 mg/kg PO, IM, IV sid-bid (most species)[c]. 2–10 mg/kg IM, SQ, PO sid-bid (psittacines, passerines, raptors)[c].
Meloxicam	Analgesic, antiinflammatory. Use in conjunction with fluid supplementation.	Oral suspension, injectable (Metacam™).	0.1–0.2 mg/kg IM, PO sid (psittacines, raptors)[c].

Antidotes

AGENT	COMMENTS	PREPARATION AND PRODUCT EXAMPLES	SUGGESTED DOSAGES
Atropine	Anticholinergic agent. Rarely indicated as a preanaesthetic[c].	Injection.	0.01–0.02 mg/kg IM, IV (most species)[c].
Calcium EDTA	Preferred initial chelator for lead and zinc toxicity. May cause renal tubular necrosis in mammals, maintain good hydration and monitor for PU/PD. Do not give PO as this may increase lead absorption from the GIT[c].	Injection (calcium disodium versenate).	35–50 mg/kg IM bid 5 days, off 2 days, repeat prn[c] (as indicated by biochemical analysis).
D-Penicillamine	Preferred chelator for copper toxicity. Can be used after/in conjunction with initial chelation with CaEDTA for lead and zinc toxicity[c].	Tablet (D-Penamine™).	30–55 mg/kg PO bid (minimum 7 days)[c].
Vitamin K1	Rodenticide toxicity.	Injection, tablets (Konakion™).	0.2–2.2 mg/kg IM tid-qid until stable, then sid PO, IM, 14–28 days[c].

Obstetric drugs

AGENT	COMMENTS	PREPARATION AND PRODUCT EXAMPLES	SUGGESTED DOSAGES
Calcium gluconate	Hypocalcaemia—dilute 1:1 with saline or sterile water for IM or IV injections[c].	Injection.	5–10 mg/kg slow IV to effect for hypocalcaemic tetany, also SQ, IM, once[c]. 50–100 mg/kg IM, slow IV, once[c].
Calcium syrup		Oral suspension (Troy Calcium Syrup™—calcium glubionate and calcium lactobionate).	25–150 mg/kg PO sid-bid (most species)[c].

Obstetric drugs continued on next page

Obstetric drugs continued from previous page

AGENT	COMMENTS	PREPARATION AND PRODUCT EXAMPLES	SUGGESTED DOSAGES
Prostaglandin $F_{2\alpha}$ (Dinoprost tromethamine)	Dystocia. May be helpful when the egg is located distally and the uterovaginal sphincter is dilated. Can result in uterine bronchoconstriction, rupture, hypertension, death[c].	Injectable (Lutalyse™).	0.02–0.1 mg/kg IM, intracloacal once only[c].

Anthelmintics

AGENT	COMMENTS	PREPARATION AND PRODUCT EXAMPLES	SUGGESTED DOSAGES
Fenbendazole	Effective against cestodes, nematodes, trematodes, *Giardia* spp. Toxicities recorded in some species[c]. Use 2.5%.	Oral liquid (Panacur™).	20–50 mg/kg PO sid for 3–5 days (most species)[c]. 15–45 mg/kg PO (ostriches)[c].
Ivermectin	Most nematodes and ecto-parasites. Can dilute (e.g. 1:10) with water or saline for immediate use, dilute with propylene glycol for extended use[c].	Sheep oral formulation (Ivomec™ 0.8 g/L).	0.2 mg/kg PO, SQ, IM once[c].
Moxidectin	Effective against most nematodes and ectoparasites. Can dilute 1:10 with water.	Sheep oral formulation (Cydectin™ 0.1%).	0.2 mg/kg PO[c].
Praziquantel	Effective against cestodes and trematodes[c].	Tablet (Droncit™ tablets, 50 mg).	5–10 mg/kg PO, repeat in 2–4 weeks (most species)[c]. N.B. can combine with pyrantel (see below).
Pyrantel	Effective against intestinal nematodes.	Oral suspension (Combantrin™ children's wormer—50mg/mL, Canex™ puppy suspension—14.4 mg/mL.	7 mg/kg PO (most species, including ostriches)[c].
Praziquantel/pyrantel combination			Combine crushed 50-mg praziquantel tablet with 5 mL of 50 mg/mL pyrantel, give 1 mL/kg
Toltrazuril	Coccidiosis.	Oral suspension Baycox™. (50 mg/mL, 25 mg/mL).	20–25 mg/kg PO once (kiwi, pers. obs.).

Miscellaneous drugs

AGENT	COMMENTS	PREPARATION AND PRODUCT EXAMPLES	SUGGESTED DOSAGES
Furosemide	Diuretic—overdose can cause dehydration and electrolyte abnormalities; toxicity can result in neurological signs and death[c].	Injectable. Oral suspension (Lasix™), tablets (Lasix™, Diurin™).	0.15–2 mg/kg PO, IM sid-bid (most species)[c].
Lactulose	Increases gram positive bacteria in GIT, reduces blood ammonia levels, exerts osmotic effect in birds with caeca through fermentation to acetic and lactic acid[c].	Oral syrup (Duphalac™, Laevolac™).	150–650 mg/kg PO bid-tid[c].
Metoclopramide	Indicated for GIT motility disorders, regurgitation, ileus[c].	Injection, oral suspension, tablets (Maxalon™).	0.5–2 mg/kg PO, IM, IV bid-tid (most species)[c].

a Gartrell, B.D.; Alley, M.R.; Mitchell, A.H. 2004: Fatal levamisole toxicosis in captive kiwi. *New Zealand Veterinary Journal 53(1)*: 84–86.

b Alley, M.R.; Morgan, K.J.; Robertson, C.J.R. 2005: Organophosphate toxicity in Northern Royal albatross chicks, *Diomedea sanfordi*. *Kokako 12(2)*: 19–22.

c (Cited in) Carpenter, J. 2005: Exotic animal formulary. Elsevier Saunders, St Louis.

d (Cited in) Marx, K.L. 2006: Therapeutic agents. Pp. 241–342 in Harrison, G.; Lightfoot, T. (Eds): Clinical avian medicine. Spix Publishing, Florida.

Key to abbreviations

IV = Intravenous

IM = Intramuscular

SQ = Subcutaneous

PO = Per os

IT = Intratracheal

SID = Once daily

BID = Twice daily

TID = Three times daily

QID = Four times daily

prn = As needed

Appendix 7

WILDLIFE SUBMISSION FORM

WILDLIFE SUBMISSION FORM

Forwarding Instructions

This animal is the property of the Department of Conservation. Please send a copy of test results to: Wildlife Mortality Database Manager, c/- Pathobiology, IVABS, Massey University, Private Bag 11-222, PALMERSTON NORTH

Submitter Details

Surname: _____
First name: _____
Organisation: _____
Address/Box: _____
Suburb: _____
City/Town: _____
Phone (bus.): _____
Phone (home): _____
Mobile: _____
Fax: _____
Email: _____

Submission Details

Date submitted: ____/____/____ Submitter ref: _____
Date found: ____/____/____ Number dead: _____
Number at risk: _____ Number sick: _____
(In-contacts)

Mortality

Date animal died: ____/____/____

Death circumstances:

- ☐ Found dead
- ☐ Found alive and died
- ☐ Treated and died
- ☐ Capture or release
- ☐ Infertile
- ☐ Euthanased
- ☐ By-catch

Specimen Details

Animal Details

(Please use separate page for additional animals)

Species/common name: _____
Animal ID: _____
Identification type: _____
(Leg band, microchip implant, rig tag, attoo toe clip etc.) _____
Individual name: _____

Sex: ☐ Male ☐ Female ☐ Unknown
Age Classification: ☐ Adult ☐ Subadult ☐ Juvenile
☐ Neonate ☐ Foetus ☐ Embryo ☐ Egg

Date of birth/mating: ____/____/____

Age/incubation/gestation: _____ _____ _____ _____
period / period Years Months Weeks Days

Where born/hatched Wild ☐ Captivity ☐

Weight: _____ g m/kg

Location Type

Wild

- ☐ Mainland National Park
- ☐ Mainland Reserve
- ☐ Mainland Private Land
- ☐ Maritime Park
- ☐ Island
- ☐ Coastline
- ☐ Sea
- ☐ River
- ☐ Other: _____

Captive

- ☐ DoC Facility
- ☐ Private Breeding Facility
- ☐ Rehabilitation Facility
- ☐ Zoological/Wildlife Park
- ☐ Other: _____

Location name: _____
Conservancy: _____
Description: _____

☐ Poisons are being used in the area. Please include details of the toxin.

_____

☐ Special requirements for disposal of body parts, e.g. return to submitter for iwi requirements, genetics, or forward to Te Papa etc.

Please state details of which body parts required and invoice submitter for carrier costs.

_____

History

Include any information which you think may be relevant to this case.

Previous health history:

Clinical signs; external examination; individual treaments; abnormal behaviours (feeding, reproductive, agnostic); breeding history; diet with any changes; exposure to toxins; translocation details; previous clinical pathology (attach relevant reports).

_____
_____
_____

Environmental Conditions (including climate):

Enclosure substrate/size/type; group treatments; in-contacts; clutch details if relevant - sire ID/name, dam ID/name, number of eggs, egg lay interval, season number, season clutch number, incubation temperature and humidity.

_____
_____
_____

Copntinue over leaf

Invoice Instructions

Invoice: Submitter ☐ National Wildlife Surveillance Fund ☐

(Refer to 'Guidelines for the use of the National Wildlife Surveillance Fund' for eligibility on the WILDLIFE HEALTH PAGE - WGNCR-37176)

New Zealand Government