**Additional file**

**Table S1. Taxonomic origin and frequency of native species admitted to WRRC studied between 2011 and 2015.**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Taxonomic Group or Class** | **# total cases** | **%** | **Order** | **# cases** | **%** | **Most common species**  | **# cases** | **Within Class (%)** | **Within Order (%)** |
|
| Birds | 2801 | 86.0 | Falconiformes | 528 | 18.9 | *Phalcoboenus chimango* | 336 | 12.0 | 61.1 |
| Psittaciformes | 411 | 14.7 | *Enicognathus leptorhynchus* | 355 | 12.7 | 86.4 |
| Charadriiformes | 394 | 14.1 | *Larus dominicanus* | 328 | 11.7 | 83.3 |
| Strigiformes | 386 | 13.8 | *Glaucidium nanum* | 148 | 5.3 | 38.3 |
| Pelecaniformes  | 250 | 8.9 | *Theristicus caudatus* | 111 | 4.0 | 44.4 |
| Accipitriforme  | 246 | 8.8 | *Parabuteo unicinctus* | 154 | 5.5 | 62.6 |
| Spheniciformes  | 143 | 5.1 | *Spheniscus magellanicus* | 60 | 2.1 | 42.0 |
| Passeriformes  | 119 | 4.3 | *Turdus falcklandii* | 63 | 2.3 | 52.9 |
| Anseriformes  | 75 | 2.7 | *Cygnus melancoryphus* | 42 | 1.5 | 56.0 |
| Suliformes  | 64 | 2.3 | *Phalacrocorax brasilianus* | 64 | 2.3 | 50.0 |
| Cathartiformes  | 46 | 1.6 | *Vultur gryphus*  | 27 | 1.0 | 83.3 |
| Columbiformes  | 43 | 1.5 | *Zenaida auriculata* | 39 | 1.4 | 90.7 |
| Podicipediformes  | 25 | 0.9 | *Podiceps major* | 17 | 0.6 | 68.0 |
| Caprimulgiformes  | 18 | 0.6 | *Systellura longirostris* | 18 | 0.6 | 100.0 |
| Trochiliformes  | 18 | 0.6 | *Sephanoides sephaniodes*  | 16 | 0.6 | 88.9 |
| Procellariformes  | 13 | 0.5 | *Macronectes giganteus* | 4 | 0.1 | 30.8 |
| Gruiformes  | 12 | 0.4 | *Fulica armillata* | 9 | 0.3 | 75.0 |
| Coraciiformes | 3 | 0.1 | *Megaceryle torquata* | 3 | 0.1 | 100.0 |
| Piciformes | 3 | 0.1 | *Colaptes pitius* | 2 | 0.1 | 66.7 |
| Tinamiformes | 3 | 0.1 | *Nothoprocta perdicaria* | 3 | 0.1 | 100.0 |
| Phoenicopteriformes | 1 | 0.0 | *Phoenicopterus chilensis* | 1 | 0.0 | 100.0 |
| Mammals | 401 | 12.3 | Carnivora | 260 | 64.8 | *Otaria byronia* | 92 | 22.9 | 35.4 |
| Artiodactyla | 89 | 22.2 | *Pudu puda* | 89 | 22.2 | 100.0 |
| Rodentia  | 22 | 5.5 | *Myocastor coypus* | 11 | 2.7 | 50.0 |
| Didelphimorphia  | 14 | 3.5 | *Thylamys elegans* | 14 | 3.5 | 100 |
| Microbiotheria  | 14 | 3.5 | *Dromiciops gliroides* | 14 | 3.5 | 100.0 |
| Chiroptera  | 1 | 0.3 | *Unidentified* | 1 | 0.3 | 100.0 |
| Cetacea | 1 | 0.3 | *Delphinus delphis* | 1 | 0.3 | 100.0 |
| Reptiles | 54 | 1.7 | Squamata  | 50 | 92.6 | *Philodryas chamissonis* | 44 | 81.5 | 88.0 |
| Testudines  | 4 | 7.4 | *Lepidochelys olivacea* | 4 | 7.4 | 100.0 |
| Total # cases  | 3256 |  |  |  |  |  |  |  |  |

**Table S2. Causes of admission of native species to WRRC studied between 2011 and 2015.**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Taxonomic Group or Class** | **Causes of admission** | **%** | **# cases** | **Specific cause** | **# cases** | **%** |
| Birds | Trauma | 35.9 | 1006 | Osteopathy | 532 | 52.9 |
| Lesion | 171 | 17.0 |
| Wound | 128 | 12.7 |
| Injury | 57 | 5.7 |
| Gunshot | 53 | 5.3 |
| Motor vehicle collision | 22 | 2.2 |
| Kite string | 16 | 1.6 |
| Electrocution | 14 | 1.4 |
| Barbed wire | 6 | 0.6 |
| Burn | 3 | 0.3 |
| Fish hook | 3 | 0.3 |
| Fishing net | 1 | 0.1 |
| Undetermined | 16.6 | 465 |  |  |  |
| Unspecific | 11.4 | 319 |  |  |  |
| Inappropriate possession | 9.1 | 256 | Confiscation | 116 | 45.3 |
| Voluntary delivery | 39 | 15.2 |
| Cut feathers | 34 | 13.3 |
| Captivity | 28 | 10.9 |
| Feather picking | 18 | 7.0 |
| Capture | 16 | 6.3 |
| Imprinted | 5 | 2.0 |
| Good condition | 7.6 | 212 |  |  |  |
| Orphanhood | 4.6 | 128 | Not determined | 112 | 87.5 |
| Fallen from nest | 15 | 11.7 |
| Fledgling | 1 | 0.8 |
| Systemic disorder | 4.5 | 126 | Not determined | 47 | 36.2 |
| Fungus | 20 | 15.4 |
| Dehydration | 17 | 13.1 |
| Parasites | 16 | 12.3 |
| Malnutrition | 10 | 7.7 |
| Blindness | 9 | 6.9 |
| Neurologic | 3 | 2.3 |
| Infection | 1 | 0.8 |
| Conjunctivitis | 1 | 0.8 |
| Seizure | 1 | 0.8 |
| Septicemia | 1 | 0.8 |
| Found | 3.6 | 102 |  |  |  |
| Environmental | 2.5 | 71 | Oiled | 38 | 53.5 |
| Intoxicated | 32 | 45.1 |
| Storm | 1 | 1.4 |
| Animal interaction  | 1.8 | 49 | Domestic dog attack | 28 | 57.1 |
| Domestic cat attack | 11 | 22.5 |
| Wild animal attack  | 10 | 20.4 |
| Arrived dead | 1.2 | 34 |  |  |  |
| Rescued | 0.9 | 26 |  |  |  |
| Brought from WRRC | 0.3 | 7 |  |  |  |
| Mammals | Trauma | 23.2 | 93 | Wound | 24 | 25.8 |
| Motor vehicle collision | 20 | 21.5 |
| Osteopathy | 18 | 19.4 |
| Lesion | 14 | 15.1 |
| Snare trap | 13 | 14.0 |
| Injury | 3 | 3.2 |
| Gunshot | 1 | 1.1 |
| Undetermined | 16.7 | 67 |  |  |  |
| Systemic disorder | 12.7 | 51 | Malnutrition | 23 | 45.1 |
| Mange | 6 | 11.8 |
| Alopecia | 5 | 9.8 |
| Dehydration | 5 | 9.8 |
| Possible distemper virus | 2 | 3.9 |
| Reactive lymph nodes | 2 | 3.9 |
| [Breathing Difficulty](https://www.everydayhealth.com/breathing-difficulty/guide/) | 1 | 2.0 |
| Ataxy | 1 | 2.0 |
| Ectoparasites | 1 | 2.0 |
| Hemorrhagic diarrhea | 1 | 2.0 |
| Seizures | 1 | 2.0 |
| Coronavirus (+) | 1 | 2.0 |
| Shock | 1 | 2.0 |
| Mucopurulent discharge | 1 | 2.0 |
| Animal interaction | 12.0 | 48 | Domestic dog attack | 48 | 100.0 |
| Good condition | 11.2 | 45 | Torpor | 7 | 15.6 |
| Not determined | 38 | 84.4 |
| Unspecific | 7.5 | 30 |  |  |  |
| Inappropriate possession | 4.7 | 19 | Capture | 11 | 57.9 |
| Voluntary delivery | 2 | 10.5 |
| Captivity | 2 | 10.5 |
| Confiscation | 2 | 10.5 |
| Imprinted | 2 | 10.5 |
| Found | 3.7 | 15 |  |  |  |
| Orphanhood | 3.5 | 14 |  |  |  |
| Arrived dead | 3.0 | 12 |  |  |  |
| Environmental | 0.5 | 2 | Intoxication | 2 | 100.0 |
| Rescued | 0.5 | 2 |  |  |  |
| Born in WRRC | 0.3 | 1 |  |  |  |
| Brought from WRRC | 0.3 | 1 |  |  |  |
| Pregnant female | 0.3 | 1 |  |  |  |
| Reptiles | Trauma  | 27.8 | 15 | Wound | 6 | 40.0 |
| Osteopathy | 3 | 20.0 |
| Motor vehicle collision | 2 | 13.3 |
| Lesion | 2 | 13.3 |
| Injury | 2 | 13.3 |
| Good condition | 24.1 | 13 |  |  |  |
| Unspecific | 13.0 | 7 |  |  |  |
| Undetermined | 13.0 | 7 |  |  |  |
| Inappropriate possession | 9.3 | 5 | Voluntary delivery | 3 | 60.0 |
| Captivity | 1 | 20.0 |
| Confiscation | 1 | 20.0 |
| Found | 9.3 | 5 |  |  |  |
| Animal interaction | 1.9 | 1 | Domestic dog attack | 1 | 100.0 |
| Systemic disorder | 1.9 | 1 | Septicemia | 1 | 100.0 |

**Table S3. Qualitative survey on WRRC and SAG operation: Core ideas per group**

|  |  |  |
| --- | --- | --- |
|  | **WRRC responses (n=11)** | **SAG regional office responses (n=6)** |
| Subject | Positive | Negative | Positive | Negative |
| **WRRC operation** | Specialized personnel, personal motivation and passion | No funding or support from the state, limiting our work | Willingness and good disposition to receive all kinds of wild animals  | All have deficiencies in all aspects due to lack of funding |
|  | Shortage of professionals in the area | Valuable role for wildlife in Chile | Are practically charity organizations, that have expenses but no incomes |
|  | Lack of nation-wide standardization | Wide experience for treating many different species | Some open zoos to obtain incomes, but have problems of space, sound and odor  |
|  | Need improvements in all aspects |  | Heterogeneity among centers |
|  | Some keep animals instead of releasing them |  |  |
|  | Heterogeneity among centers |  |  |
| **SAG regional office operation** | We have a close and trustful relationship. They are helpful, selfless | The number of released animals is understood as success, and that is wrong | We receive positive feedback | We need capacity building and training |
| They know the legal framework well | They take more time than suggested to collect animals for release, sometimes hampering success | We have a good response time | The national standard fiscalization frequency is low (annually)  |
| They conduct pre-release surveys and post-release monitoring in the field | They inspect irrelevant aspects of our work, focusing on administrative details rather than animal rehab | We have good coordination with different sectors for animal rescue and release | We authorize the operation of WRRC, and also inspect them. They are indispensable for our work, thus inspection pressure could never be too hard |
| They consider the genetic value of populations | They look after accomplishing numerical goals, not considering WRRC timing and processes | We release animals with active local community participation and media (TV) |  |

**Table S4. Qualitative survey: Suggested ideas to improve WRRC system in Chile, core ideas per group**

|  |  |
| --- | --- |
| **WRRC responses (n=11)** | **SAG regional office responses (n=6)** |
| Government funds for WRRC | Capacity building and training for all WRRC and SAG personnel  | Financial support from the state to improve WRRC system | Specialized government-run WWRC: wildlife protection is a state mission |
| Better communication and more interaction between WRRC and SAG | More team work within each region | Nation-wide communication network between WRRC and SAG  | National standardize protocols for infectious diseases, zoonosis, and biosafety measures |
| Create WRRC national database online | National standardize criteria  | Create WRRC national database online, with updated information on current cases and centers’ status | Universities and professionals should share their knowledge |
| Increase network | Connect WRRC with universities and veterinary medicine schools to increase and improve personnel for the centers | Joint decision on animal release sites |  |