



**Programmatic and Financial Report
Sumatran and Javan Rhino Conservation Programs for the Period 1 July 2014 – 30 June 2015**

**Submitted to the
American Association of Zoo Keepers Bowling for Rhinos Program**

15 September 2015

The International Rhino Foundation is very grateful for the continued support of the American Association of Zookeepers' (AAZK) Bowling for Rhinos program, which contributed a total of \$248,635 for 2014-2015 to support Rhino Protection Units (RPUs) operating in three Indonesian National Parks – Bukit Barisan Selatan, Way Kambas, and Ujung Kulon. AAZK funds helped to support 64 RPU field positions across these parks. Your donation accounts for roughly 20% of the total funds needed to cover the RPUs' salaries, benefits, operations, transportation, equipment and guard post maintenance.

RPUs are operated in collaboration with Indonesia's Ministry of Forestry, which is responsible for preserving the country's biodiversity, and with IRF's on-the-ground NGO partner, YABI (Yayasan Badak Indonesia or the Rhino Foundation of Indonesia). Due in part to the generous support of the AAZK, RPUs have maintained a zero-level of rhino poaching in all three parks since 2006. **AAZK Bowling for Rhinos support has been essential to sustaining the two Indonesian rhino species, both found nowhere else on Earth.**

From July 30 through August 10 this year, the IRF hosted two AAZK Bowling for Rhinos winners on a 12-day trip to Indonesia: Teresa Randall (Oklahoma City Zoo) and Robbie Clark (San Diego Zoo). Four other participants included Chad Harmon (Disney's Animal Kingdom and founder of the Horns and Heroes art project that benefits IRF), Jill Harmon (also Disney), Marisa Elizalde (Lincoln Park Zoo), and Tamara Lookabaugh (an educator from Oklahoma City). IRF Executive Director Dr. Susie Ellis led the group.

Sumatran Rhino Conservation Program

Once, an intrepid explorer would have found the Sumatran rhino (*Dicerorhinus sumatrensis*) roaming the jungles from the

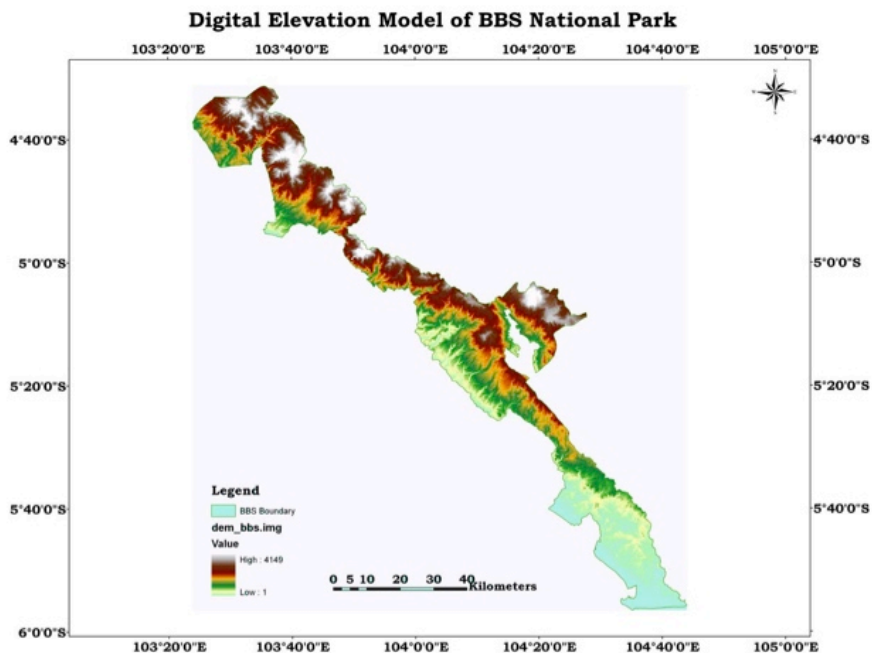


foothills of the Himalayas through Southeast Asia onto the islands of Borneo and Sumatra, but it has since disappeared from India, Bangladesh, Myanmar, Thailand and Malaysia and can now be found only on the island of Sumatra in Indonesia. The species has declined more than 70% just in the last two decades due to increased demand for rhino horn, habitat fragmentation and human encroachment. The Sumatran rhino is categorized as Critically Endangered on the IUCN Red List of Threatened Species and is easily the most threatened rhino species.

Funded by a grant from the Disney Conservation Fund, the IRF, the IUCN Asian Rhino and Conservation Breeding Specialist Groups, WWF, WCS, and Indonesia’s Ministry of Environment and Forestry convened several planning meetings from February to May 2015. Experts agreed that fewer than 100 Sumatran rhinos survive in fragmented populations in Bukit Barisan Selatan (BBS), Gunung Leuser and Way Kambas National Parks, and a tiny (3-8 individuals) population living in Kalimantan. Within these areas, there are at least ten subpopulations, some thought to number fewer than five individuals. The result of these meetings was an in-depth 10-year strategic plan for the Sumatran rhino, still being finalized. Earlier this year, the Sumatran rhino was declared extinct in the wild in Malaysia. Small population effects (such as reduced reproduction and the Allee effect), human encroachment and the danger of poaching remain very real threats for the remaining Sumatran rhino populations. The most critical actions are ensuring their protection, consolidating existing populations, increasing public awareness, and expanding the managed breeding program at the Sumatran Rhino Sanctuary in Way Kambas National Park.

Bukit Barisan Selatan National Park (BBS)

Located along the southwestern edge of Sumatra, BBS covers 3,345 km², is the island's third largest protected area and, in addition to rhinos, is home to 38 other threatened species of amphibians, reptiles, birds and mammals (Appendix 1). The current estimate for Sumatran rhinos in BBS is 25-40 individuals; the population may be slowly declining.



Map of BBSNP.

Seven RPU's presently patrol the park. From 1 July 2014 through 30 June 2015, these RPU's spent an average of 14.27 days each month on patrol and survey, logging a total of 5019.44 km (3,119 miles). BBS possesses the most physically demanding terrain of the two parks in which RPU's are operational. The park's long boundary, harsh terrain and many potential access points for would-be illegal activity make the RPU's' job incredibly difficult. A summary of findings from 1 July 2014 to 30 June 2015 is in the table below.

SUMMARY OF FINDINGS JULY 2014 – JUNE 2015	
DIRECT RHINO SIGHTINGS	0
ENCROACHMENT INCIDENTS	26
TIMBER THEFT	33
FOREST PRODUCT THEFT	2
RHINO TRAPS DISCOVERED/DESTROYED	0
OTHER MAMMAL TRAPS DISCOVERED/DESTROYED	22
OTHER TRAPS DISCOVERED/DESTROYED	50

While in BBS, the AAZK 'Bowlers' (as they are called by the Indonesian staff) were given a formal overview of the RPU program in the park and taken on an arduous hike in the park where they saw evidence of tapir and encountered two species of carnivorous plant. Each member of the trip was invited to plant a tree in the park in the area now known as 'Bowler's Alley'.



Teresa Randall (Oklahoma City Zoo) and Robbie Clark (San Diego Zoo) planting their trees in 'Bowler's Alley' in BBS.

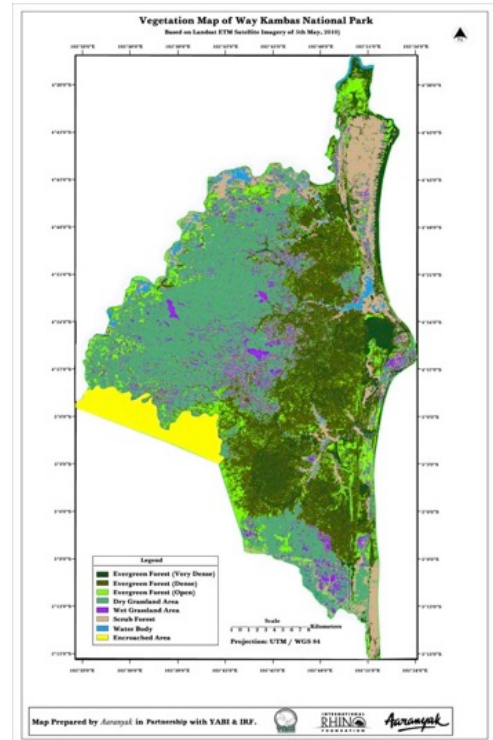
Way Kambas National Park (WKNP)

On the opposite side of Sumatra lay the lowland forests of WKNP (see map below), covering 1,000 km². In addition to Sumatran rhinos, WKNP is home to 36 other threatened amphibian, reptile, bird and mammal species (Appendix 2). The current estimate for Sumatran rhinos in WKNP is 25-35; this population is the only one that is thought to be slowly growing.

Five RPU patrol WKNP; from 1 July 2014 – 30 June 2015, the WKNP RPUs spent an average of 15.86 days each month on patrol and survey, logging a total of 6,054 km - 3,762 miles - nearly doubling distance travelled from the previous year.

RPU findings during this period can be found in the table below.

SUMMARY OF FINDINGS JULY 2014 – JUNE 2015	
DIRECT RHINO SIGHTINGS	2
ENCROACHMENT INCIDENTS	144
TIMBER THEFT	13
FOREST PRODUCT THEFT	7
RHINO TRAPS DISCOVERED/DESTROYED	0
OTHER MAMMAL TRAPS DISCOVERED/DESTROYED	21
OTHER TRAPS DISCOVERED/DESTROYED	277



Although there has been no rhino poaching in the park since 2006, it looms as a continual threat. In the past few years, RPUs have more frequently discovered and destroyed heavy-cable snares that are routinely set for large mammals, including tigers (photo right). The southwestern portion of the park has been cleared of encroachers, and is being re-forested with rhino food plants in the hopes of making more area available to the rhinos.

Unlike the other rhino-bearing parks, Way Kambas often becomes a tinderbox during the dry season. Fire is a serious threat to the wildlife living in the park – more than 70% of the park was affected by fires in 1997 and the threat shows no sign of abatement. During the dry season, RPUs take on the additional duty of combating fires (photo top, next page) – many of which have been set illegally in an effort to draw them away from the forest and distract them from patrolling.

RPU member Supriyono dismantling a tiger snare in WKNP.





RPU's fighting fire in WKNP.

While in WKNP, the BFR team had the opportunity to go out on the Way Kanan River with the RPU's and to trek in the park. The group got to see all five Sumatran rhinos at the Sumatran Rhino Sanctuary and to interact with the veterinary and keeper staff (photo below left – Teresa Randall with Andalas; photo right – Robbie Clark giving a BFR shirt to Andalas' keeper; and next page 'Bowlers' at the SRS).



Teresa Randall and Robbie Clark at the SRS with Sumatran rhinos and Andalas' keeper.

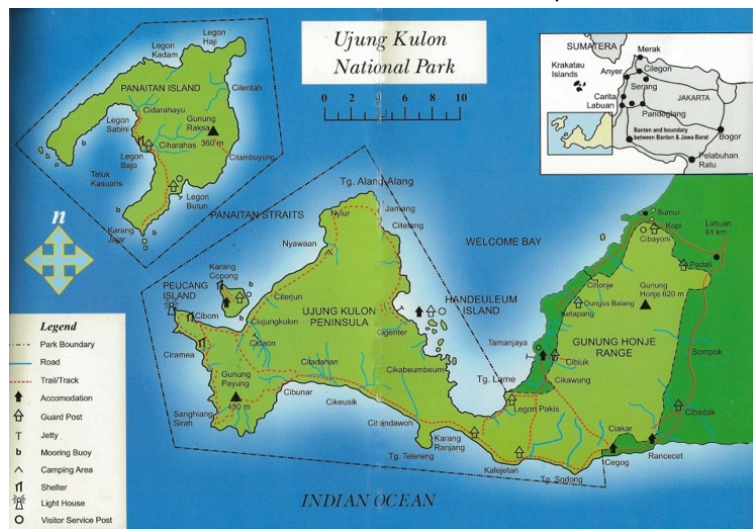


The 'Bowlers' at the SRS.

Javan Rhino Conservation Program

Indonesia's Ujung Kulon National Park is home to the only known population of Critically Endangered Javan rhinos (*Rhinoceros sondaicus*) in the world. Similar to Sumatran rhinos, the Javan rhinos once roamed a much larger area that included India, Bangladesh, Myanmar, Laos, Thailand, Malaysia, Cambodia, China and Vietnam. Located in extreme western Java, UKNP covers 762 km² of terrestrial habitat and is a World Heritage Site. UKNP is home to 30 other threatened vertebrate species (Appendix 3), including Javan banteng and Javan leopard.

UKNP is bordered by water to the north, west and south (map right). Its eastern boundary adjoins agricultural lands of Banten Province, one of Indonesia's most heavily populated regions. Thus, there is continuous pressure on its tropical forest habitat and wildlife. Human encroachment, necessitated the removal of illegal settlements from the national park by government authorities several years ago, however, a low level of illegal activities (e.g., fishing, bird-trapping, small-scale timber extraction, forest product gathering) still occur.



Monitoring Javan Rhinos

Our on-the-ground partner, YABI, the UKNP authority, and WWF-Indonesia have collaboratively monitored Javan rhinos since 1961, more recently including the use of video camera traps. In 2011, IRF and WWF purchased 140 video camera traps and donated them to the national park authority so that the entire park could be surveyed using this methodology. New data from these cameras show that the population is between 58 and 61 individuals, higher than we had thought. These data were analyzed by the UKNP camera trap team and verified by a small task force from the IUCN Asian Rhino Specialist Group. More recently, these camera traps recorded three calves in the park, verification that the population is still reproducing. Videos can be viewed at https://www.youtube.com/watch?t=30&v=H_4ZWmDaMmU.



Photo courtesy Stephen Belcher

In fall 2014, accomplished New Zealand photographer Stephen Belcher spent 6 weeks in UKNP and emerged with some of the highest quality photos of this elusive species ever taken. Belcher's full collection can be viewed at <http://www.stephenbelcher.net/gallery.asp?cat=145>.

In November 2014, RPUs discovered a decomposing rhino carcass with its horn intact. In 2011, authorities discovered three dead rhinos – two carcasses and one older set of bones – they also were not believed to be poached, as all the horns were still intact. Pathology reports on all four rhinos suggest that these animals died from natural causes, which may have included disease. Disease outbreaks among both Javan and Sumatran rhinos could be spread by domestic livestock (photo right) that graze in rhino habitats; this is particularly a threat in Ujung Kulon.



Rhino Protection

Javan rhinos have persisted in UKNP because they are monitored and guarded around-the-clock by Rhino Protection Units (RPUs) and government personnel. Four, four-man RPUs presently patrol UKNP.

During this period, UKNP RPUs spent an average of 19 days each month on patrol and survey, logging a total of 3,441 km (2,138 miles). Results from this reporting period are included in the table below.

SUMMARY OF FINDINGS JULY 2014 – JUNE 2015	
DIRECT RHINO SIGHTINGS	2
ENCROACHMENT INCIDENTS	6
TIMBER THEFT	3
FOREST PRODUCT THEFT	0
RHINO TRAPS DISCOVERED/DESTROYED	0
OTHER MAMMAL TRAPS DISCOVERED/DESTROYED	0
OTHER TRAPS DISCOVERED/DESTROYED	148

There has been no recorded poaching of a Javan rhino in Indonesia this century and to our knowledge, no international trade in Javan rhino horn is present at this time. However, rhino poaching in Africa has reached record levels over the past 5 years, which makes the loss of the last Javan rhino in Vietnam (and the loss of the last wild Sumatran rhino in Malaysia) a serious concern and reinforces the need to continue and ramp up rhino protection and monitoring efforts in UKNP over the long-term. Support from the AAZK Bowling for Rhinos program has been, and remains, essential to sustaining this program.

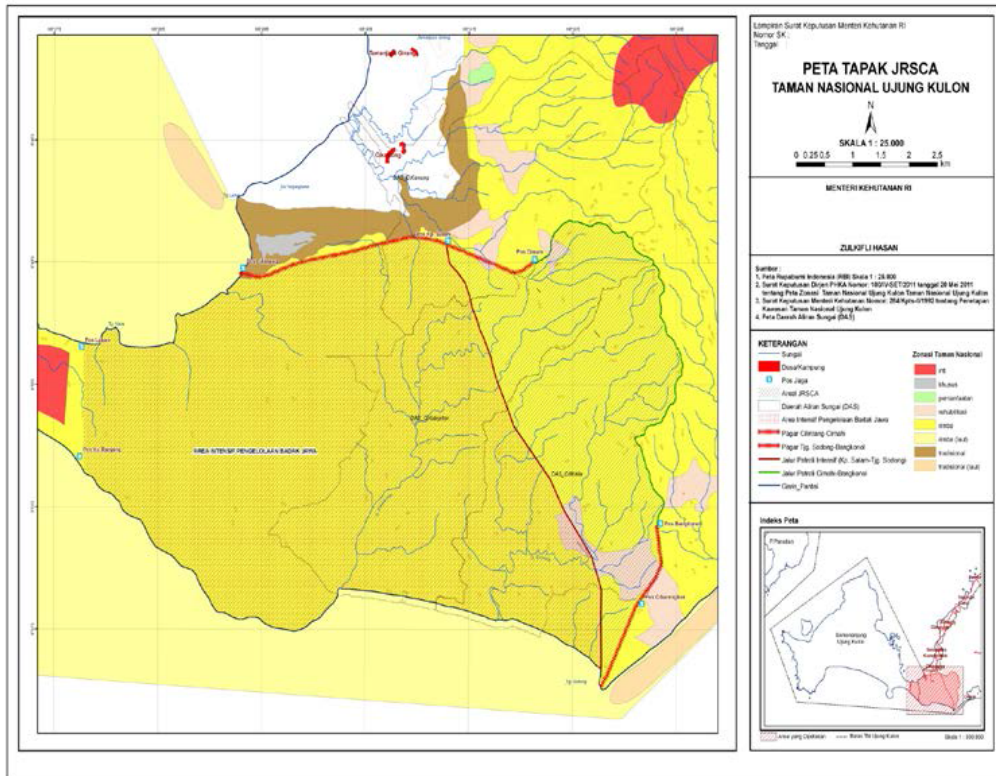
Javan Rhino Study and Conservation Area

Conservation experts have long believed that Ujung Kulon has reached its carrying capacity for Javan rhinos. In 2010, in an effort to create additional safe and useable habitat for rhinos, IRF, YABI, and the UKNP authority developed the Javan Rhino Study and Conservation Area (JRSCA). The ambitious effort is currently underway to restore habitat within the 5,000-hectare area, located in the Gunung Honje region along the park's eastern boundary. The Government of Indonesia has already removed illegal settlements from Gunung Honje, where forests had been converted to agricultural lands, and a special traditional use zone has been established.

The park is plagued by an invasive species of palm (*Arenga obtusifolia*) that is not eaten by rhinos and suppresses the growth of various food plant species. Research over the past few years on *Arenga* removal has demonstrated that: 1) both mechanical and chemical palm eradication methods work equally well, have negligible environmental impacts, and are comparable in cost; 2) mechanical clearance methods provide greater employment opportunities for local people; 3) the natural re-vegetation process negates the need to grow and plant seedlings; 4) of the dozen predominant plant species that most readily re-establish themselves in cleared plots, more than 90% are Javan rhino food plants; and 5) the rate of plant growth is incredibly rapid.

For the past 3 years, YABI has employed >120 local people to remove *Arenga* palm in the JRSCA. Working in the JRSCA area allows local people to benefit from the park and to learn more about Javan rhino conservation efforts. Without the sun-blocking effect of *Arenga*, rhino food plants can regenerate rather quickly. Even with only 78 hectares now cleared, the JRSCA area already has attracted nine new rhinos, including a cow and her calf; this number represents 15 percent of the total population.

The rest of the JRSCA project is nearly complete. YABI has also employed local citizens to erect an 8.2-km perimeter fence (North area length 5.4 km, South area length 2.8 km) to protect the rhinos from diseases carried by domestic cattle (see map below) and to construct the new RPU base camp and several guard posts.



The JRSCA is planned as the launch site for animals that will be moved to establish a second population within the species' historic range. Assessments of potential promising habitats have just been completed in a study co-funded by IRF and WWF, and the report is now being finalized. As mentioned above, there are four operational RPU teams in place in UKNP; over the next 2 years, we hope to add two more teams so that the new cleared area can be adequately patrolled and illegal activities further decreased in the park.

Conclusion

The International Rhino Foundation is profoundly grateful for the generous support from the AAZK's Bowling for Rhinos program, which has enabled us to accomplish the activities described in this report. We made a great deal of progress in 2014 and thus far in 2015, thanks in large part to AAZK's continued contribution. We value our partnership with the AAZK tremendously and recognize how hard keepers across the country work to raise BFR funds. We welcome any questions and would be happy to meet in person or have a conference call at a mutually agreeable time to share more information.



**Financial Report – period closing 30 June 2015
Indonesian Rhino Conservation Program
Submitted to the American Association of Zoo Keepers Bowling for Rhinos Program**

INCOME

Carryover balance reported in 30 May 2014	\$ 22,183.53
AAZK Contribution received 26 December 2014	\$ 245,638.09
TOTAL	\$ 267,821.63

EXPENDITURE

AAZK Contribution to Operating Expenses for Bukit Barisan Selatan and Way Kambas National Parks RPU	
1 July 2014 – 30 June 2015	\$ 158,039.00
AAZK Contribution to Operating Expenses for Ujung Kulon National Park RPU	
1 July 2013 – 30 June 2015	\$ 85,316.00
TOTAL	\$ 243,355.00
Balance in IRF AAZK/RPU Allocated Fund Accounts 30 June 2015 to be used through 31 December 2015	\$ 24,466.63

Susie Ellis, PhD
Executive Director, International Rhino Foundation
15 September 2015

Appendix 1: Threatened Terrestrial Vertebrates of Bukit Barisan Selatan National Park

Scientific Name	Common English Name	Assessment
Reptiles		
<i>Ophiophagus hannah</i>	King cobra	Vulnerable
Birds		
<i>Alcedo euryzona</i>	Blue-banded kingfisher	Vulnerable
<i>Caprimulgus concretus</i>	Sunda nightjar	Vulnerable
<i>Centropus rectunguis</i>	Short-toed coucal	Vulnerable
<i>Cyornis caerulatus</i>	Sunda blue flycatcher	Vulnerable
<i>Lophura erythrophthalma</i>	Crestless fireback	Vulnerable
<i>Lophura inornata</i>	Salvadori's pheasant	Vulnerable
<i>Melanoperdix niger</i>	Black partridge	Vulnerable
<i>Nisaetus nanus</i>	Wallace's hawk-eagle	Vulnerable
<i>Cairina scutulata</i>	White-winged wood duck	Endangered
<i>Ciconia stormi</i>	Storm's stork	Endangered
<i>Carpococcyx viridis</i>	Sumatran ground cuckoo	Critically Endangered
Mammals		
<i>Aonyx cinerea</i>	Asian small-clawed otter	Vulnerable
<i>Arctictis binturong</i>	Binturong	Vulnerable
<i>Capricornis sumatraensis</i>	Sumatran serow	Vulnerable
<i>Dyacopterus brooksi</i>	Brook's Dyak fruit bat	Vulnerable
<i>Helarctos malayanus</i>	Malayan sun bear	Vulnerable
<i>Hemigalus derbyanus</i>	Banded civet	Vulnerable
<i>Lutrogale perspicillata</i>	Smooth-coated otter	Vulnerable
<i>Macaca nemestrina</i>	Pig-tailed macaque	Vulnerable
<i>Maxomys rajah</i>	Rajah spiny rat	Vulnerable
<i>Maxomys whiteheadi</i>	Whitehead's spiny rat	Vulnerable
<i>Neofelis diardi</i>	Sunda clouded leopard	Vulnerable
<i>Nesolagus netscheri</i>	Sumatran striped rabbit	Vulnerable
<i>Nycticebus coucang</i>	Greater slow loris	Vulnerable
<i>Petinomys genibarbis</i>	Whiskered flying squirrel	Vulnerable
<i>Petinomys setosus</i>	Temminck's flying squirrel	Vulnerable
<i>Rusa unicolor</i>	Sambar	Vulnerable
<i>Tarsius bancanus</i>	Horsfield's tarsier	Vulnerable
<i>Cuon alpinus</i>	Dhole	Endangered
<i>Cynogale bennettii</i>	Sunda otter civet	Endangered
<i>Hylobates agilis</i>	Agile gibbon	Endangered
<i>Manis javanica</i>	Malayan pangolin	Endangered
<i>Pteromyscus pulverulentus</i>	Smoky flying squirrel	Endangered
<i>Symphalangus syndactylus</i>	Siamang	Endangered
<i>Tapirus indicus</i>	Malayan tapir	Endangered
<i>Dicerorhinus sumatrensis sumatrensis</i>	Sumatran rhinoceros	Critically Endangered
<i>Elephas maximus sumatrensis</i>	Sumatran elephant	Critically Endangered
<i>Panthera tigris sumatrae</i>	Sumatran tiger	Critically Endangered

Appendix 2: Threatened Terrestrial Vertebrates of Way Kambas National Park

Scientific Name	Common English Name	Assessment
Amphibians		
<i>Limnonectes macrodon</i>	Fanged River frog	Vulnerable
Reptiles		
<i>Ophiophagus hannah</i>	King cobra	Vulnerable
Birds		
<i>Alcedo euryzona</i>	Blue-banded kingfisher	Vulnerable
<i>Caprimulgus concretus</i>	Sunda nightjar	Vulnerable
<i>Centropus rectunguis</i>	Short-toed coucal	Vulnerable
<i>Cyornis caerulatus</i>	Sunda blue flycatcher	Vulnerable
<i>Leptoptilos javanicus</i>	Lesser adjutant	Vulnerable
<i>Lophura erythrophthalma</i>	Crestless fireback	Vulnerable
<i>Melanoperdix niger</i>	Black partridge	Vulnerable
<i>Nisaetus nanus</i>	Wallace's hawk-eagle	Vulnerable
<i>Cairina scutulata</i>	White-winged wood duck	Endangered
<i>Ciconia stormi</i>	Storm's stork	Endangered
<i>Tringa guttifer</i>	Nordmann's greenshank	Endangered
Mammals		
<i>Aonyx cinerea</i>	Asian small-clawed otter	Vulnerable
<i>Arctictis binturong</i>	Binturong	Vulnerable
<i>Dyacopterus brooksi</i>	Brook's Dyak fruit bat	Vulnerable
<i>Helarctos malayanus</i>	Malayan sun bear	Vulnerable
<i>Hemigalus derbyanus</i>	Banded civet	Vulnerable
<i>Lutrogale perspicillata</i>	Smooth-coated otter	Vulnerable
<i>Macaca nemestrina</i>	Pig-tailed macaque	Vulnerable
<i>Maxomys rajah</i>	Rajah spiny rat	Vulnerable
<i>Maxomys whiteheadi</i>	Whitehead's spiny rat	Vulnerable
<i>Niviventer cremoriventer</i>	Dark-tailed tree rat	Vulnerable
<i>Nycticebus coucang</i>	Greater slow loris	Vulnerable
<i>Petinomys genibarbis</i>	Whiskered flying squirrel	Vulnerable
<i>Petinomys setosus</i>	Temminck's flying squirrel	Vulnerable
<i>Rusa unicolor</i>	Sambar	Vulnerable
<i>Tarsius bancanus</i>	Horsfield's tarsier	Vulnerable
<i>Cynogale bennettii</i>	Sunda otter civet	Endangered
<i>Hylobates agilis</i>	Agile gibbon	Endangered
<i>Manis javanica</i>	Malayan pangolin	Endangered
<i>Pteromyscus pulverulentus</i>	Smoky flying squirrel	Endangered
<i>Symphalangus syndactylus</i>	Siamang	Endangered
<i>Tapirus indicus</i>	Malayan tapir	Endangered
<i>Dicerorhinus sumatrensis sumatrensis</i>	Sumatran rhinoceros	Critically Endangered
<i>Elephas maximus sumatrensis</i>	Sumatran elephant	Critically Endangered
<i>Panthera tigris sumatrae</i>	Sumatran tiger	Critically Endangered

Appendix 3: Threatened Terrestrial Vertebrates of Ujung Kulon National Park

Scientific Name	Common English Name	Assessment
Amphibians		
<i>Huia masonii</i>	Javan torrent frog	Vulnerable
<i>Kalophrynus minusculus</i>		Vulnerable
<i>Limnonectes macrodon</i>	Fanged River frog	Vulnerable
Reptiles		
<i>Ophiophagus hannah</i>	King cobra	Vulnerable
<i>Python bivittatus</i>	Burmese python	Vulnerable
Birds		
<i>Centropus nigrorufus</i>	Javan coucal	Vulnerable
<i>Leptoptilos javanicus</i>	Lesser adjutant	Vulnerable
<i>Lophura erythrophthalma</i>	Crestless fireback	Vulnerable
<i>Mulleripicus pulverulentus</i>	Great slaty woodpecker	Vulnerable
<i>Pavo muticus</i>	Green peafowl	Endangered
<i>Sturnus melanopterus</i>	Black-winged starling	Critically Endangered
Mammals		
<i>Aonyx cinerea</i>	Asian small-clawed otter	Vulnerable
<i>Arctictis binturong</i>	Binturong	Vulnerable
<i>Lutrogale perspicillata</i>	Smooth-coated otter	Vulnerable
<i>Niviventer cremoriventer</i>	Dark-tailed tree rat	Vulnerable
<i>Nycteris javanica</i>	Javan slit-faced bat	Vulnerable
<i>Rusa timorensis</i>	Javan deer	Vulnerable
<i>Trachypithecus auratus</i>	Javan leaf monkey	Vulnerable
<i>Bos javanicus</i>	Javan banteng	Endangered
<i>Cuon alpinus</i>	Dhole	Endangered
<i>Hylobates moloch</i>	Silvery gibbon	Endangered
<i>Manis javanica</i>	Malayan pangolin	Endangered
<i>Nycticebus javanicus</i>	Javan slow loris	Endangered
<i>Presbytis comata</i>	Javan surili	Endangered
<i>Panthera pardus melas</i>	Javan leopard	Critically Endangered
<i>Rhinoceros sondaicus</i>	Javan rhinoceros	Critically Endangered