

ProFauna's Report

**WILDLIFE TRADE SURVEY
ON THE BIRD MARKETS IN JAVA**



Supported by



I. INTRODUCTION

Indonesia is a mega-biodiversity country. It is estimated that about 300,000 wild animals or 17% of the world animals inhabit the nature of Indonesia, despite Indonesia's lands is only 1.3% of the world's. Indonesia has the largest mammals (515 species) and is inhabited by 1,539 bird species. 45% of the world's fish species live in Indonesia's waters.

However, illegal wildlife trade becomes a huge threat towards wild animals survival in Indonesia. 183 mammal, 115 bird, 27 reptile, and 111 fish species are threatened in Indonesia (IUCN, 2008). Unless there are efforts to save and protect the animals, wild animals in Indonesia will be extinct like Balinese Tiger which was gone in the 1970's. Similarly, Javan tiger is considered extinct even though some scientists believe that there are some still left in Merubetiri National Park in Banyuwangi, East Java.

The main causes of wild animal extinction are the habitat loss or destruction and poaching for trade. Now, wildlife trade poses serious threat to the Indonesian animals' survival. More than 95% of the traded animals are caught from the wild instead of captive-bred.

The hub of wildlife trade takes place in bird (animal/ pet) markets in Java. Almost every big city in Java has a bird market. Java Island is one of the largest islands in Indonesia which 12 millions hectares (6% of the Indonesian land) and 116 millions population (60% of the whole country population) since Java is the centre of Indonesian government and economy.

To the Javanese's believe, birds as pets take certain position in their social life. Keeping birds has been a lifestyle for a Javanese man. Some also believe that keeping bird is a symbol of accomplishment and settlement. In the past, noble Javanese were considered to be successful in life when he had a *turangga* (horse/ride), a *curiga* (Javanese weapon), and a *kukila* (bird). This traditional believe is assumed to explain why Javanese keep birds which also encourages the flourishing bird markets in Java. Because the market sells birds the most, it is named 'bird market' by the locals despite it also sells other species or wildlife.

To study the wildlife trade in bird markets, ProFauna has conducted a survey on the bird markets in Java between May and July 2009.

1.1. Objectives:

To gather the latest information about the wildlife trade in the bird (animal) markets in Java. The collected data include species, numbers of the traded animals, numbers of the shops or vendors, and origin of the traded animals.

1.2. Expected Results:

Findings of the survey into the illegal trade of wild animals in the bird markets are hoped to give the latest data of the trade in Java. The data will be delivered to authorities and policy makers to enforce the law and curb the illegal trade of wild animals in Indonesia.

II. METHODS

2.1. Time and Locations

The survey has been carried out for three months, between May and July 2009. ProFauna team surveyed 58 cities in six provinces in Java. The visited locations were bird markets and other places selling birds or wildlife. The total of the surveyed bird markets is 70 (note: a city sometime has more than one bird market). Please see table 1.

Table 1. Locations/ the visited bird markets

East Java Province	Central Java Province	Yogyakarta Province	West Java Province	Great Jakarta Province	Banten Province
1. Malang	26. Sragen	43. Yogyakarta	44. Plered Cirebon	62. Pramuka	66. Tangerang
2. Lumajang	27. Solo		45. Kanoman-Cirebon	63. Jatinegara	67. Merak
3. Probolinggo	28. Salatiga		46. Indramayu	64. Barito	68. Cilegon
4. Pasuruan	29. Semarang		47. Subang	65. Cipinang	69. Serang
5. Bratang-Surabaya	30. Kudus		48. Karawang		70. Pandeglang
6. Kupang-Surabaya	31. Jepara		49. Bekasi		
7. Turi-Surabaya	32. Klaten		50. Empang-Bogor		
8. Tuban	33. Purworejo		51. Atas-Bogor		
9. Bojonegoro	34. Kebumen		52. Sukabumi		
10. Mojokerto	35. Cilacap		53. Cianjur		
11. Jombang	36. Purwokerto		54. Sukahaji-Bandung		
12. Nganjuk	37. Tegal		55. Rajiman-Bandung		
13. Ngawi	38. Pekalongan		56. Sumedang		
14. Joyo-Madiun	39. Kendal		67. Garut		
15. Saradan-Madiun	40. Temanggung		58. Tasikmalaya		
16. Stadium Magetan	41. Muntilan		59. Ciamis		
17. Baru market Magetan	42. Ambarawa		60. Purwakarta		
18. Kediri			61. Depok		
19. Blitar					
20. Gebang-Jember					
21. Jaya-Jember					
22. Bondowoso					
23. Pakis-Banyuwangi					
24. Pujasera Banyuwangi					
25. Situbondo					



2.2. Target Species

In the survey, the species recorded in the bird markets are:

- Any primate species
- Any parrot species
- Any mammal species
- Any raptor species
- Any protected bird (non parrot)

2.3. Survey Methods

ProFauna team visited the bird markets to collect the needed information. Through direct monitor, interview with animal seller and other stake holders in the markets. If there was no target species displayed, the team would interview or ask the animal sellers if they sold those species. This is very normal in bird markets where animal sellers do not display certain species, especially the protected ones, but buyers can order them.

During the visit, the team gather the information of the species, numbers, origin of the animals, and numbers of the animal sellers. If it was possible, the team made photo documentation. Not all animal sellers let the team take photo. To count numbers of the animal sellers, the team used a hand counter, hidden in the trousers pocket.

Because the survey was held in short time (May – July), the species and the numbers recorded only for displayed animals. However, ProFauna team would still try to gather information by interviewing the animal sellers if they had the target species. Some animal sellers are aware of the protection status of certain species. They know that it is illegal to trade protected species that is why they don't display the animals in the market openly. Nevertheless, if a buyer is serious and potential to buy the protected species, the trader will show the animals.

III. FINDINGS

3.1. East Java Province

3.1.1. Pasuruan

The bird market in Pasuruan city is located inside the traditional market, Pasar Kebon Agung. During the visit, ProFauna team found a long-tailed macaque (*Macaca fascicularis*) sold at the market for 150,000 IDR (15 USD). The major animals there were song birds. The total of the stalls where the traders permanently displayed the animals was 27. While the street vendors found were 12 people.

3.1.2. Blitar

The location surveyed in Blitar city was Dimoro animal market. There were 28 stands which were orderly set up and clean. The investigators didn't find any target species. Most animals sold there were song birds. According to some traders and the rickshaw drivers who ran their businesses in the market, in *Wage* day (the forth of the five days in a week in Javanese calendar), more various species were sold.

3.1.3. Kediri

The bird market visited in Kediri city was in Setono Betek market. Similarly, the majority of the animals sold there were song birds. In addition, the team recorded three chattering lorries (*Lorius garrulus*). For the protected species, there were a spotted kestrel (*Falco moluccensis*) and two kingfishers.

3.1.4. Jombang

The team visited Tunggorono market in Jombang city. It was quite small where 20 traders sold song birds. During the survey, there were only few visitors. The target species found there was a long tailed macaque (*Macaca fascicularis*) for 200,000 IDR (20 USD).

3.1.5. Bojonegoro

The destination of the team while visiting Bojonegoro city was the market by the river of Bengawan Solo. Only nine kiosks were found. No target species recorded, but the team a found a protected species (non target), a black-winged starling (*Sturnus melanopterus*).

3.1.6. Mojokerto

The bird market in Mojokerto is not too big, consisting of 17 permanent stands. During the visit, the team also found 14 non permanent traders. All of the sold song birds as the majority. No target species was found.

3.1.7. Nganjuk

The bird market in Nganjuk city is near Wage market. There are 37 kiosks. The recorded a purple necked Lory (*Eos squamata*).

3.1.8. Ngawi



In Ngawi city, the destination was R. Soerjo monument in Mantingan area. This location is a rest area for the travellers from East Java to Central Java and Yogyakarta, and vice versa. There were 31 stalls recorded selling song birds. The target species found were: a tarsier (*Tarsius bancanus*), eight slow lorises (*Nycticebus coucang*), a Javan langur (*Trachypithecus auratus*), and 13 long-tailed macaques (*Macaca fascicularis*). According to the traders, the target species came from Sumatera.

3.1.9. Madiun

There were two locations visited in Madiun city, Joyo market and Saradan bird market. In Joyo market, there were 41 stalls. The target species sold there were: a chattering lory (*Lorius garrulus*), two violet-necked Lories (*Eos squamata*), red-breasted parakeet (*Psittacula alexandri*), and two long-tailed macaques (*Macaca fascicularis*). Those animals originated from Surabaya and Ngawi. In Saradan market, there were 23 stands but the team didn't find any target species.

3.1.10. Magetan

Magetan is a small city bordering East Java and Central Java. There were two locations visited by the team: Stadium and Baru market. In the area of the stadium, there were nine animal sellers while in Baru market there were seven animal sellers. Both markets sold song birds.

3.1.11. Tuban

Tuban is located in the northern part of East Java where the major transportation takes place. The visited location was the city market of Tuban. 13 stands sold song birds, and none of them sold target species.

3.1.12. Lumajang



In Lumajang bird market, there were around 50 animal sellers. When the team visited it, the target species found were a slow loris (*Nycticebus coucang*) cost 200,000 IDR (20 USD) and a hornbill (*Buceros rhinoceros*) for a million rupiah (100 USD). The seller who sold these target species was a street vendor.

3.1.13. Jember



The team visited two locations in Jember: Gerbang market and Jaya market. There were 20 animal sellers and none sold target species. In Jaya market which was located in Sawahan neighbourhood. There were only three permanent kiosks and five street vendors. However small the number of the animal sellers, ProFauna team found some target species: two leopard cat (*Prionailurus bengalensis*), falcon (*Falco sp.*), Asian palm civet (*Paradoxurus hermaphroditus*), and a kingfisher.

3.1.14. Bondowoso

The bird market opens only on Tuesday and there is no permanent stand. When the team visited the market, there were around 45 street vendors selling song birds the most. The team also recorded ten Banded pittas (*Pitta guajana*) cost 45,000 IDR (4.5 USD) each. Even though it is not a target species, Banded pitta is a protected species.

3.1.15. Banyuwangi

ProFauna's investigators visited two locations in Banyuwangi city: Pakis bird market and Pujasera bird market. In Pakis market, there were only two animal sellers. According to the data collected by the team showed that there were three sellers before. One of them was arrested because of selling protected species. During the visit at the market, the two traders did not sell any protected species. The latter market was located on Kapten Tendean Street that sold song birds the most. No target species was found by the team.

3.1.16. Situbondo



Bird market in Situbondo opens on Saturdays. There was no permanent stand. All the animal sellers were street vendors. During the visit, there were around 25 animal street vendors who sold song birds as the majority. The team recorded two slow lorises sold for 200,000 IDR (20 USD) each and four leopard cats cost 75,000 (7.5 USD) each.

3.1.17. Malang

Malang bird market is one of the largest animal markets in East Java. There are around 170 stands. Couple years ago, Malang bird market used to be the notorious market selling protected animals. Since the confiscation operation held in 2002, the illegal wildlife trade declined drastically there. There was a cockatoo seller caught by the police and sentenced three month imprisonment. However small the penalty, the case brought deterrent effect to other animal sellers where the illegal wildlife trade decreased since.

Similar to other cities, Malang bird market sells song birds the most. During the survey, ProFauna team found some target species: nine long-tailed macaques (*Macaca fascicularis*), five rainbow lorikeets (*Trichoglossus haematodus*), three leopard cats (*Prionailurus bengalensis*), and barn owl (*Tyto alba*). Except the rainbow lorikeet, most animals came from the Malang Regency/ Town.

3.1.18. Probolinggo

The location visited in Probolinggo city was Randu Pager bird market. There were 40 permanent stalls and around 19 street vendors. The majority of the animals were song birds. However, ProFauna team recorded the target species: two long-tailed macaques (*Macaca fascicularis*) and a Banded pitta (*Pitta guajana*). The target species originated from Lumajang city.

3.1.19. Surabaya.

Surabaya as the capital city of East Java province has three famous bird markets: Bratang, Kupang, and Turi. Bratang is the largest bird market in East Java consisting of some 200 kiosks. Few months ago, there was a raid on parrot syndicate held by the police. Even though, the confiscation was successful to reveal the illegal wildlife trade, when ProFauna team visited the market recorded some target species being sold there: five long-tailed macaques (*Macaca fascicularis*), blue-backed parrot (*Tanygnathus sumatranus*), leopard cat (*Prionailurus bengalensis*), Banded pitta (*Pitta guajana*), five Asian barbets (*Megalaima sp.*), and a crested serpent eagle (*Spilornis cheela*).



Kupang bird market is smaller than Bratang market but it is quite crowded. There were around 35 permanent stalls and 22 street vendors. When the team surveyed it, there were a long-tailed macaque (*Macaca fascicularis*), eight barbets (*Megalaima sp.*), and an olive-backed sunbird (*Nectarinia jugularis*).

The third bird market in Surabaya city is Turi bird market, the smallest one. There are only nine stands. Visitors go to the market on weekend to the most. Even though small, this market is famous for selling various parrots, even the protected ones. Based on ProFauna's record, for the past couple months, there was no protected parrot sold at Turi market. During the visit, the team found a purple-necked parrot (*Eos squamata*) and two long-tailed macaques (*Macaca fascicularis*).

3.2. Yogyakarta Province

Ngasem bird market in Yogyakarta is famous for the oldest bird market in Java Island. It is believed that it was already built since in the 19 century. Since Yogyakarta is one of the famous tourism destinations in Indonesia, there are many visitors. There are around 120 kiosks. The majority of the animals are song birds. The team found some target species at the market: two chattering lorries (*Lorius garrulus*), six long-tailed macaques (*Macaca fascicularis*) and seven porcupines (*Hystrix sp.*).

3.3. Central Java Province

3.3.1. Semarang



In Semarang city, there is a large and famous bird market, Karimata bird market. The target species found during the survey were rainbow lorikeets (*Eos squamata*), 13 red-breasted parakeets (*Psittacula alexandri*), a black-capped lory (*Lorius lory*), four porcupines (*Hystrix sp.*), two crested serpent eagles (*Spilornis cheela*), and a spotted kestrel (*Falco moluccensis*).

3.3.2. Ambarawa

Ambarawa is a small city located between Semarang and Yogyakarta. The bird market in Ambarawa is located at the same place with the livestock (cow) market. There are many visitors during *Pon* day, the third day of the five days in a week in Javanese calendar. The permanent kiosks were around 37 and the non permanent ones were 12.



Despite the small numbers of the kiosks, there are many rare and protected animals during *Pon* day. When the team surveyed the market, the team found 13 slow lorises (*Nycticebus coucang*), three porcupines (*Hystrix sp.*), an Asian palm civet (*Paradoxurus hermaphroditus*), seven leopard cats (*Prionailurus bengalensis*), a sulphur crested Cockatoo (*Cacatua galerita*), a Moluccan Cockatoo (*Cacatua molluccensis*), and a crested serpent eagle (*Spilornis cheela*). According to the interview with the animal sellers, the protected species came from Wonosobo and Temanggung regencies.

3.3.3. Solo



Besides in Semarang, the other large and famous bird market is in Solo city called Depok bird market. There are around 100 permanent stalls and some 30 street vendors. Protected species can be easily found in the market. During the survey, the team found the following protected species: five sulphur-crested Cockatoos (*Cacatua galerita*), eight black-capped Lory (*Lorius lory*), an

Eclectus parrot (*Eclectus roratus*), two chattering lorries (*Lorius garrulus*), three porcupines (*Hystrix sp.*), two spotted kestrels (*Falco molluccensis*), two black-winged kites (*Elanus caereleus*), two rufous-bellied eagles (*Hieraaetus kienerii*), five slow lorises

(*Nycticebus coucang*), eight leopard cats (*Prionailurus bengalensis*), and a Javan langur (*Trachypithecus auratus*).

The animal sellers got the parrots from military or police officers who came home from duties in Papua, while the mammals and primates were from Banyuwangi region, East Java.

3.3.4. Temanggung

Temanggung is a small city in Central Java. There is a bird market named Kerkoff which is pretty quiet. However, many visitors come during weekend or holiday. The team recorded that there were around 75 animal sellers who sold song birds the most. The investigators found two falcons (*Falco sp*) and a barn owl (*Tyto alba*).

3.3.5. Muntilan

Muntilan is a small city near the renowned Borobudur temple. The location visited by ProFauna team was Mekar bird market. There were around 70 animal sellers who sold song birds the most. However, the team found two target species: a crested serpent eagle (*Spilornis cheela*) and two long-tailed macaques (*Macaca fascicularis*).

3.3.6. Kendal

Kendal bird market is quite small, only 25 animal sellers. The majority of the animals sold there are song birds. The team didn't find any protected animal.

3.3.7. Pekalongan

Pekalongan city is located in the northern part of Central Java where the major transportation takes place, and crowded. The bird market is called Podo Sugih market consisting of only 35 animal sellers. The animals sold were song birds. The team didn't find any target species.

3.3.8. Tegal

The location that sells animal is located in Pasar Senggol near the citysquares of Tegal. When the team surveyed the location, there were only 25 animal sellers. No target species was found by the team. The majority of the sold animals were song birds, especially bulbuls (*Pycnonotus sp.*)

3.3.9. Purwokerto.

Purwokerto is one of the large cities in central Java. The hub of animal trade is in Wage market. The team recorded that there were around 80 animal sellers. The majority of the traded animals were song birds. However, the team still found the target species: six

long-tailed macaques (*Macaca fascicularis*), a black eagle (*Icyinaetus malayensis*), and two leopard cats (*Prionailurus bengalensis*).

According to the interview with some sellers, most of the traded animals were from Slamet Mountain, Central Java.

3.3.10. Cilacap.

Cilacap city is located in the border between Central Java and West Java. It is a pretty quite place. So is the animal trade. The team found just nine sellers selling only song birds.

3.3.11. Kebumen

In Kebumen city, there were 27 animal sellers selling song birds. No target species was found by the team.

3.3.12. Purworejo

Purworejo is small town located in the coast line of Central Java. The bird market is located near Purworejo train station. There were only 30 animal sellers. The majority of the traded animals were pigeons and song birds. No target species was found by the team.

3.3.13. Klaten

There were around 40 animal sellers at Klaten bird market. Most of the traded animals were song birds. No target species was found.

3.3.14. Jepara

Jepara is a small city in the northern part of Central Java. The bird market in the city is quite small, consisting of around 35 sellers. Nonetheless, at the seaport of Jepara, the team recorded that the some ship crews often brought parrots from Papua and Maluku. But, the team didn't find such activity during the survey.

3.3.15. Kudus

The hub of animal trade in Kudus is located in Wergu bird market. The team documented around 55 animal sellers. The majority of the traded animals were song birds. During the survey, the team found five red-breasted parakeets (*Psittacula alexandri*).

3.3.16. Sragen

Sragen city borders with East Java Province. The bird market in Sragen is located in the suburb. The team found around 60 animal sellers that sold song birds. During the survey, a black-winged starling (*Sturnus melanopterus*) and four long-tailed macaques (*Macaca fascicularis*) were found.

3.3.17. Salatiga

In Salatiga, the team visited Peksi Banyuputih market. There were around 65 animal sellers selling song birds the most. Interestingly, the team found a food stall with wild waterbirds meals in the menu.

3.4. Jakarta Province

3.4.1. Pramuka Bird Market

Pramuka bird market is the largest bird (animal) market in Indonesia. It has more than 250 legal kiosks and more than 60 non permanent stands. Pramuka market has networks with other bird markets not only in Java but also other areas of Indonesia. The customers vary from Indonesian people to foreigners. The biggest buyers are from East Asia and Middle East countries.

The trade of the protected species both for local and foreign collectors happens secretly because some of the traders have been arrested by the police for committing wildlife crime. Almost any species can be found in Pramuka market, but not all are displayed. Most protected animals are hidden in the houses at the neighbourhood near the market.

During the survey, the team recorded the target species: eight slow lorises (*Nycticebus coucang*), 15 long-tailed macaques (*Macaca fascicularis*), three chattering lorries (*Lorius garrulus*), a black-capped lory (*Lorius lory*), four Moluccan Cockatoos (*Eos bornea*), nine leopard cats (*Prionailurus bengalensis*), two crested serpent eagles (*Spilornis cheela*), a white-bellied sea eagle (*Haliaeetus leucogaster*), a spotted kestrel (*Falco moluccensis*), and three porcupines (*Hystrix Sp.*).

3.4.2. Jatinegara Bird Market



Jatinegara bird market which is located near the Jatinegara train station is notorious for a bird market that sells any protected species. There are around 27 permanent kiosks and 18 street vendors. Even though law enforcement has been carried out several times at the market, the illegal wildlife trade keeps going on openly.

During the survey at the market, the team recorded the following protected wildlife

which were sold openly: seven slow lorises (*Nycticebus coucang*), five leopard cats (*Prionailurus bengalensis*), three white-bellied sea eagles (*Haliaeetus leucogaster*), two crested serpent eagles (*Spilornis cheela*), and a spotted kestrel (*Falco moluccensis*).

3.4.3. Barito Bird Market

Barito market is located in the Southern Jakarta. It is famous for the exotic animals, most are fish and reptile. Sometimes, there is a protected species sold in the market that consists of 37 stands. During the survey, the team found a black-capped Lory (*Lorius lory*), three Goffin Cockatoos (*Cacatua goffini*), two White Cockatoos (*Cacatua alba*), and three long-tailed macaques (*Macaca fascicularis*).

3.4.4. Cipinang Bird Market

Cipinang market has around 27 kiosks selling song birds the most. However, visitors can order protected wildlife which are kept at the houses in the neighbourhood near Cipinang market. The animal sellers in Cipinang market have networks with the ones from Pramuka market. During the survey, the team didn't find any target species.

3.5. West Java Province

3.5.1. Bandung

The team visited two locations in Bandung: Sukahaji bird market and Rajiman street. Sukahaji market is the largest bird market in West Java consisting of 56 permanent stalls and 17 street vendors. Due to the several confiscation operations, there has been no protected animals sold in the market. During the visit, ProFauna team found only a crested serpent eagle (*Spilornis cheela*).

The second location of animal trade visited in Bandung was on Rajiman street. There were many exotic animals. The team found a crested serpent eagle (*Spilornis cheela*).

3.5.2. Cirebon

Cirebon city borders West Java with Central Java. It is quite dense. There were two locations visited by ProFauna team: Plered bird market and Kanoman bird market. In Plered market, there were 28 stands selling song birds. The team found a black eagle (*Ictinaetus malayensis*) and seven long-tailed macaques (*Macaca fascicularis*).

In Kanoman market is located with Cirebon palace. No permanent kiosk was found. The sellers use wheel carts. During the survey, the team found seven violet-necked lorries (*Eos squamata*), two black-capped lorries (*Ictinaetus malayensis*), and an Eclectus parrot (*Eclectus roratus*).

3.5.3. Bekasi

When the team visited Bekasi, there was no bird market found. Since the city is pretty near to Jatinegara market, collectors will rather go to the market.

3.5.4. Bogor

There were two locations visited by the team: Empang market and Atas market. Empang market is not far from the Bogor Botanical Garden. During the visit, the team recorded only six kiosks and nine street vendors but they sold protected species like: a White Cockatoo (*Cacatua alba*), a sulphur-crested Cockatoo (*Cacatua galerita*), a black-capped lory (*Lorius lory*), and an Eclectus parrot (*Eclectus roratus*).

Atas market is located near Bogor train station. There are around 25 stalls. The team didn't find any target species. There was another location visited by ProFauna team, Taman Topi. According the information gathered, many protected species, especially slow loris, were sold there. Unfortunately, when the team visited it, there was no slow loris.

3.5.5. Karawang

The animal trade in Karawang happens in many locations where each consists of two or three stalls. Most of them sell song birds.

3.5.6. Sumedang

The bird market in Sumedang is inside the traditional market. When the team visited it, there were only nine sellers selling song birds. Another location visited was Cadas Pangeran which was notorious as the hub of slow loris trade. Unfortunately, no slow loris was found during the visit.

3.5.7. Indramayu

Indramayu is a quite city. There is no public bus from other cities or provinces passing it. The trade animal trade is rare. The team recorded that there were nine stalls found in the city that sold song birds.

3.5.8. Subang

Subang is pretty crowded. However, there were only 18 stands selling song birds in the city. No target species was found.

3.5.9. Purwakarta

Purwakarta is one of the transits for cross cities public transportation in West Java. No target animal was found.

3.5.10. Depok

Depok is a small town but it is quite hectic. No target species was found there.

3.5.11. Sukabumi

Sukabumi is pretty crowded because it is located in the southern coastline of West Java. When the team visited Sukabumi market, there were 17 kiosks selling songbirds. But the team also found two long-tailed macaques (*Macaca fascicularis*) and a slow loris (*Nycticebus coucang*).

3.5.12. Garut

Garut is two hours by car from Bandung city. There is no market specifically selling animals like the bird market. When the team visited the market, there were couple of stalls which also sold song birds. No target animal was found.

3.5.13. Cianjur

Cianjur is located in the intersection between Bogor, Bandung, and Sukabumi causing density. The animal trade is also busy. There were 35 stalls recorded by the team. Most of the traded animals were song birds. During the survey, there were a black-winged starling (*Sturnus melanopterus*) and two pittas (*Pitta sp*)

3.5.14. Tasikmalaya

The destination of the survey was Cikurubuk market consisting of 37 kiosks. These traders sold song birds at the majority. No target animal was found.

3.5.15. Ciamis

Ciamis is located in the southern coastline of West Java and borders Central Java. The bird market in Ciamis is very quiet consisting of 19 kiosks. According to the collected information, this location is used to practice song bird competition.

3.6. Banten Province

3.6.1. Serang

As the capital of Banten, Serang is crowded. But the animal trade is pretty quiet. The team recorded only 19 kiosk selling song birds. They also found a long-tailed macaque (*Macaca fascicularis*).

3.6.2. Merak

Merak is the seaport connecting Java and Sumatera Islands. There was no target species found.

3.6.3. Cilegon.

Cilegon is an industrial city and is very busy, but with quiet animal trade. There was no target species found.

3.6.4. Pandeglang

Pandeglang is a crowded city. The team also didn't find any target species.

3.6.5. Tangerang

Tangerang borders Jakarta which is very busy like the capital. In Cileduk market, the team found nine stalls selling song birds. The target animals found were two kingfishers.

IV. DISCUSSION

The wildlife trade survey is focusing on parrot, primate, raptor, non primate mammal, and non parrot and protected bird species. The findings show that the trade of wildlife, including the protected ones, still happens in bird markets. They also ensure that bird market is the hub of wildlife trade in Java.

Based on the numbers of the kiosks/stands, ProFauna categorizes bird market into three:

- Small bird market, a bird market consisting of less than 25 kiosks.
- Medium bird market, a bird market consisting of 26 to 50 kiosks.
- Big bird market, a bird market consisting of more than 50 kiosks.



From the 70 visited bird markets or wildlife trade locations, 19% (13 markets) are categorized as big bird markets. They are located in these following cities: Malang (Splindit), Surabaya (Bratang), Sragen, Solo, Salatiga, Semarang, Kudus (Wergu), Purwokerto (Wage), Temanggung (Kerkoff), Muntilan, Yogyakarta (Ngasem), Bandung (Sukahaji), and Jakarta (Pramuka).

There are 22 (31%) bird markets categorized as medium. They are located in: Surabaya (Kupang), Lumajang, Probolinggo, Pasuruan, Jombang, Nganjuk, Ngawi (R. Soerjo monument), Madiun (Joyo), Kediri, Blitar, Jepara, Klaten, Purworejo, Kebumen, Pekalongan, Ambarawa, Cirebon (Plered), Cianjur, Tasikmalaya, and Jakarta (Barito, Jatinegara, and Cipinang).

The total of the small bird markets is 35 (50%) including the markets in Surabaya (Turi), Tuban, Bojonegoro, Mojokerto, Magetan (Near Stadium), Magetan (Baru), Jember (Gebang), Jember (Jaya), Bondowoso, Banyuwangi (Pakis), Banyuwangi (Pujasera), Situbondo, Madiun (Saradan), Cilacap, Tegal, Kendal,



Indramayu, Subang, Karawang, Bekasi, Bogor (Empang), Bogor (Atas), Sukabumi, Sumedang, Garut, Ciamis, Purwakarta, Depok, Cirebon (Kanoman), Tangerang, Merak, Cilegon, Serang, Pandeglang, and Bandung (Rajiman street).

The records also reveal that target animals were not only sold in big markets but also in some medium markets. The medium markets selling target animals are in Ngawi (Mantingan) and Ambarawa.

The numbers of the recorded target species is 342, consisting of: 133 primates (39%), 84 parrots (25%), 58 mammals (17%), and 28 raptors (8%). Total of the protected song birds traded in the markets is 39 (11%). From the 342 target animals being traded in the markets, 183 (54%) animals are protected by law.

The distribution of the species in the markets can be concluded that parrots were traded in 15 locations (18%), primates were traded in 21 locations (23%), mammals were traded in 11 locations (14%), raptors were traded in 13 locations (16%), and the protected song birds (non parrot) were traded in 15 locations (18%).

Table 2. Numbers of the traded animals in the bird markets in Java (May – July 2009)

No	Bird Markets/ Locations	Parrot	Primate	Mammal	Raptor	Protected Bird	Total
East Java Province							
1	Malang	5	9	3	0	1	18
2	Lumajang	0	1	0	0	1	2
3	Probolinggo	0	2	0	0	1	3
4	Pasuruan	0	0	0	0	0	0
5	Bratang market, Surabaya	1	5	1	1	6	14
6	Kupang market, Surabaya	0	1	0	0	9	10
7	Turi market, Surabaya	1	2	0	0	0	3
8	Tuban	0	0	0	0	0	0
9	Bojonegoro	0	0	0	0	1	1
10	Mojokerto	0	0	0	0	0	0
11	Jombang	0	1	0	0	0	1
12	Nganjuk	1	0	0	0	0	1
13	Ngawi	0	23	0	0	0	23
14	Joyo market, Madiun	4	2	0	0	0	6
15	Saradan market, Madiun	0	0	0	0	0	0

16	Stadium market, Magetan	0	0	0	0	0	0
17	Baru market, Magetan	0	0	0	0	0	0
18	Kediri	3	0	0	1	2	6
19	Blitar	0	0	0	0	0	0
20	Gebang market, Jember	0	0	0	0	0	0
21	Jaya market, Jember	0	0	3	1	1	5
22	Bondowoso	0	0	0	0	10	10
23	Pakis market, Banyuwangi	0	0	0	0	0	0
24	Pujasera market, Banyuwangi	0	1	0	0	0	1
25	Situbondo	0	2	4	0	0	6
Central Java Province							
26	Sragen	0	4	0	0	1	5
27	Solo	14	6	11	5	0	36
28	Salatiga	0	0	0	0	0	0
29	Semarang	18	0	4	3	0	25
30	Kudus	5	0	0	0	0	5
31	Jepara	0	0	0	0	0	0
32	Klaten	0	0	0	0	0	0
33	Purworejo	0	0	0	0	0	0
34	Kebumen	0	0	0	0	0	0
35	Cilacap	0	0	0	0	0	0
36	Purwokerto	0	6	2	1	0	9
37	Tegal	0	0	0	0	0	0
38	Pekalongan	0	0	0	0	0	0
39	Kendal	0	0	0	0	0	0
40	Temanggung	0	0	0	1	1	2
41	Muntilan	0	2	0	1	0	3
42	Ambarawa	2	13	11	1	0	27
Yogyakarta Province							
43	Ngasem market	2	6	2	0	0	10
West Java							
44	Plered market, Cirebon	0	7	0	1	0	8
45	Kanoman market, Cirebon	10	0	0	0	0	10
46	Indramayu	0	0	0	0	0	0
47	Subang	0	0	0	0	0	0
48	Karawang	0	0	0	0	0	0

49	Bekasi	0	0	0	0	0	0
50	Empang market, Bogor	4	0	0	0	0	4
51	Atas market, Bogor	0	0	0	0	0	0
52	Sukabumi	0	3	0	0	0	3
53	Cianjur	0	0	0	0	3	3
54	Sukahaji, market Bandung	0	0	0	1	0	1
55	Rajiman street, Bandung	0	0	0	1	0	1
56	Sumedang	0	0	0	0	0	0
57	Garut	0	0	0	0	0	0
58	Tasikmalaya	0	0	0	0	0	0
59	Ciamis	0	0	0	0	0	0
60	Purwakarta	0	0	0	0	0	0
61	Depok	0	0	0	0	0	0
Jakarta Province							
62	Pramuka	8	23	12	4	0	47
63	Barito	6	3	0	0	0	9
64	Jatinegara	0	10	5	6	0	21
65	Cipinang	0	0	0	0	0	0
Banten							
66	Tangerang	0	0	0	0	2	2
67	Merak	0	0	0	0	0	0
68	Cilegon	0	0	0	0	0	0
69	Serang	0	1	0	0	0	1
70	Pandeglang	0	0	0	0	0	0
	Grand total	84	133	58	28	39	342



During the survey, ProFauna recorded 33 target species traded in the bird markets in Java. More than 25 species are protected by law and the trade is illegal

The province which bird markets sold protected the most was East Java, while the city that sold and displayed protected species the most was Depok bird market in Solo,

Central Java; and Ambarawa was on the second place. The high degree of the illegal trade happened because there had not been any law enforcement. In discreet manners, the bird markets that sold many protected species were ones in Surabaya, Semarang, and Jakarta. The traders in those markets sold the animals secretly. They kept the illegal wildlife in their warehouses and private houses. As mentioned earlier, ProFauna only recorded the displayed animals.

The location that traded parrot the most was in Semarang. Pramuka market in Jakarta and Mantingan Market in Ngawi sold primates the most. Pramuka market is also the location that sold mammals the most. In Jatinegara market, Jakarta, raptors were sold to the most. For the protected birds (non parrot), Surabaya was the city that sold the birds the most.

Table 3. The traded wildlife species in bird markets in Java (May – July 2009)

No	Species	Class/Order	Locations	Protection Status
1	Long-tailed macaques (<i>Macaca fascicularis</i>)	Primate	1, 3, 5, 6, 7, 11, 13, 14, 26, 36, 41, 43, 52, 62, 63, 64, 69	Not protected
2	Javan langur (<i>Trachypithecus auratus</i>)	Primate	13, 27	Protected
3	Slow loris (<i>Nycticebus coucang</i>)	Primate	2, 13, 25, 27, 42, 52, 62, 64	Protected
4	Tarsius (<i>Tarsius bancanus</i>)	Primate	13	Protected
5	Chattering lory (<i>Lorius garrulus</i>)	Parrot	14, 18, 43, 62,	Not protected
6	Violet-necked lory (<i>Eos squamata</i>)	Parrot	7, 12, 14, 45	Not protected
7	Red-breasted parakeet (<i>Psittacula alexandri</i>)	Parrot	14, 29, 30	Not protected
8	Rainbow lorikeet (<i>Trichoglossus haematodus</i>)	Parrot	1, 29	Not protected
9	Blue-backed parrot (<i>Tanygnathus sumatranus</i>)	Parrot	5	Protected
10	Black-capped lory (<i>Lorius lory</i>)	Parrot	27, 29, 45, 50, 62, 63,	Protected
11	Sulphur-crested Cockatoo (<i>Cacatua galerita</i>)	Parrot	27, 42, 50	Protected
12	Eclectus parrot (<i>Eclectus roratus</i>)	Parrot	27, 45, 50	Protected
13	Red lory (<i>Eos bornea</i>)	Parrot	62	Protected
14	Goffin cockatoo (<i>Cacatua goffini</i>)	Parrot	63	Protected
15	White cockatoo (<i>Cacatua alba</i>)	Parrot	50, 63	Not protected
16	Moluccan cockatoo (<i>Cacatua moluccensis</i>)	Parrot	42	Protected
17	Leopard cats (<i>Prionailurus bengalensis</i>)	Mammal	1, 5, 21, 25, 27, 36, 42, 62, 64	Protected
18	Asian palm civet (<i>Paradoxurus hermaphroditus</i>)	Mammal	21, 42	Not protected
19	Porcupine (<i>Hystrix sp.</i>)	Mammal	29, 27, 42, 43, 62	Not protected
20	Crested serpent eagle	Raptor	5, 29, 42, 40, 41, 54, 55, 62,	Protected

	(<i>Spilornis cheela</i>)		64	
21	Black eagle (<i>Ictinaetus malayensis</i>)	Raptor	36, 44	Protected
22	White-bellied sea eagle (<i>Haliaeetus lucogaster</i>)	Raptor	62, 64	Protected
23	Rufous-bellied eagle (<i>Hieraeetus kienerii</i>)	Raptor	27	Protected
24	Black-winged kite (<i>Elanus caeruleus</i>)	Raptor	27	Protected
25	Spotted kestrel (<i>Falco moluccensis</i>)	Raptor	18, 27, 29, 62, 64	Protected
26	Falcon (<i>Falco sp.</i>)	Raptor	21	Protected
27	Kingfisher	Protected Bird	18, 66	Protected
28	Black-winged starling (<i>Sturnus melanopterus</i>)	Protected Bird	9, 26, 53	Protected
29	Hornbill (<i>Buceros rhinoceros</i>)	Protected Bird	2	Protected
30	Banded Pitta (<i>Pitta guajana</i>)	Protected Bird	3, 5, 22, 53	Protected
31	Barn owl (<i>Tyto alba</i>)	Protected Bird	1, 40	Protected
32	Olive-backed sunbird (<i>Nectarinia jugularis</i>)	Protected Bird	6	Protected
33	Barbet (<i>Megalaima sp.</i>)	Protected Bird	5, 6	Protected

Descriptions: 1. Malang; 2. Lumajang; 3. Probolinggo; 4. Pasuruan; 5. Bratang market, Surabaya; 6. Kupang market, Surabaya; 7. Turi market, Surabaya; 8. Tuban; 9. Bojonegoro; 10. Mojokerto; 11. Jombang; 12. Nganjuk; 13. Ngawi; 14. Joyo market, Madiun; 15. Saradan market, Madiun; 16. Stadium market, Magetan; 17. Pasar Baru market, Magetan; 18. Kediri; 19. Blitar; 20. Gebang market, Jember; 21. Jaya market, Jember; 22. Bondowoso; 23. Pakis market, Banyuwangi; 24. Pujasera market, Banyuwangi; 25. Situbondo; 26. Sragen; 27. Solo; 28. Salatiga; 29. Semarang; 30. Kudus; 31. Jepara; 32. Klaten; 33. Purworejo; 34. Kebumen; 35. Cilacap; 36. Purwokerto; 37. Tegal; 38. Pekalongan; 39. Kendal; 40. Temanggung; 41. Muntilan; 42. Ambarawa; 43. Ngasem market, Yogyakarta; 44. Plered market, Cirebon; 45. PB Kanoman market, Cirebon; 46. Indramayu; 47. Subang; 48. Karawang; 49. Bekasi; 50. Empang market, Bogor; 51. Pasar Atas – Bogor; 52. Sukabumi; 53. Cianjur; 54. Sukahaji market, Bandung; 55. Jl. Rajiman market, Bandung; 56. Sumedang; 57. Garut; 58. Tasikmalaya; 59. Ciamis; 60. Purwakarta; 61. Depok; 62. Pramuka market, Jakarta; 63. Barito market, Jakarta; 64. Jatinegara market, Jakarta; 65. Cipinang market, Jakarta; 66. Tangerang; 67. Merak; 68. Cilegon; 69. Serang; 70. Pandeglang

4.1. Parrot Trade

From the 70 visited bird market, 14 of them sold parrot species. The total of the recorded parrots during the survey is 84. They consisted of 12 species: chattering lory (*Lorius garrulus*), violet-necked lory (*Eos squamata*), red-breasted parakeet (*Psittacula alexandri*), rainbow lorikeet (*Trichoglossus haematodus*), blue-backed parrot (*Tanygnathus sumatranus*), black-capped lory (*Lorius lory*), Sulphur crested cockatoo (*Cacatua galerita*), Eclectus parrot (*Eclectus roratus*), Red lory (*Eos bornea*), Goffin cockatoo (*Cacatua goffini*), white cockatoo (*Cacatua alba*) and Moluccan cockatoo (*Cacatua moluccensis*).



The market that sold parrot the most was in Semarang. The team recorded that there were 18 displayed parrots. Solo market is the second location which sold parrot the most.

Parrot species sold at the majority is the red-breasted parakeet, 19 parakeets. The runner up is the black-capped Lory, 14 lorries, which is listed as protected species from Papua.

Table 4. Parrot numbers and species traded in bird markets in Java (May-July 2009)

No	Species	Scientific names	Total	Status
1	Chattering lory	<i>Lorius garrulus</i>	9	-
2	Violet-necked lory	<i>Eos squamata</i>	11	-
3	Red-breasted parakeet	<i>Psittacula alexandri</i>	19	-
4	Rainbow lorikeet	<i>Trichoglossus haematodus</i>	9	-
5	Blue-backed parrot	<i>Tanygnathus sumatranus</i> *	1	Protected
6	Black-capped lory	<i>Lorius lory</i> *	14	Protected
7	Sulphur-crested cockatoo	<i>Cacatua galerita</i> *	7	Protected
8	Eclectus parrot	<i>Eclectus roratus</i> *	3	Protected
9	Red lory	<i>Eos bornea</i>	4	-
10	Goffin cockatoo	<i>Cacatua goffini</i> *	3	Protected
11	White cockatoo	<i>Cacatua alba</i>	3	-
12	Moluccan cockatoo	<i>Cacatua moluccensis</i> *	1	Protected
Grand total			84	

4.2. Primate Trade

From the 70 locations visited by ProFauna team, 21 of them sold primates species. The findings show that 133 primates being traded consisting of four species: long-tailed macaques (*Macaca fascicularis*), Javan langur (*Trachypithecus auratus*), slow loris (*Nycticebus coucang*), and tarsier (*Tarsius bancanus*).

Among the four species, the long-tailed macaque (*Macaca fascicularis*) was the most species traded in bird markets. The total is 78 macaques (62%). The protected primate that was sold the

most was the slow loris (*Nycticebus coucang*), 45 (36%), see table 4. The surprising fact was that there was a tarsier sold in Ngawi market, East Java. Tarsius is a species from Sumatera and Kalimantan. Both tarsier and the slow loris are protected by law



The story behind the poaching of slow loris is cruel. A slow loris has to undergo terrible experience where the poachers pull out the primate teeth, so often in sadistic ways like pulling the teeth using nipper, without giving tranquilizer. Most cases, the slow loris suffered from gum infection after that.

Most primates sold in bird markets are babies because they look cute and are tame. Pet owners are not aware when the primates grow older the animals are less cute and more aggressive. ProFauna recorded that

some pet owners tried to hand over their grown up animals to the organization because they thought that the animals became nuisance.

Especially for Javan langur, when the primate is still a baby, its fur is attractively orange, but when it grows older its fur gets darker and turns to black. To deceive the customers, some animal traders dye a juvenile or adult langurs' fur orange. The traders also add that those dyed langurs are endangered and originally from Kalimantan hoping that they get more money.

Table 7. Primate numbers and species traded in bird market in Java (May-July 2009)

No	Species	Scientific names	Total	Status
1	Long-tailed macaque	<i>Macaca fascicularis</i>	85	-
2	Javan langur	<i>Trachypithecus auratus*</i>	2	Protected
3	Slow loris	<i>Nycticebus coucang*</i>	45	Protected
4	Tarsius	<i>Tarsius bancanus*</i>	1	Protected

Total 133

4.3. Mammal Trade



From the 70 visited markets, 11 markets sold some mammal species (non primate). The findings show that 58 mammals consisting of three species: leopard cat (*Prionailurus bengalensis*), porcupine (*Hystrix sp.*), and Asian palm civet (*Paradoxurus hermaphroditus*) traded on the markets.

From the three species, leopard cat (*Prionailurus bengalensis*) is the most traded animals. According to the collected data, 42 leopard cats were found (72%), see table 5. While the location which sold mammals the most was Pramuka bird market.

Table 6. Mammal numbers and species traded in bird markets in Java (May – July 2009)

No	Species	Scientific name	Total	Status
1	Leopard cat	<i>Prionailurus bengalensis</i> *	42	Protected
2	Asian palm civet	<i>Paradoxurus hermaphroditus</i>	2	-
3	Porcupine	<i>Hystrix sp.</i>	14	-

Grand total 58

4.4. Raptor Trade

From the 70 visited locations, 13 of the sold various species of raptor. ProFauna team found 28 raptors consisting of seven species: crested serpent eagle (*Spilornis cheela*), Black eagle (*Ictinaetus malayensis*), white-bellied sea eagle (*Haliaeetus leucogaster*), Rufous-bellied eagle (*Hieraaetus kienerii*), Black-winged kite (*Elanus caeruleus*), spotted kestrel (*Falco moluccensis*), and falcon (*Falco sp.*). All eagle species are protected by the Indonesian wildlife act. Yet, the findings show that raptor trade, especially eagle, is still high.

Most of the traded raptors are still young because they are more expensive than the adult or old ones. Most eagles are poached when they are babies and can not fly. The poachers usually climb

the tree where there is an eagle nest left by the mother. The poachers will take the chick and sell it to the market.



The most wanted eagle is the Javan hawk eagle. This eagle has a crest on its head and is considered to be the Indonesian national symbol, *garuda*. Some poachers always deceive the customers to claim any eagle to be Javan hawk eagle. Common buyers who can not identify this kind of eagle so often are cheated by the traders.

During the survey, the team didn't find any Javan hawk eagle. Instead, they found the crested serpent eagle at the majority.

Table 7. Raptor numbers and species being traded in bird markets in Java (May – July 2009)

No	Species	Scientific names	Total	Status
1	Crested serpent eagle	<i>Spilornis cheela</i>	11	Protected
2	Black eagle	<i>Ictinaetus malayensis</i>	2	Protected
3	White-bellied sea eagle	<i>Haliaeetus leucogaster</i>	4	Protected
4	Rufous-bellied eagle	<i>Hieraaetus kienerii</i>	2	Protected
5	Black-winged kite	<i>Elanus caeruleus</i>	2	Protected
6	Spotted kestrel	<i>Falco moluccensis</i>	6	Protected
7	Falcon	<i>Falco sp.</i>	1	Protected
Grand total			28	

4.5. Trade of protected birds (non parrot)



From the 70 visited locations, 11 of them sold protected birds (non parrot). The team recorded 39 protected birds consisting of seven species: kingfisher, black-winged starling (*Sturnus melanopterus*), Hornbill (*Buceros rhinoceros*), Banded pitta (*Pitta guajana*), barn owl (*Tyto alba*), olive-backed sunbird (*Nectarinia jugularis*), and barbet (*Megalaima sp.*).

From the seven species, the most traded song bird was banded pitta (*Pitta guajana*). 14 pittas were recorded, see table 7. According to the interviews with the traders, those song birds were originally caught from the wild. The city which sold protected birds the most was Surabaya.

Table 8. Numbers and species of protected birds (non parrot) traded in bird markets in Java (May – July 2009)

No	Species	Scientific Name	Total	Status
1	Kingfisher	<i>Halcyon sp</i>	5	Protected
2	Black-winged starling	<i>Sturnus melanopterus</i>	3	Protected
3	Hornbill	<i>Buceros rhinoceros</i>	1	Protected
4	Banded pitta	<i>Pitta guajana</i>	14	Protected
5	Barn owl	<i>Tyto alba</i>	2	Protected
6	Olive-backed sunbird	<i>Nectarinia jugularis</i>	1	Protected
7	Barbet	<i>Megalaima sp.</i>	13	Protected

Grand total 39

4. 6. Price and Origin of the Traded Animal

The price of the animals being traded in bird markets in Java varies depending on the animal ages, species, protection status, stock, and potential buyer. For mammal, primate, and song bird species, the younger the birds are, the more expensive the price. Especially for song bird, the price is also determined by trend. A song bird that can sing beautifully is more expensive than others. As the protection status, the protected animals are more expensive than those which are not.

Table 9. Species and prices of the animals traded in bird markets in Java (May – July 2009)

No	Species	Scientific Name	Price (IDR)
1	Long-tailed macaque	<i>Macaca fascicularis</i>	75,000 – 200,000
2	Javan langur	<i>Trachypithecus auratus</i>	200,000
3	Slow loris	<i>Nycticebus coucang</i>	75,000 – 250,000
4	Tarsius	<i>Tarsius bancanus</i>	500,000
5	Chattering lory	<i>Lorius garrulus</i>	250,000 – 400,000
6	Violet-necked lory	<i>Eos squamata</i>	200,000 – 400,000
7	Red-breasted parakeet	<i>Psittacula alexandri</i>	150,000 – 200,000
8	Rainbow lorikeet	<i>Trichoglossus haematodus</i>	200,000 – 350,000
9	Blue-backed parrot	<i>Tanygnathus sumatranus</i>	350,000
10	Black-capped lory	<i>Lorius lory</i>	500,000 - 800,000
11	Sulphur-crested Cockatoo	<i>Cacatua galerita</i>	750,000 – 1,300,000
12	Eclectus parrot	<i>Eclectus roratus</i>	600,000 – 750,000
13	Red lory	<i>Eos bornea</i>	250,000
14	Goffin cockatoo	<i>Cacatua goffini</i>	1,000,000

15	White cockatoo	<i>Cacatua alba</i>	900,000
16	Moluccan cockatoo	<i>Cacatua moluccensis</i>	750,000
17	Leopard cat	<i>Prionailurus bengalensis</i>	75,000 – 150,000
18	Asian palm civet	<i>Paradoxurus hermaphroditus</i>	100,000 – 125,000
19	Porcupine	<i>Hystrix sp.</i>	150,000
20	Crested serpent eagle	<i>Spilornis cheela</i>	600,000
21	Black eagle	<i>Ictinaetus malayensis</i>	750,000
22	White-bellied sea eagle	<i>Haliaeetus lucogaster</i>	750,000
23	Rufous-bellied eagle	<i>Hieraeetus kienerii</i>	600,000
24	Black-winged kite	<i>Elanus caeruleus</i>	350,000
25	Spotted kestrel	<i>Falco moluccensis</i>	200,000
26	Falcon	<i>Falco sp.</i>	150,000
27	Kingfisher	<i>Halcyon sp</i>	50,000
28	Black-winged starling	<i>Sturnus melanopterus</i>	150,000 – 350,000
29	Hornbill	<i>Buceros rhinoceros</i>	1,000,000
30	Banded pitta	<i>Pitta guajana</i>	65,000-75,000
31	Barn owl	<i>Tyto alba</i>	150,000
32	Olive-backed sunbird	<i>Nectarinia jugularis</i>	50,000
33	Barbet	<i>Megalaima sp.</i>	75,000

4.6.1. Origin

The primates traded in bird markets in Java originated from Banyuwangi and Lumajang cities in East Java, and some were from Sumatera. Parrots came from the bird markets in Surabaya and Semarang. However, some traders imported the birds directly from Papua and Maluku through the seaports in Jakarta. From the information gathered from a parrot trader in Depok bird market, he told the investigators that he bought the parrots from police or military officers who had come back from duties in Maluku and Papua. Most raptors are caught from the forests near the bird markets. For example, the raptors sold in Ambarawa were caught from the forest in Wonosobo.

According to the traders' interviews, the entire target species traded in bird markets in Java were caught from the wild, not captive bred. Wildlife trade has triggered poaching and hunting in the wild to supply the animal to the markets. Song bird traders told ProFauna team that customers prefer to buy wild caught birds to captive bred because they are healthier and cheaper.

4.7. Trade Methods in Bird Markets

Bird markets has become the best place for wildlife transaction between traders and customers. There are some methods used by these people. The first method is the open transaction. In this method, stocks or the traded animals are displayed openly. For unprotected animals, traders use this method. However, some traders still display protected wildlife openly in a bird market. This usually happens in a small town where confiscation operation is never carried out.

The second method is the closed transaction. This method is used by traders who sell protected species. This happens in the bird markets in big city like in Pramuka market in Jakarta. Confiscation operation has been conducted several times by the authorities. The protected species are usually kept in the houses near the bird market or at the traders' houses.

The third method is using middlemen. This method is used when the traded animals are endangered and protected by law which is also connected with the wildlife syndicate both domestic and international ones. For example in Cipinang bird market, song birds are the animals that are displayed at the majority. If a common buyer asks the trader if he sells a protected animal the traders will say that he doesn't sell any. The trader will show or sell the protected animals if he knows already the buyer.

The same method is used in Pramuka bird market, where the protected animals are kept in the traders' houses. The animals will be shown to the potential buyers whom the traders already know or with help of the trustworthy middlemen. To buy protected animals in Pramuka and Cipinang markets, the buyers must use middlemen.

The fourth method is barter. For example, if a buyer wants to buy a siamang the potential buyer must exchange it with another protected species (e.g.: a black-capped lory) for the traders. Each protected species is then determined with the current price, and the buyer should give more money to get the wanted species. This method has been used there were many operations held in bird markets with the modus operandi that the undercover officer orders a protected species. Supposed that the buyer is not an undercover officer, he will bring another protected species for barter. Undercover officer won't ever barter the protected animals because that is against the law.

4.8. Law Enforcement

According to the Wildlife Act 5 year 1990, concerning the Natural Resources and Ecosystem Conservation, to catch, hurt, kill, keep, own, raise, transport, and trade live protected wildlife is prohibited. Offenders are liable to 100 millions IDR (10,000 USD) and five year imprisonment.

Law enforcement has proven to be the most effective measure to curb the illegal wildlife trade in bird market. The illegal wildlife trade in bird markets always declined drastically after an operation was held. It will bring more deterrent effect if the offenders got imprisonment sentence, like the cases in Malang, Lumajang, Jember, Banyuwangi, and Surabaya (Bratang market).

Malang bird market used to be notorious as the market that sold many protected species. Since the operation held in 2002, the illegal trade had declined drastically. The operation in 2002

succeeded in arresting a parrot trader and imprisoning him for three months. The same situation has occurred in the bird markets in Lumajang, Surabaya (Bratang), and Banyuwangi.

However, ProFauna believes that a confiscation operation must be followed by legal process to make deterrent effect for the traders. Otherwise, a confiscation operation without any judicial follow-ups will only change the method used by the traders, from open transaction to closed, even to more discreet manners, like the methods used in Pramuka and Cipinang bird markets.

Table 10. Some confiscation operations held in bird markets in Java (2007-2009)

No	Locations	Dates	Evidences	Total Confiscated Species	Suspects
1	Bratang market, Surabaya	7 May 2009	Sulphur crested cockatoo	13	Subairi
			Goffin cockatoo	3	
			Black-capped lory	10	
2	Sukahaji market, Bandung	20 March 2009	Black-capped lory	3	
			Sulphur crested Cockatoo	4	
			Eclectus parrot	2	
3	Jatinegara market, Jakarta	3 February 2008	Leopard cat	2	Agus, Sobari, and Sarwo
			Slow loris	8	
			Otter civet	1	
			Black-winged kite	2	
			Porcupine	2	
4	Jatinegara market, Jakarta	3 April 2007	Black-capped lory	1	
			Black-crowned night heron	1	

The findings of the survey show that 33 of the target species were sold in bird markets in Java between May and July 2009. 25 species (75%) of them were listed as protected species and should have not been traded. The findings also show that 28 locations (40%) from the six visited provinces, one or more protected species was or were sold illegally. The province that sold protected species the most was East Java. The high trade of protected wildlife in the bird markets needs effective actions from any stake holder because the trade threatens wildlife with extinction.

V. CONCLUSION

Findings of the survey prove that bird market is the hub of the wildlife trade in Java. The trade also includes protected species which is against the law. From 33 of the target species traded in the bird markets, 25 (75%) were categorised as protected by law.

From the 70 visited bird markets or locations, 14 markets sold parrots, 21 markets sold primates, 11 markets sold mammals, 13 markets sold raptors, and 11 markets sold protected song birds (non parrot). While the total of the markets selling all (five) class/ order of the target species could found in four markets.

The total of the target species traded in the bird markets is 342. The distribution can be described as follows: 133 primates (39%), 84 parrots (25%), 58 mammals (18%), 28 raptors (8%), and 39 protected song birds (11%). Among the 342 animals, 183 (54%) were protected by law.

