

SULAWESI TRIP REPORT

Building Partnerships to Conserve Indonesia's Endemic Turtles



Wild adult male Sulawesi Forest Turtle encountered at night in Central Sulawesi, 7 June 2012. PHOTO CREDIT: CRIS HAGEN

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The TSA has long sought program collaborators to conserve Indonesia's chelonians. Over the past year, that effort met with some success on the Indonesian island of Sulawesi.

The island is of high priority for conservation. Sulawesi, formerly known as Celebes and located east of Borneo and south of the Philippines,

has two threatened endemic species, Forsten's Tortoise (*Indotestudo forstenii*) and the Sulawesi Forest Turtle (*Leucocephalon yuwonoi*).

The range of these two species is centered in the remote province of Central Sulawesi. Both species have been heavily exploited for the local food trade and international pet trade, and have been negatively impacted by extensive habitat alteration for agriculture.

Not surprisingly, both species are now rare in

areas where they were once relatively common.

With a small geographic distribution and high levels of exploitation and habitat destruction, *L. yuwonoi* is Critically Endangered and considered one of the top 25 most endangered turtles in the world. *I. forstenii* is currently listed as Endangered but the trajectory of decline may result in it becoming Critically Endangered in the near future.

Since 2002, Indonesia has prohibited all international trade for *L. yuwonoi* and this law



Students and faculty gather for a group photo outside Tadulako University, Palu, Central Sulawesi, with visiting turtle biologists Awal Riyanto and Cris Hagen.



Juvenile Sulawesi Forest Turtle photographed exactly as it was encountered in its habitat, midday 7 June 2012. PHOTO CREDIT: CRIS HAGEN



At the new commercial turtle facility, Forsten's Tortoises and Sulawesi Forest Turtles pile together under small bamboo shelters in an effort to cool down from the Palu Valley's sweltering midday heat. PHOTO CREDIT: CRIS HAGEN

appears to be strictly enforced. Over the years, the export quota for *I. forstenii* has been gradually reduced to a current level of 150 individuals annually. While international export of these species has mostly ceased, observations at animal dealers in Jakarta and elsewhere indicate that there is still some trade within Indonesia.

CAPACITY BUILDING

In May and June 2012, I set out with Awal Riyanto, of the Indonesian Institute of Science in Jakarta, to meet with local NGO's, government agencies, and universities to discuss developing a research and conservation program for Sulawesi's endemic turtles. We received a very positive

response from the staff of the regional Wildlife Conservation Society (WCS) office in Manado (North Sulawesi), as well as from faculty and students at Sam Ratulangi University in Manado, and Tadulako University in Palu (Central Sulawesi).

Enthusiasm and interest was especially strong at Tadulako University in Palu, where we made a presentation to 70 students and faculty. Even though this university is in close proximity to wild populations of both species, not a person in attendance had ever seen these turtles or knew of their conservation concerns. People were surprised to learn that two outsiders had extensive knowledge of these turtles, while many locals are completely unaware that the animals exist. This is a situation that these academics seemed eager to change.

The next step will be to develop a formal collaborative agreement between the TSA, WCS's Indonesia Program, and local universities on Sulawesi. Within a year we hope to have dedicated students and regional WCS staff conducting field studies on these turtles to acquire a deeper understanding of their distribution, natural history, and ecology. This data will help us initiate sound conservation plans, including the development of protected areas and perhaps *in situ* captive assurance colonies as needed.

CURRENT TRADE

Based upon initial inquiries, we believed that the commercial turtle trade in Palu had stopped with the death of the primary turtle trader in Central Sulawesi in June 2009. However, on 5 June 2012, Eric Goode and Max Maurer of the



Very young hatchling of a Sulawesi Forest Turtle encountered in the wild, midmorning 7 June 2012. PHOTO CREDIT: CRIS HAGEN



Pools and waterfalls in forested small stream habitat of the Sulawesi Forest Turtle. PHOTO CREDIT: CRIS HAGEN

Behler Chelonian Center informed us otherwise. During their plane flight to Palu to meet us, a passenger informed Eric that a trader in Palu was setting up a new commercial turtle business.

Using this lead, we tracked down the newly established commercial captive breeding facility in Palu. In February 2012, this facility first began collecting adult turtles as breeding stock, all reportedly from the region of Bangkir, Central Sulawesi. In just a few months they amassed a collection of approximately 100 *I. forstenii*, 200 *L. yuwonoi*, and 25 Sulawesi Box Turtles (*Coura amboinensis*).

We visited the facility, finding that these turtles were being maintained in temporary outdoor holding enclosures while construction was completed on permanent breeding enclosures. Unfortunately, stress from overcrowding and exposure to high temperatures in the temporary pens will undoubtedly result in mortality, especially with *L. yuwonoi*. This loss of breeding stock

will almost certainly result in additional collection of wild caught turtles as replacements.

The facility owner is working with the local forestry department to obtain permits for captive breeding and commercialization. He claims to have been dealing *L. yuwonoi* locally since 1977, eighteen years before the species' formal description. In future, this facility has the potential to successfully breed *I. forstenii*, provided that permanent enclosures are completed, shade trees grown, and proper husbandry implemented. However, we believe the hot, dry conditions at this location will be inappropriate for *L. yuwonoi*, making acclimation and successful propagation very difficult. In addition, the true intent of this facility remains unclear. Many such commercial captive breeding facilities around the world are little more than laundering facilities for wild caught animals. Hopefully, this facility will not turn out to be yet another drain on wild turtle populations.

IN THE FIELD

We looked for wild turtles in habitats around Palu, and in forested areas in the north near the town of Moutong. All turtles encountered were left in the wild where they were found. Despite our efforts, we were unable to locate a single *I. forstenii* in the wild. Based on interviews with local residents and personal observations, it appears that over collection, city sprawl, and agricultural conversion have all contributed to the species' severe depletion in its preferred lowland habitat in the dry Palu Valley. Remaining populations are scattered on the steep arid hillsides surrounding the valley. There are also reported scattered populations farther north in hilly rainforest and lowland coastal habitats between Palu and the town of Gorontalo.

In our search for the Sulawesi Forest Turtle in the wild, we travelled to a remote locality that I visited ten years ago while conducting one of the first surveys for *L. yuwonoi*. The Ganonggol River in the north, its tributaries, and surrounding forest are home to both *L. yuwonoi* and *I. forstenii*. We had little trouble finding three hatchlings and eight juvenile *L. yuwonoi* in the small, shallow and flowing, 25 C (77 F) creeks. However, we found only two adult males in stream pools at night. During my 2002 survey, adults were encountered more frequently and were more accessible. It appears that a decade of heavy collection, deforestation, and agriculture (coffee trees planted down to the edge of streams) have negatively impacted this population. We believe that the relative abundance of hatchlings and juveniles that we observed recently is a result of flooding that washed the animals downstream from where they hatched – that's because the animals spent most, if not all, of their time in the small pools of the creeks. We believe that as human activities persist, adult populations will only survive deeper in the forest. Considering their small geographic range, it will not be long before these turtles have nowhere left to go.

The future of the turtles of Sulawesi is not promising. If conservation actions are not implemented soon, time will run out, and we will surely lose these species from the wild. Collaborations are crucial to gaining a better understanding of the true status of these species in the wild, regarding their natural history and the extent of local and national trade. We hope that these efforts come to fruition soon and that field studies will quickly lead to conservation programs that secure a protected existence for some of Indonesia's most endangered turtles.

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