



## Maps and Photos

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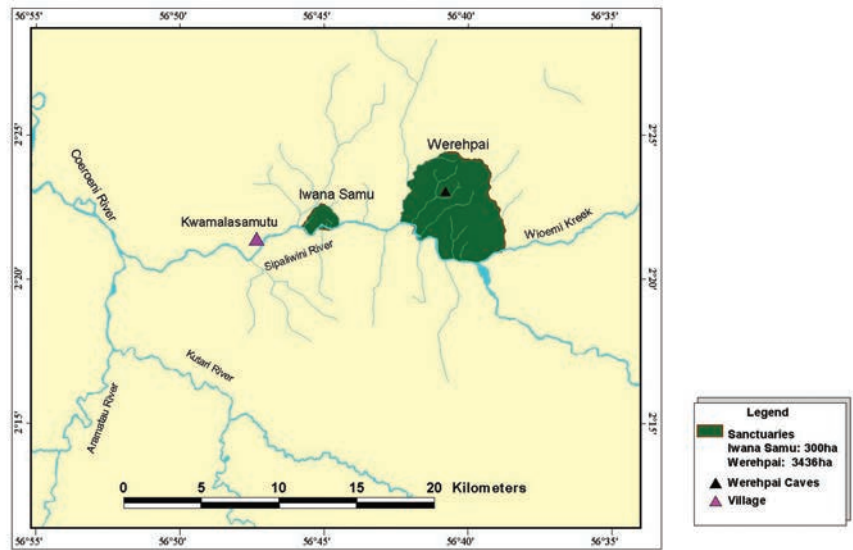
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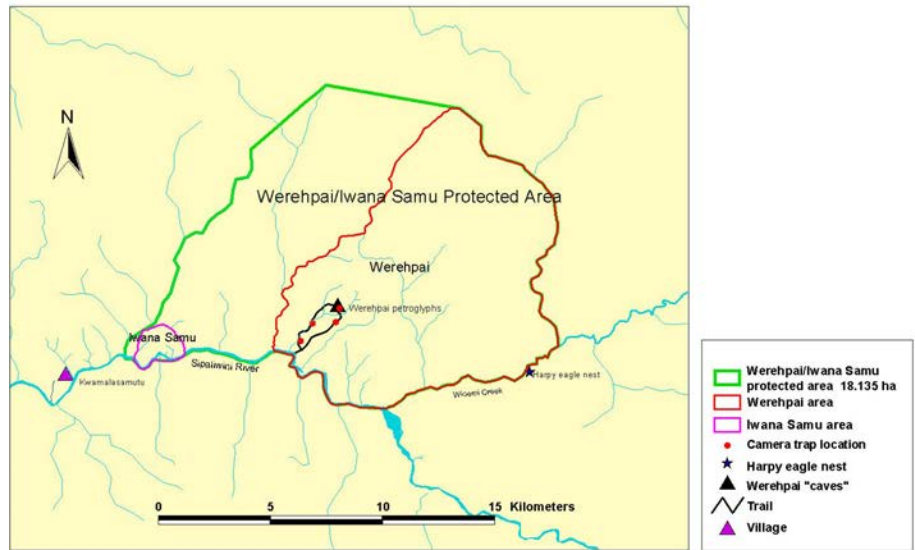
# Maps and Photos

Map 1: Werehpai and Iwana Samu Area



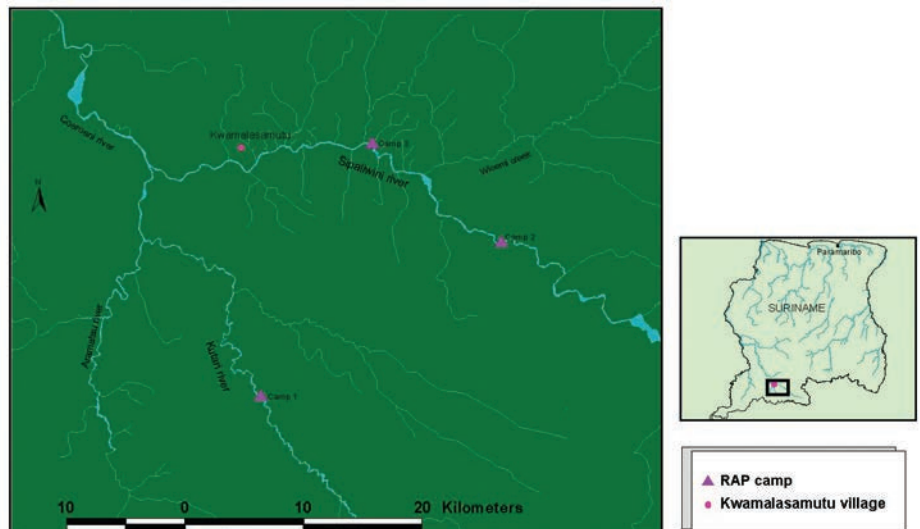
Conservation International Suriname, May 2007

Map 2: Protected Area Werehpai/Iwana Samu



Conservation International Suriname, Nov 2007

Map 3: RAP survey sites



Conservation International Suriname, 2010





The RAP team at the Werehpai base camp. (P. Naskrecki)

The survey site along the Kutari River was characterized by large areas of swamp forest and seasonally inundated forest. (T. Larsen)



Understory palms dominated in some parts of the forest, such as this area at the Werehpai survey site. (T. Larsen)







Piotr Naskrecki photographs the caves in the Werehpai/Iwana Samu Sanctuary. These caves are likely to have been used by humans for at least 5,000 years. (T. Larsen)



In 2000, more than 313 petroglyphs and shards of pottery were discovered in the caves, and the petroglyphs are estimated to be over 3,000 years old. (P. Naskrecki)





A flower of *Cochlospermum orinocense*. (C. Bhikhi)



[above] *Helosis cayennensis* is a parasitic plant that does not produce its own leaves for photosynthesis, but instead sucks nutrients from the roots of trees. (T. Larsen)



*Tabernaemontana heterophylla* is a plant that contains compounds used to treat dementia and improve memory. Many plants in the Kwamalasamutu Region have potential to yield new medicine and other biotechnological discoveries. (C. Bhikhi)



[right] Monkey cacao (*Herannia kanukuensis*) is a rare plant found in Kwamalasamutu forests. It is cauliflorous, meaning that the flowers and fruits grow from the trunk. (P. Naskrecki)



Male and female damselflies (*Argia* sp. 1) in tandem at Iwana Samu.



Male of *Argia* sp. 2 at Werehpai Camp. Both species pictured here (*Argia* sp. 1 and 2) are new to science, as are two other *Argia* species found during this RAP survey. *Argia* is the most speciose damselfly genus in the New World. (N. von Ellenrieder)



Male damselfly (*Phasmoneura exigua*) at a forest swamp in Kutari Camp. (N. von Ellenrieder)



Until now, *Perilestes gracillimus* was known from only two records from Amazonian Peru and Brazil. The female ovipositor is strong and likely used to lay eggs in hard substrates, including bark of twigs. Known larvae in this genus live among dead leaf litter. (N. von Ellenrieder)



*Hydrophilus smaragdinus*, found in forest pools, is among the largest aquatic beetles in South America. Adults are scavengers of detritus, while the larvae are voracious predators of insects and small fish. (P. Naskrecki)

[left] Adults of *Inpabasis rosea*, an elusive damselfly that has never been photographed until now, can be seen perching on leaves at sunny spots in forest swamps. Larvae and breeding habitat are still unknown, but males were observed guarding small muddy depressions where they most likely reproduce and where females probably lay their eggs. (N. von Ellenrieder)





*Oxysternon festivum* is a large, brightly colored dung beetle. (T. Larsen)



*Phanaeus chalconelae* males use their horns as weapons to fight over potential mates. (T. Larsen)



*Deltochilum valgum* is a highly unusual dung beetle species that is specialized exclusively to prey on live millipedes. Its elongated hind legs are used to wrap around the body of millipedes that are much larger than the beetle. This behavior was unknown until two years ago. (T. Larsen)



*Loboscelis bacatus* is a spectacular conehead katydid, previously known only from Amazonian Peru, but found during the Kwamalasamutu RAP in southern Suriname, significantly extending its known range. (P. Naskrecki)



[left] *Coprophanaeus lancifer* is the largest of all Neotropical dung beetle species. Both sexes possess long horns that are used during intrasexual battles. This species can rapidly bury an animal carcass as large as a pig. (P. Naskrecki)





*Eublastes adustus*, a sylvan katydid previously known only from Ecuador (P. Naskrecki)



*Vestria* sp. n. This new, yet unnamed species of conehead katydid was discovered during the Kwamalasamutu RAP. (P. Naskrecki)





*Gigantiops destructor* – the Jumping Ant – is a large black ant common on the forest floor in the Werehpai area. *G. destructor* has excellent vision, and solitary workers of this species can be seen during the day as they scurry across the forest floor looking for prey. (P. Naskrecki)



*Camponotus sericeiventris* – the Carpenter Ant – is one of the largest and shiniest ants in the forest. This soldier may guard the nest located in trunks or large branches of large live trees while the workers scavenge for food during the day. (T. Larsen)

*Cephalotes atratus* – the Turtle Ant, or Gliding Ant, lives high up in the tree canopy and can glide back to their home tree if they fall. (P. Naskrecki)



*Daceton armigerum* – the Canopy Ant – is a beautiful golden-colored ant that lives high in the canopy of trees near the Werehpai caves. (P. Naskrecki)





RAP researcher Phil Willink processes fish specimens, including a Black Piranha (*Serrasalmus rhombeus*). The Black Piranha is a top-level aquatic predator – this specimen was 41 centimeters long, and weighed 3 kilograms. (P. Naskrecki)



This fish species, *Pterodoras* aff. *granulosus*, is probably new to science. (P. Willink)



Armored catfish (*Pseudancistrus corantijiensis*) are associated with rocky bottoms of fast flowing rivers and streams. This species uses its spoon-shaped teeth to scrape algae off of logs and rocks. (P. Naskrecki)



Another fish species, *Imparfinis* aff. *stictonotus*, collected during the RAP survey which may be new to science. (P. Willink)





The Dyeing poison frog (*Dendrobates tinctorius*) has highly toxic skin, and the frog advertises its noxious properties with its very noticeable colors. The frogs obtain their toxins from ants, on which they feed. (P. Naskrecki)



The Suriname horned frog (*Ceratophrys cornuta*) is a voracious sit-and-wait predator. It has an exceptionally wide mouth, which allows it to swallow prey that is nearly as large as its own body, including mice and other frogs. (T. Larsen)



Three-striped poison dart frog (*Ameerega trivittata*) with tadpoles on the back. Adults of many poison dart frog species transport their young from one body of water to another as the tadpoles feed and develop. (T. Larsen)



The Amazon tree boa (*Corallus hortulanus*) is a small constrictor, which feeds primarily on rodents and birds. (P. Naskrecki)



*Gonatodes humeralis* is a brightly colored dwarf gecko that is active during the day. (T. Larsen)



RAP researcher Burton Lim takes a fruit bat (*Artibeus planirostris*) from the mist net. (P. Naskrecki)





Four species of bats from the RAP. Clockwise from upper left: 1) large fruit-eating bat (*Artibeus planirostris*), 2) nectar-feeding bat (*Lonchophylla thomasi*), 3) sword-nosed bat (*Lonchorhina inusitata*), and 4) moustached bat (*Pteronotus parnellii*). (B. Lim)



Four species of rodents from the RAP. Clockwise from upper left: 1) spiny mouse (*Neacomys* sp.), 2) McConnell's rice rat (*Euryzomys macconnelli*), 3) spiny rat (*Proechimys* sp.), and 4) terrestrial rice rat (*Hylaeamys megacephalus*). (Photos 1 & 2 by B. Lim, 3 & 4 by E. Neles)





The Jaguar (*Panthera onca*), also known as Kaikui, is the largest cat of the Americas. Jaguars eat a variety of animals such as peccaries, tapirs, cattle, and deer. Jaguars swim well and their habitats range from rainforest to dry forest. Jaguars are rare in many places due to hunting and the fur trade. (K. Gajapersad)



The Ocelot (*Leopardus pardalis*) occurs in forested landscapes throughout the Neotropics, but is active mostly at night, and is therefore rarely seen. Camera trap images gathered during the RAP, such as this one from the Kutari site, suggest that this species is common in the Kwamalasamutu region. (K. Gajapersad)



Despite its large size and heavy body armature, the Giant Armadillo (*Priodontes maximus*), known as Morainmè in Trio, is a gentle animal, feeding primarily on termites and ants, which it digs out from underground nests using its huge claws. Giant armadillos are rarely seen due to their nocturnal habits, but their huge burrows are a common sight in the forests of Kwamalasamutu. This species is declining across its range in South America, primarily as a result of excessive hunting and habitat loss. (K. Gajapersad)



The Paca or Kurimau (*Cuniculus paca*) is a large caviomorph rodent of Neotropical rainforests that is highly prized for food across its vast range. They remain common in forested landscapes like the Kwamalasamutu region, where the human population density is relatively low. The Paca's diet includes fallen fruit, and they are important seed dispersers for many rainforest trees. (K. Gajapersad)



The Collared peccary (*Pecari tajacu*) is the smaller of the two species of peccaries in the Kwamalasamutu region, and is one of the preferred food animals for the Trio people. (K. Gajapersad)



The Black Curassow (*Crax alector*), known in Trio as ohko, is a large bird, found along rivers and in forests across most of the Guiana Shield. These birds spend most of their time on the ground, feeding on insects, fruits, and seeds. In the Kwamalasamutu Region they are hunted by the Trio, but this species remains plentiful away from human settlements. (K. Gajapersad)