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**GIANT OTTER PROJECT IN PERU - FIELD TRIP AND ACTIVITY
REPORT - 2000**

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Abstract: The extension of the Bahuaja Sonene National Park and the creation of the Tambopata National Reserve in 2000 are great steps forward in the conservation of the River Wolf. We argue for the inclusion of Lake Sandoval, the Palma Real river and parts of the Malinousqui river in the National Reserve. The establishment of four new Reserved Zones in Amazonia (8,300,00 hectares) offers great potential for conserving the species. INRENA requested a survey of the Gueppi Reserved Zone - no otters or sign were found but there were some nearby. Updates for the usual areas are presented. We gave advice to tourism companies in the area and designed a scheme for monitoring giant otters and tourism in Tres Chimbadas lake. We observed one of the families of giant otters in Palma Real raising a family, cooperated with the ichthyology department of the San Marcos Museum of Natural History in dietary studies, and began looking at the relationship between the giant otter and the neotropical otter that shares its habitat. Two volumes of the "Friends of the River Wolf" bulletin were issued in July and December, sent to about 130 scientists and other interested people. A pamphlet "Help protect the Forest Giant" was printed and 12,000 copies distributed to schools, companies and tourists in the Protected Areas.

INTRODUCTION

The giant otter (*Pteronura brasiliensis*), endemic to the rainforests and wetlands of South America, was upgraded from 'vulnerable' to 'endangered' by IUCN in 2000 and has been listed since 1973 under Appendix I (species threatened with extinction) of CITES. In 1990, the Frankfurt Zoological Society (Help for Threatened Wildlife -FZS) initiated the project "Status, habitat, behaviour and conservation of giant otters in Peru". The key objective of this Project is to increase knowledge and awareness of these unique animals and to develop a comprehensive plan for their conservation in Peru. The progress of the Project has been described continually in the IUCN Otter Specialist Group Bulletin (Schenck, 1999; Schenck and Staib, 1992, 1994, 1995a, 1995b; Schenck et al., 1997, 1999; Staib and Schenck 1994; Groenendijk et al., 2000). The following presents a summarised account of the key activities carried out during 2000.

Manu Biosphere Reserve population census

As a follow-up to the two surveys earned out in the Manu Biosphere Reserve in 1999 (see Groenendijk et al., 2000 for maps, and included activity area map), two censuses were carried out during May/June and September/October 2000. The timing, before and then several months after the birthing season, is crucial as it allows more complete data to be collected, particularly with respect to cub survivorship and solitary movements, than if only one census were to be carried out annually.

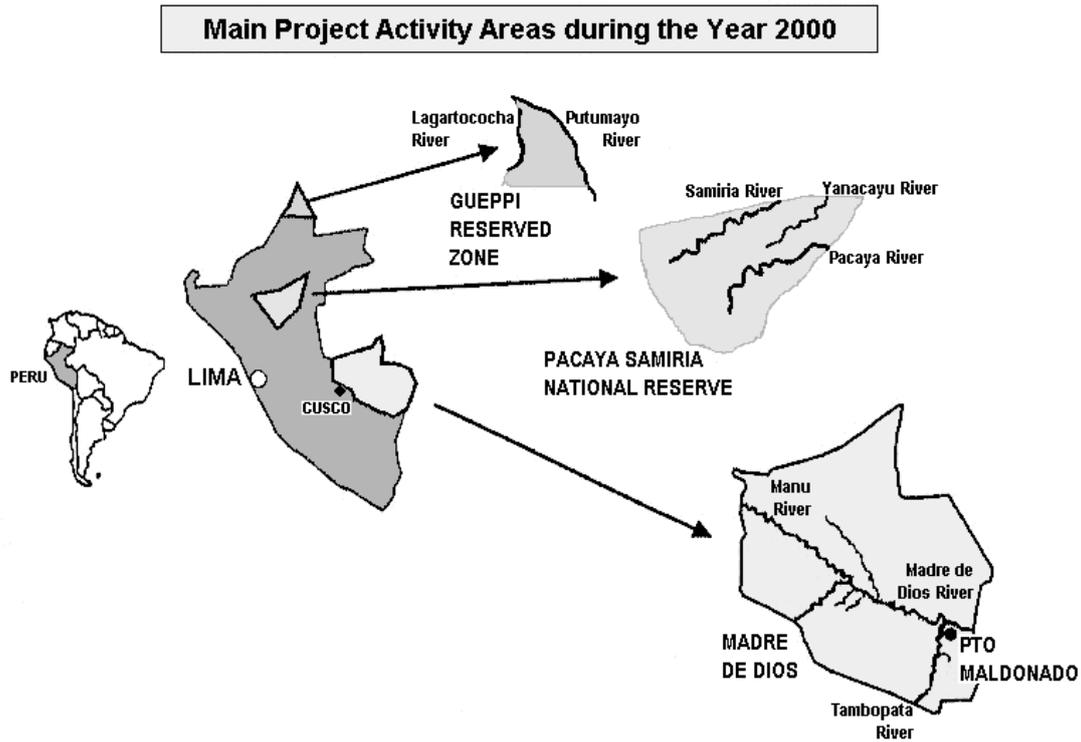


Figure 1: The study area.

The first survey in Manu was conducted between 26.05.00 and 19.06.00. We observed a total of at least 46 different giant otter individuals, of which four were solitaires. The remainders were members of 7 groups, which included at least 8 juveniles. The largest group numbered 9 animals and the average group size was 6. Only one individual was sighted on the Manu River itself. Total direct giant otter observation time was approximately 20 hours. The second census was earned out between 22.09.00 and 31.10.00, at the height of the dry season when most, if not all, cubs born during the year have left the den and are participating fully in group activities. In addition to the Pinquen River, a total of 23 lakes were investigated. We counted at least 66 different Giant otter individuals, of which at least 16 were juveniles, divided into 12 groups with two solitaires. The largest group numbered at least 9 individuals and average group size was 5.3. Two groups were encountered on the Manu River itself. On the Pinquen River, a pair was briefly sighted but not filmed. Total direct giant otter observation time was just over 68 hours. Emphasis was placed on giant otter observation in an effort to establish gender as far as possible.

When comparing the results of the two surveys, a number of key developments are noteworthy. An exciting find is Raya, born in Lake Cashu in 1995, now a member of the reproductive pair in Lake Lagarto. The group that formerly inhabited the Juarez/Garza area appears to have disintegrated; there have been no repeat sightings of the old female Hanni or of Barriga. However, a single remaining member, Daga, first seen in October 1999, has teamed up with an otter from Cashu, and the pair is currently known to inhabit the Juarez area. Surprisingly, the group in Lake Otorongo failed to produce or raise cubs in 2000. Isla continues in Otorongo, although perhaps not in a breeding position. An unusual situation had developed in Salvador since the last 1999 census; the group produced 4 new cubs in 2000 (one of which had died by the time of the second census) and 3 former group members (two adults and one juvenile) split off from the main group but were still frequenting the lake together. Two individuals of the group of 3 (both identified as females) were seen on the River Manu in the company of a male by September/October 2000, having defined a territory on the river in the vicinity of Salvador (as confirmed by the presence of several freshly used dens and campsites, see enclosed maps). This is the first time in the history of the Project that a group has established itself on the Manu River below Lake Maisal. It is important to note here that the breeding female otter in Salvador, identified as Salvadora in 1999 \ (see Project Report in OSGB 17(1) 2000), was in fact a different individual not previously encountered by the Project.

Towards the end of 1999, Ada Castillo, Head of Manu National Park, requested assistance from the project as regards management and monitoring of aquatic habitats in this protected area. The Project agreed to prepare the document "*Proposal for the Management of Aquatic Habitats in the Manu Biosphere Reserve, on the Basis of Indicator Species Monitoring*" which will summarise the management concepts of the Project and give specific management and monitoring guidelines for each known Giant otter habitat in Manu.

Mercury study

Gold mining, although no longer at its peak, is currently still a very important economic activity in the Madre de Dios province, employing tens of thousands of people. During 1999, samples of fish muscle tissue were collected from four oxbow lakes in order to investigate, on a long-term basis, the presence and levels of inorganic, methyl-, and total mercury arising from gold mining activities, in fish species that comprise the bulk of the Giant Otter's diet. The background of the study and the methodology are described in detail in the 1999 Project Report (Groenendijk et al., 2000). The mercury research was continued in 2000. A total of 94 fish tissue samples were collected, as well as 3 samples of fresh otter spraint. Analysis of these samples is currently undertaken at the Institute of Medical Chemistry, University of Veterinary Medicine, Vienna, Austria.

Small river research: Palma Real and Patuyacu

In Peru, very little is known about giant otter habitat use and population dynamics in small rivers (as compared to large rivers with associated oxbow lakes). Following a brief, preliminary survey in September 1998, a long-term research programme was initiated in 1999 into the ecology and distribution of Giant otters on small river systems. The selected study site is the Palma Real watershed, comprising the Palma Real River and its main tributary, the Patuyacu. The background of the study and descriptions of the area are detailed in the 1999 Project report (Groenendijk et al., 2000). On 4 September 2000, a Supreme Decree was signed that more than doubled the size of the Bahuaja-Sonene National Park (now 1,091,496 ha). A new National Reserve now encompasses the lower Palma Real and Lake Sandoval areas. The Project contributed justifications for the inclusion of these two areas in the National Reserve. Three separate surveys were carried out during the course of 2000, the first between 15 February and 4 March, the second between 20 and 29 April, and the third between 9 and 28 August (in the rainy season, at the end of the rainy season, and at the height of the dry season respectively).

During the first visit, giant otters were sighted on three occasions on the Palma Real River. Frustratingly, no neck markings could be filmed during any of the sightings. However, the clustering of observations, dens and campsites coincides with those of a group of 5 observed in September 1998; we believe therefore that the 1998, 1999 and 2000 sightings are of the same group with a permanent territory in this area. No Giant otters were observed during the second field trip, despite fresh signs on both the Palma Real as well as the Patuyacu. In our third survey we observed 3 giant otters on the Palma Real; these we observed again on our return. Two were filmed in such a way that it was possible to identify one as being 'Real', an otter first seen in the September 1998 survey. We found a group of 6 animals on the Patuyacu, including two young cubs. The latter were capable of swimming independently, though inexpertly, but were not yet able to periscope. We estimated their age to be about two months. One otter of the Patuyacu group was later identified as Cara, an individual we had also first seen in September 1998 as a member of a group of 5 on the Palma Real.

We made our first observations of giant otters eating, porpoising, sprainting and rearing cubs in the Palma Real watershed. Looking at the overall survey results for 2000, we can say with reasonable certainty that only one group currently inhabits the Palma Real, at least within the 50km stretch that we investigated during each field trip. The same holds true for the Patuyacu, with only one resident group apparent on this tributary. Furthermore, there are preliminary indications, in both the Palma Real as well as the Patuyacu, that seasonality does not influence the general locations of the home ranges (although it may affect their total lengths).

One of the major limitations of our approach thus far has been the considerable difficulty in filming neck markings, during what are usually very brief sightings. Travelling silently down-river with an inflatable boat proved to be the most effective way by which to encounter and observe giant otters in a more controlled manner, without causing instant panic. We frequently sighted neotropical otters or 'nutrias' (*Lontra longicaudis*) in the Palma Real watershed; all were single (not necessarily different)

individuals, except for one, which was carrying a cub in its mouth. During the third survey, we recorded 6 nutria dens and obtained GPS fixings for at least 35 different spraint sites on the Palma Real (77% of 26 spraints had been deposited on small beaches, sometimes per beach, usually in or near a small depression scratched in the sand; the remaining spraints were placed on logs in the river). We only began to record neotropical otter signs roughly midway through the trip, when we became intrigued by what appeared to be a marked overlap in giant and neotropical otter habitat use, to the extent of even visiting each other's dens and campsites. We collected a total of 13 nutria spraints for later diet analysis. In 2001, a more structured and concerted effort will be made to collect relevant data of both species.

Los Amigos river survey

The Los Amigos River, a white-water, meandering tributary of the Madre de Dios, was first investigated by the Project in November 1991, and again in April 1992 (Schenck, 1992). The Los Amigos runs more or less parallel to a large stretch of the Manu River and thus acts as a potential Buffer Zone to this protected area. On these occasions, two groups (one per trip) of 4 Giant otters each were seen, and a third group was heard. Both old and fresh dens and campsites were found, as well as tracks, in or near 7 oxbow lakes. The Project decided to visit the river again between the 9th and 20th of March 2000 in order to establish the current status of the giant otter population in the face of continued human activities.

A total of 221 km were traveled upriver and 30 oxbow lakes were explored, 16 of which were entered with the inflatable boat. Giant otters were twice sighted on the river, a solitary and a group of four. Of those lakes that were entered, 10 showed old and/or fresh signs of giant otter presence. On one lake we encountered a group of 4 giant otters; the reaction of the family indicated that they were very rarely, if ever, confronted by people and certainly had not been hunted. We identified two campsites on the river itself below the Amiguillo tributary, one fresh and one old. The campsite identified as being fresh had again been used when we passed on our return journey, just over a week later. We therefore believe that a third otter group has its territory in the vicinity.

Despite the presence of loggers, it appears that a stable, low-density giant otter population inhabits the Los Amigos River and its oxbow lakes. The fact that the river has reportedly been earmarked for the establishment of 'ecotourism' concessions would be preferable to the continued logging of this still pristine rainforest area, though it is unclear how this initiative is progressing.

Lago Sandoval - survey and management plan progress

Lake Sandoval was surveyed twice in 2000. On the first occasion, giant otters were not observed and there were no recent reported sightings. During the second visit, however, we observed a group of 4 giant otters on each of the four days. One individual was a cub, probably born during the first quarter of the year judging by its size and behaviour. The remaining animals were adult-sized and we were able to identify the breeding female by her elongated teats.

The Lake Sandoval otter group has had low reproductive success in the last three years, producing only 2 litters (1999 and 2000) in the rainy season. In each litter, only one cub reached an estimated 4-6 months of age (when sighted by the Project). Due to this low reproductive success and other factors, such as the dispersal of individuals reaching sexual maturity, the group has reduced in size from 11 members in 1997 to 4 members in 2000.

Lake Sandoval's popularity as a destination for tourism and school children from Puerto Maldonado continues to increase, as does the competition between tourism companies for access to the lake. Legal and social problems between Sandoval Lake Lodge and the tourism operators also remain unresolved. The necessity for implementing a management plan for the lake therefore continues to be urgent. To this end, a final version of the Sandoval lake management plan (first outlined in OSG Bulletin 16 (1) 1999), resulting from 3 work meetings held during the course of 2000 with the Bahuaja Sonene Headquarters and tourism company representatives, was presented to authorities in Lima and Puerto Maldonado. The design of the Interpretation and Control Centre proposed in this plan has already been completed, with construction aimed to begin during 2001.

Tres Chimbadas survey and management

Tres Chimbadas is a 46-hectare oxbow lake situated on the left margin of the Tambopata River, approximately 2 hours upriver by boat from Puerto Maldonado, and then half an hour's walk from the river inland. Only one tourism company currently operates on the lake, namely Rainforest Expeditions, which co-runs the nearby Posada Amazonas Lodge, together with the Ese'ejá native community of Infierno. Roughly 3,000 tourists entered the lake during the year 2000, approximately the same number that visited the whole of the Manu Reserved Zone within the same period. It is expected that numbers of tourists visiting the lodge, and hence the lake, will continue to increase at a rate of 20% per year (Herrera, 2000). Other tourism companies may wish to visit the lake in the future and may even build lodges in its vicinity. Freelance guides also bring groups to the lake, about twice a month, and a number of schools and institutes periodically visit in groups of about 40 people. In addition to the high number of visitors from outside, members of the local community fish on the lake. Although, according to Herrera (2000), cattle ranching is no longer a major activity in the area, there may be other threats of which we are personally not yet aware.

Tres Chimbadas was visited by the Project on two occasions in 1990 and 1991, when 4 and 0 giant otters were encountered respectively, and most recently on the 16th and 17th of April 2000, when we observed a family of 8 individuals, as well as 1 solitary. Taking the aforementioned actual and potential threats into consideration, along with the fact that Tres Chimbadas is otherwise an excellent habitat for giant otters and a stepping-stone for giant otter populations in neighbouring watersheds, the Project decided to advance a comprehensive, dynamic management plan for the lake. 'Rainforest Expeditions' was advised as to which measures, proposed by the Project over the years, could be adopted with immediate effect to protect the resident otter family. In addition, we assisted in the design of a monitoring questionnaire to be completed on every occasion that guides took tourists to the lake. Analysis of the data collected during 2000 suggests that the measures currently adopted are adequate under the given conditions. However, there is concern on the part of the Project that with more tourists, more visits to the lake, and perhaps more tourism companies operating in the area in the future, pressure on the otter group will increase greatly.

Gueppi Reserved Zone survey

The project was requested by INRENA to establish whether giant otters are present in the recently created Gueppi Reserved Zone (1997), a region of 626,000 hectares situated at the northern tip of Peru, near the border with Ecuador. This is a lowland forest area, linked by the Aguarico River to the Cuyabeno Faunistic Reserve and Yasuni National Park in Ecuador. With the eventual Project objective of developing a national giant otter distribution map in mind, as well as supporting INRENA's initiatives for justifying permanent protected status for the area, it was decided to conduct a survey in the area.

The Lagartococha forms the border between Peru and Ecuador. It is a blackwater river, the lower section of which flows through a wetland of more than 30 lakes. We investigated 16 lakes, as well as the river, but found no evidence to indicate that giant otters inhabited the area. However, a native communities representative told us that he had seen giant otter campsites two years ago on an unprotected tributary of the Napo called Aoshiri. When we visited the area, we found very fresh dens and campsites half way through the second day on the main river. Twice we noted giant otter tracks on the riverbank; they were so fresh, water had not yet drained into the clay soil. Unfortunately, we could not avoid scaring the group with the sound of our engine, so we did not manage to see it.

In conclusion, we suspect that the River Lagartococha is not currently inhabited by giant otters, and probably has not been for as much as a decade or more. Victor Utreras confirmed that giant otters are absent on the Ecuadorian side as well (pers. comm.). We believe that hunting, intensive commercial fishing (in former years) and the constant presence of army personnel along the course of the river, created intolerable pressures on the local giant otter population. However, given the recently established protected status of the Gueppi Reserved Zone, the lack of surveys on the Gueppi River itself and the River Angusilla (also within the Reserved Zone), and our confirmation of the presence of giant otters on Quebrada Aoshiri, it is reasonable to hope that, in the long-term, this region may be recolonised by the species if given the opportunity.

Several mornings were spent at the Quistococha zoo in Iquitos, where they hold 3 adult female giant otters and a recently acquired male cub, which had been confiscated by local authorities; unfortunately,

it was not clear where he had come from. Another young male otter was also recently donated to the zoo. It is worrying that cubs continue to be taken illegally from the wild to be kept as pets, and we feel that this reflects a general lack of awareness in northern Peru, not only of the giant otter's protected status, but also of its biology and behavioural ecology. A concerted, long-term effort towards increasing understanding of the need to help giant otters in this region should be initiated.

Pacaya Samiria National Reserve Giant otter Project

Sandra Isola carried out the second field period of the project 'Determination of the Distribution and Abundance of the giant otter in the Pacaya Samiria National Reserve' between May and August 2000 in the Samiria river basin, following an unusually prolonged rainy season (Groenendijk et al., 2000). Only old indirect signs of giant otter presence were found, although there were unconfirmed reports of sightings by park guards and loggers. The main threats identified were logging, illegal tourism, and conflicts with fishermen. Since there are indications that the Samiria river-basin is inhabited by the species, it is recommended to undertake an evaluation of this zone during the height of the dry season when giant otters are more restricted.

Promotion

In July 2000, the first issue of the 'Friends of the giant otter' (Groenendijk, 2000) bulletin was launched. Two have been produced so far, the second in December 2000. The purpose of the newsletter is to bring together all those who are involved with, or interested in, giant otter conservation, to act as a networking tool with which to increase communication and cooperation. It was first intended only for Peruvian 'friends', but the bulletin is increasingly being sent further abroad, particularly to other South American countries. A growing number of about 100 people receive the Spanish version and about 25 people receive the English copy by e-mail. If you wish to be added to the list, please contact Jessica Groenendijk.

During May 2000, a German film crew representing the TV channel Bayerischer Rundfunk visited Manu with the aim of filming a documentary on giant otters and their conservation. Excellent footage of natural giant otter behaviour was obtained in Lake Salvador, and key activities of the Project were also filmed. It is hoped that, when the documentary is eventually aired in Germany, it will help to increase awareness of the plight of this umbrella and flagship species. Initial efforts have also been made to release a Spanish version of this film on Peruvian TV. Also during the year, the BBC completed the filming of a documentary focusing on giant otter/black caiman (*Melanosuchus niger*) interactions on Lake Salvador.

The construction of a Project education and promotion website was initiated during 2000 and the site is nearly complete for launching. It will be hosted at: www.giantotters.com but will also eventually be accessible via www.loboderio.com as the Spanish-speaking community is an important audience for the site. Finally, 15,000 copies of a Project leaflet 'Help Protect the Jungle Giant - Giant Otters, A Unique and Endangered Mammal' were produced in September to aid tourists and local people in getting to know the giant otter, and to initiate appropriate behaviour when visiting areas inhabited by the species.

ACKNOWLEDGEMENTS - We would like to thank the Frankfurt Zoological Society-Help for Threatened Wildlife (FZS) for their financial support. The project in Pacaya Samiria received additional collaboration from the World Wildlife Fund and the Conservation Data Centre at La Molina University. We are grateful to INRENA, especially the staff and gamewarden of the Manu Biosphere Reserve, the Bahuaja-Sonene National Park, the Pacaya Samiria National Reserve and the Gueppi Reserved Zone for their co-operation. Sincere thanks are also due to the San Marcos Natural History Museum, the Peruvian NGO Pro Naturaleza and our Peruvian field assistants.

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Résumé : Projet Loutre Géante au Pérou - Expedition et Rapport d'Active - 2000

La loutre géante (*Pteronura brasiliensis*), espèce endémique des forêts tropicales et zones humides d'Amérique du Sud, a vu son classement IUCN remonter de 'vulnérable' à 'en danger' en 2000, et figure depuis 1973 à l'annexe 1 de la CITES (espèce menacée d'extinction). En 1990, le projet intitulé "Statut, habitat, comportement et protection des loutres géantes au Pérou" a été initié par la Société Zoologique de Francfort - Aide en faveur de la faune menacée (FZS). L'objectif de base de ce projet consiste à développer les connaissances et la sensibilisation à ces animaux si particuliers, et mettre en oeuvre un plan global pour leur protection au Pérou. L'état d'avancement de ce projet a été régulièrement détaillé dans les bulletins du Groupe d'Experts de la Loutre de l'IUCN (Schenck and Staib 1992, 1994, 1995; Schenck, Staib, Storch 1997; Schenck, Groenendijk, Hajek 1999; Groenendijk, Hajek, Isola, Schenck, 2000). Ensuite, un compte-rendu synthétique des actions-clés menées en 2000 est présenté.

Resumen: Informe Anual del Proyecto de Conservación de la Nutria Gigante en Peru

La ampliación del Parque Nacional Bahuaja Sonene y la creación de la Reserva Nacional Tambopata son grandes pasos tomados durante el año 2000 hacia la conservación del Lobo de Río: el Proyecto presentó justificaciones a la Jefatura de dicha área para la inclusión del Lago Sandoval, el río Palma Real y partes del río Malinousqui a la Reserva Nacional. La declaración de cuatro nuevas Zonas Reservadas en la Amazonía durante este año, sumando más de 8,300,00 hectáreas, ofrece un gran potencial de oportunidades para la conservación de la especie.

Durante el 2000, el censo de Lobos de Río en la Reserva de Biosfera del Manu dio como resultado 66 individuos. Se filmaron un total de 26 nuevas manchas; 11 de estas eran de las 16 crías nacidas durante el año. El número total de manchas para la población del Manu desde el censo de 1999 es de 79. La presencia de nutrias gigantes también fue confirmada en las quebradas Condeja y Yanayacu, dos pequeños afluentes del río Alto Madre de Dios.

La colaboración del Proyecto con el Instituto Nacional de Recursos Naturales - INRENA - fue avanzada al redactar un primer borrador de la "Propuesta para un plan de Manejo de Habitats Acuáticos de la Reserva de Biosfera del Manu, en base a monitoreo de especies indicadoras", con el continuo trabajo hacia la implementación del Plan de Manejo del Lago Sandoval, con avances hacia una estrategia nacional para la conservación *in situ* de la especie (INRENA 1999) y un viaje de reconocimiento, a solicitud de INRENA, a la Zona Reservada Gueppi. En el Gueppi no se observaron nutrias gigantes ni signos indirectos de presencia, sin embargo se identificó una familia en el cercano río Aoshiri. El hecho de que muy pocas personas con las cuales hablamos han visto o conocían el lobo de río, en un trayecto de más de 1500 kilómetros de la cuenca del Napo, demuestra el estado vulnerable de la especie y la urgencia de incentivar investigación y educación en el norte del Perú.

El Proyecto también realizó monitoreos en el río Amigos y los lagos Valencia, Sandoval y Tres Chimbadas para actualizar datos poblacionales. Se aconsejó a empresas turísticas hacia un manejo del Lago Tres Chimbadas y se ayudó a diseñar una actividad de monitoreo de nutrias gigantes y turismo en dicho lugar. Se pudo también avanzar significativamente en las investigaciones en el río Palma Real. Gracias a una mayor permanencia en el campo se pudo llegar a tener observaciones de alimentación, conducta y crianza de una camada de cachoirs de uno de los dos grupos de nutrias gigantes identificadas en el área. Se trabajó en cooperación con el departamento de ictiología del Museo de Historia Natural de San Marcos en la determinación de la dieta. Se empezó a investigar relaciones con la nutria neotropical que comparte el habitat con el lobo de río en esta zona.

Dos tomos del boletín "Amigos del Lobo de Río" se produjeron en julio y diciembre, los cuales fueron distribuidos a unos 130 científicos, estudiantes e interesados. Se produjo un folleto informativo "Ayuda a proteger el gigante de la selva" y se distribuyeron 12,000 copias a Áreas Protegidas, compañías turísticas y colegios. En varias ocasiones se participó en eventos para la promoción de investigación y conservación de esta especie.