

## TECHNICAL PAPER SERIES

### Preparation of a handbook for management of yellow-spotted river turtle (*Podocnemis unifilis*) in wildness, outside and within the Natural Protected Areas

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**SUMMARY:** The experience in the management of the species *Podocnemis unifilis* in the Peruvian Amazon, with its innumerable stages of advances and setbacks, became a case of successful methodological applications in the management and recovery of a species population for the sustainable use in the Amazon. In this sense, in 2007 the first export of *Podocnemis unifilis* was achieved from a protected natural area – Pacaya Samiria National Reserve (RNPS); however, since 2001, there were already exports from captive breeding centers. Until 2018, the export of the species exceeded eight million dollars, whose main destination was the Asian market with more than 97% of sales<sup>1</sup>. The diagnosis conducted for the handbook preparation led to identify the need to improve management practices in wildness, ensuring the well-being of managed specimens.

Key words: *Podocnemis unifilis*; sustainable management; handbook.

#### Background

PEKKA SOINI, in the 70s, the first experiences with aquatic chelonians began in the Peruvian Amazon. The work consisted on the transfer of nests in order to reduce mortality rates due to predation and looting, developing other management activities that, until now, have ensured the recovery and survival of the species, mainly in the RNPS (VÁSQUEZ, 2016).

At the beginning of the 90s, the organized local communities of the Pacaya Samiria National Reserve became involved in the resources conservation programs, using as strategy control and surveillance sharing with local management groups and community guards, enabling access to resources in an orderly manner and

under management plans as retribution (VÁSQUEZ, 2014; 2015; 2016).



Yellow-spotted river turtle (*Podocnemis unifilis*). Photos Joao Freitas Cordova.

In 1998, a handbook for the management of aquatic chelonians in the Peruvian Amazon (South American river turtle, yellow-spotted river turtle and

<sup>1</sup> Freitas & Vásquez, 2018.

Six-tubercled Amazon river turtle), authored by Pekka Soini, was published supported by the Peruvian Amazon Research Institute (IIAP for its acronym in Spanish). Even with incomplete information, this handbook laid the foundations for what is known nowadays as one of the most successful cases of management and recovery for the exploitation of wildlife. This handbook was republished in 1999. The yellow-spotted river turtle (*Podocnemis unifilis*), the South American river turtle (*Podocnemis expansa*) and the Six-tubercled Amazon river turtle (*Podocnemis sextuberculata*), historically experienced population reductions, mainly due to the growing and uncontrolled exploitation of their individuals and eggs for commercial purposes; this situation is still being experienced by the South American river turtle (SOINI, 1999).

In June 1979, within the framework of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the inclusion in Appendix II of the yellow-spotted River Turtle was approved through the taxon *Podocnemis spp.* Consequently, as a State Party to the Convention, Peru adopted measures to guarantee the sustainable management and use of the species, ensuring that trade does not affect their long-term conservation and survival.

To date, various reports have been issued for management experiences in the Peruvian Amazon, both in protected natural areas and in indigenous communities' territories. These advances have allowed yellow-spotted river turtle to be the second wildlife resource reporting the highest value of

its exports, surpassed only by vicuña fiber.



Yellow-spotted river turtle (*Podocnemis unifilis*). Photos Joao Freitas Cordova.

### Goal fulfilment

The preparation of this handbook covers the need to guide the administrations and competent authorities for the management of the species *Podocnemis unifilis* "yellow-spotted river turtle", including technical aspects to ensure the traceability and well-being of the specimens to its trade, at the request of SERFOR and with the support of the BIOAMAZON - ACTO Project, which will allow to identify the need of improving management practices in wildness and ensuring the well-being of managed specimens and their traceability. The handbook is based on:

- 1) Technical and scientific information related to the *Podocnemis unifilis* "yellow-spotted river turtle" species and the wildlife management plan (facilities, feeding, sanitary management, biosecurity, records management, conservation program, and reproductive management);

2) Identification and traceability system from egg-laying, birth and trade, records and use of cards to determine reproductive success and mortality rate from egg-laying to trade, release process; and

3) Identification of the stakeholders involved in this value chain, in order to ensure traceability, from brood to export, transport and maintenance of hatchlings in tanks to export, verifications by the regional forest and wildlife authority, and documentation required for export.

### **Key Stakeholder Mapping - KSM**

The analysis from the perspective of the stakeholders, as well as the view on how they are linked, related and developed in a given context through the use of diagrams to represent social reality, allows us to understand it in its most complex extension, and establish changing strategies to this reality (GUTIÉRREZ, 2007).

Although each management context (outside and within the Protected Natural Areas – PNA) has its own characteristics in terms of stakeholders' interaction, the panorama is similar in terms of conflicts, the main ones being the lack of financing of management groups and management associations, the lack of business training, illegal extraction, licensing, and post-export information gaps, as the most critical and more harmful to management.

On the other hand, the conflicts that have been managed to date indicate that stakeholder's interests are aligned with the good management of the yellow-

spotted river turtle, so it is important to focus on this great advantage and sustain it.

From the previous mapping, a total of seventy-five stakeholders were identified among public and private institutions, academia, enablers, and the illegal party such as illegal extractors. However, this number should be considered with caution, since the information available does not cover all civil organizations involved in the management of yellow-spotted river turtle, nor is there enough data on the number of enabling companies or of illegal extractors.

### **Recommendations for improvement and good management practices of communities outside of Protected Natural Areas**

- Consider the reactivation of management activities developed by the communities settled outside the ANPs, previously confirming their desire to continue with the management to trade more eggs than hatchlings, as compensation for the low prices they receive for the yellow-spotted river turtle hatchlings. It should be accompanied by the strengthening of capacities of members of management associations and allies in communities such as schools. In addition, it is necessary to provide technical support for an adequate financial management of the associations, together with the possibility of financial support to improve the activity.

### **Mortality rate throughout the management process: from the eggs**

**to the moment prior to export** - Review the administrative processes in the Loreto Region, since weak procedures were detected at this stage in terms of their application, which raises many questions regarding real mortality versus reported mortality; and seek alternatives for improvement, with an emphasis on real and continuous inspection, in addition, it is proposed to give priority to ocular inspections that should be monitored by a representative of the CITES Management Authority. This will help to improve and strengthen control channels with a view to combating wildlife trafficking and, therefore, to know the real incidence of mortality in all stages of transportation and trade.



*Yellow-spotted river turtle eggs. Photo Joao Freitas Cordova.*

**Capacity building** - Prepare a capacity building plan for the communities outside the ANPs and management groups within the ANPs in order to regain the interest of the beneficiaries and maintain the activity over time. It is also important to update the

management plans in force until the end of 2020. In the case of the Marañon River and Abanico del Pastaza communities, this initiative should seek the independence of the communities and the management groups towards the exporting traders, allowing to obtain better prices for yellow-spotted river turtle hatchlings, which are their harvest products.

***Establishment of a new traceability system for Podocnemis unifilis offspring***

- Throughout the investigations carried out during this consultancy, and the previous one, different critical points were detected in traceability to determine the reported mortality versus the real one. Therefore, a lot of information is being lost on the subsequent stages of in situ management, which sets up an urgent need to establish new systems in the chain of custody of the offspring. In addition, it should be kept in mind that wildlife trafficking is a real and latent threat in this type of activity, so this recommendation should be prioritized, and the control and oversight capacities of the regional authority should be strengthened where weak handling of the information and the lack of capacities in the inspection is detected. With this change it will be possible to collect real information on the activity and make the appropriate decisions, with the aim of improving the activity and favor the direct beneficiaries.

***Strengthening capacities in the handling and information processing of the management in question***

- One of the common problems found in the



different management areas is information management due to the lack of uniformity in data collection, much less a standardized table for a later comparison of the information generated between these areas. Although it is understandable that each management zone has its own characteristics and inherent to the human groups that comprise it, there must be coordination between them and a single criterion for all the initiatives that are being implemented and future ones, since the lack of standard methods makes it difficult to analyze the activity at a macro level, perhaps leading to poor decision-making about the activity. This could be overcome with the standardization of data collection criteria through capacity building.

***Establishment of a consolidated database on the management of Podocnemis unifilis from outside and within ANPs*** - In accordance with the previous recommendation, information handling is a priority to adequately guide decisions on species and wildlife management in Peru. Under the premise of 'good inputs for good results' it is pertinent to recognize the urgency of consolidating the information generated on the management of the species, with standard methodologies in data collection. The search for public and private partners is essential, improving what has been advanced so far, which will serve as a starting point for the management of other resources, whose potential is already recognized and, with the experience acquired so far, important advances can be made on the resources.



Yellow-spotted river turtle (*Podocnemis unifilis*). Photos Joao Freitas Cordova.

***Capacity building for management groups and communities whose management mortality rates were the highest in recent years*** - The little experience in managing the species is often reflected in figures such as mortality rates, hatching success, hatchlings born, etc., in addition to mortality due to transport which could occur in all transportation phases, as mentioned before. Accordingly, it is important to consider the need for capacity building in management, sharing the great experience in other areas, allowing for activities improvement in areas where higher mortality figures are perceived in the different phases.

### **Conclusions and recommendations**

Each management context (outside and within the PNA) has its own characteristics in terms of stakeholders' interaction, the panorama is similar in terms of conflicts, were the lack of financing of management groups and management associations stand out, along with the lack of business training, illegal extraction, licensing and post-export information gaps, which are the

most critical and harmful to management. From the previous mapping, a total of seventy-five actors were identified. However, this number should be read with caution, since the information available does not cover all civil organizations involved in the management of yellow-spotted river turtle, nor is there sufficient data on the number of enabling companies or on the number of illegal extractors.

The verifications conducted by the authorities are orderly and well-typified processes in the texts of administrative procedures (TUPA) of each institution. However, the application of these procedures should be reviewed in detail since information on the real mortality is being lost throughout the process from the moment after the hatchlings stage to the previous deposits for export, both inside and outside of ANPs.

The documentation required for export is obtained through an orderly and easily compliant process for the promotion of international trade, based on documents issued by the regional authority and the CITES administrative authority. However, weaknesses and deficiencies were detected in the application of the procedures by the regional authority, mainly in the supervision and granting of transport guides, as well as in the control and supervision in the warehouses, since there was no official information on mortality. It may be concluded that there are still points that require institutional strengthening.

The recommendations issued for improvement and good management practices were made taking into consideration all the aspects detected throughout this consultancy, so they relevant and require the appropriate

level of priority to start the implementation and compliance process, which, although it may mean changes at the regional level, these will be made to seek the improvement of the activity, to combat the trafficking of wildlife and avoid loss of information in the management and trade process of *Podocnemis unifilis* hatchlings.

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