

FINAL TECHNICAL REPORT

BRAZILIAN MERGANSER (*Mergus octosetaceus*): ENVIRONMENTAL EDUCATION FOR THE CONSERVATION OF A CRITICALLY ENDANGERED SPECIES

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INTRODUCTION

The Brazilian Merganser, *Mergus octosetaceus* is a critically endangered species (IUCN 2004) and one of the ten most threatened waterfowl in the world (Collar *et al.* 1992, Wege & Long 1995). The distribution of *Mergus octosetaceus* is characterized as extremely disjunctive, with the populations occurring hundreds of kilometers apart. The Brazilian Merganser population in the Serra da Canastra region is the most significant and best well-known.

The Brazilian Merganser occurs in low densities on clean rivers and streams, interspersed with rapids, flowing through subtropical forest and cerrado with gallery forest in remote and mountainous regions (Partridge 1956, Bartmann 1988). Recognized as a resident species that does not abandon the watercourses where it establishes its territory, the Brazilian Merganser feeds on fish and aquatic invertebrates, which it captures by diving in river rapids and backwater (Silveira & Bartmann 2001).

Extremely sensitive to habitat degradation and loss, its major threats are silting-up of river water, caused by the expansion of farming activities, mining, watershed degradation and soil erosion, as well as deforestation. The installation of hydroelectric plants is another important threat faced by the Brazilian Merganser since it transforms lotic systems (e.g., creeks, rivers, streams) on which these bird depend on, into lentic systems (lakes), strongly contributing to its disappearance.

Traditional farming is the main means of survival in the Serra da Canastra region. Unfortunately, current traditional soil management and use practices in the region may bring about serious implications regarding conservation of natural resources, especially water, on which the Brazilian Mergansers and the farmers themselves are dependent on. One of such practices is the indiscriminate use of slash-and-burn. Extensive and uncontrollable burnings are common in the region, causing serious environmental damages to natural vegetation and soils, besides representing a serious threat to the integrity of the regional biota.

The scenic beauty of Serra da Canastra National Park and its surroundings has turned it into an important ecotourism landmark. Tourists are attracted by its abundance of clear water and innumerable waterfalls (to date, over 150 waterfalls have been recorded) ideal for the practice of sports such as canoeing, rafting, rapel, etc. Such sport activities, indiscriminately practiced, and the installation of innumerable tourism facilities built on the margin of the rivers, (camping, barbecue facilities, swimming pools, etc) may constitute serious threats to the maintenance of the Brazilian Merganser population, disturbing its area of use and breeding and destroying its habitat due to water course pollution and deforestation.

The Brazilian Merganser is attractive, charismatic and instigates curiosity. Its presence in the region enhances the local environment making it easier to retrieve sustainable practices, stimulating discussion and actions leading to the recovery of degraded areas and conservation of water resources. Thus, besides attracting attention

because of its beauty and rarity, the Brazilian Merganser stimulates the use of different approaches to environmental issues (water quality, fauna and flora conservation, environmental degradation, etc.), being a flagship species for the promotion of quality and conservation of water and, consequently, of biodiversity and the entire regional ecosystem.

Within this context, the local community, especially the rural community, can play an outstanding role both in protecting the Brazilian Merganser, since such birds live near their homes, and in conserving the natural resources, which they use and are dependent on. If the local community is to play an effective role, it must be duly informed and made aware of its responsibilities.

This project aimed to improve the knowledge on the occurrence and distribution of the Brazilian Merganser in the Serra da Canastra region to support the establishment of adequate measures for conservation of the species and make the community aware of the importance of natural resource conservation, not only to maintain the economic activities and tourism attractions in the region, but also to protect biodiversity, including rare and threatened species.

METHODOLOGY

Seeking to mobilize and make the local community aware of the need to conserve the Brazilian Merganser and the biodiversity in the Serra da Canastra region, a campaign called “Wanted Alive” is being carried out, involving not only the community but visitors as well, who are invited to effectively contribute for the protection of this species. The campaign involved the printing and distribution of a leaflet addressing the rural and urban communities living around the Serra da Canastra National Park.

The leaflet provides information on the place of occurrence of the Brazilian Merganser, its habitat requirements and behavior, as well as major threats faced by the species. Photos and a schematic drawing of the species are shown, aiming at disseminating its image and at the same time allowing its identification in the field. The environment where the Brazilian Merganser lives is also illustrated in the leaflet.

The leaflet was a fundamental strategy to implement the actions of recognition of new areas used by the Brazilian Merganser, through the so-called Wanted Alive campaign. Besides including information and picture of the species, the leaflet had a questionnaire section where the local population was invited to answer to contribute to the conservation of the Brazilian Merganser. The participation of the community was effected through information provided on records of the species in the field.

The questionnaire form is simple and easy to fill, with direct and specific questions, such as number of individuals, size of young, place and time of observation, species behavior, and observer data.

The leaflet was distributed in the municipalities of São Roque de Minas, Vargem Bonita, São João Batista do Glória and Delfinópolis, surrounding Serra da Canastra National Park. It was distributed especially in lodges, schools, restaurants, farm associations, tourism and ecotourism agencies, banks etc., places where there is a constant flow of people, seeking to obtain a wide dissemination of the information released. Those living in the rural zone also received the leaflet.

In case the person had made some record of the Brazilian Merganser, he/she was requested to deposit the detachable form in a special box – placed at strategic places, such

as stores, Serra da Canastra Park entrance, inns, schools, etc. Several leaflets were left at crowded places to be filled out by all those interested.

The detachable forms are being periodically collected by the Terra Brasilis team work. Field campaigns were planned to assess the information obtained, seeking to confirm the occurrence of the Brazilian Merganser in the localities cited in the forms or orally by the local residents during the distribution of the questionnaires.

RESULTS AND DISCUSSION

The material distributed to the local community allowed exchanging of information, making it easy to them to become involved in the project actions. During the distribution of the material it was possible to gather important data on the Brazilian Merganser from the reports of the persons living in the region, besides being an excellent opportunity to increase the contact with the local population, establishing a greater exchange of information on the species and its conservation, as well as on other aspects related to natural resource conservation in the region. The material distributed to the local community included the leaflet produced by the present project and a calendar produced with the support of the Boticário Foundation.

Based on the reports and information obtained, the distributed material was confirmed to be a tool of great power in disseminating the image and occurrence of the Brazilian Merganser in the region. It should be emphasized that besides the people living in the region, visitors are also supplying valuable information on the Brazilian Merganser distribution.

To date, a total of 111 information on the Brazilian Merganser sightings have been received. Around 30% (33) of this information was from forms filled and deposited in the boxes distributed in the region, but most information (70%) was obtained from statements by community members during material distribution, form collection, or species surveys in the field.

Of the total of information obtained, approximately 35 were misidentifications. Brazilian Cormorant is the species most commonly confounded with the Brazilian Merganser, since it is also a fish-eating species, similar in appearance to the Brazilian Merganser and locally known with a similar name. However, unlike the Brazilian Merganser, Brazilian Cormorant is frequently observed in large groups in the region reservoirs.

A total of 52 pieces of information is related to watercourses where the presence of *M. octocetaceus* had been confirmed previously. Innumerable records were made on duck pairs on São Francisco River (high and low parts of Casca D'Anta waterfall), one of the stretches more favorable for observation of the Brazilian Merganser, due to easy of access by local inhabitants and tourists. In the low part, where the occurrence of at least 3 territories is known, the road is along the river, so river stretches, and eventually, Mergansers, can be seen from inside the car. This is one of the most-sought itineraries by tourists visiting the park. Similarly, the high part, where the occurrence of at least, a pair has been confirmed, is one of the places most visited by the tourists and one of the few allowed in the park for river bathing.

A total de 26 watercourses were cited in the forms filled and information provided by the locals and tourists, as places of Merganser occurrence in the region. Of this total, the

presence of this species in 13 watercourses had already been confirmed in previous studies. However, such information allows monitoring such individuals, e.g., permanence on the watercourse at different periods.

Based on the information provided by the local residents, the presence of the Brazilian Merganser could be confirmed in two watercourses during the period of development of the project.

In the other 11 watercourses mentioned in the forms, the presence of the Brazilian Merganser has not been confirmed yet. However, the likelihood of occurrence of this species is considered high, given the quality of the information supplied, and/or the existence of very favorable environmental characteristics. All these pieces of information are still being confirmed in the field.

In addition to the information on the occurrence of the Brazilian Merganser, various reports on its little known or curious behavior were obtained. Several local residents stated that the Merganser is seen on the streams flowing through their properties only during the rainy season. Silveira & Bartmann (2001) and Lamas (in press) claim that the higher watercourses in the drainages must serve as shelter for the Brazilian Mergansers during the rainy season, when flooding makes the rivers dirtier, leading to dislocation of individuals to higher and less turbid watershed streams. However, this situation has not been duly confirmed in the field and the local residents who observed such behavior agree with such hypothesis. This information will be checked the next raining season.

Another piece of information, unconfirmed by the local residents, is the use of small dams and lagoons next to the rivers by this species. It has been stated that the Brazilian Merganser uses these lagoons to feed, since in some places the rivers have little fish. It is been suggested that the Brazilian Merganser is not restricted to running water sites such as rivers, and that the species may, sporadically, make use of other places, mainly for feeding purposes. Such information also needs to be confirmed in the field since the species may have been misidentified.

Field investigation, material distribution and collection are an excellent way of contacting and exchanging information with the local community. Assessment of the information obtained, confirmation of facts and behavior reported by the local community show the importance these persons have in promoting the conservation of the Brazilian Merganser.

The boxes for collecting the information sheets are spread in the region, and the forms are still being distributed. Thus, much more information is likely to be obtained and considered for new analyses.

As part of the activities of the Brazilian Merganser Conservation Program of the Terra Brasilis Institute, a series of lectures were done at the schools of the region to divulge the region's natural resources, the occurrence of the Brazilian Merganser, as well as showing the species as an indicator of water quality. As a consequence, the Brazilian Merganser have become a flagship species for the local ecosystem conservation, specially for the conservation of the water resources.

This project has successfully contributed to promote the local community's knowledge on the occurrence, status, conservation and characteristics of the Brazilian Merganser. Nowadays, in the Serra da Canastra region, the Brazilian Merganser is undoubtedly recognized by the majority of the local population as a locally-occurring species, with special attention to the fact that it is an endangered species and indicator of

environmental quality. The success of the leaflet as an instrument of awareness and dissemination was so evident that a reprint has been recommended.

The results obtained on Merganser conservation were highly significant to the gathering of relevant data on the distribution and behavior of the species in the region. The information allowed confirming its presence in at least two new watercourses where the species had not been recorded yet, and much available information on the occurrence of the species is to be confirmed in the field, which will allow increased knowledge on its distribution in the region. The information obtained on previously detected pairs, about whom no record had been available for a long time, was also very important, that will lead to the monitoring of the species in the region.

Besides, the information network created through community participation will allow increased knowledge on the Brazilian Merganser in the region, resulting in the proposition of adequate measures and strategies for the conservation of the species.

References:

- Bartmann, W. 1988. New observations on the Brazilian Merganser. *Wildfowl* 39:7-14.
- Collar, N.J., L.P.Gonzaga, N. Krabbe, A. Madroño Nieto, L.G. Naranjo, T.A. Parker & D.C. Wege. 1992. *Threatened birds of the Americas: The ICBP/IUCN Red Data Book*. Cambridge, UK: International Council for Bird Preservation.
- IUCN. 2004. *2004 IUCN Red List of Threatened Species*. Gland, Suíça and Cambridge, UK, IUCN.
- Lamas, I.R. in press. Census of Brazilian Merganser *Mergus octosetaceus* in the region of Serra da Canastra National Park, Brazil, with discussion of its threats and conservation. Bird Conservation International.
- Partridge, W.H. 1956. Notes on the Brazilian Merganser in Argentina. *Auk* 73: 473-488.
- Silveira, L.F. & W. Bartmann. 2001. Natural history and conservation of the Brazilian Merganser *Mergus octosetaceus* at Serra da Canastra National Park, Minas Gerais, Brazil. *Bird Conservation International* 11: 287-300.
- Wege, D.C. & A.J. Long. 1995. *Key areas for threatened birds in the Neotropics*. Cambridge, UK: BirdLife International (BirdLife Conservation Series 5).

QUESTIONNAIRE FORM

You also can help to protect the Brazilian Merganser!

For the protection of the Brazilian Merganser, it is very important to know where it lives. As the Brazilian Merganser is extremely shy and very difficult to see, it is very important that all of you help, providing information about the species.

If you recorded the Brazilian Merganser, please fill this form and deliver it in one of the collection boxes (lodgings, restaurants or shops nearest to your home) or to the Terra Brasilis Institute team.

To be filled with your record data:

- 1) **Day, period or season of your BM record:**
- 2) **Where did you record the BM? (name of the river/stream):**
References for the location of this site:
- 3) **How many times did you watch the BM in this river/stream?**
 only once a few times many times always
- 4) **Number of BM watched:**
- 5) **What the BM were doing?**
 swimming/diving feeding sit on a stone or on the river bank
 flying others: _____
- 6) **Other information you consider important:**
- 7) **Your name:**
- 8) **You are:** community member visitor worker other: _____
- 9) **If you want to know more about the BM conservation project, please write down your e-mail, phone or address for contact:**

THANK YOU. YOU ARE HELPING THE CONSERVATION PROJECT OF THE VERY RARE AND ENDANGERED BRAZILIAN MERGANSER.

The leaflet of the “Wanted Alive” campaign



Cover of the “Wanted Alive” campaign leaflet. The upper text means: Wanted Alive. The bottom text means: Brazilian Merganser, a rare beauty.



Tips for the Brazilian Merganser identification: The characteristic crest behind the head, the long and narrow bill and their red feet.

The leaflet of the “Wanted Alive” campaign

Ficha para preenchimento com os dados da sua observação

1. Em que dia, mês ou época do ano você viu o pato-mergulhão? _____
2. Onde você viu o pato-mergulhão? (nome do rio ou córrego): _____
3. Referências para localização (nome da região, propriedade ou como chegar): _____
4. Quantas vezes você viu o pato-mergulhão nesse rio/córrego?
 apenas uma vez algumas vezes
 muitas vezes sempre
5. Número de patos-mergulhões vistos: _____
6. O que os patos-mergulhões estavam fazendo?
 nadando/mergulhando alimentando-se
 pousados em uma pedra ou na margem voando
 outros: _____
7. Outras informações que você acha importante: _____
8. Seu nome: _____
9. Você é morador da região turista está a trabalho outro: _____
10. Se você quiser saber mais sobre o projeto de proteção do pato-mergulhão coloque aqui seu telefone, e-mail ou endereço para contato: _____

Detachable questionnaire form to be filled with the records of the sightings of the Brazilian Mergansers by the local community and tourists.

Onde vive

A Terra de Campos tem sua beleza única e especial no rio do pato-mergulhão. Há a vida mata e população e cultura de áreas rurais.

O pato-mergulhão é encontrado em áreas úmidas e áreas úmidas, de águas doces e salgadas, com vegetação e margens.

O rio é o habitat natural do pato-mergulhão e suas margens. Quando é perturbado, especialmente em áreas úmidas e áreas úmidas, o pato-mergulhão, além de ser, é muito raro e por isso é tão difícil de ser visto.

Ameaças

O pato-mergulhão é muito sensível à alteração de seu habitat. As maiores ameaças à espécie são:

- O desmatamento das áreas úmidas e áreas úmidas por atividades agrícolas e de recreio.
- O lançamento de lixo que altera o ambiente de água e o modo de qual o pato-mergulhão alimenta.
- A construção de barragens e outras obras hidráulicas, que perturbam o ambiente do pato-mergulhão.





Comportamento

Muito ágil, o pato-mergulhão mergulha e apóia-se para se alimentar. O mergulho é seu principal alimento.

Quando machos e fêmeas se encontram, os machos são muito mais agressivos e competem entre si por território e parceiros.

Os patos-mergulhões são muito mais ativos durante o dia. Eles são muito mais ativos em áreas úmidas.

Mata ciliar: A mata que protege

A mata ciliar é a mata que protege o rio. Ela protege as margens do rio. Ela protege as áreas úmidas e áreas úmidas. Ela protege as áreas úmidas e áreas úmidas.





Information about the Brazilian Merganser, its characteristics, behaviour, habitat and threatens. There are also information about the gallery forests and its role in the conservation of the water resources.

The leaflet of the “Wanted Alive” campaign



O que podemos fazer para ajudar a proteger o pato-mergulhão?

- Monitorar as águas doces e sem poluição (não jogar lixo, não realizar atividades que possam degradar o ambiente);
- Evitar realizar atividades que possam perturbar os locais de reprodução e reprodução;
- Planejar o uso da terra, proteger as áreas ripárias e garantir a presença de vegetação nativa;
- Desenvolver políticas de agricultura e pecuária que não degradem o ambiente.

Information about what we can do to help protect the Brazilian Merganser.