

## OBSERVATION

### RECORDS OF USING THE SAME HABITAT OF THREE SPECIES OF OTTERS *Lutra lutra*, *Lutra sumatrana* AND *Aonyx cinereus* IN THE DHARMASRAYA SUMATRAN TIGER REHABILITATION CENTRE AREA, WEST SUMATRA, INDONESIA

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**Abstract:** The first record of a finding a *Lutra lutra* in the wild was recorded by a camera trap. Then we report a new record of the existence of *Lutra sumatrana* in the central part of the island of Sumatra and a new record in Indonesia of the existence of three sympatric otter species in one habitat.

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## OBSERVATION

This observation stems from a report by workers at the Dharmasraya Sumatran Tiger Rehabilitation Centre who saw an animal they believed was an otter. However, they could not identify the type of otter. Based on this information, we conducted a further survey by installing 6 camera traps on a long river stretch for 1 km along the outskirts of the Mangun River (approx 18 meters wide).

The Dharmasraya Sumatran Tiger Rehabilitation Centre (PR-HSD) is located in the 2400 hectare Prof. Sumitro Djojhadikusumo Conservation Forest (AK-PSD), set aside from the 27.000 hectare palm oil plantation site belonging to PT. Tidar Kerinci Agung (TKA), managed under the Cultivation Right (HGU), in Dharmasraya Regency, Nagari Lubuk Besar, Asam Jujuhan District, Dharmasraya Regency, West Sumatra (1°35'30.5" S, 101°30'19.3" E) (Fig. 1). PR-HSD is one of the Arsari Djojhadikusumo Foundation programs which focus on the rescue, rehabilitation, and release activities for sumatran tigers in West Sumatra. PR-HSD and PT. TKA are tied to cooperation under the law that allows PR-HSD to operate within the area.

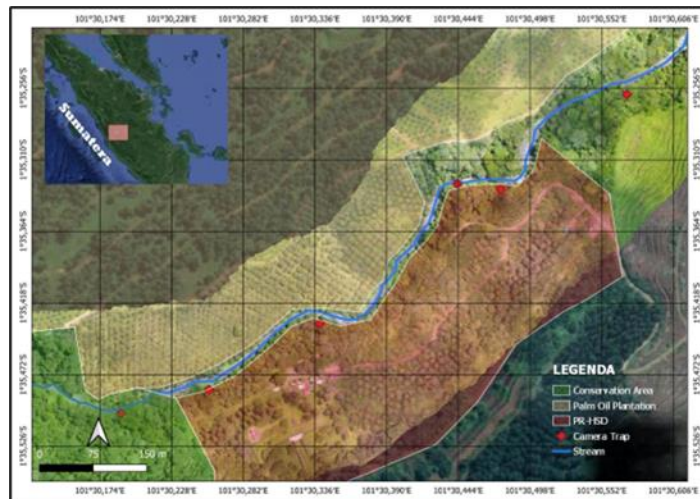


Figure 1. Location of the camera traps

Our camera trap results found three species of otter: *Lutra lutra*, *Lutra sumatrana* and *Aonyx cinereus*. The location where these were recorded was on the Mangun River, quite close to each other, but at different times of day. The first otter was recorded on March 28, 2023, at 06:08 WIB: an individual *Lutra lutra* (Fig. 2) looking for food in the Mangun tributary with a video duration of 30 seconds (<https://youtu.be/NbnUjlgc9c0>).



Figure 2. *Lutra lutra*

On April 26, 2023, at 10.55 WIB, we got an image of *L. sumatrana* at a camera trap location near the *L. lutra* location, approximately 300 meters downstream. Two individuals were crossing the rocks along the upper reaches of the Mangun River (Fig. 3). Furthermore, we also recorded *A. cinereus* twice in the same location, looking for food, on April 21, 2023, at 14.48 WIB and on May 1, 2023, at 14.09 WIB.





**Figure 3.** *Lutra sumatrana*

At a different time, on May 3, 2023, from 7.46 to 7.52 WIB, near the first *L. lutra* discovery, approximately 50 meters downstream, i.e. close to a part of the river where the water level is rather deep, a group of four *Aonyx cinereus* otters was seen on the riverbank, and then one individual jumped into the river and swam to find food downstream (Fig. 4).



**Figure 4.** *Aonyx cinereus*

This discovery is a new published record for information on otter distribution and ecological behavior in Indonesia. The sympatric presence of *L. sumatrana*, *L. lutra* and *A. cinereus* in one habitat is a new finding for the ecological behavior of these three species.

During the survey, we also made observations on the banks of the river, aiming to see other signs of the presence of otters in the Mangun River, such as tracks and scat.

On April 4th, we found otter excrement on a rock and collected it. Furthermore, we also found otter droppings on riverbank rocks on April 9 and 12, 2023, at the same location, and this location is just a short distance from where the first excrement was found. The research location is in the Mangun watershed forest, and there is also the oil palm plantation of PT. TKA, but the habitat of this river is still protected from mass fishing using poison.

## DISCUSSION

### *Lutra lutra*

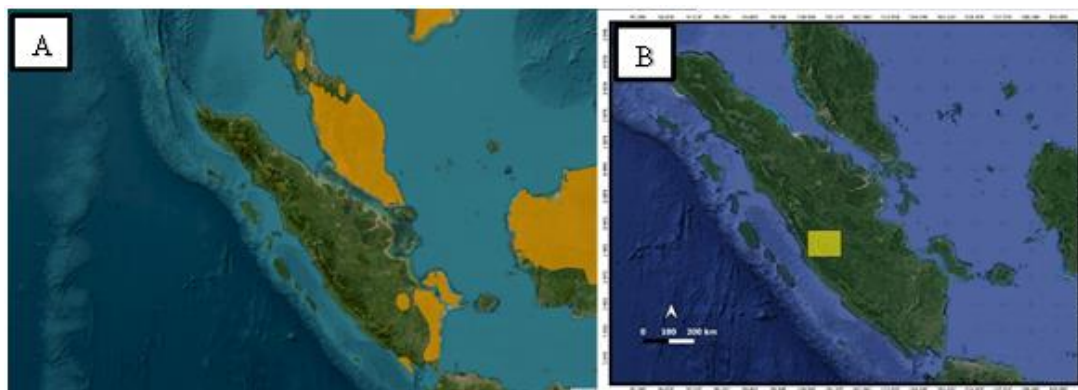
In IUCN Red List, *Lutra lutra* is classified as “Near Threatened” with a declining population (Loy et al, 2022). *L. lutra* is distributed throughout Europe and Asia, from Ireland in the west to East Russia and China. They are also found in small numbers in North Africa and the Middle East. However, the number and status of *L. lutra* in many regions, such as Russia and most of Asia, need to be better known (Yoxon and Yoxon, 2019). There have been no recorded sightings of this species since the early 1990s in many countries, such as Bangladesh, Indonesia, Cambodia and Vietnam. There are few recent records in Sri Lanka through 2018 (de Silva and Nugegoda, 2018) and Laos in April 2018 (Yoxon, 2018).

This is a new record for the existence of *L. lutra* in Sumatra today. Previously, confirmation of the existence of *L. lutra* in Sumatra has been limited to dead animals, findings from trade and reports of pets.

### *Lutra sumatrana*

In the IUCN Red List, *Lutra sumatrana* is classified as “Endangered”, with decreasing population trend (Sasaki et al, 2021). Peat swamp forests are assumed to be one of the most important habitats, along with seasonally flooded forest, tropical forests, and low land wetland including coastal areas. The Red List report also lists roadkill animals from roads in oil palm plantations. In Sumatra, Lubis (2005) reports *L. sumatrana*, who had died as a result of being hit by a car, in southern Sumatra. Latifiana and Pickles (2013) reports *L. sumatrana* in swamps and lagoons dominated by nipa palm in the Tambling Wildlife Reserve, which is located within the Bukit Barisan Selatan National Park in southern Sumatra.

The Red List shows the distribution of *L. sumatrana* in Sumatra to be limited to the southern part of the country. This report presents the first recent record of this species in the central part of Sumatra (Fig. 5)



**Figure 5.** (A) Distribution map of *L. sumatrana* on Sumatra Island based on IUCN Redlist. (B) *L. sumatrana* findings map in this report.



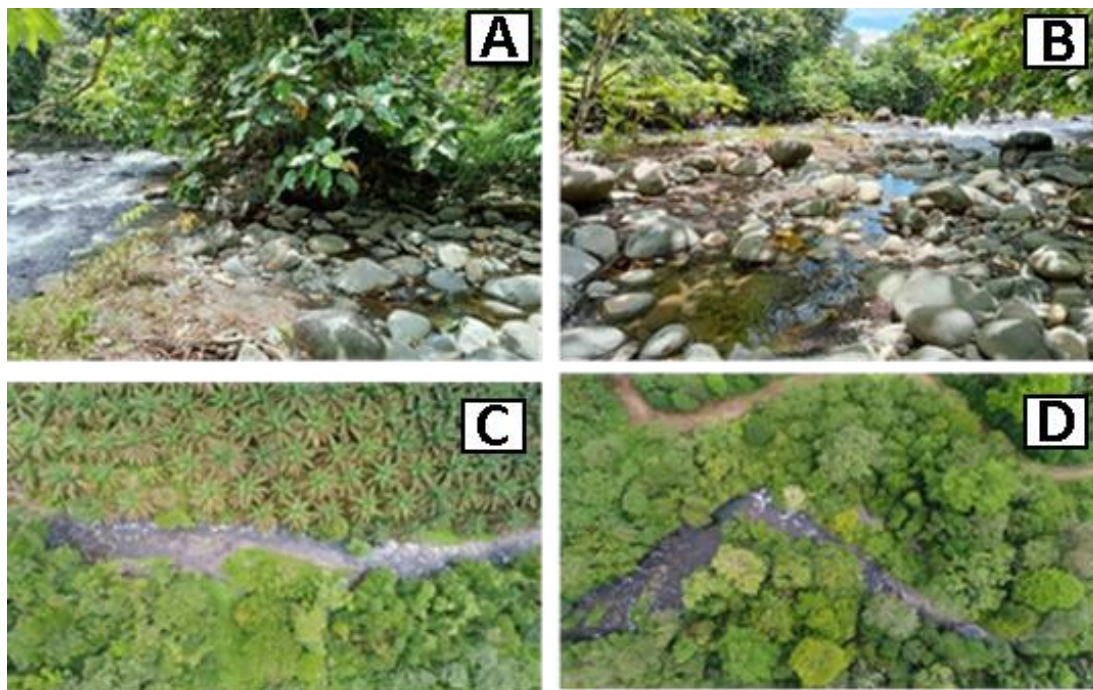
***Aonyx cinereus***

In the IUCN Red List, *Aonyx cinereus* is classified as “Vulnerable”, with decreasing population (Wright et al, 2021). It is the most common and widely spread otter to be found in Indonesia, and is the most adaptable to human proximity, using drainage ditches and rice paddies. Of the three otter species considered here, it is the most studied, and its distribution the most well-known (Aadrean et al, 2010; Aadrean et al, 2011; Aadrean and Usio, 2017, 2020; Andeska et al, 2021; Andeska et al, 2023). This is the first record of its presence in the Mangun River.

***Sympatry of Otter Species in Sumatra.***

It was previously known that *L. perspicillata*, *L. lutra* and *A. cinereus* could coexist sympatrically at the Huai Kha Khaeng Wildlife Sanctuary in Thailand (Kruuk et al. 1994). This is the first record of coexistence of *L. lutra*, *L. sumatrana* and *A. cinereus* in the same habitat in Sumatra.

The evidence of *L. lutra* and *L. sumatrana* in the PR-HSD of the Mangun River implies the existence of a population of these two species of otter may have lived in the area for some time. However, current findings of *L. lutra* in the wild are very limited compared to *L. sumatrana* (though the latter is considered more endangered: Sasaki et al, 2021) (Fig 6.).



**Figure 6.** (A): Riverbank location of Eurasian Otter sighting. (B): The tributary on which the Eurasian Otter was sighted. (C): Mangun with oil palm plantations on the north side. (D): Secondary forest around the Mangun river.

**CONCLUSION**

This report indicates that that the river ecosystem around AK-PSD can provide a suitable environment for three otter species, one of them Endangered, to survive. We hope that this data will provide valuable baseline information for environmental experts in efforts to preserve and manage river ecosystems in a sustainable manner. It is,

therefore, necessary to carry out further research on the otter population around the Mangun river to understand the environmental conditions and how we can maintain the existence of these animals in the future.

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## **RÉSUMÉ**

### **ENREGITREMENTS UTILISANT LE MÊME HABITAT DE TROIS ESPÈCES DE LOUTRES *Lutra lutra*, *Lutra sumatrana* ET *Aonyx cinereus* DANS L'AIRES DU CENTRE DE RÉHABILITATION DES TIGRES DE DHARMASRAYA SUMATRAN, SITUÉE A L'OUWEST DE SUMATRA EN INDONÉSIE**

Le premier relevé de la découverte de *Lutra lutra* dans la nature a été enregistré par un piège photographique. Nous avons par la suite rapporté une nouvelle observation de l'existence de *Lutra sumatrana* dans la partie centrale de l'Île de Sumatra et un nouveau constat de coexistence des trois espèces de loutres sympatriques dans un habitat en Indonésie.

## **RESUMEN**

### **REGISTROS DEL USO DEL MISMO HÁBITAT POR PARTE DE TRES ESPECIES DE NUTRIA *Lutra lutra*, *Lutra sumatrana* y *Aonyx cinereus* EN EL ÁREA DEL CENTRO DE REHABILITACIÓN DE TIGRE DE SUMATRA DHARMASRAYA, SUMATRA OCCIDENTAL, INDONESIA**

El primer registro de una *Lutra lutra* fue realizado mediante una cámara-trampa. Luego informamos un nuevo registro de la existencia de *Lutra sumatrana* en la parte central de la isla de Sumatra y un nuevo registro en Indonesia de la existencia de tres especies simpátricas de nutria en un hábitat.

## **RINGKASAN**

### **CATATAN PENGGUNAAN HABITAT YANG SAMA OLEH TIGA SPESIES BERANG-BERANG *Lutra lutra*, *Lutra sumatrana* DAN *Aonyx cinereus* DI AREA PUSAT REHABILITASI HARIMAU SUMATERA DHARMASRAYA, SUMATERA BARAT, INDONESIA**

Catatan pertama dari temuan *Lutra lutra* di alam yang terekam oleh kamera jebak. Selanjutnya kami melaporkan catatan baru keberadaan *Lutra sumatrana* di pulau Sumatera bagian tengah dan sebuah catatan baru di Indonesia tentang keberadaan tiga spesies berang-berang yang hidup simpatrik dalam satu habitat.