

# Legal Protection of Mahakam Dolphins Through Water Conservation Areas in Kutai Kartanegara Regency

Rosmini Rosmini<sup>1</sup>, Zainuddin Zainuddin<sup>2Ω</sup>, Syifa Nur Aini<sup>3</sup>

<sup>1</sup>Faculty of Law, Universitas Mulawarman Samarinda

<sup>2</sup>Faculty of Law, Universitas Muslim Indonesia

<sup>3</sup>Master of Law Student, Ankara University of Turkey

<sup>Ω</sup>email correspondence: [zainuddin.zainuddin@umi.ac.id](mailto:zainuddin.zainuddin@umi.ac.id)

## ABSTRACT

*Mahakam dolphins are aquatic mammals (not fish) that live in freshwater rivers in the tropics and live in groups. The Mahakam dolphins, as endemic to the Mahakam River, is already threatened with extinction and needs protection to prevent the extinction from occurring. This paper explores the problems, namely the legal protection of the Mahakam Dolphin in Kutai Kartanegara Regency and the determination of conservation of the Mahakam Dolphin habitat area in Kutai Kartanegara Regency. The research method used is normative legal research (doctrinal) with the collection of legal materials. The results showed that the government of Kutai Kartanegara Regency has tried to protect the Mahakam dolphin through the establishment of the Mahakam Dolphins Habitat Water Conservation Area. This stipulation serves as an instrument in providing guidelines for the Regional Government and stakeholders in Kutai Kartanegara Regency in the context of organizing activities for the protection and preservation of the Mahakam dolphins.*

**Keywords:** Legal Protection; Mahakam Dolphins; Water Conservation Areas

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## INTRODUCTION

Indonesia is an archipelagic country consisting of thousands of islands with very high biodiversity, both in flora and fauna groups. Indonesia is dubbed as a "megabiodiversity" country and is ranked 3rd in the country with biodiversity, after Brazil and Zaire. This is indicated by the large percentage of the number of flora and fauna species that live in the territory of Indonesia compared to the total number of species in the world. As many as 10% of the world's animal species are found in Indonesia (Budianto et al., 2020).

The Mahakam River is exposed as one of the areas with a high diversity of rare animal resources. It requires proper handling so that its biodiversity can be maintained and be beneficial for people's lives. The Mahakam River, like other major rivers in Indonesia, is multi-



functional. One of the main functions of the river is as a source of livelihood for local residents, such as water needs, and can also be a source of livelihood for fishermen. The development of the population along the Mahakam River is growing rapidly, especially in the part of the river that is a residential area. In addition, the Mahakam River is known as a natural habitat for various types of fish, water birds, and several other types of aquatic mammals. The most well-known freshwater mammal from this river is the dolphin (Oktaviani et al., 2017).

The Mahakam Dolphin, or Latin *Orcaella Brevirostris*, is a freshwater dolphin-like mammal and is an endemic animal of East Kalimantan, where its habitats can be found in tropical and subtropical areas as well as in major river systems such as the Mahakam River and lakes in East Kalimantan. The population of the Mahakam dolphin that lives in the Mahakam River, East Kalimantan, is being threatened with extinction because the population is small, isolated, and faces various kinds of pressures on its survival (Sembada & Mahardika, 2019).

The Mahakam dolphin population that lives in the Mahakam River, East Kalimantan, is being threatened with extinction because the population is small, isolated and faces various kinds of pressures on its survival. This condition causes the Mahakam dolphin population to have been given a critically endangered status (Noor et al., 2013). The Mahakam dolphin has been declared a critically endangered and critically endangered species (Cryptically Endangered Species) by the International Union for Conservation of Natural and Natural Resources, IUCN, since 2000 (Firdaus et al., 2022).

The Mahakam Dolphin as a symbol of East Kalimantan Province is estimated to remain at only 75-80 individuals in 2014 by the RASI Foundation. The government and the community must protect and preserve endangered species because it is an obligation that requires cooperation to overcome existing threats (Firdaus et al., 2022). To protect the Mahakam dolphin and its extinction, legal protection is needed through the conservation of the Mahakam dolphin water area.

Internationally, the Mahakam dolphin is protected under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (Cites). Cites is an international agreement between countries that aims to protect wild plants and animals against international trade. Nationally, Dolphin Mahakam's protection is based on Law Number 5 of 1990 on the Conservation of Biological Natural Resources and Their Ecosystems and Government Regulation Number 7 of 1999 on the Preservation of Plant and Animal Species. These rules are the legal basis for the protection of the Mahakam Dolphin as a type of animal that must be protected. However, regarding the legal protection of the Dolphin Mahakam locally, it has not been formulated in the form of local regulations and conservation.

In this study, there were two problems that were emphasized, namely how is the legal protection of Dolphin Mahakam in Kutai Kertanegara Regency? And how is the determination of the conservation of the Mahakam dolphin habitat area in Kutai Kertanegara Regency?

## **METHOD**

The research method used is the normative juridical method. The data used is secondary data with primary and secondary legal materials. The normative juridical method is a research method by examining the laws and regulations (normative) in relation to legal facts in the field.

## **ANALYSIS AND DISCUSSION**

### **A. Legal Protection of the Mahakam dolphin population**

Indigenous people who live in the Muara Kaman Sedulang Nature Reserve in Kutai Kartanegara Regency have a concern for the Mahakam Dolphins. One form of local wisdom of the community around the nature reserve is the community's belief in dolphins as human descendants, so their existence must be protected and preserved. The myth that develops in the community is that "in the past there was a resident around the Mahakam River who was hot from eating porridge that was still hot. Then, to get rid of the heat, he threw himself into the Mahakam River and did not come back again. Finally, he became an animal that is now called by the local community "a porpoise". There was once a dolphin that was caught in a fishing net and died, but was not consumed by the community, because they thought that the dolphin was a human incarnation (Heni Emawati and Ismail Bakrie, 2017).

The natural death of the Mahakam dolphin cannot be prevented, but deaths caused by accidents or human carelessness can be prevented or controlled. The data shows that the majority (70%) of recorded Mahakam dolphin deaths are due to being entangled in gill nets or gillnets accidentally. (Noor, 2016). Therefore, efforts to preserve Mahakam dolphins can be focused on preventing deaths caused by accidents. The source of the accidental death was catching fish using gillnets, so the effort to conserve Mahakam dolphins is mainly aimed at regulating the use of gillnets.

Dolphins are often found foraging near gillnets, and many fishermen use the dolphin's foraging pattern as an indicator of location and time to install gillnets. The dolphins are reported to be able to help fishermen lead fish into nets. However, the close relationship between fishermen and dolphins increases the risk of dolphins becoming entangled in gillnets. Net usage regulations include:

1. Limit the number or density of nets to reduce the risk of being trapped and the death of Mahakam dolphins as a result of becoming entangled in gill nets. The places where this regulation needs to be enforced are the Pela River and the area around its estuary to the Mahakam River, Muara Muntai and its surroundings, as well as Muara Kaman and the tributaries of the Kedang Rantau River. Regulation in this area is critical because these areas are densely populated and the majority of the people rely on fishing for a living.

2. Set the size of the mesh that may be used. The size of the gill nets determines the size of the fish to be caught. The larger the mesh size, the larger the size of the fish being caught. When the mesh size is small, the fish to be caught are also smaller. Therefore, small gill nets should gradually be banned from being installed in the Mahakam River channels and its large tributaries where Mahakam dolphins often forage. Thus, the installation of gill nets also needs to be arranged. Concentration centers of Mahakam dolphins such as the Pela River, Kotabangun, Muara Kaman, and Muara Muntai are places that must receive priority in regulating the use of gill nets.
3. Set the time and place for the installation of gill nets. Installation of gill nets should not be done at night because fishing communities generally do not check and monitor the gill nets throughout the night. At night, if a Mahakam dolphin is caught in a gill net, it is unlikely that people will see it. On the other hand, if the trapping of the Mahakam dolphin occurs during the day, its chances of survival are greater because, in general, people will try to save it. The rescue of Mahakam dolphins from gill net traps has happened many times, and all of them were carried out during the day when members of the public saw them trapped.

One of the ways to conserve the Mahakam dolphin species and population is by granting it protection status as an endangered species or a species protected by law. At the global level, since 2000, the Mahakam Dolphin has been given the Critically Endangered status. This status is assigned to the Mahakam dolphin based on the consideration that the number of adult individuals is less than 50 individuals.

According to experts, if the number of adult individuals of a species is less than 50, the chances of survival and long-term sustainability are small. At the local level, the Government of Indonesia since 1975, through the Decree of the Minister of Agriculture No.45/Kpts/Um/1/1975, has designated the Mahakam dolphin as a species protected by law. Twenty-four years later, this protection status was reaffirmed and strengthened through Government Regulation (PP) No. 7 of 1999 concerning the Preservation of Plant and Animal Species.

Mahkam Dolphin has been established as a top priority for conservation in Indonesia, which was formulated in the Decree of the Minister of Home Affairs No. 48 of 1989 and the Minister of Forestry Regulation No. 57 of 2008. According to the Directorate General of Marine Spatial Management of the Ministry of Marine Affairs and Fisheries, dolphins are one of the priority aquatic biotas (Directorate of Marine Biodiversity Conservation, 2017). Like other cetacean species, dolphins are protected by regulations 106/MENLHK/SETJEN/KUM.1/12/2018. Orcaella brevirostris can be found in shallow waters, coastal marine areas of the tropics and subtropics of the Indo-Pacific and several major rivers:

Mahakam, Ayeyarwady, and Mekong, where there has been a decline in the number and extent of distribution and ongoing threats (Budiono, 2018). Further can be seen in the image below:

**Figure 1. The Urgency of Protecting the Mahakam Dolphins**



Source: Budiono (RASI), 2020

Research results from Rare Aquatic Species of Indonesia (RASI) and TFCA Kalimantan (Budiono, 2020), stated that 75.3% of the reasons for protecting Mahakam dolphins are because they are protected by law, 9.6% are because of endangered species, 9.1% for avoiding extinction, and 5.9% for helping fishermen.

**B. Establishment of Conservation of the Mahakam Dolphin**

Conservation is currently a much-discussed topic. This is related to the global issue, which states that many species are threatened with extinction or even no longer found in their natural habitats. Species that are not threatened with extinction are also part of biodiversity. The threat of extinction of a particular species occurs naturally (the process of natural selection) and through human activities. Humans in the web of life act as top predators for all species on earth (Oktaviani et al., 2011).

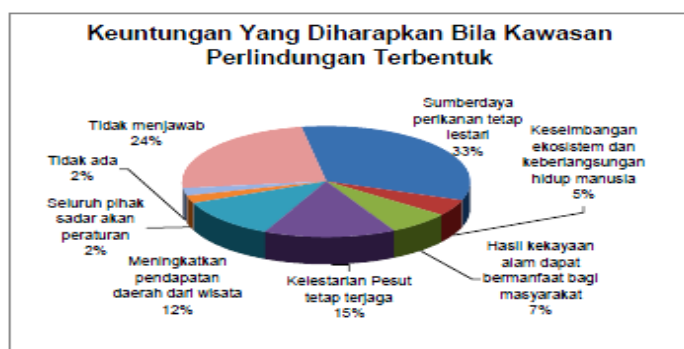
One of the efforts to restore and rehabilitate dolphins in inland public waters can be through the establishment of conservation areas. However, the conservation area for fish resources is still very minimal. In fact, many of those that have been determined to be no longer functioning. According to PP No. 60 of 2007, conservation of fish resources includes: conservation of ecosystems, conservation of fish species, and conservation of fish genetics. Ecosystem conservation can be done through the establishment of Marine Protected Areas (KKP). A marine conservation area is a protected water area, managed with a zoning system to realize sustainable management of fish resources and the environment. Aquatic Conservation Areas consist of water national parks, aquatic tourism parks, aquatic nature reserves, and fisheries sanctuaries. Determination of fish species conservation is carried out through classification of fish species, determination of fish species protection status, maintenance,

breeding, research, and development. Full protection is carried out throughout the life cycle and/or body parts.

Mahakam dolphin conservation is not only related to efforts to save the endangered Mahakam dolphin species, but is also related to global environmental problems. These animals are very vulnerable and their population has decreased significantly. Some of the species are even threatened with extinction. The protection of the Mahakam dolphin and the conservation of especially protected and endangered fish must also be improved. Do not let the community only be invited to catch as much fish as possible for the sake of achieving economic growth by ignoring the condition of the ecosystem (Dewana et al., 2021).

Furthermore, the picture below is related to the expected benefits of having the Dolphin Mahakam protected area as the results of research from Rare Aquatic Species Of Indonesia (RASI) and TFCA Kalimantan (Budiono, 2020), can be seen in the image below:

**Figure 2. Benefits of the of Protection Areas**



Source: Budiono (RASI), 2020

Based on the picture above, it shows that 33% stated that with the existence of a protected area, fishery resources would remain sustainable, 15% stated that the sustainability of Mahakam Dolphins was maintained, 13% stated that it would increase regional income and tourism, 7% stated that the results of natural wealth could be beneficial for the community, 5% stated that the balance of the ecosystem and the sustainability of human life, and 2% stated that all parties were aware of the regulations.

Generally, this approach is carried out as a consequence or a follow-up to granting protected status. When a population or species is protected, it is not only the individuals who must be protected or saved from death caused by human carelessness or greed. The habitat or place of life must also be protected from damage and properly managed, or else the protection status provided may be in vain. To save and manage the Mahakam dolphin habitat, in the West Kutai Regency, a "natural conservation area for the Mahakam dolphin habitat" has been designated by the West Kutai Regent. This area, which covers an area of 4,100 ha, is, as of the

time of writing this book, the only protected area for the Mahakam dolphin habitat along the Mahakam River. This protected area is located in the core habitat of Muara Pahu–Penyinggahan, which has a high concentration of Mahakam dolphins. Another protected area for the Mahakam dolphin habitat is now in the process of being designated and established. The protected area is located in Kutai Kartanegara Regency and covers an area known as the Pela–Muara Kaman core habitat (Noor, 2016).

The main areas that have been identified as primary dolphin habitat between 1999 and 2016 are the territorial waters of Kukar from Muara Kaman to Batuq and include the tributaries of the Kedang Rantau, Kedang Head, Belayan, Pela, and Batubumbun rivers. One of the core zones includes the Kedang Kepala tributary, where the dolphins move almost daily from the Kedang Kepala Muara to the Siran Muara when the water is higher upstream. Because dolphins are rarely found in Kubar, it is becoming increasingly important to preserve their existence so that they do not face extinction in the near future. The decline in the number of dolphins in the Kubar area was caused by various factors, including the loss of fish spawning areas due to the conversion of swamps for oil palm plantations as well as coal transportation activities in the Kedang Pahu tributary, which was originally the dolphin's main habitat for daily migration (Budiono, 2019).

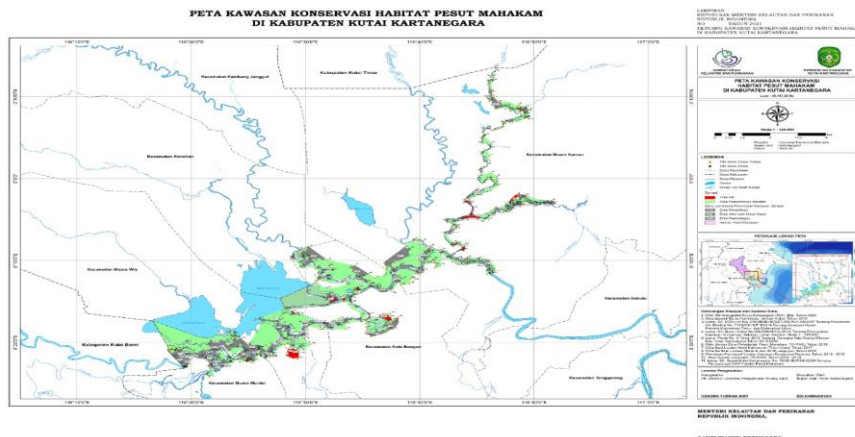
The Kutai Kartanegara Regency Government is very concerned and concerned about the conservation area for the Mahakam dolphin habitat. It is proven that the local government has issued a legal policy in the form of a Decree (SK) in 2020 to submit to the Ministry of Maritime Affairs and Fisheries (KKP) for the determination of the Mahakam dolphin habitat conservation area, which includes:

- a. The conservation area of the Mahakam dolphin habitat, Muara Muntai District, consists of a core zone of 68.90 hectares, a sustainable fishing zone of 3,954.28 hectares, and other zones of 4,685.03 hectares.
- b. The Mahakam dolphin habitat marine conservation area, Muara Wis District, which includes a core zone of 326.42 hectares, a sustainable fishing zone of 3,488.62 hectares, and other zones totaling 3,850.98 hectares.
- c. The marine conservation area of the Mahakam dolphin habitat, Kota Bangun district, which consists of a core zone of 297.71 hectares, a sustainable fishing zone of 4,935.40 hectares, and other zones of 9,341.63 hectares.
- d. The marine conservation area of the Mahakam dolphin habitat, Muara Kaman District, consists of a core zone of 388.28 hectares, a sustainable fishing zone of 2,570.54 hectares, and other zones of 9,210.94 hectares.

The image below is a map of the Dolphin Mahakam habitat area:



**Figure 3. Mahakam Dolphin Habitat Conservation Area in the Kutai Kartanegara District**



Source: Budiono (RASI), 2020

The dolphin habitat that is reserved as an Aquatic Conservation Area is an Aquatic Tourism Park with an area of 43,117.22 Ha (Number 75/SK-BUP/HK/2020). This includes swamp areas for the protection of fishery resources, which are the source of dolphin food and a source of income for fishermen from 27 villages. Administratively, the Ministry of Maritime Affairs and Fisheries (KKP) has determined that the Mahakam Dolphin habitat is included in 4 sub-districts, namely Muara Kaman, Kota Bangun, Muara Wis, and Muara Muntai, with a total area of 43,117.22 ha. In accordance with the Regulation of the Minister of Maritime Affairs and Fisheries Number 31/PERMEN/2020, to meet the minimum requirement of a core zone area of 10% of the habitat area of the conservation target biota, the minimum area of the core zone in the Dolphin Mahakam MPA Habitat must be 862.34 Ha.

The core zone area of the Dolphin Mahakam MPA is 1,081.28 hectares spread over 20 locations, or 2.51% of the total area of the territorial waters. The arrangement of other zones besides the Core Zone is the Limited Utilization Zone of 31,104.57 ha, which is designated for the sustainable fisheries zone, and the Other Zone (10,931.37 ha), which is divided into three sub-zones:

- a) sub-zone of protection
  - river border area of 591.51 ha and
  - lake border area of 2,169 ha,42;
- b) sub-zone of large ship traffic lanes 385.72;
- c) rehabilitation sub-zone and zone according to the designation of non-capture fisheries area of 7,784.72 ha which is designated for community activities that are small-scale and environmentally friendly



The Mahakam Dolphin's habitat is 6,853.39 ha, consisting of 6,791.15 ha of restricted use zone and 62.24 ha of core zone. The total area of the core zone is 15.77% of the Mahakam Dolphin Habitat area. Thus, it fulfills the requirements for this Marine Conservation Area to be proposed to be designated as an Aquatic Tourism Park. The implementation of the Kutai Kartanegara Regency Government program regarding the marine conservation area of dolphin habitat in the Mahakam River, located in the sub-districts of Muara Kaman, Kota Bangun, Muara Wis, and Muara Muntai, is a functional unit in the form of spatial planning, economic life, and socio-cultural that is able to guarantee environmental sustainability. live in line with the spirit of democracy, regional autonomy, and openness in the life of society, nation, and state.

## CONCLUSION

The Mahakam Dolphin, as endemic to the Mahakam River, is already threatened with extinction. In response to this, the government of Kutai Kartanegara Regency took protection through the establishment of the Mahakam Dolphin Habitat Water Conservation Area. This stipulation serves as an instrument that can provide guidelines for the Regional Government and stakeholders in Kutai Kartanegara Regency in the context of organizing activities for the protection and preservation of the Mahakam Dolphins.

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