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UNP Extinct Metric for *Bilih* Fish (*Mystacoleucus padangensis Bleeker*)

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UNP Extinct Metric for *Bilih* Fish (*Mystacoleucus padangensis Bleeker*)

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Abstract. This paper write about UNP Extinc Metric. It is new approach and methods how to calculate extinc condition for wild animals especially bilih fish from Lake Singkarak. We introduce new criteria and ombine to seven categories from IUCN. For bilih fish we can calculate number extinc 49 and the meaning is endangered We conclude after that result we can conserve bilih fsh soon as soon for our life in biosfer.

1. Introduction

Indonesia is one of the countries rich in freshwater fish species. Indonesia is in 3rd place. As the country with the most freshwater fish species in the world, the total species reaches 1155 species. For the number of endemic freshwater fish species, Indonesia has a total of 440 endemic freshwater fish species, in 4th place, after Brazil (1716 species), China (888) and the United States (593 species). Pressure on the habitat of freshwater fish and sea water fish is a threat and poses a risk of extinction.

High human needs cause habitat damage. Damage to habitats such as lake forests, rivers and coral reef ecosystems causes freshwater fish and marine fish to lose food sources, habitats and roaming spaces to reproduce [1]. Wild fish whose habitat is disturbed causes the population to decline. The decline in population due to disruption of the reproductive process or a place for reproduction is damaged so that it is difficult to breed.

Human needs continue to increase along with the increase in human population. This triggers pressure on the environment, especially fish resources. This occurs in rivers as freshwater ecosystems and in the sea of saltwater ecosystems which results in a decrease in aquatic biota populations including fish. This situation causes some species of fish to become rare and endangered.

Furthermore, in terms of humans, human behavior to meet their needs often leads to conflict and over-exploitation which threatens the sustainability of freshwater fish and marine fish. Excessive exploitation (over fishing) does not only cover aspects of trade, hunting and overfishing, but also triggers extinction of the species. This is also related to the many types of fishing and bycatch where protected dead fish are caught accidentally, for example due to fishing practices that are not environmentally friendly.

The above conditions are experienced by Bilih fish in Singkarak lake, Bada lake Maninjau fish, Napoleon fish that live in coral reefs, Padang flying fish (flyingfox) and Garing fish. The level

or level of disturbance to wild animals such as fish are not the same as land animals. This happens because of differences in habitat and animal habit and different human interests.

The method or method of the IUCN is often late without quantitative analysis, which is why there must be a preventive way so that animal extinction can be anticipated as early as possible. The EXTINCT METRIC UNP (EM UNP) offers 10 criteria that will be ensured through research funded by all member states that ratify the IUCN.

This article offers a solution on how to measure and analyze the level of risk of extinction of fish or other wild animals discussed on other occasions. After studying the causes and consequences of endangered fish and endangered fish in Indonesia in general, West Sumatra in particular. In addition, the author has also examined the ecological aspects of the eye and the chemical content of selected fish in 2015 and 2016 and has been published in proceedings [5] and journals indexed by Scopus [6]. The results of the study of literature and research are the rationale for developing tools or tools that can analyze the risk of extinction of wild animals including freshwater fish and marine fish.

2. UNP Extinct Metric Criteria

From the analysis of literature studies and research that has been done, there are several criteria that become indicators that become the basis of UNP EXTINCT METRIC (UNP EM). UNPEM is composed of several criteria that trigger the threat of extinction of freshwater fish and marine fish. The criteria are:

2.1. Over exploitation is symbolized by a factor 1 denoted = F1

This criterion describes fish resources that are exploited with utilization rates that exceed the threshold, captured by fishing gear with many types. On the other hand, economically, like fish, the demand level is high because it is nutritious and tastes good.

2.2. Uninterrupted /Damaged habitat is symbolized by Factor 2 denoted = F2

Habitats that are damaged can be as a result of human behavior or natural causes such as global warming.

2.3. Hard/not yet can be cultivated symbolized by factor 3 denoter =F3

This situation is a natural cause of genetic factors and environmental factors that cause fish to be difficult or not yet able to be cultivated because the key factors for successful cultivation have not been found.

2.4. Production/edndemic hard is symbolized by Factor 4 denoted = F4

This situation is a natural cause of genetic factors

2.5. Habitat has not been protected = F5 is symbolized by Factor 5 denoted = F5

This situation is due to the lack of government and community attention to the natural habitat of wildlife including fish.

2.6. Deforestation = F6.

This situation is due to the lack of attention from the government and the community towards the forest which is a natural habitat for wildlife including fish, as well as the security key of the ecosystem and affecting the ecosystem as a whole

2.7. Climate change = F7.

This situation is a natural cause triggered by rising earth temperatures due to activities and activities of volcanic eruptions such as Mount Sinabung that have an impact on the community and natural habitat of wildlife including fish.

2.8. Pollution = F8.

Damaged habitats can be as a result of human activities such as pollution or pollution.

2.9. Invasive species = F9
This situation can be as a result of human activities that include foreign species that have the effect of invading other species in an ecosystem. A case in point is the glass fish that invaded the Bilih Toba fish.

2.10. Expert opinion = F10
Expert opinion is a strengthening aspect so that the data obtained can be supported and validated by experts.

3. Scoring
Giving a score with a range of 1 to 5. This range is made so that the score range is stable or equal 2. Each factor starting from factors 1 to 10 is also considered equally important so that linearity is generated because each factor contributes the same

SCORE FLOWS = 1 - 5.
1. = SMALL
3. = MEDIUM
5. = BIG

If the total score is above 30 then the condition is threatened and requires in-depth research action for conservation. This is also adjusted for the interpretation of the final score adjusted to the category of the seven red list of extinctions including: low risk (least concern), near threatened (vulnerable), vulnerable (vulnerable), critical (endangered), critical or endangered (critically endangered), extinct in the wild (extinxt in the Wild), to extinct [4]. Furthermore, the 7 criteria are given the following this below:

- The least concern is 10-19
- Near threatened (weight threatened) 20 = 29
- Rentan (vulnerable) weighs 30-39
- Genting (endangered) weights 40-49
- Critical endangered weight 50
- Extinct in the wild (extinc in wild) weights above 51-55
- Extinct (extinc) weight 56-60

Besides that, it is adjusted to the scope of environmental science indicators. These indicators are in accordance with the scope of the viewpoint of Environmental Sciences. This is important to be part or as a discipline. The scope:

- Social environment : Created human, unfortunated, beautiful for people, economic debit water decreased by human skill, shrinking forests.
- Natural environment : habitat damaged due to human
- Made environment : it cannot be cultured , protected with prohibited

4. Implementation of extinct metric UNP (EM UNP)
For example, we implement the bilih fish (*Mystacoleucus padangensis Bleeker*).

$$UNP\ EXTINCT\ METRIC\ (UNP\ EM)\ =\ F1 +\ F2 + F3 + F4 + F5 + F6 + F7 + F8 + F9 + 2F10$$

Figure 1. Bilih Fish [6]

Example calculation :

(UNP EM) = F1(5) + F2 (3) + F3(5)+ F4(5)+ F5 (5)+ F6 (3)+ F7(3)+ F8(5) + F9(5)+2 F10(5)
   = 49

The results of this calculation indicate that the Bilih fish has reached the endangered stage. Because this picky fish has reached a critical or dangerous level but has not been included in the IUCN list. This was revealed in Suwelo's study [5]. These results indicate that bilih fish is an endemic freshwater fish resource and is endangered. This is an indication that the Bilih fish must be immediately conserved so as not to experience extinction.

5. Conclusion
Based on the analysis and discussion above, the EM UNP can be used for quantitative analysis of the level of extinction of selected fish. These results indicate that pickled fish must be conserved immediately so that they do not become extinct.

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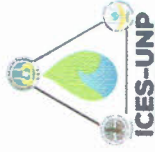
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This is to certify that

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