2022 MCM/ICM Summary Sheet

Team Control Number XJ162

test

Summary

Finless porpoise is the only freshwater mammal in the Yangtze River, which is distributed in the middle and lower reaches of the Yangtze River, Dongting Lake and Poyang Lake, and its population has decreased dramatically in the past 20 years. In 1991, the number of finless porpoises in the Yangtze River was more than 2,700. However, in the year of 2006, there were fewer than 1,800 finless porpoises. In 2011, there were probably just over 1,000 of them, and in 2018 there were about 1,012. In fact, since the 1980s, three conservation strategies have been gradually explored: in situ conservation, ex situ conservation and artificial breeding. Among them, ex situ protection, that is, selecting some waters with similar ecological environment to the Yangtze River to establish ex situ protection, is the most direct and effective measures to protect the Yangtze finless porpoise. So far, China has set up five ex-situ protected sites, with a total of more than 150 ex-situ populations. On September 18, 2021, CCTV reported that the population of the Yangtze finless porpoise is growing steadily. The population decline of the Yangtze finless porpoise has been curbed, but its critically endangered status remains unchanged.

Keywords: 123456

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1 Introduction

- 1.1 Problem Restatement
- 1.2 Overview of Our Work
- 2 Assumptions and Justifications

3 Notations

Table 3.1: Notation Descriptions

Symbol	Definition
A	A set of artists given in dataset
\mathbf{G}	A set of genres provided in dataset
f_{i}	The total number of followers of artist $i, i \in \mathbf{A}$
g_{ij}	Genre tag between artist i and his or her follower $j, i, j \in \mathbf{A}$
DAS_i	Artist i's decade of active start, accurate to 10 years
r_{ij}	Respective Influence of influencer i over follower $j, i, j \in \mathbf{A}$
w_{i}	Artist i's weight of normalized indexes
TI_i	Artist i's Total Influence
wf_j	The parameter of follower j ' influence, $j \in \mathbf{A}$
wt_i	The weight of artist i 's Total Influence, $i, j \in \mathbf{A}$
cg_{ik}	Artist i's Contemporary Influence in certain genre, $i \in \mathbf{A}, k \in \mathbf{G}$
c_i	Artist i 's Contemporary Influence, $i \in \mathbf{A}$
S_{ij}	Similarity between artists i and j

- 4 Model I:Directed Network of Musical Influence Model
- **5** Sensitivity Test
- **6** Evaluation of Model
- 7 Conclusions

REPORT

To: ICM society

From: ICM Team 2104997

Date: January 13, 2022

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References

[1] ZHANG Xianfeng, and Wang Kexiong. "Population viability analysis for the Yangtze finless porpoise." Bulletin of the Chinese Academy of Sciences: English Edition 27.1(1999):3473-3484.

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Appendices

Input matlab source: