A simple method to assess the fragmentation of freshwater fish meta-populations: Implications for river management and conservation

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Received: *01-Aug-2022; Manuscript No: JAEFR-22-73212;* ***Editor assigned:*** *03-Aug-2022; Pre QC No: JAEFR-22-73212 (PQ);* ***Reviewed:*** *17-Aug-2022; QC No: JAEFR-22-73212;* ***Revised:*** *22-Aug-2022 (R); Manuscript No: JAEFR-22-73212 (R);* ***Published:*** *29-Aug-2022;* ***DOI:*** *10.3153/JAEFR.22.8.002*

Introduction

Protecting fish helps keep the sport of fishing alive. It also helps maintain the balance of certain ecosystems. Fish are important to the planet and protecting them helps maintain the balance of nature [1]. Fish conservation scientists and ecologists can work directly with fish species to develop policies that protect their future, or they can work to protect and clean up the environments in which they live. In 2011, fish populations were declining worldwide, making conservation of fish species essential [2]. Scientists involved in fish conservation may also focus on observing fish species, aquatic ecosystems, and the environments in which they live. By collecting data on fish, these scientists can determine which populations may be at risk and limit fishing. It also helps identify the types of environmental factors that can affect fish populations [3]. Gene Helfman summarizes the available knowledge on the decline and recovery of freshwater and saltwater fish, providing ecologically sound answers to the problems of biodiversity loss and livelihood, recreational, and economic fisheries management. This book is written in an engaging and accessible style: Examines the value of conserving aquatic biodiversity; provides a taxonomically and geographically based overview of endangered fish [4]; Presents a synthesis of common features of endangered fish and their habitats Presents in detail the causes of anthropogenic decline Issues of human exploitation address ethical issues surrounding fish exploitation to do.

Description

The final chapter emphasizes the application of evolutionary and ecological principles in light of projected trends, assessing prospects for synthesizing the problem and halting decline [5]. Throughout, Helfman provides examples, examines case studies, and collates available information from a wide range of taxonomies, habitats, and geographic ranges. The Fish Conservation summarizes the current state of knowledge on fish diversity degradation and recovery [3], and fish stock productivity, and identifies areas where progress has been made and where more work is needed. Solutions focus on applying ecological knowledge to solve real problems, and effective conservation of biodiversity focuses on long-term sustainability and an ecosystem perspective [1]. We recognize that it depends on meeting human needs through focused management. Comprehensive freshwater IUCN assessments have been completed for Europe, Africa, India, India-Burma, the United States, New Zealand, Oceania, and the Middle East, but are incomplete for South America, large regions of North and East Asia, and Indonesia [4]. The full picture will become clearer as more regional assessments become available. Areas for which published assessments are available vary widely in freshwater fish diversity and threatened species range. Our interdisciplinary research is focused on providing the best available scientific information to support decision-making for fisheries management and conservation at scale from local communities to global institutions [4]. We apply field and laboratory experiments, animal tracking techniques, models, long-term observational studies, and historical perspectives to explore the sustainability of fishery populations, altered food webs and trophic interactions, habitat and fisheries linkages, invasive species, climate and other fisheries issues.

Conclusion

Even with the most sophisticated risk assessment, conservation planning, fisheries management, and recovery tools, improving fish welfare is critical to scientists, managers, and the public, especially under new threat scenarios and climate change. Poses significant challenges and trade-offs. Human pressures on marine and freshwater fish and fisheries should be addressed wherever possible within the food security framework to restore resilience and enable human-assisted adaptation to be effective in

the new managed environment. Implementing, monitoring and reviewing fish welfare and management systems will generate new information among researchers, managers and the public to build consensus on what is worth doing and what can be achieved in the uncharted waters of the future need to do it.

Acknowledgement

None.

Conflict of Interest

The author declares there is no conflict of interest in publishing this article.

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