

SPECIES DIVERSITY AND DISTRIBUTION OF FISH COMMUNITY OF REU RIVER



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Batch: 2068/69

**A Thesis submitted in partial fulfilment of the requirements for the degree
of Master of Science in Zoology with special paper
Fish and Fisheries**

**Submitted to
Central Department of Zoology
Institute of Science and Technology
Tribhuvan University
Kirtipur, Kathmandu
Nepal
September 2015**

RECOMMENDATIONS

This is to recommend that the thesis entitled, **Species Diversity and Distribution of Fish Community of Reu River** has been carried out by **Mr. Debendra Prasad Dhakal** for the partial fulfilment of the Degree of Master of Science in Zoology with special paper Fish and Fisheries. This is his original work and has been carried out under my supervision. To the best of my knowledge, this thesis work has not been submitted for any other degree in any institutions.

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LETTER OF APPROVAL

On recommendation of supervisor Prof. Dr. Kumar Sapkota, this thesis submitted by Mr. Debendra Prasad Dhakal entitled, **Species Diversity and Distribution of Fish Community of Reu River** is approved for examination and submitted to the Tribhuvan University in partial fulfilment of the requirements for the Degree of Master of Science in Zoology with special paper Fish and Fisheries.

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DECLARATION

I hereby declare that the work presented in this thesis has been done by myself, and has not been submitted elsewhere for the award of any degree. All sources of information have been specifically acknowledged by reference to the author(s) or institution(s).

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ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to my academic supervisor, Professor Dr. Kumar Sapkota, Central Department of Zoology for his Continuous guidance and encouragement in carrying out this research for my thesis work.

I am grateful to Prof. Dr. Ranjana Gupta, Head of Central Department of Zoology, T.U., for her kind support and encouragement. I am equally thankful to all teaching and non-teaching staff of Central Department of Zoology.

My thanks also go to all social respondents and local residents of Madi for their help and valuable time, information and good hospitality, they provided during my field visit.

My sincere thanks also go to my friends Bishnu Thapa, Keshav Neupane and Hemraj Pant for extending their help for the completion of my dissertation. I'm really thankful to my brother Sudip Paudel for their help during field visit.

Debendra Prasad Dhakal

ABSTRACT

This study was carried out in Madi valley, Chitwan, Nepal with the objective of investigating the Species Diversity and Distribution of fishes. To facilitate the research objective, river were categorized into three different stations at regular distance. Field surveys were conducted in different seasons of a single year from March 2014 to March 2015. Mainly cast net, Dhadiya, Rod and line were used to catch the fishes. Altogether 26 Fish species belonging to 7 orders and 12 families and 19 genera were observed in the study area. Majority of the fish species collected from the river fall under the order cypriniformes. *Puntius sophore* had the highest frequency occurrence of 10.92% and *glyptothorax alaknandi* had the lowest frequency occurrence of 0.33%. Other most common fish species were *Puntius chola* and *barilius vagra* with the frequency of 9.933% and 9.271 % respectively. Correlation between temperature, water depth and DO vs. number of fish composition are positive while velocity and pH vs. number of fish composition are negatively correlated. The highest Shannon diversity index, (H=1.41) were recorded at station I followed by (H= 1.26) at Station III and (H= 1.17) at Station II. Species richness index were recorded highest (d=11.062) at station III followed by (d=8.74) at station I and (d=8.41) at station II. Similarly the highest Shannon diversity index, (H=1.174) were recorded at monsoon followed by (H=1.1730) in pre-monsoon and (H=1.163) in post monsoon. Species richness index were recorded (d=10.57) in monsoon followed by (d=8.88) in pre-monsoon and (d=8.46) in post monsoon. Both conventional and non-conventional fishing appliances were found to be used in Reu River. Cast net, rod and line and some basket implements were used throughout the year. The socioeconomic condition of the fishermen of Reu River is not so poor, but most of them are illiterate.

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ABBREVIATIONS AND ACRONYMS

Abbreviated form	Details of abbreviations
ADB	Asian Development Bank
APHA	American Public Health Association
BOD	Biological Oxygen Demand
CDZ	Central Department of Zoology
CNP	Chitwan National Park
DOFD	Directorate of Fisheries Development
TU	Tribhuvan University
FDD	Fisheries Development Division
UNDP	United Nation Development Programme