

QUANTITATIVE SURVEY AND HABITAT ASSESSMENT OF
MACROINVERTEBRATES TO ASSESS WATER QUALITY
IN RUNNING WATERS

ORAPIN WATCHAWONG

A THESIS SUBMITTED TO THE GRADUATE SCHOOL IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
MASTER OF SCIENCE
IN ENVIRONMENTAL RISK ASSESSMENT
FOR TROPICAL ECOSYSTEMS

GRADUATE SCHOOL
CHIANG MAI UNIVERSITY
MARCH 1996

QUANTITATIVE SURVEY AND HABITAT ASSESSMENT OF
MACROINVERTEBRATES TO ASSESS WATER QUALITY
IN RUNNING WATERS

ORAPIN WATCHAWONG

THIS THESIS HAS BEEN APPROVED TO BE A PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE
DEGREE OF MASTER OF SCIENCE

EXAMINING COMMITTEE

P. Chantaramongkol.....CHAIRMAN

Dr. Pomtip Chantaramongkol

A. Jatisateinr.....MEMBER

Assoc. Prof. Dr. Araya Jatisateinr

Kate Grudpan.....MEMBER

Assoc. Prof. Dr. Kate Grudpan

28 MARCH 1996

ACKNOWLEDGMENTS

This thesis could not have been completed without the assistance of many persons. Firstly, the author wishes to express her sincere gratitude to Dr. Porn-tip Chantaramongkol, thesis supervisor, for her interest, guidance, and encouragement through the entire thesis work.

The acknowledgements are due to Prof. Dr. Alois Shaefer, the author's thesis co-supervisor for his helpful in analysis of the data using SPSS/PC programme and valuable advice on the thesis works.

The author received valuable advice on useful recommendation from Assoc. Prof. Dr. Araya Jatisateinr the author's co- advisor and Assoc. Prof. Dr. Kate Grudpan for useful discussion.

The author would like to express her deepest thanks to all ERA staffs, and also Deutsche Gesellschaft fur Technische Zusammenarbeit (GTZ) which kindly

granted the author a scholarship throughout the study in this programme. The author is also particularly grateful to Prof. Dr. Roger A. Beavor for his patient reading, correction and helpful comments of the manuscript of this study.

The author would like in particular to thank Mr. Sakorn Promkutkaew for his assistance during in the field and laboratory. Extended access to Mr. Intorn Masuwan from the Highland Agricultural Development Division, for his assistance to created the map of study sites with computer programme.

Special thanks extend to all the author's staff at the Royal Project Foundation for their encouragement.

Finally, a special gratitude is expresses to the author's family for their love and encouragement untill the author reaches the successful of this programme.

Orapin Watchawong