# Table of Contents

Acknowledgments                                      iv  
Summary                                             v  
Zusammenfassung                                     x  
Table of Contents                                   xv  
List of Tables                                      xvii  
List of Figures                                     xviii  

1 Introduction                                      1  
  1.1 Introduction to Papua’s Biodiversity           1  
  1.2 Research Objectives                           5  

2 Ecology of the Red Rainbowfish and the Impact of Human Activities on Its Habitats  6  
  2.1 The New Guinea Freshwater Fishes               6  
    2.1.1 Biodiversity of Freshwater Fishes in New Guinea Island   6  
    2.1.2 Status and Conservation Measures of Freshwater Fishes  6  
    2.1.3 New Discoveries                                 9  
  2.2 The Ecology of the Red Rainbowfish             9  
    2.2.1 Distribution                                  10  
    2.2.2 Habitat                                       13  
    2.2.3 Diet                                          16  
    2.2.4 Reproduction                                  17  
    2.2.5 Ecological Roles                              17  
  2.3 Human Impact around Lake Sentani and Its Threats to the Rainbowfish               17  
  2.4 The Red Rainbowfish: Status and Conservation Efforts                        22  

3 Research Methods                                  23  
  3.1 Study Area                                      23  
  3.2 Sampling Protocols                              24  
    3.2.1 Sampling Sites                               25  
      3.2.1.1 Zone I                                   25  
      3.2.1.2 Zone II                                  25  
      3.2.1.3 Zone III                                 25  
  3.3 Study Period                                    28  
  3.4 Data Collection                                 28  
    3.4.1 Red Rainbowfish Abundance                   28  
    3.4.2 Physicochemical Parameters                   29  
    3.4.3 Red Rainbowfish Habitat Characteristics     30  
  3.5 Data Analyses                                   31  
    3.5.1 Impact of Human Activities on the Red Rainbowfish  31  
    3.5.2 Red Rainbowfish Abundance                   32