

Differences in the migratory history of male and female Japanese eels, *Anguilla japonica*

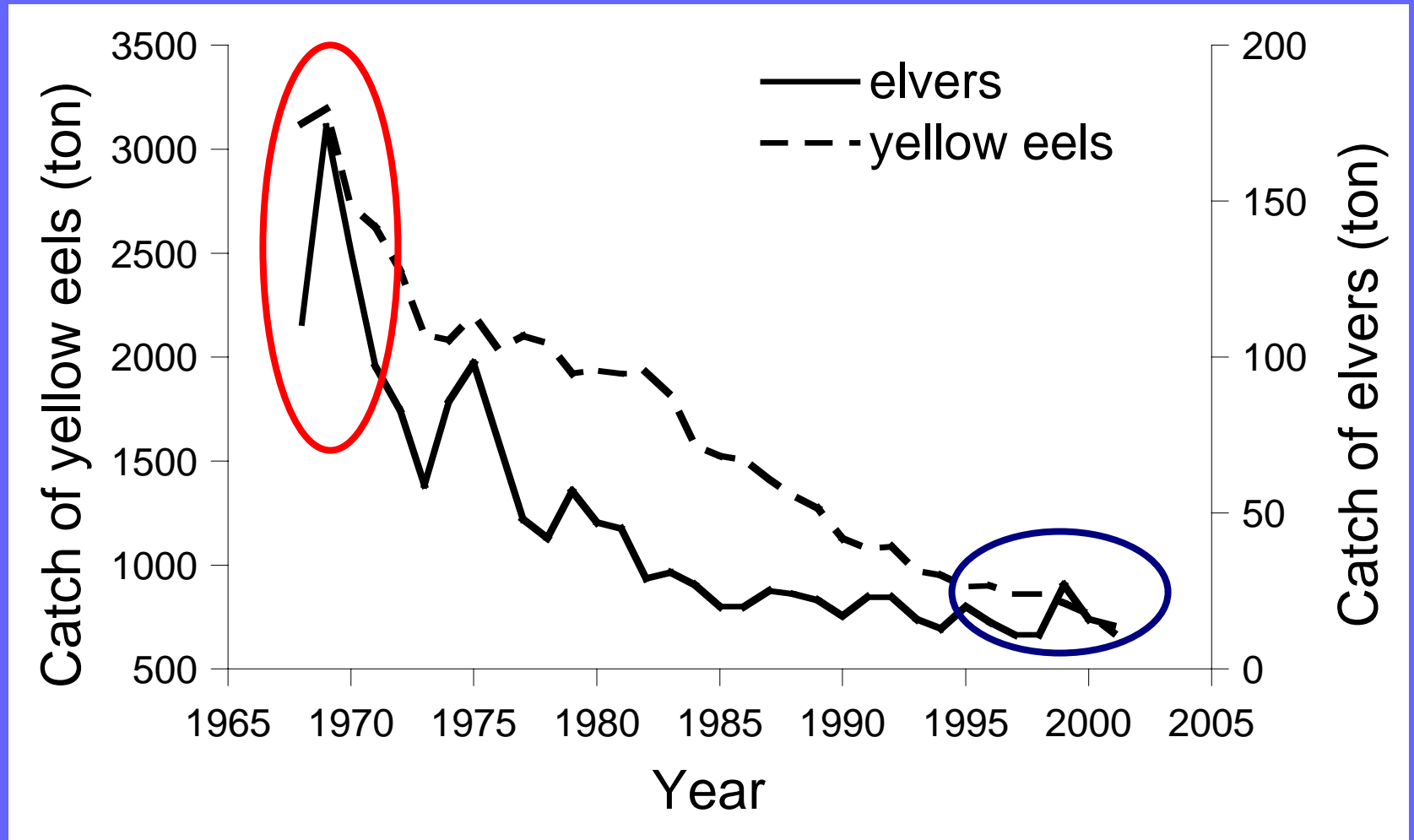
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The University of Tokyo

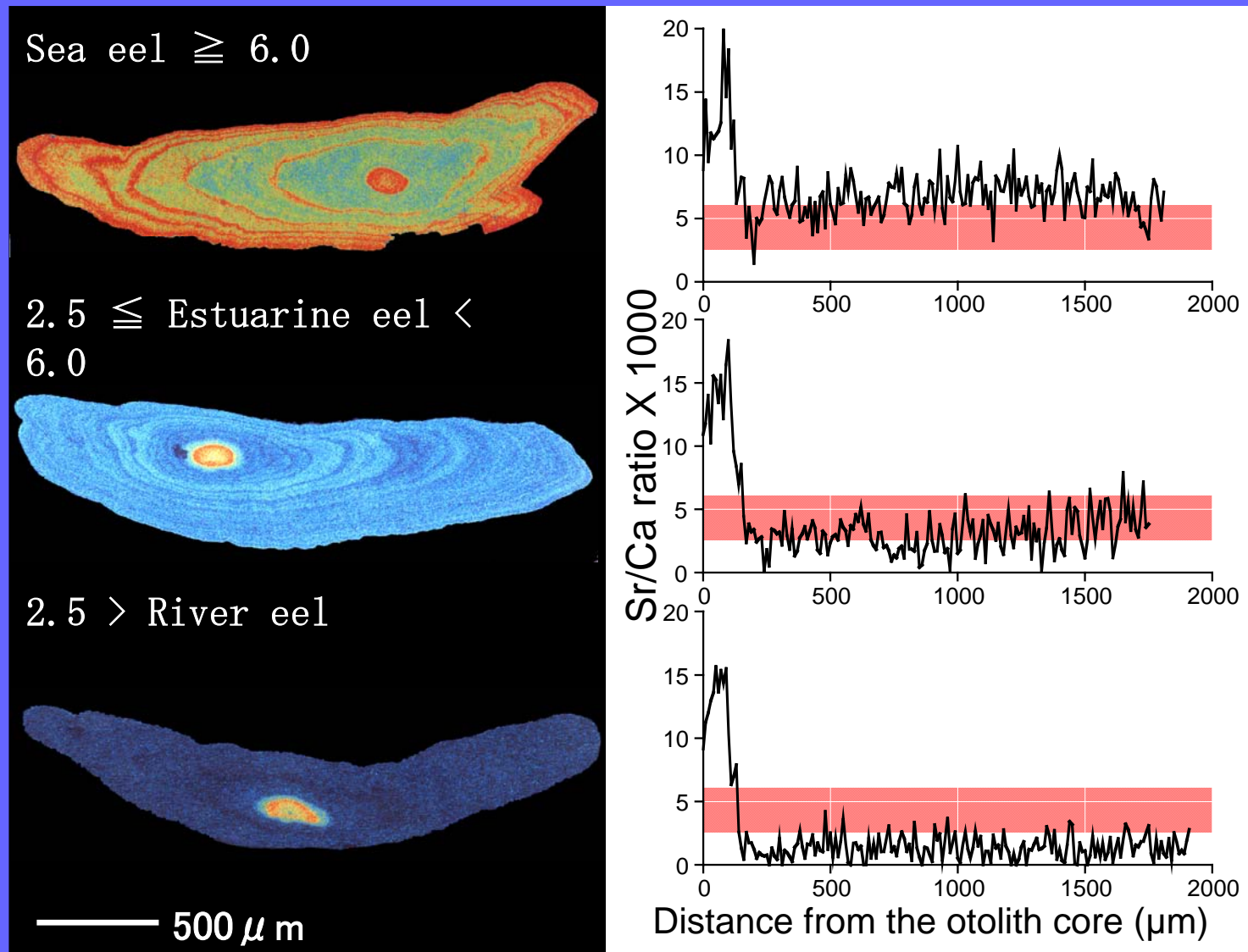
Introduction I

Decrease of Japanese eel resources



Introduction II

Sea, estuarine and river eels

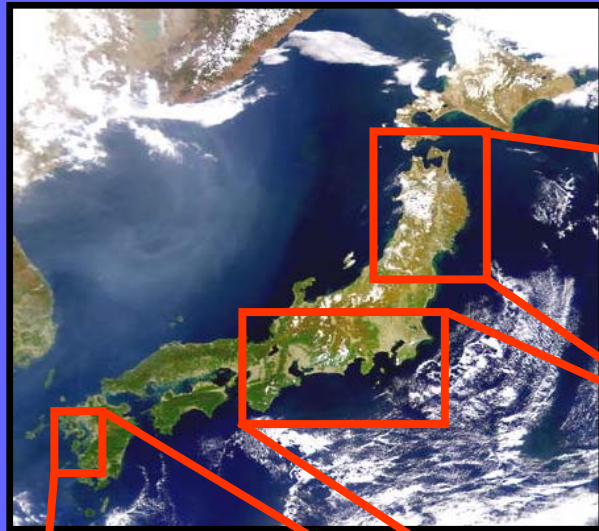


Tsukamoto and Arai (2001)

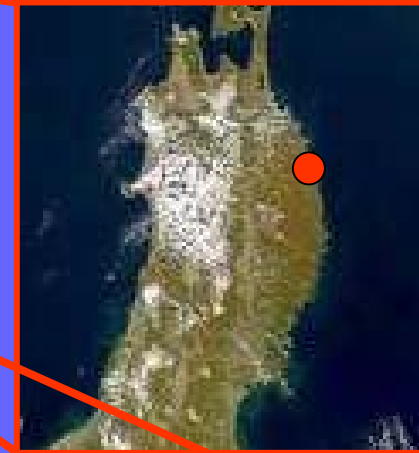
Objectives

- 1. Investigate the geographic distribution of sea, estuarine and river eels**
- 2. Determine the proportion of males and females of the three migratory types**

Sampling Sites For *Anguilla japonica*



Sanriku Coast



Amakusa



June 2001 – September 2002
Mikawa Bay



June 2002

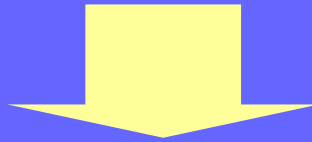
female November and December 2000

13 males and 30 females

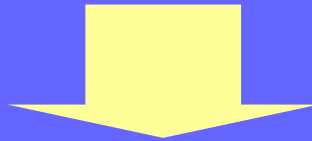
study: 13 males and 24 females

Methods

Biological characteristics
(Total length, Body weight, Gonadsomatic Index)

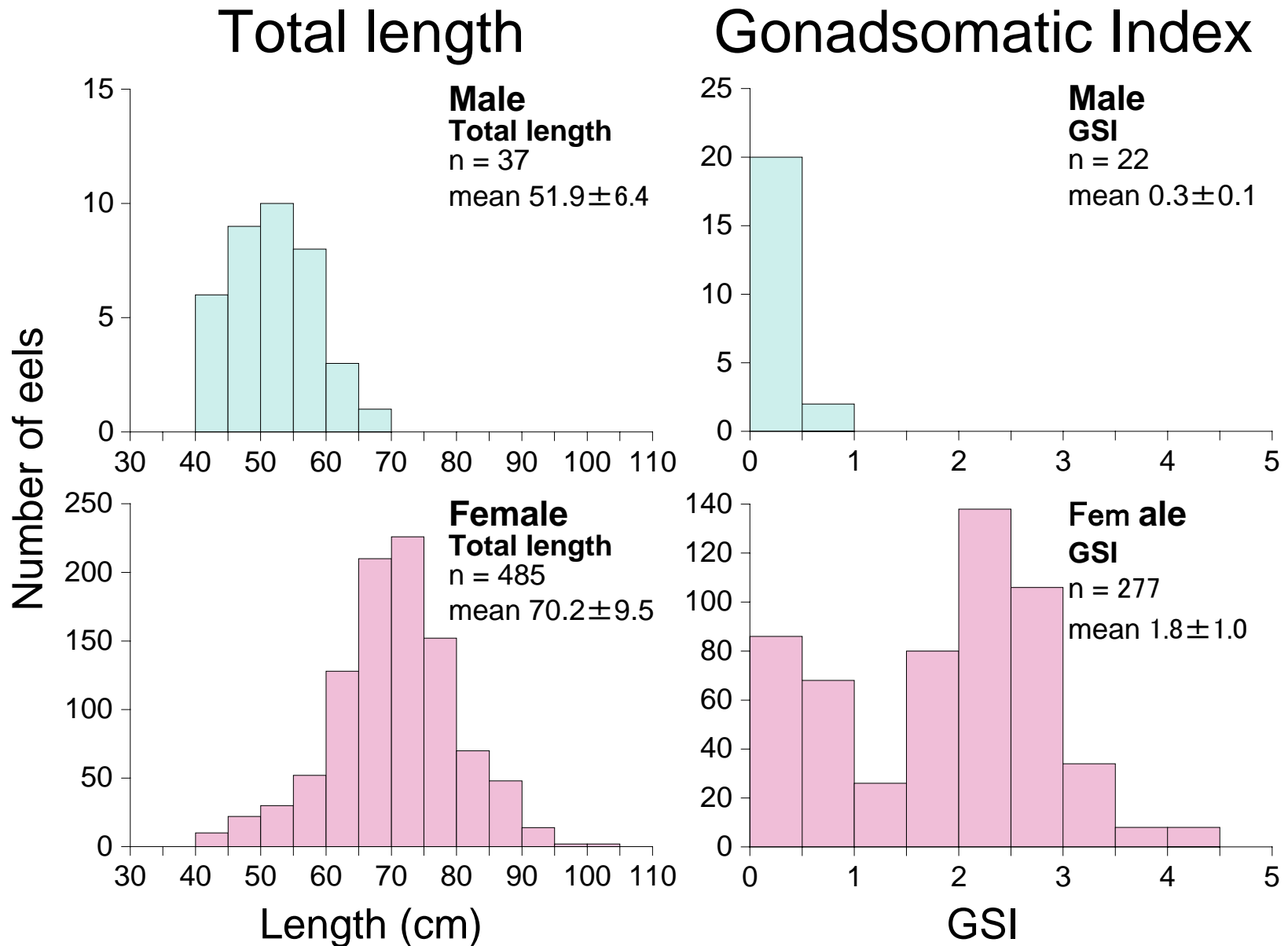


Otolith Sr/Ca ratios

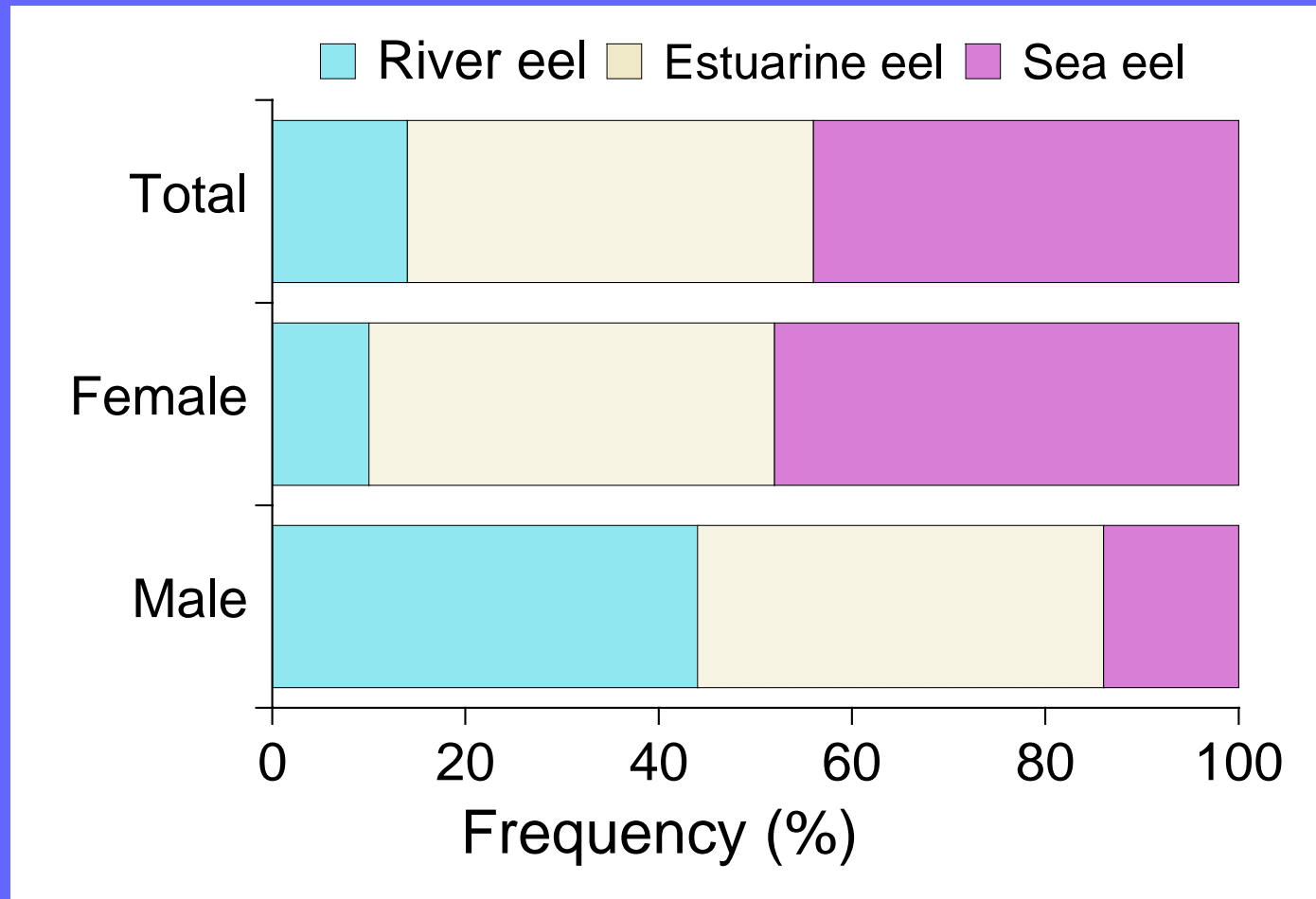


Divide into three migratory types
(Sea eel, estuarine eel and river eel)

Results I - Biological characteristics

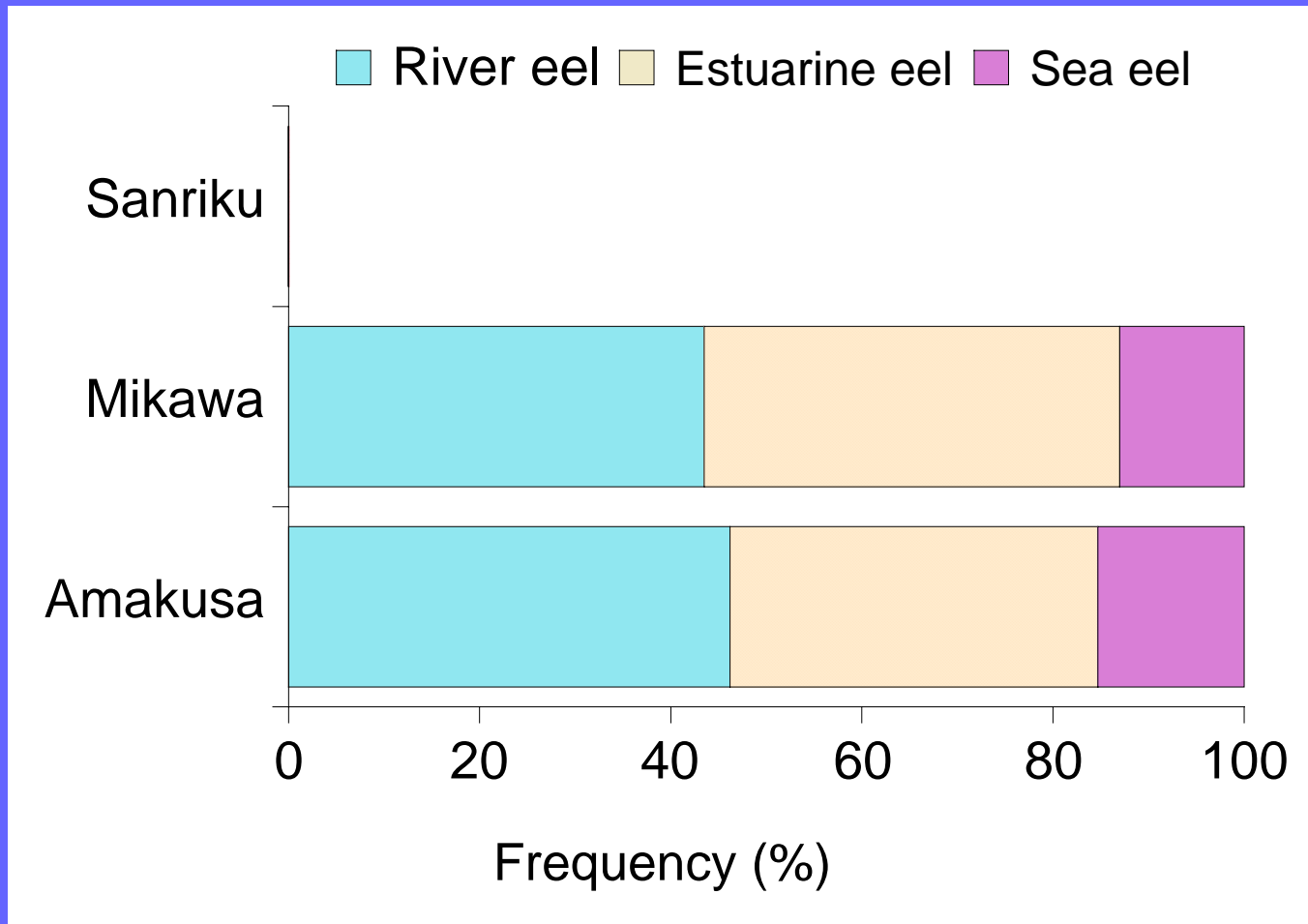


Results II - Migratory history



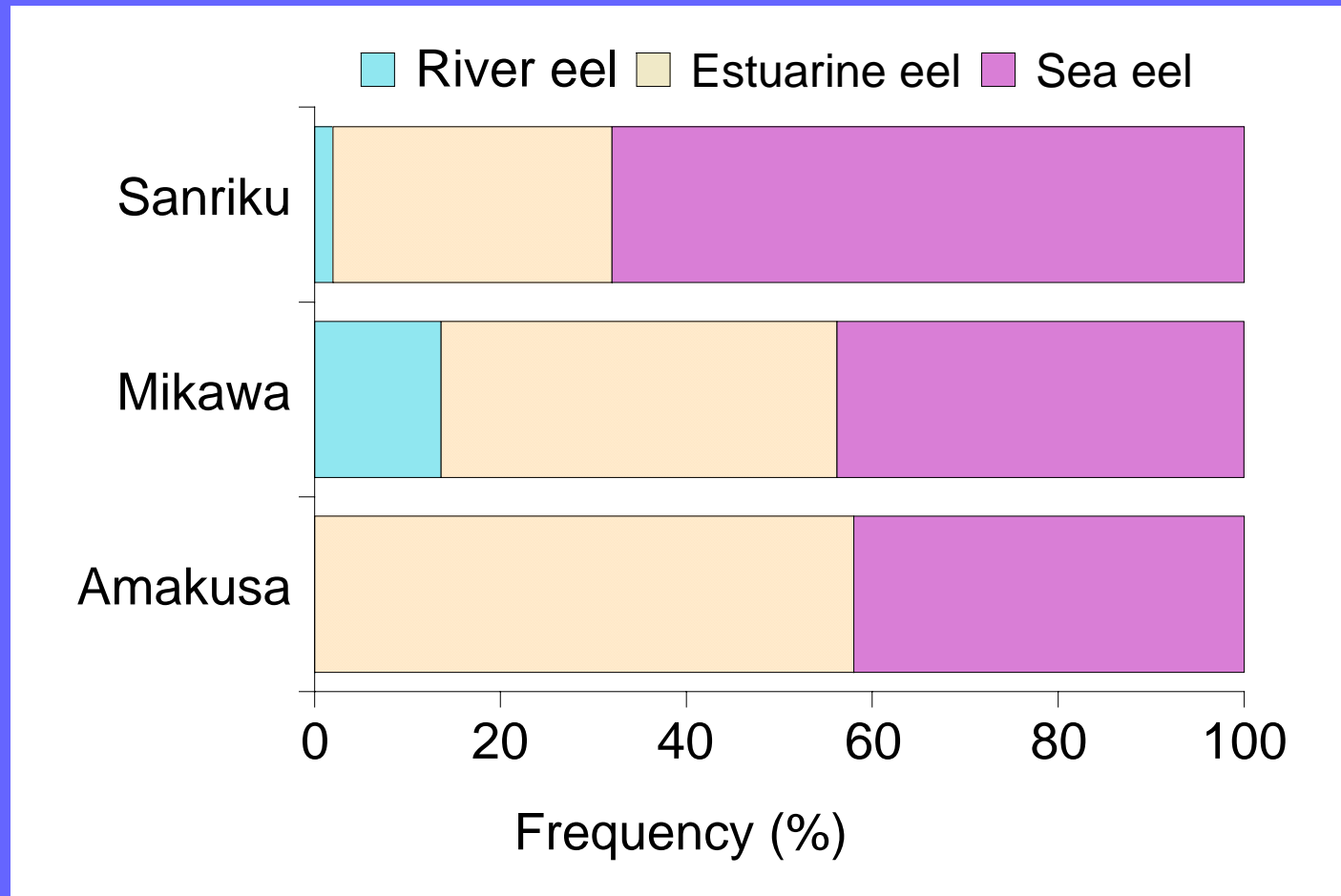
There were differences in migratory types between males and females

Results III - Male



**Most common migratory type of males
was river eel**

Results IV - Female



**Sea eel is the most common migratory type
in females**

Conclusion

There were differences in frequency of migratory history both localities and sexes



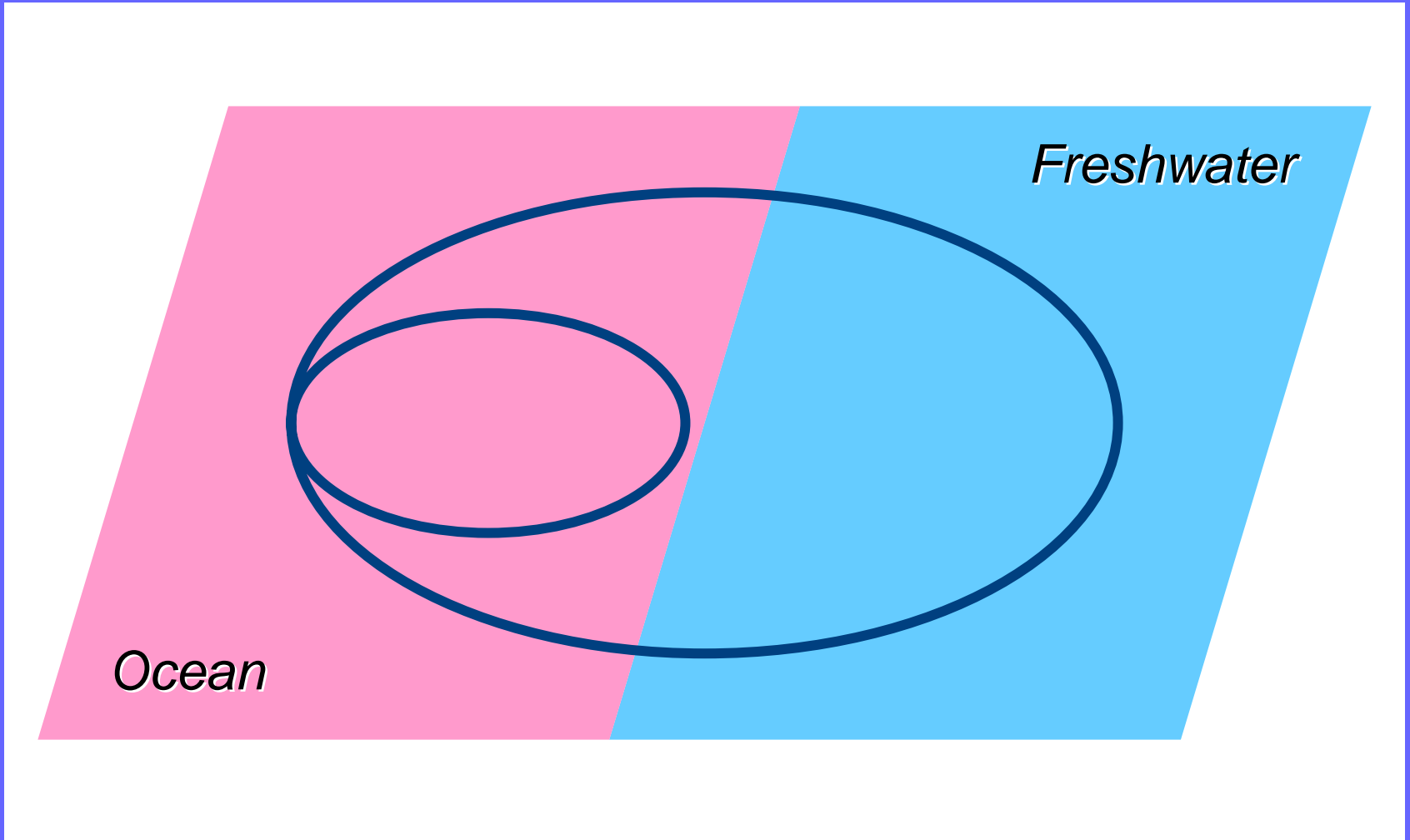
Need new management strategies for sustainable use of the Japanese eel at each locality

Future research directions

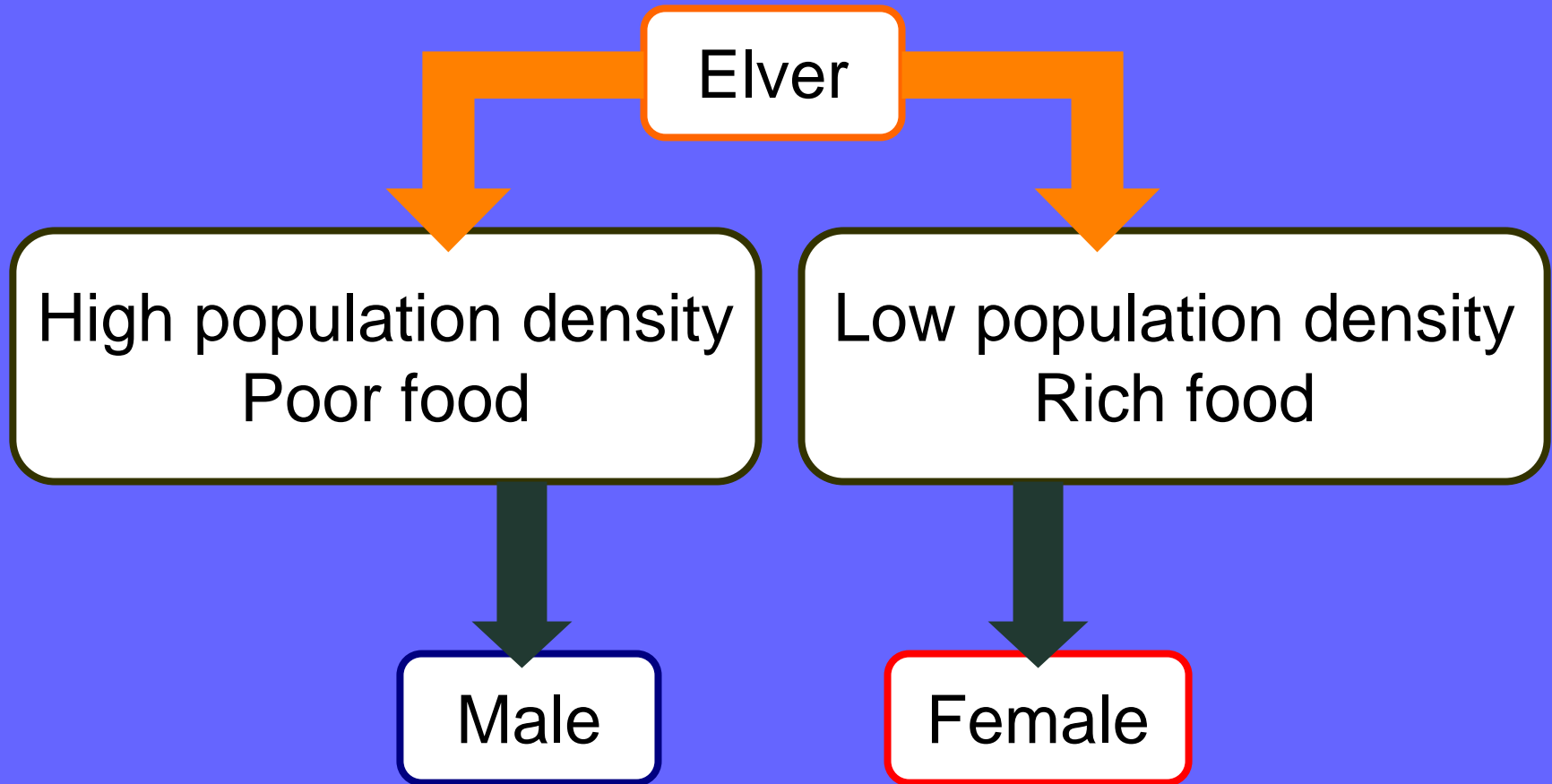
- Increase number of study areas and eels
- Why is there such a tendency for many Japanese eels to live in marine habitat?

Introduction II

Diversity of migratory history



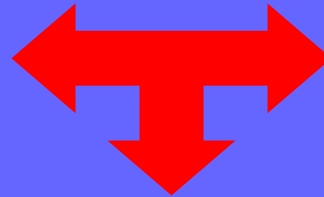
Sex determination



Freshwater



Sea water



Otolith



**X-ray electron
microprobe analysis**

