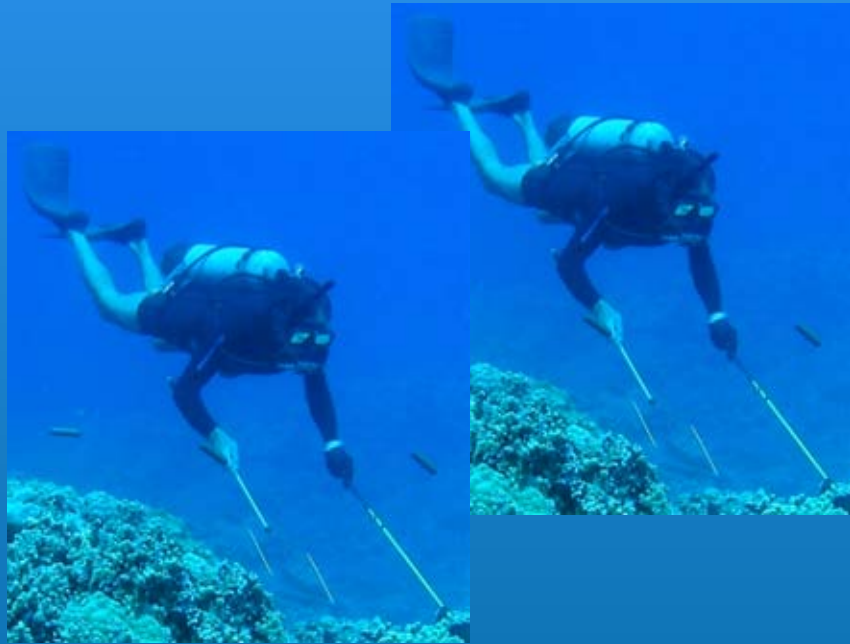


# Impacts of a Marine Protected Area Network in West Hawai'i On the Abundance and Sustainability of the Aquarium Fishery For the Yellow Tang, *Zebrasoma flavescens*



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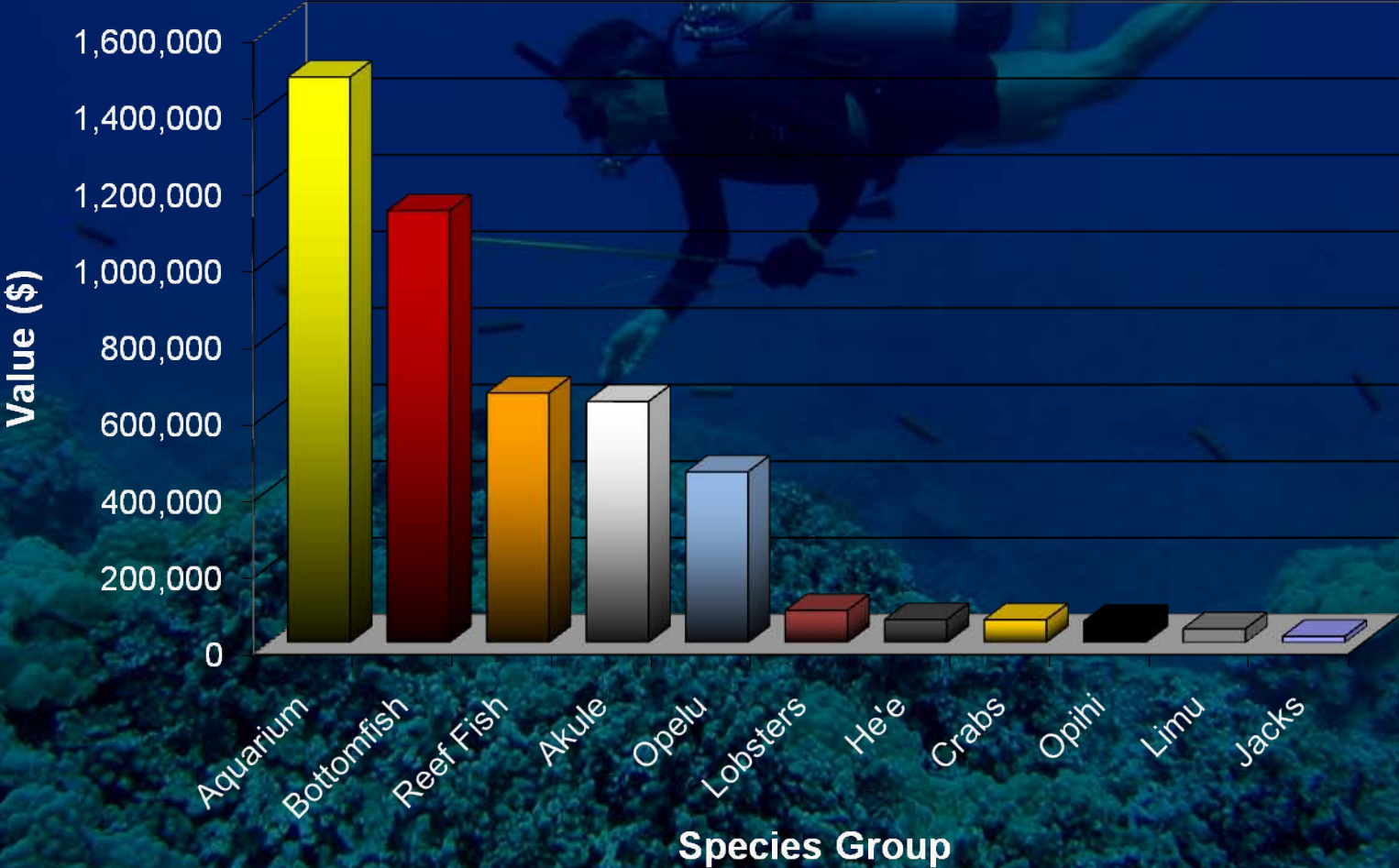
Washington State University, Vancouver

Kosta Stamoulis

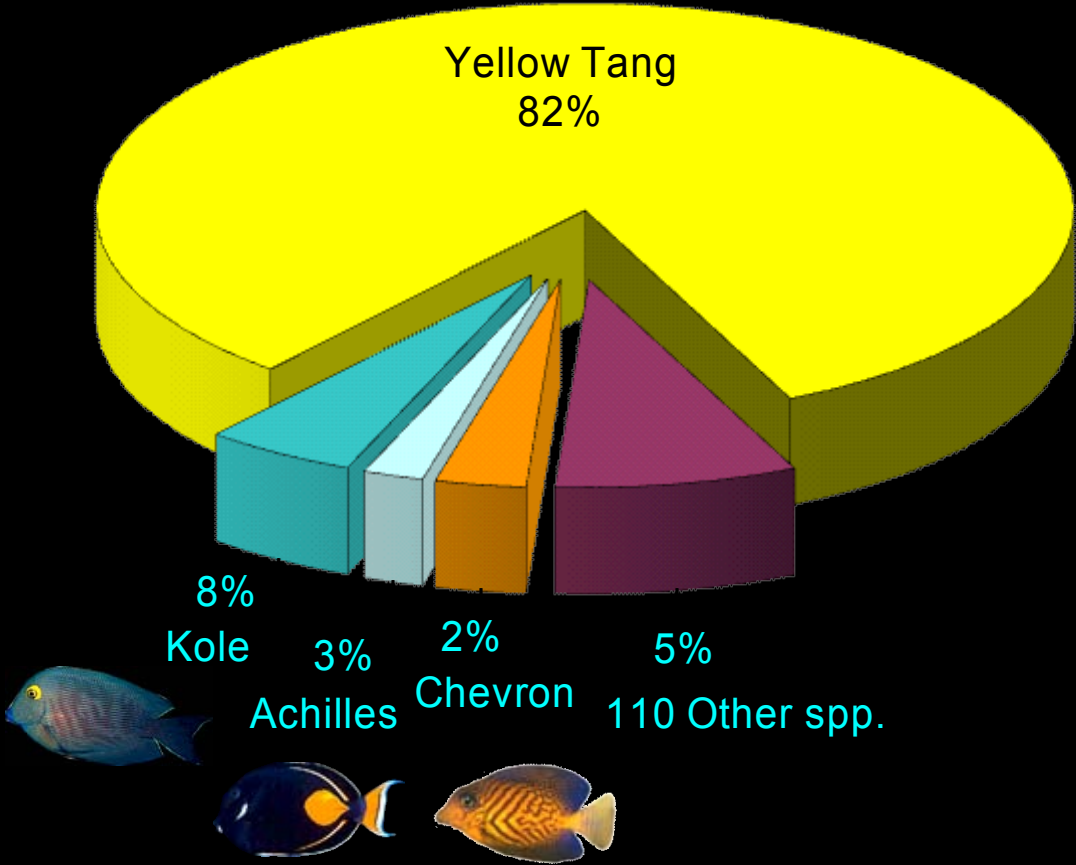
Hawai'i Division of Aquatic Resources

# Value of MHI Inshore Fisheries



Fiscal Year 2007



# Big Island Aquarium Catch Fiscal Year 2007



# West Hawai'i Fish Replenishment Areas (FRAs)

 100 Fathom Contour  
 Fish Replenishment Areas



Act 306

West Hawai'i  
Fisheries Council



Map Projection: UTM Zone 4 1:600,000  
Data Provided by: State of Hawaii  
Map Created by: Lisa Wedding 6/27/02



8 0 8 16 Miles



# WHAP Study Sites

- Open Sites
- MPA Sites
- FRA Sites
- ∩ 100 Fathom Contour
- Fish Replenishment Areas



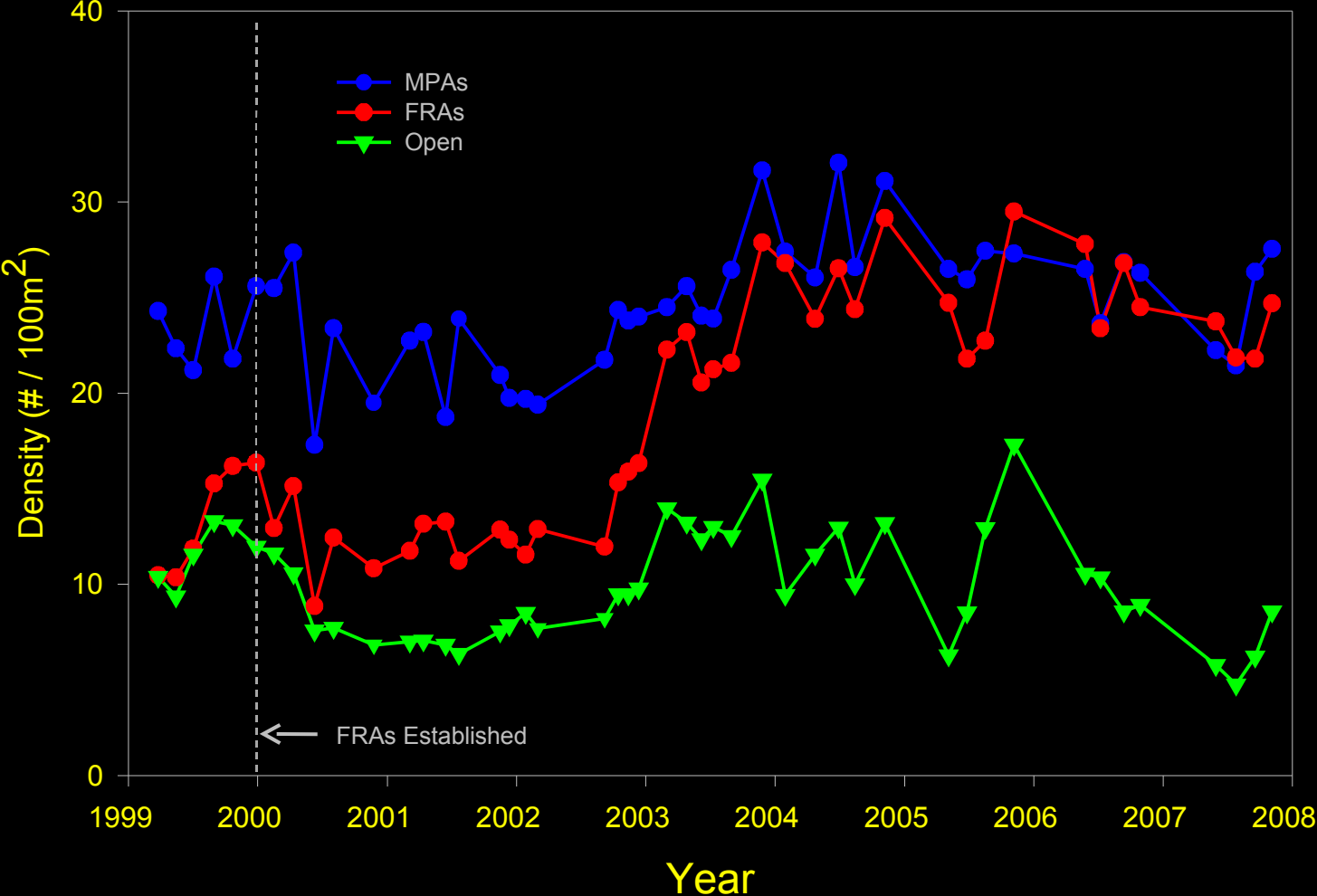
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Data Provided by: State of Hawaii  
Map Created by: Lisa Wedding 6/27/02



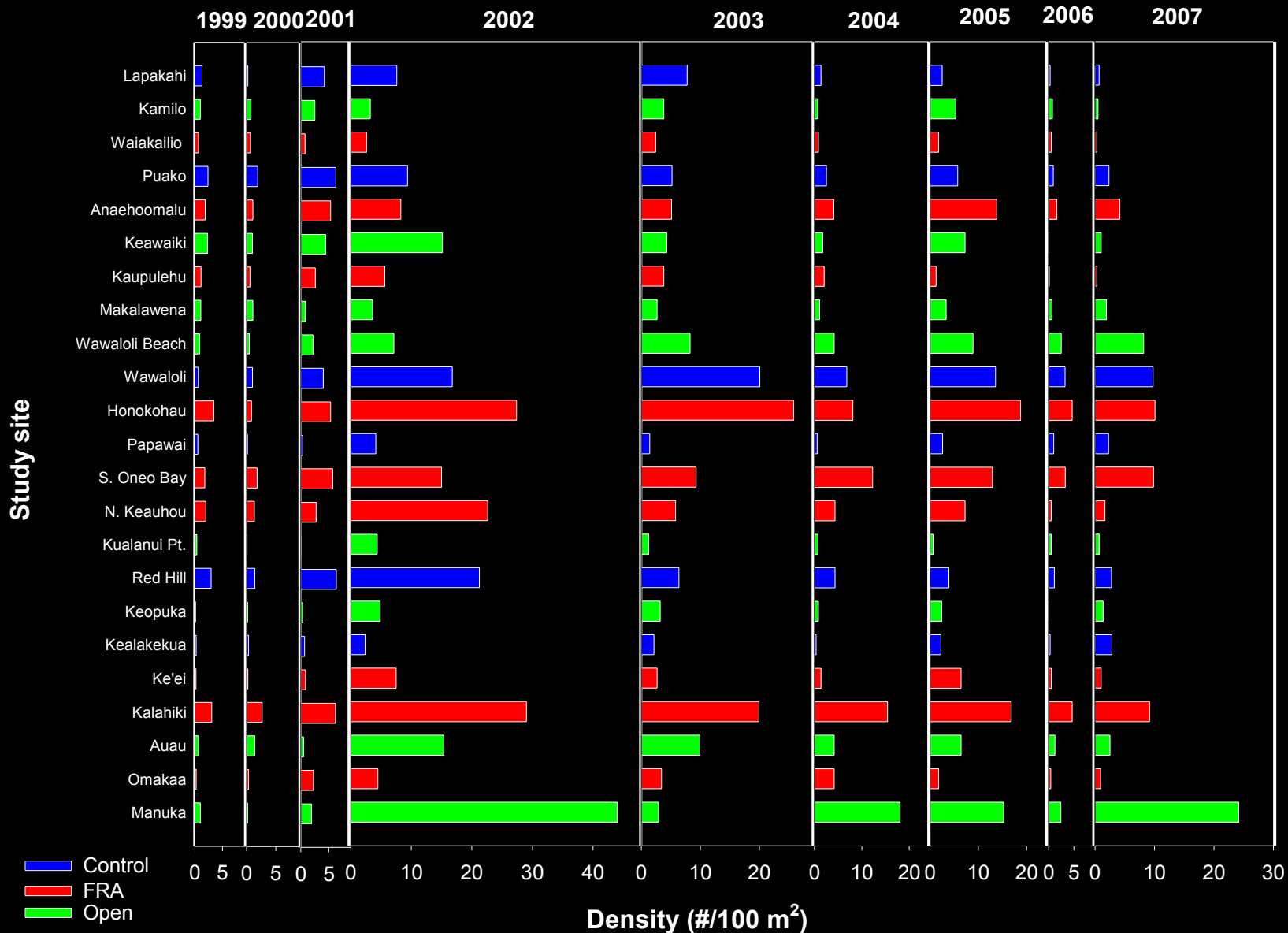




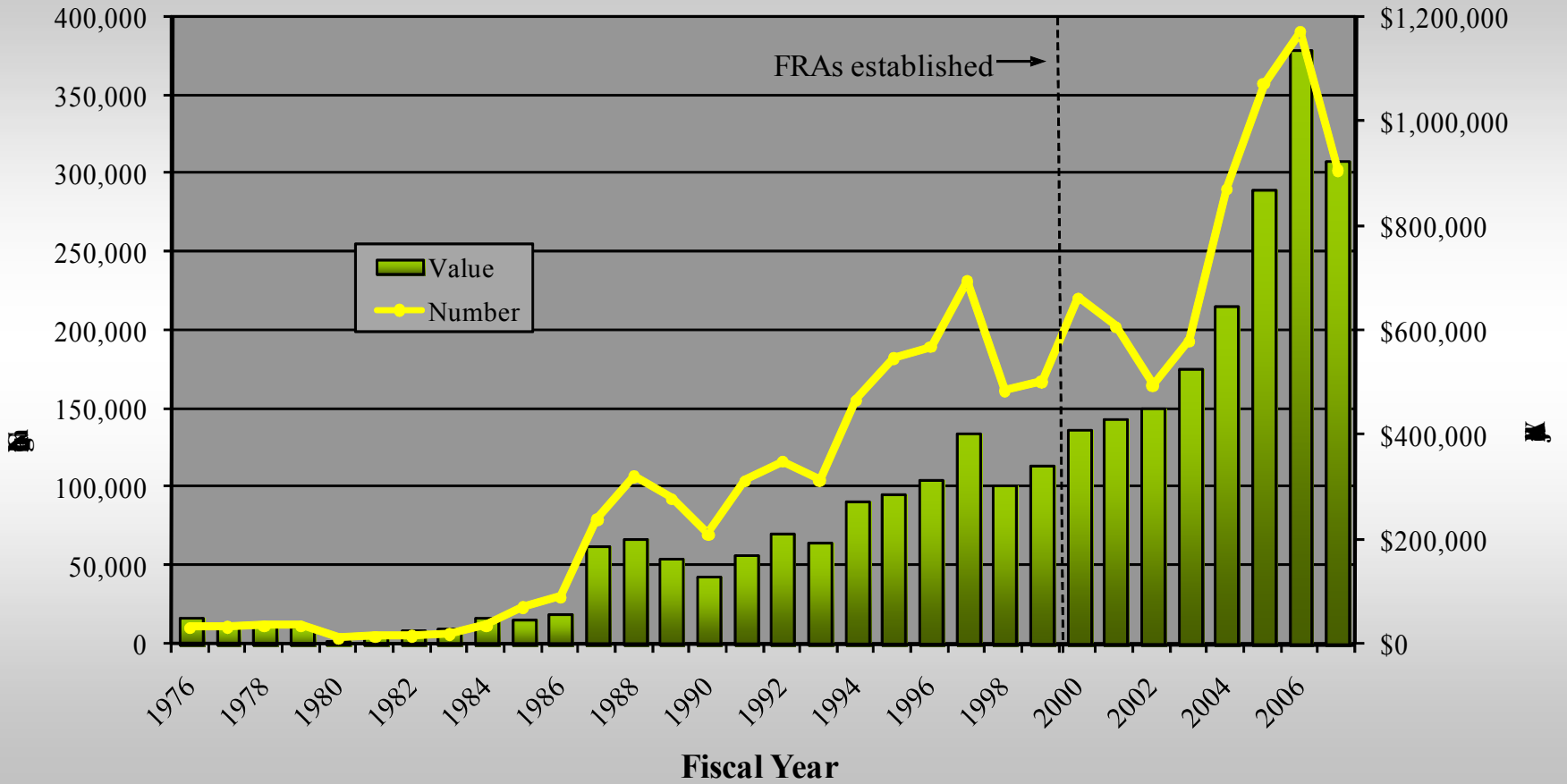
# West Hawai'i Yellow Tang Abundance



# *Zebrasoma flavescens* YOY








## Number and Value of Yellow Tangs Caught in West Hawai'i



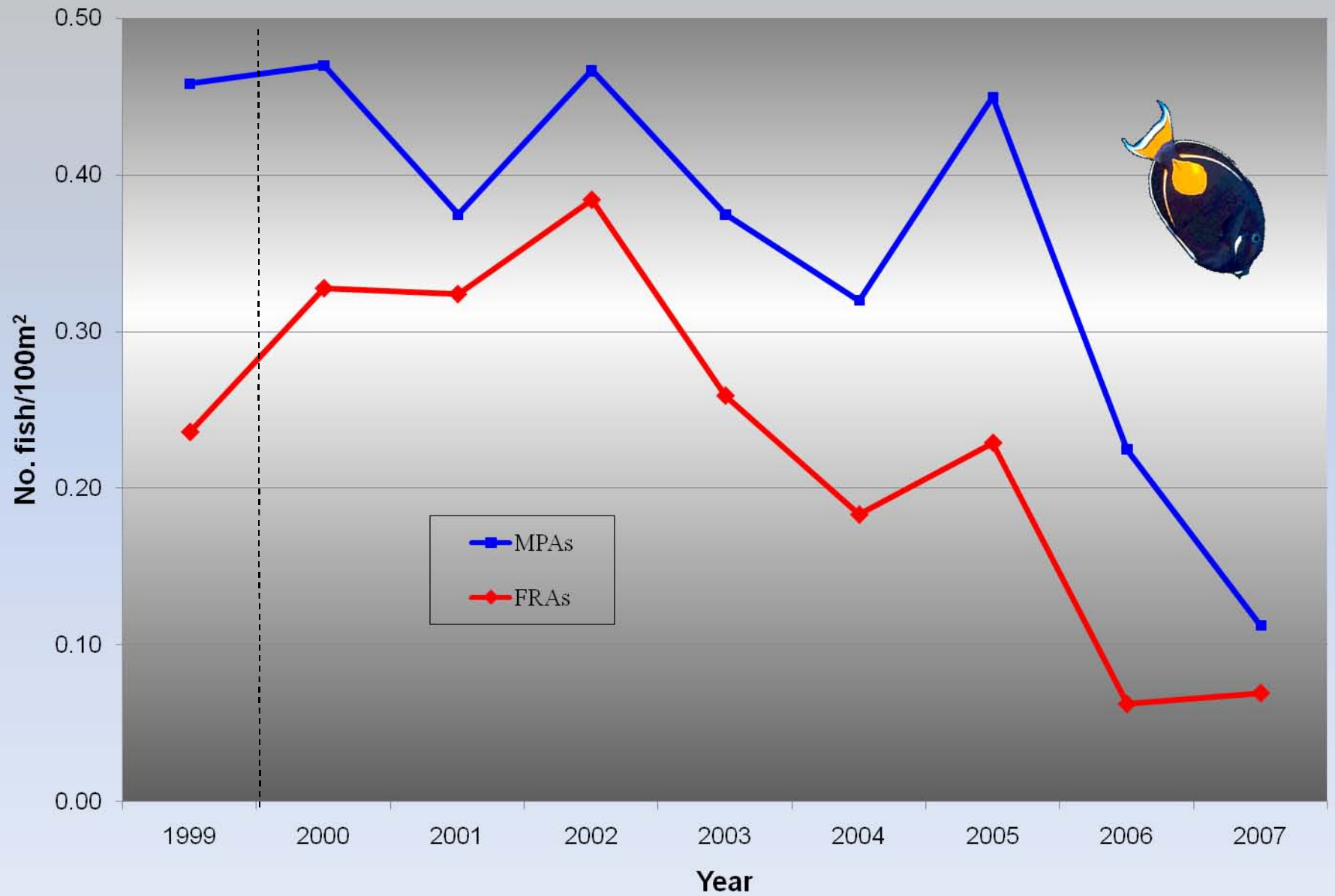
## Number of Aquarium Permits and Collected Animals in West Hawai'i



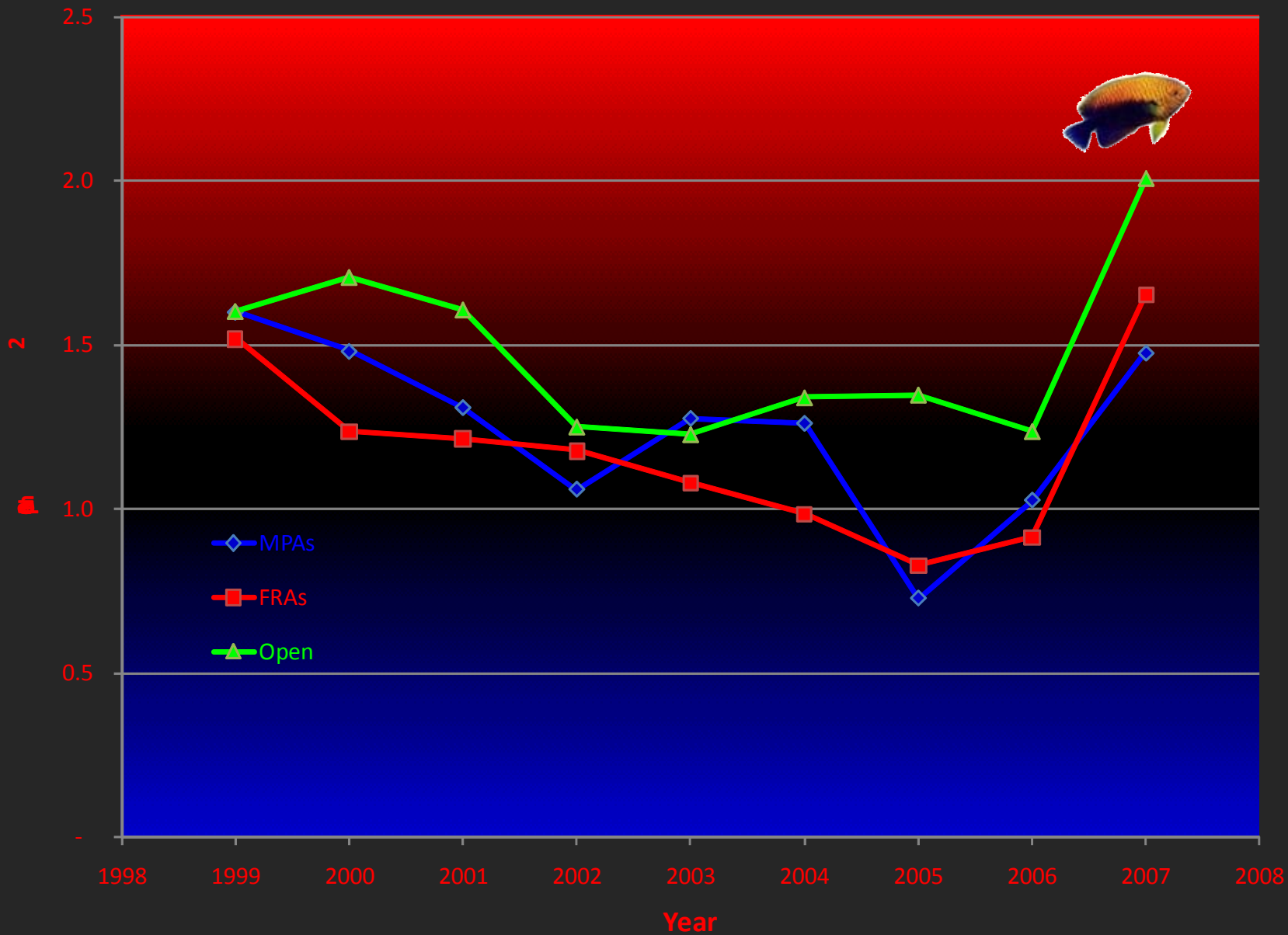
# Change in Abundance of Top 5 Aquarium Species 1999/00 to 2006/07 Excluding YOY

Species	FRAs	$\rho$	Coast
 <i>Zebrasoma flavescens</i>	+90%	<b>0.01*</b>	+19%
 <i>Ctenochaetus strigosus</i>	+23%	<b>0.02*</b>	+18%
 <i>Acanthurus achilles</i>	-74%	0.15	-30%
 <i>Naso lituratus</i>	-10%	0.65	-8%
 <i>Ctenochaetus hawaiiensis</i>	+45%	0.23	+10%

# Pāku'iku'i Abundance



# *Centropyge potteri* (Potters Angel) Abundance



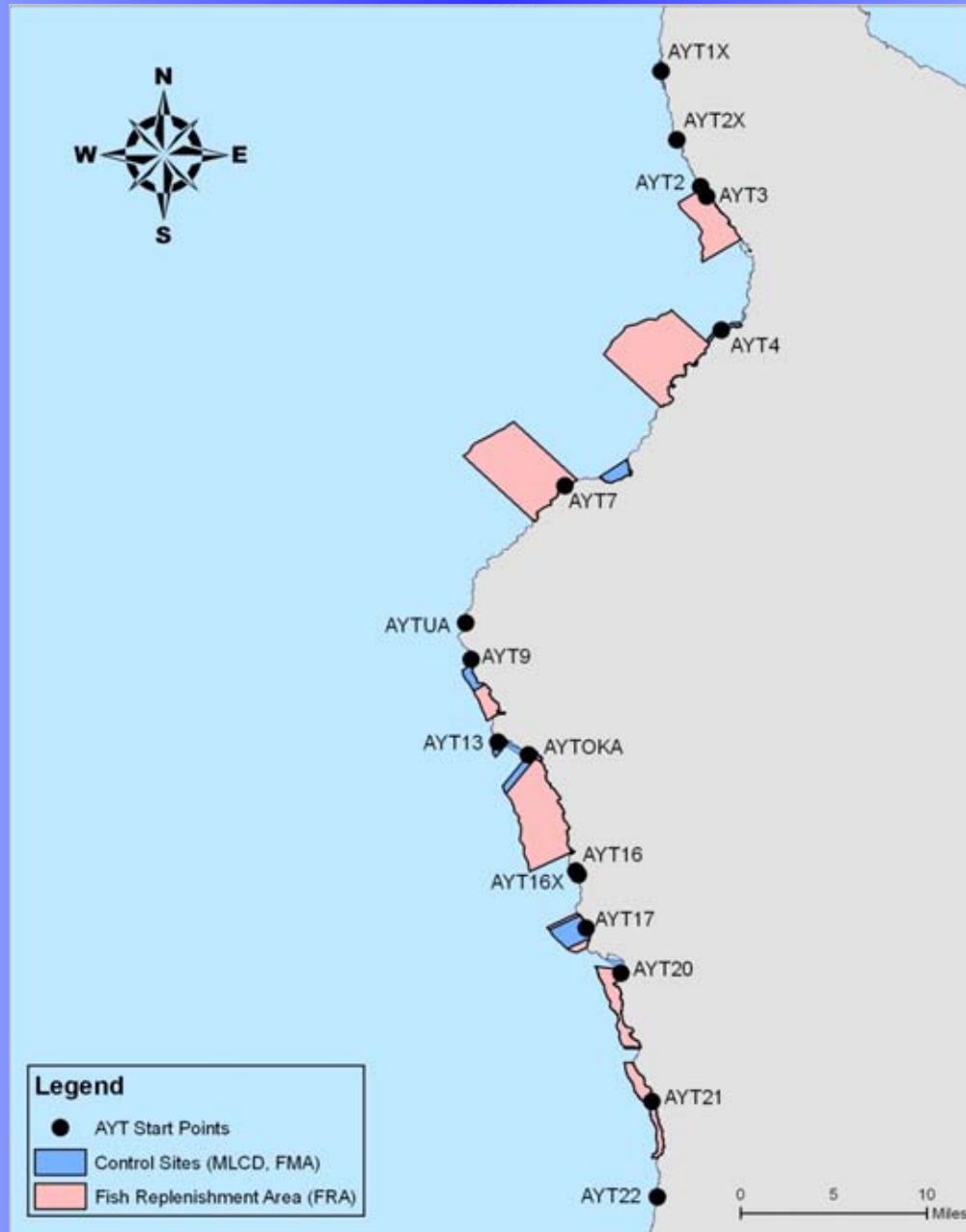


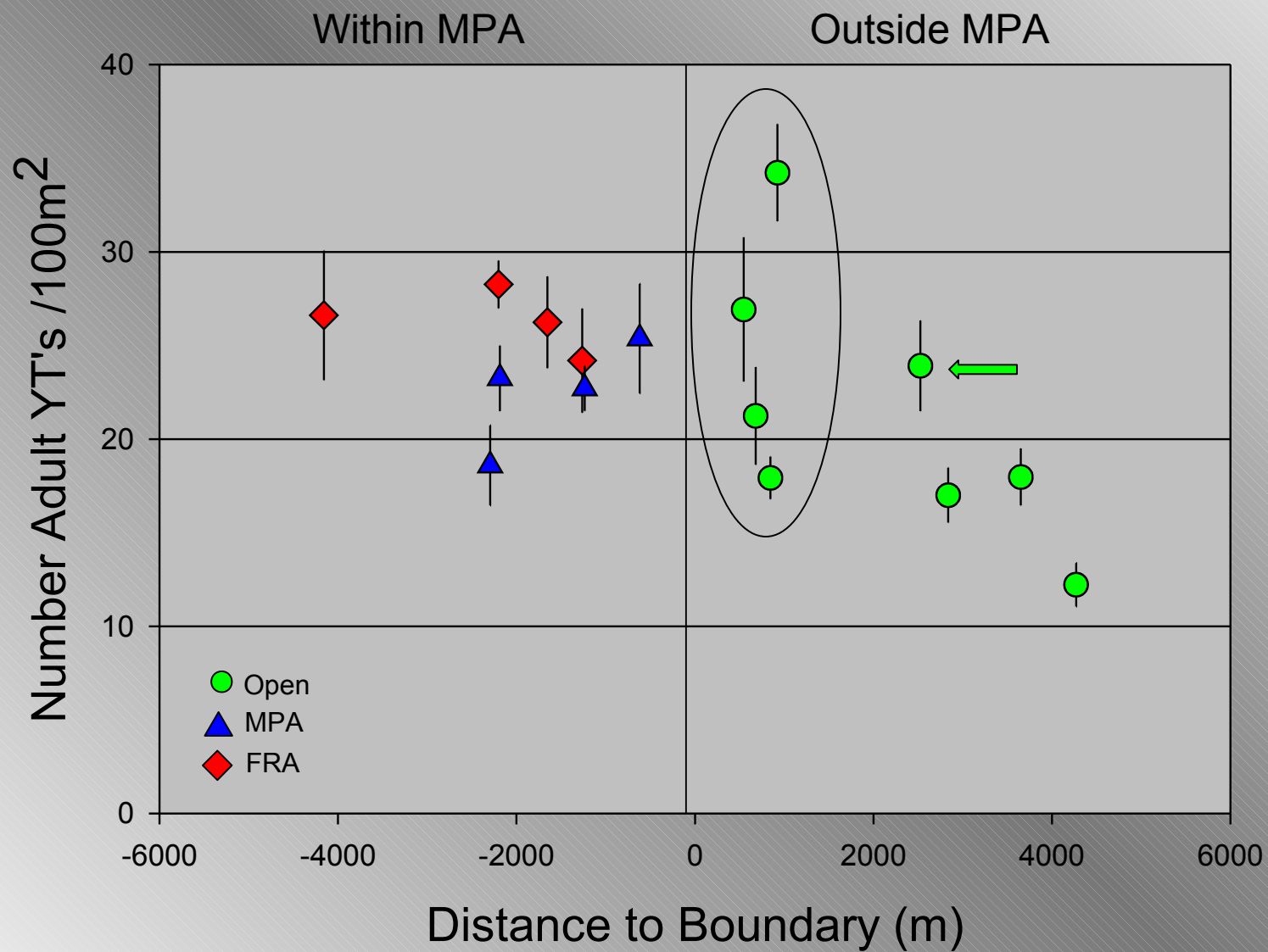


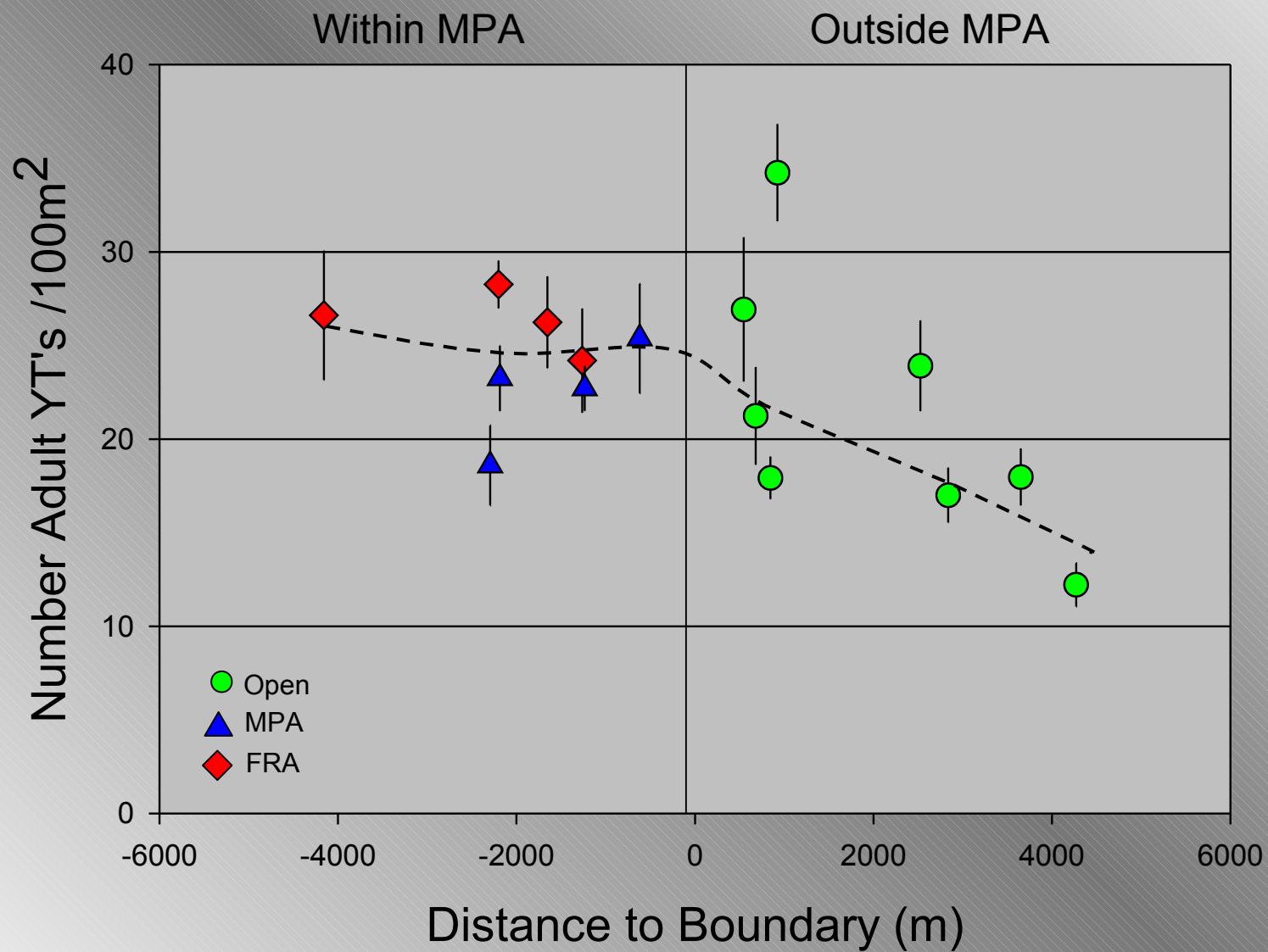
# Jetboots Surveys



# Adult Yellow Tang Survey Sites







Age at First Reproduction:

4-7 years



Life Span: at least 40 years!

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