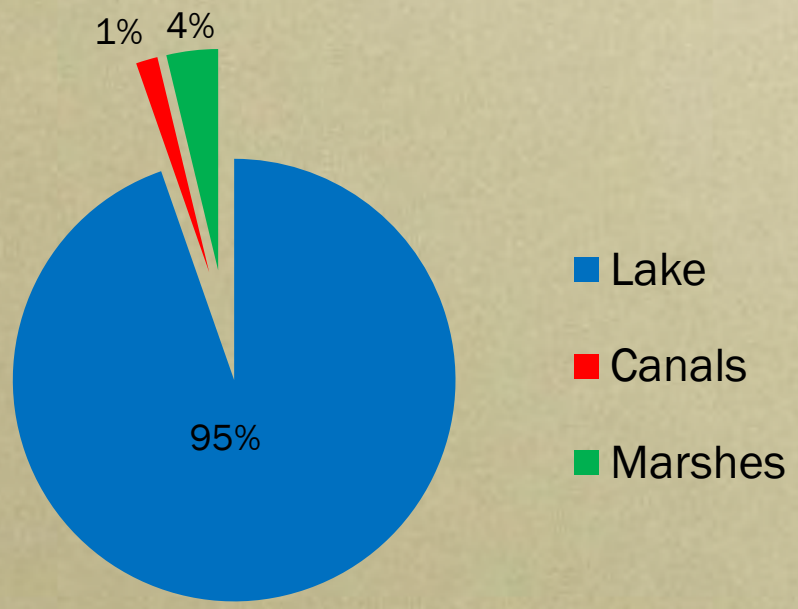
Lake Griffin Canal and Lake Fishery Analysis

Canals shown in blue

Lake Griffin: lake, canals, and marshes

- **Lake** (9,300 acres) is ~ 95% of the total water body
- **Canals** ~ 46 canals (from ~10 meters to 1.5 miles) ≈156 acres
  - Some very productive; others unproductive for sport fish
  - Provide substantial shoreline and spawning habitat
- **Marshes:** Area 2 (Knight N) and 4 (Lowrie Brown) ≈ 370 acres
  - Includes only marshes connected to the lake

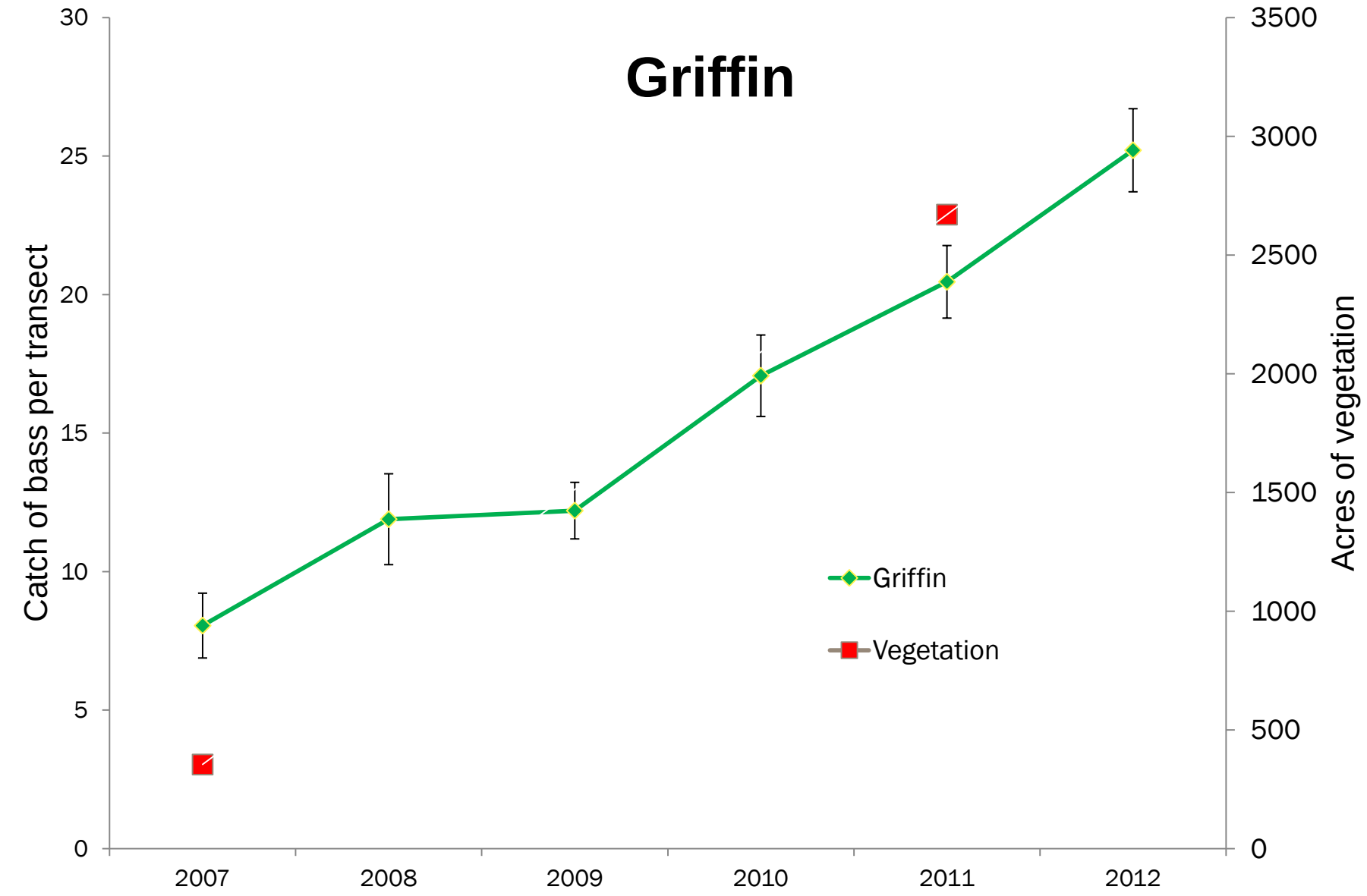


Outline for monitoring Lake Griffin and its canals

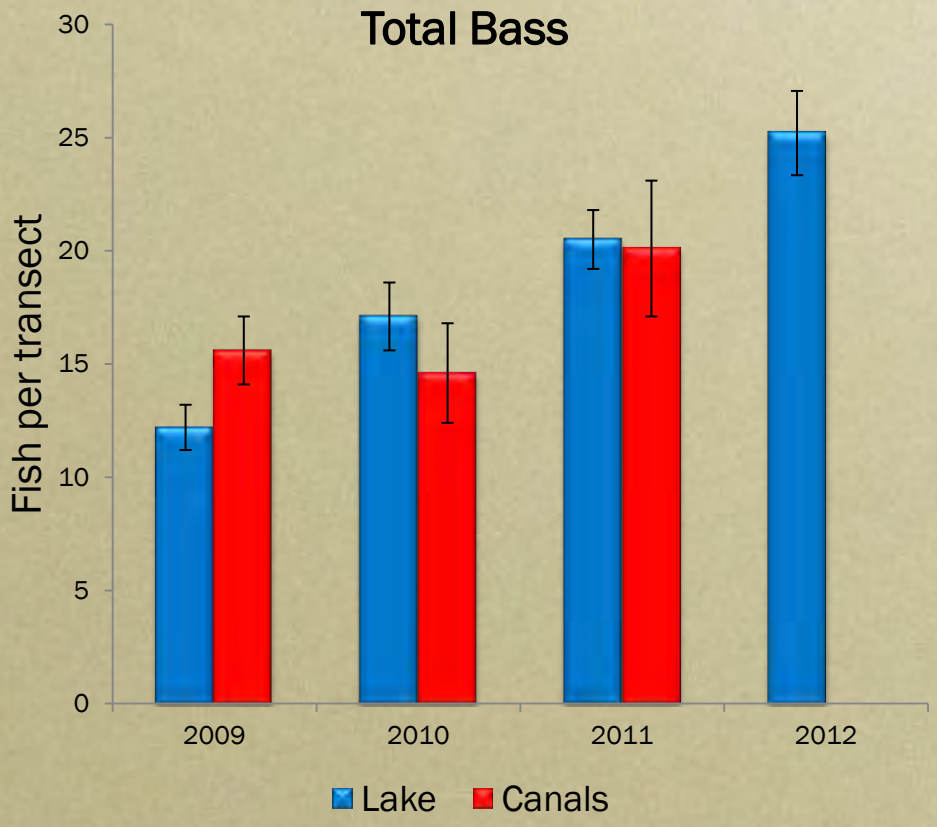
- Electrofishing
- Creel (angler) surveys
- Tagging study

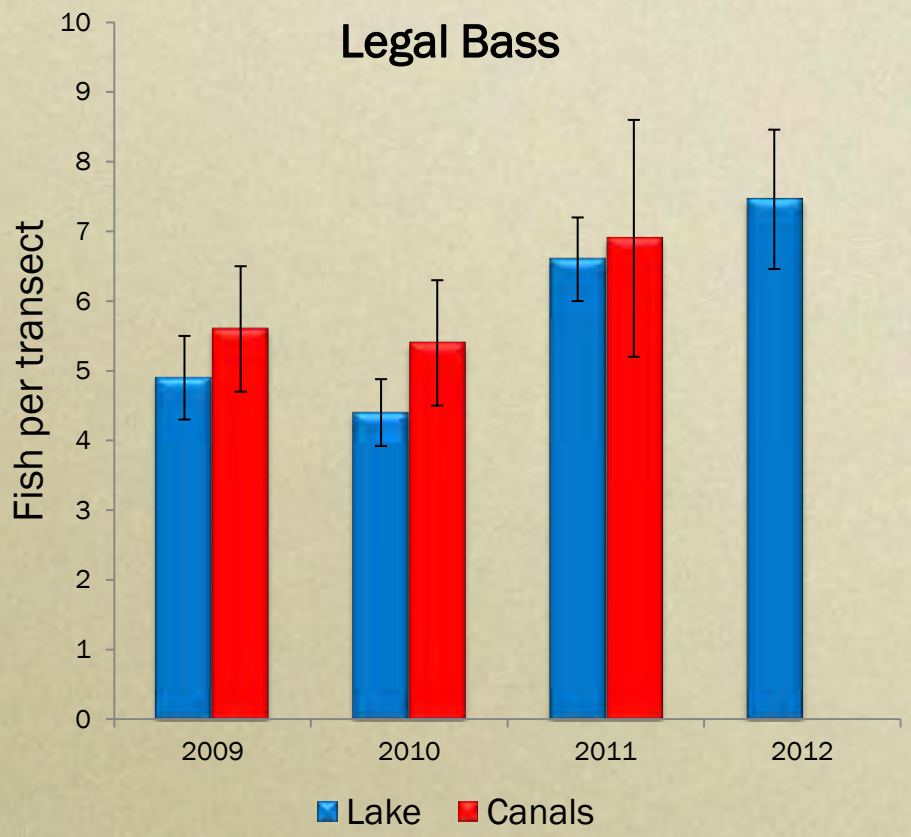
Electrofishing

- Very difficult to estimate total population in large lakes
  - Therefore, we look for trends in catch rates
- Shock in spring (during the spawn)
  - Representative sample


Griffin
Catch of bass per transect
Acres of vegetation
30
25
20
15
10
5
0
3500
3000
2500
2000
1500
1000
500
0
2007
2008
2009
2010
2011
2012
Griffin
Vegetation

Electrofishing Catch rates

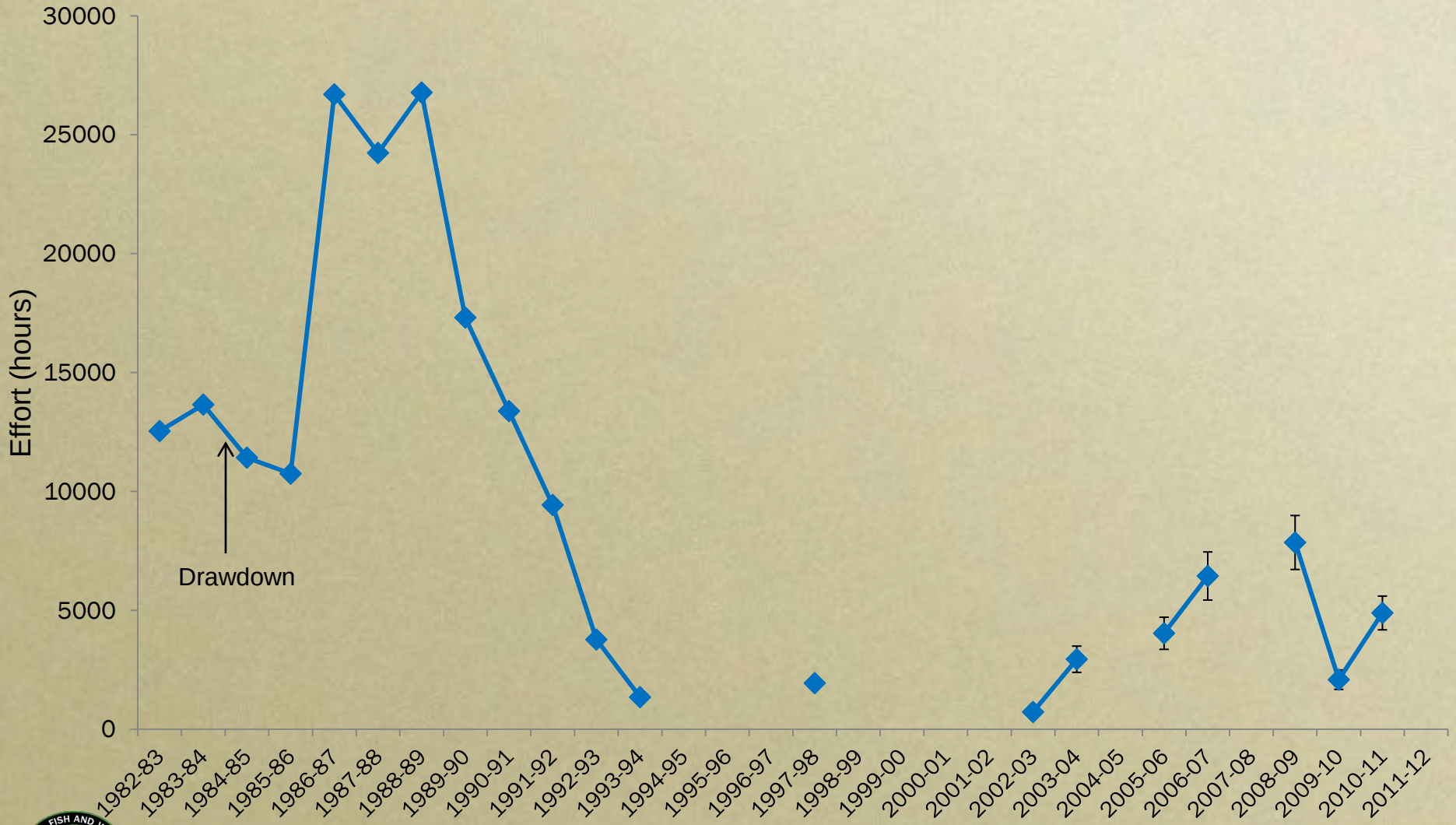




- Did not sample canals during 2012
- Catch rates (not population) are very similar in the lake and canals
- With expansion of vegetation in the lake, the catch rates have increased since 2009
- Small fish produced in 2009-10 are increasing legal fish catch in 2011-12

Lake Griffin Angler Survey 2010-2011

Lake Griffin Bass Effort from Angler Surveys



Lake Griffin Angler Survey 2010-2011 – Lake and Canals

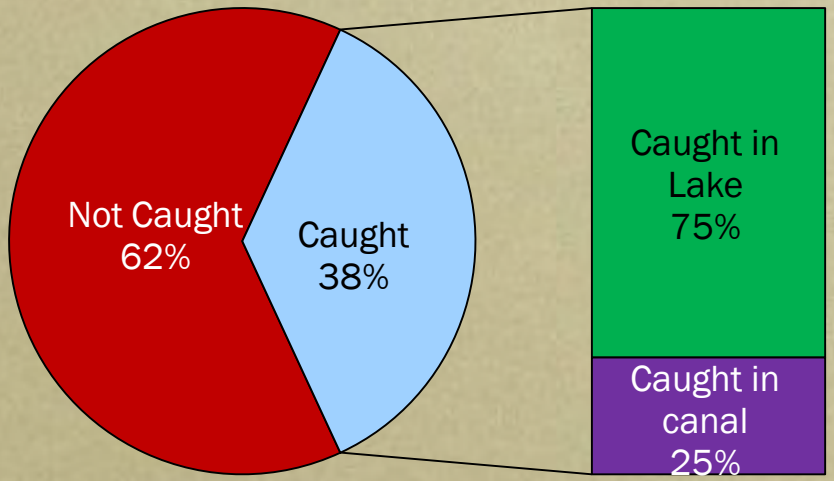
	Effort	*Std Error*	Catch	*Std Error*	Success	*Std Error*
Annual Lake	56,240	3,399				
Bass	9,916	906	6,847	1,612	0.71	0.1
Peak Season Lake	38,546	3,103				
Bass	4,163	651	2,390	1,013	0.55	0.14
Peak Season Canals	52,155	3,168				
Bass	8,731	1,369	5,241	1,712	0.83	0.26

Lake Griffin Tagging

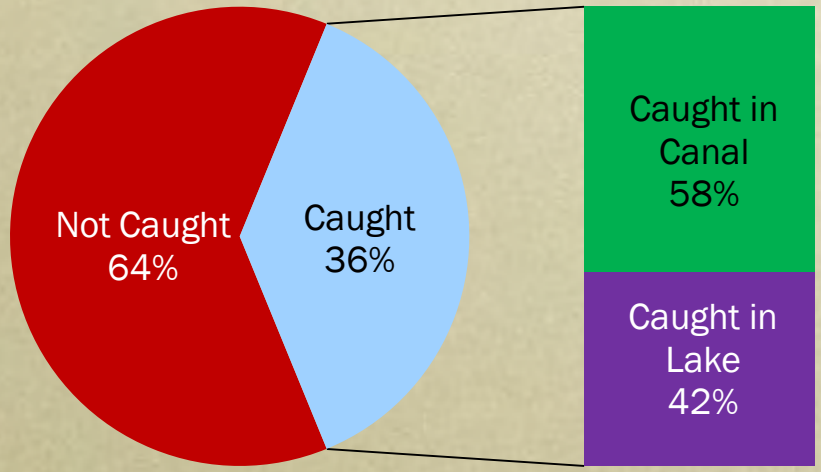
- 300 Bass tagged (Lake and canals)
- Represent all legal fish in Lake Griffin
- High reward tags to ensure returns

Tagging Results

Fish Tagged in Lake



Fish Tagged in Canals



Conclusions

- Creel, electrofishing, and tagging data show that extensive canals in Lake Griffin significantly contribute to the bass fishery

- Bass in the lake and canals comprise a population that moves freely between the lake and canals.

- Trends observed on the lake represent the entire fishery

Conclusions

- Therefore, if our electrofishing samples reveal a 10% contribution of stocked fish, its very likely that ~10% stocked fish also exist in canals and marshes. Higher effort in canals and marshes would lead to higher proportion of tag returns.

- Improvements in habitat continues to drive the entire Lake Griffin bass fishery (lake and canals).

Questions

MyFWC.com