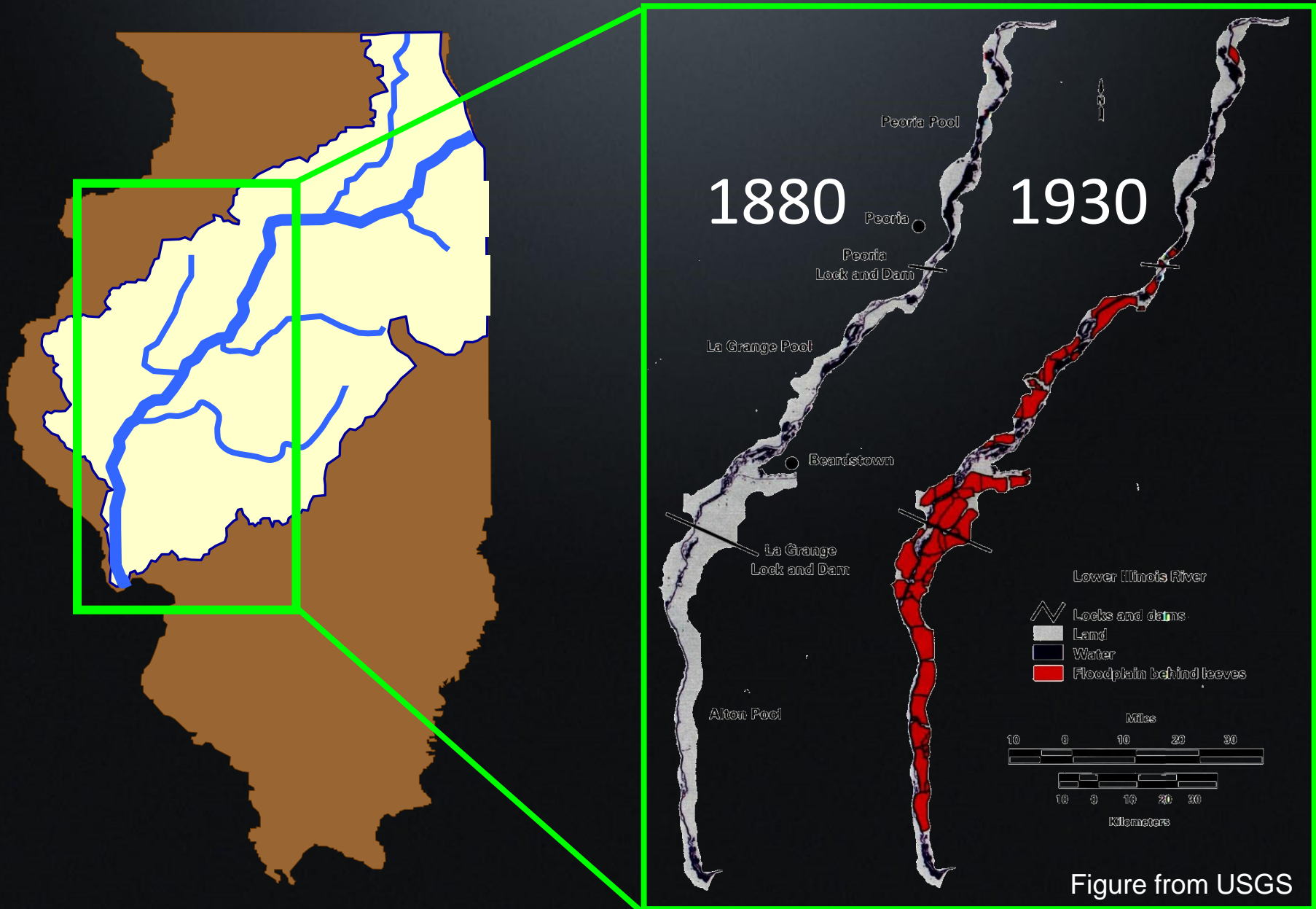


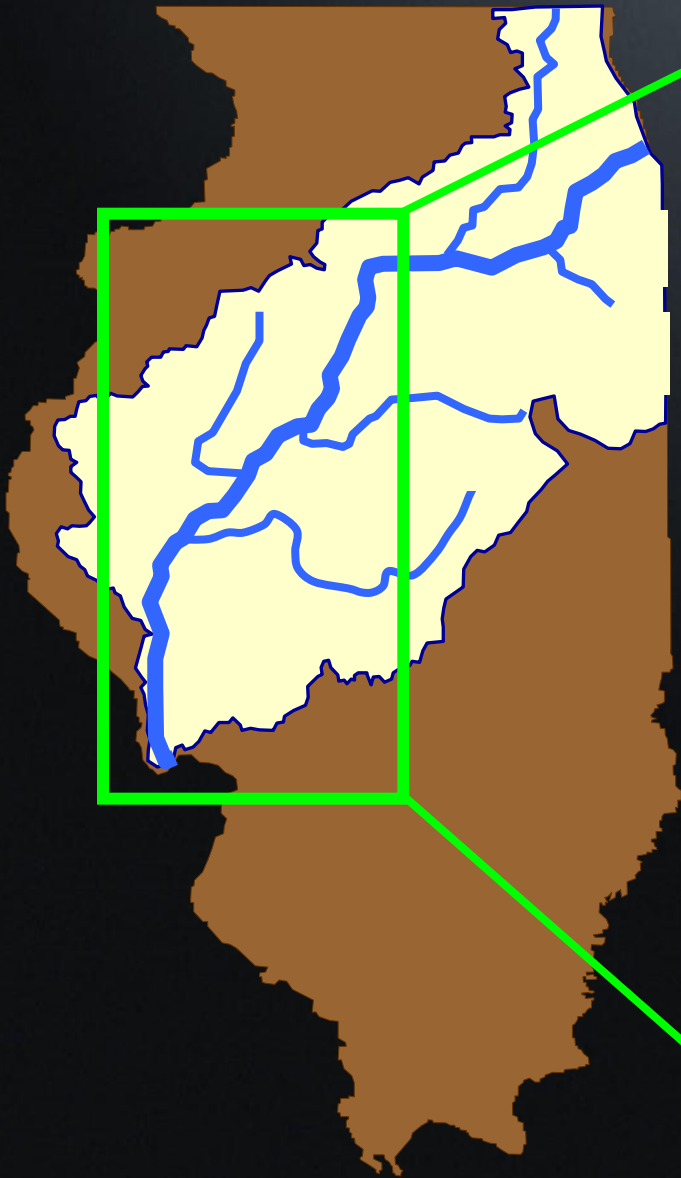
# IMPROVEMENTS IN WATERBIRD ABUNDANCE AND CONDITIONS IN THE ILLINOIS RIVER VALLEY



**Heath Hagy & Chris Hine**

Bellrose Waterfowl Research Center  
Forbes Biological Station

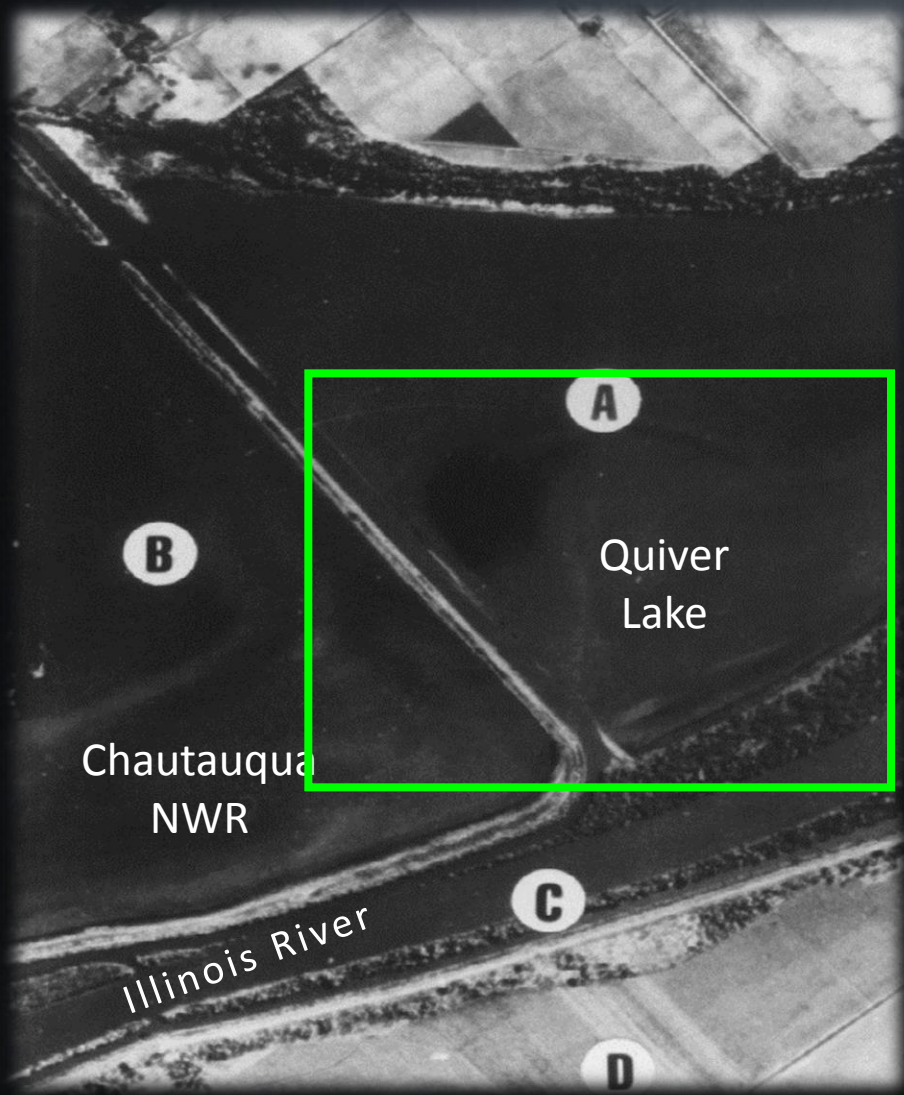












1931



2010









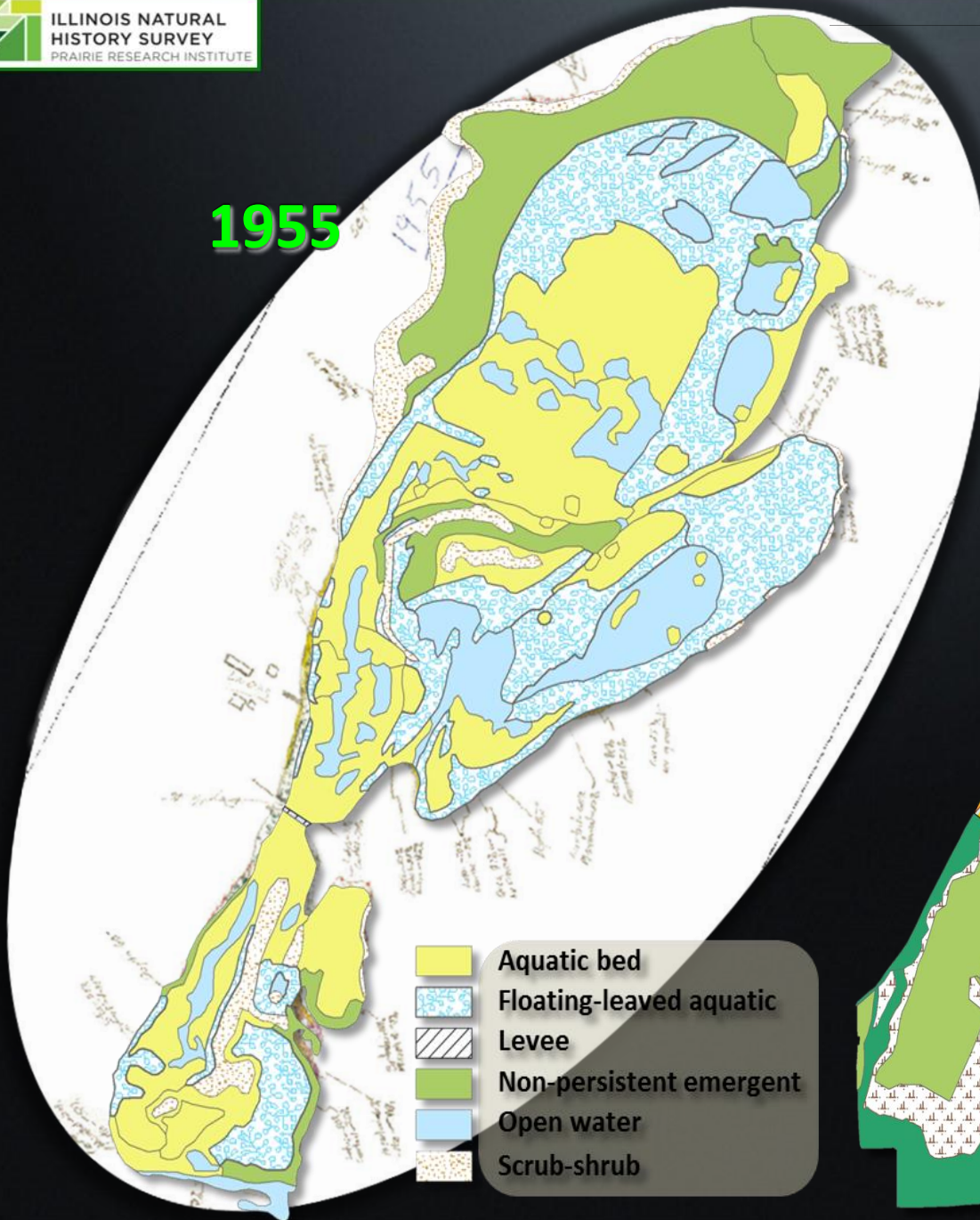




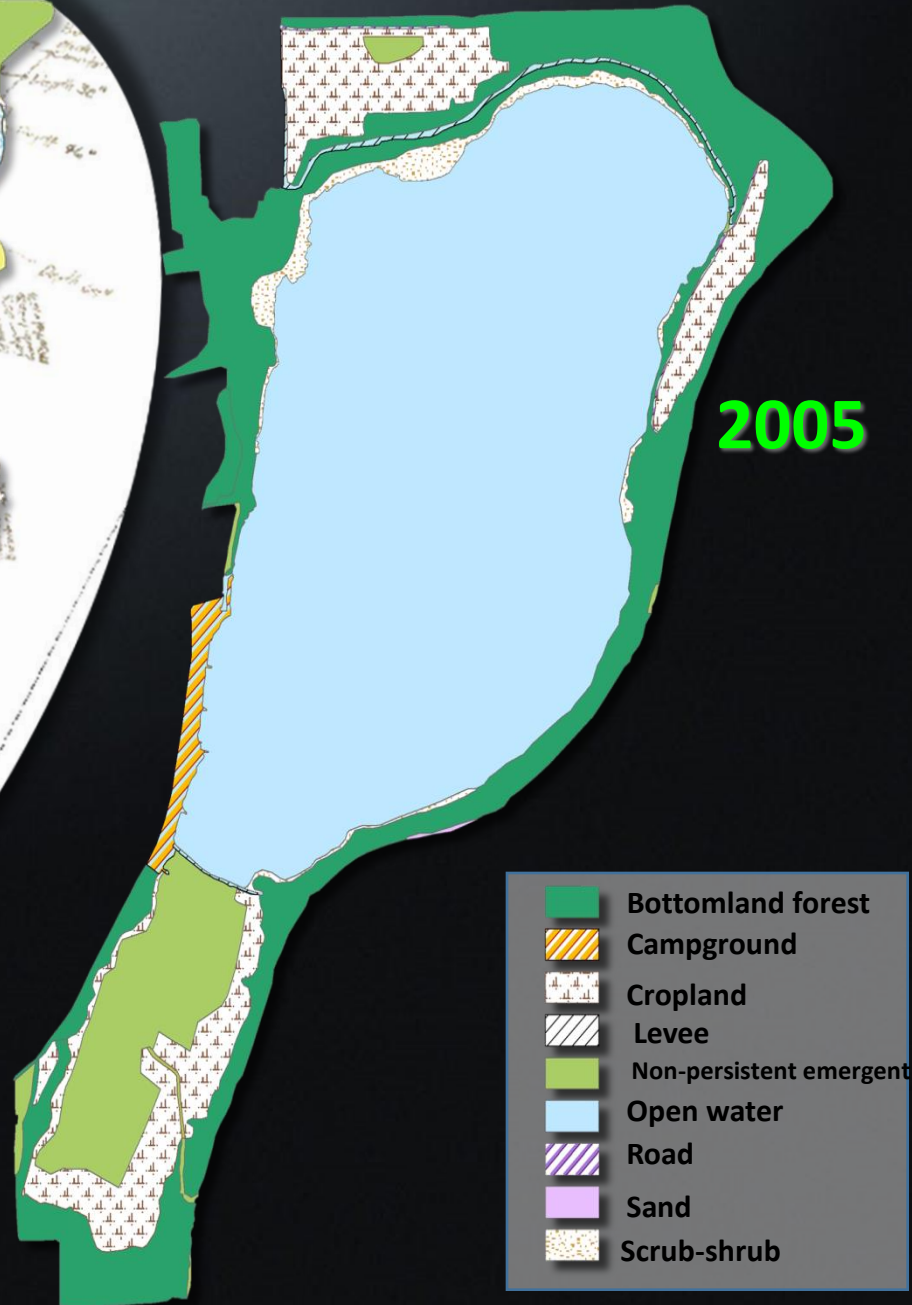




1955



2005





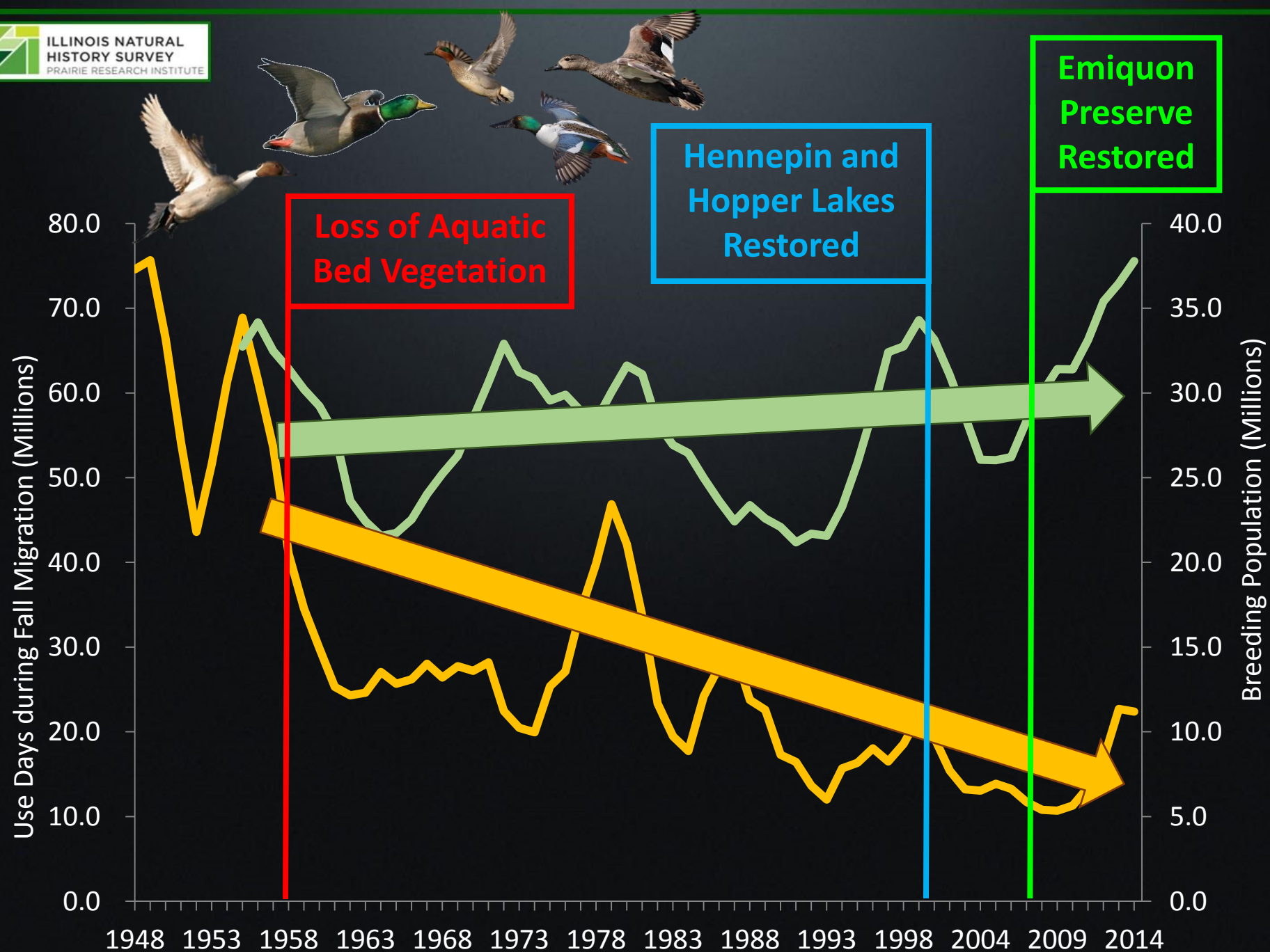
# Chautauqua Lake

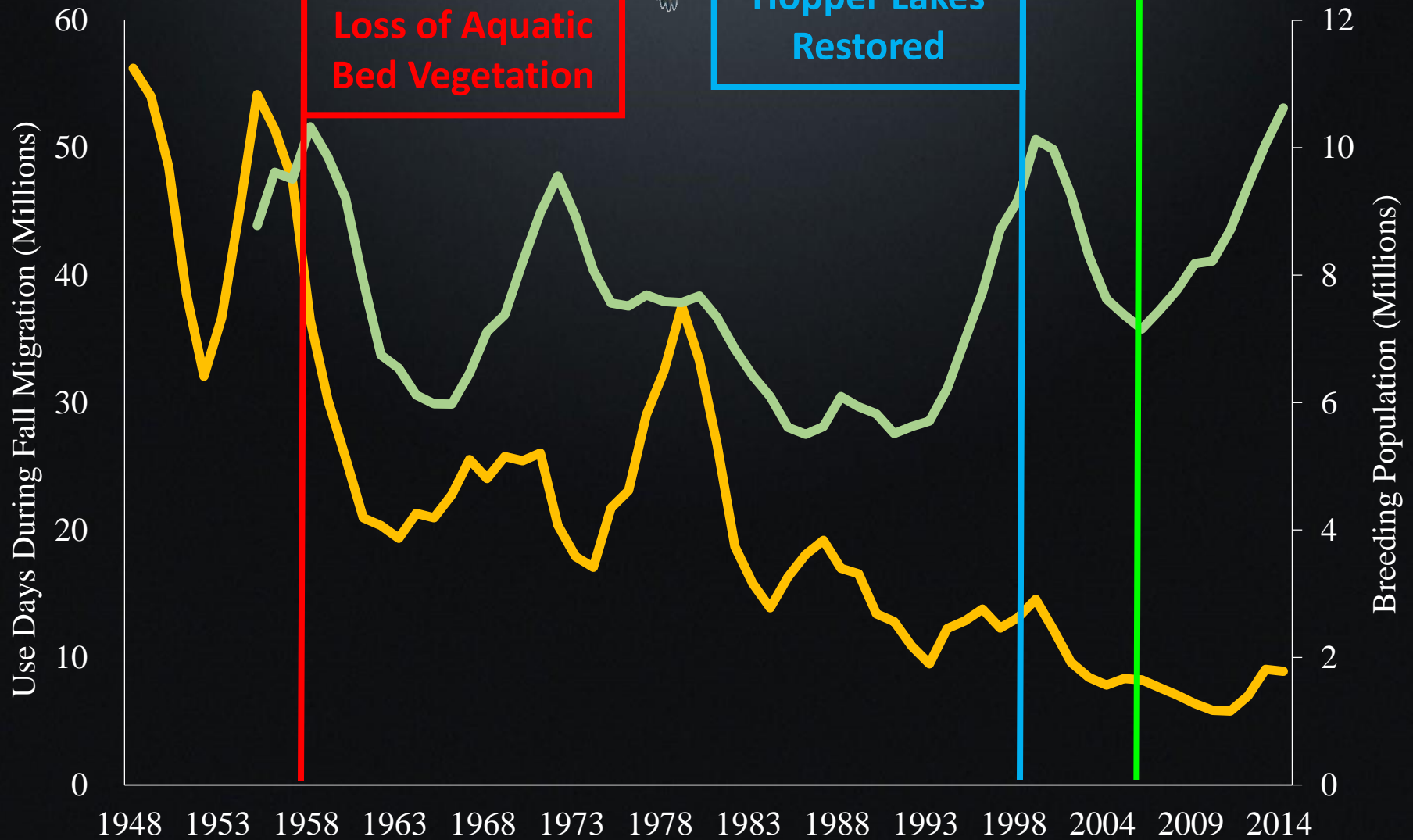
Habitat type	Percent	
	1942	2005
Aquatic bed	2.5	0.5
Bottomland forest	8.7	20.0
Cropland	0.0	0.0
Floating-leaved aquatic	48.2	0.0
Levee	3.5	3.3
Mudflat	0.0	2.8
Nonpersistent emergent	2.7	32.7
Open water	32.1	38.7
Scrub shrub	0.0	1.5
Persistent emergent	2.3	0.6



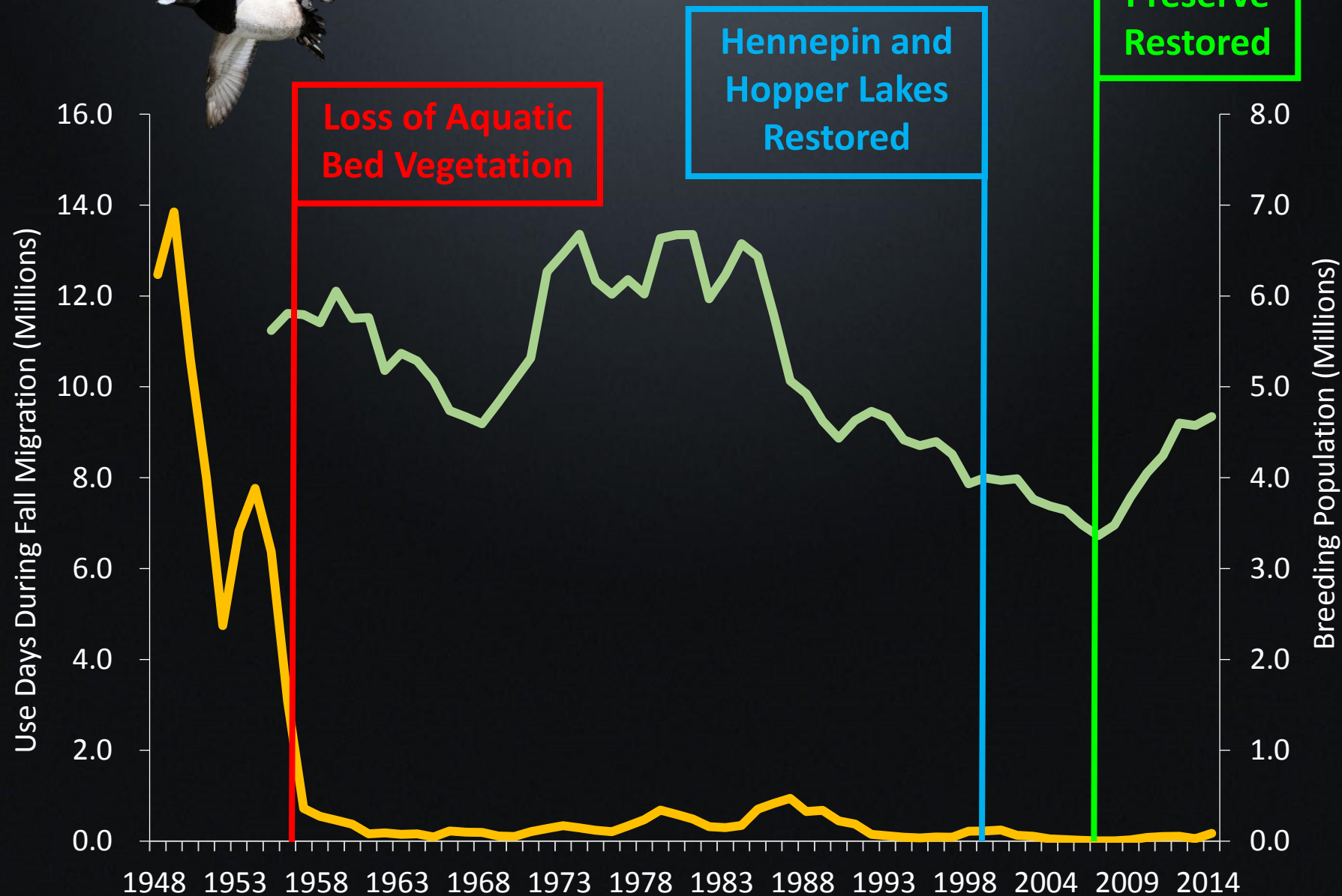
Photo: Steve Gifford









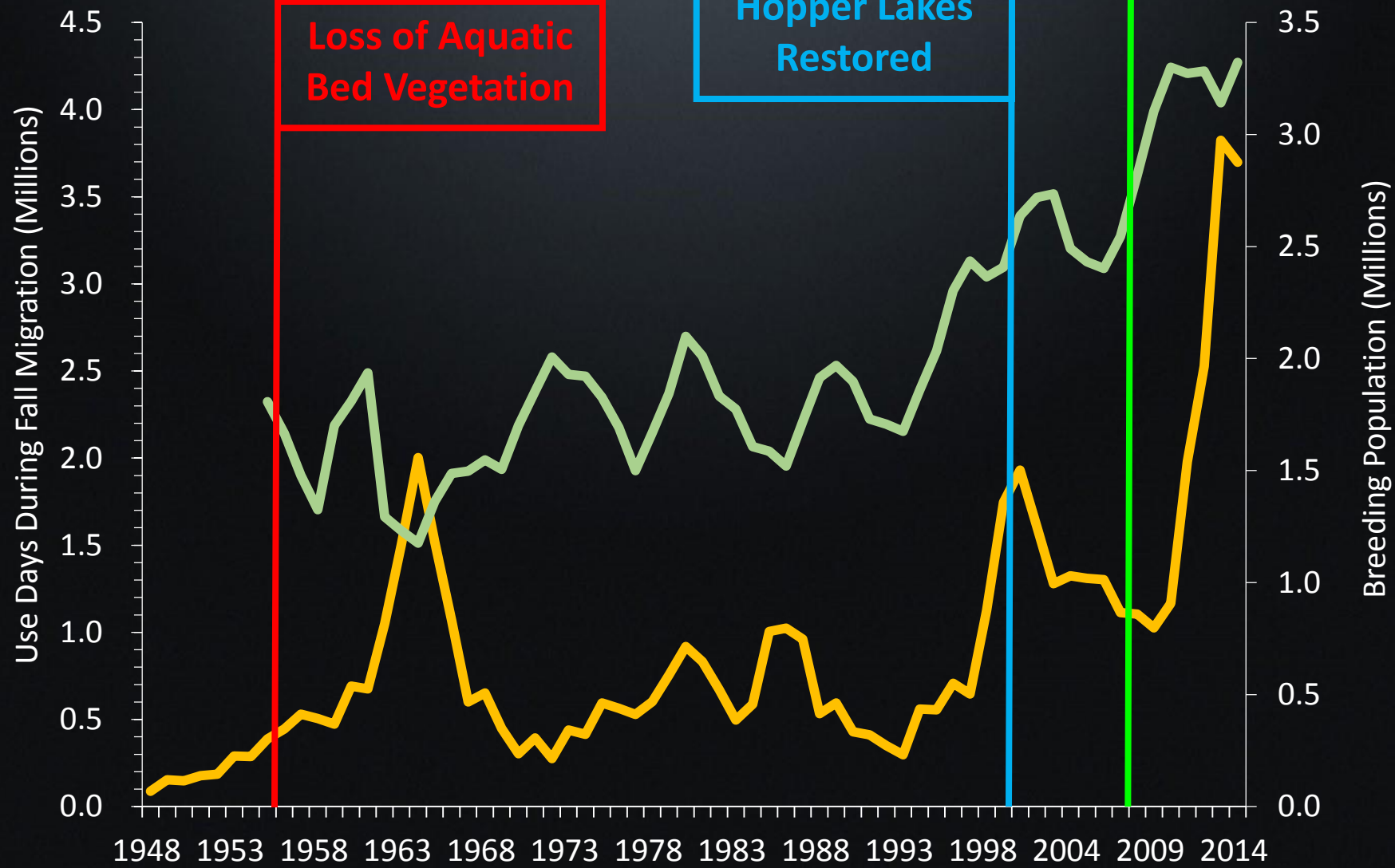




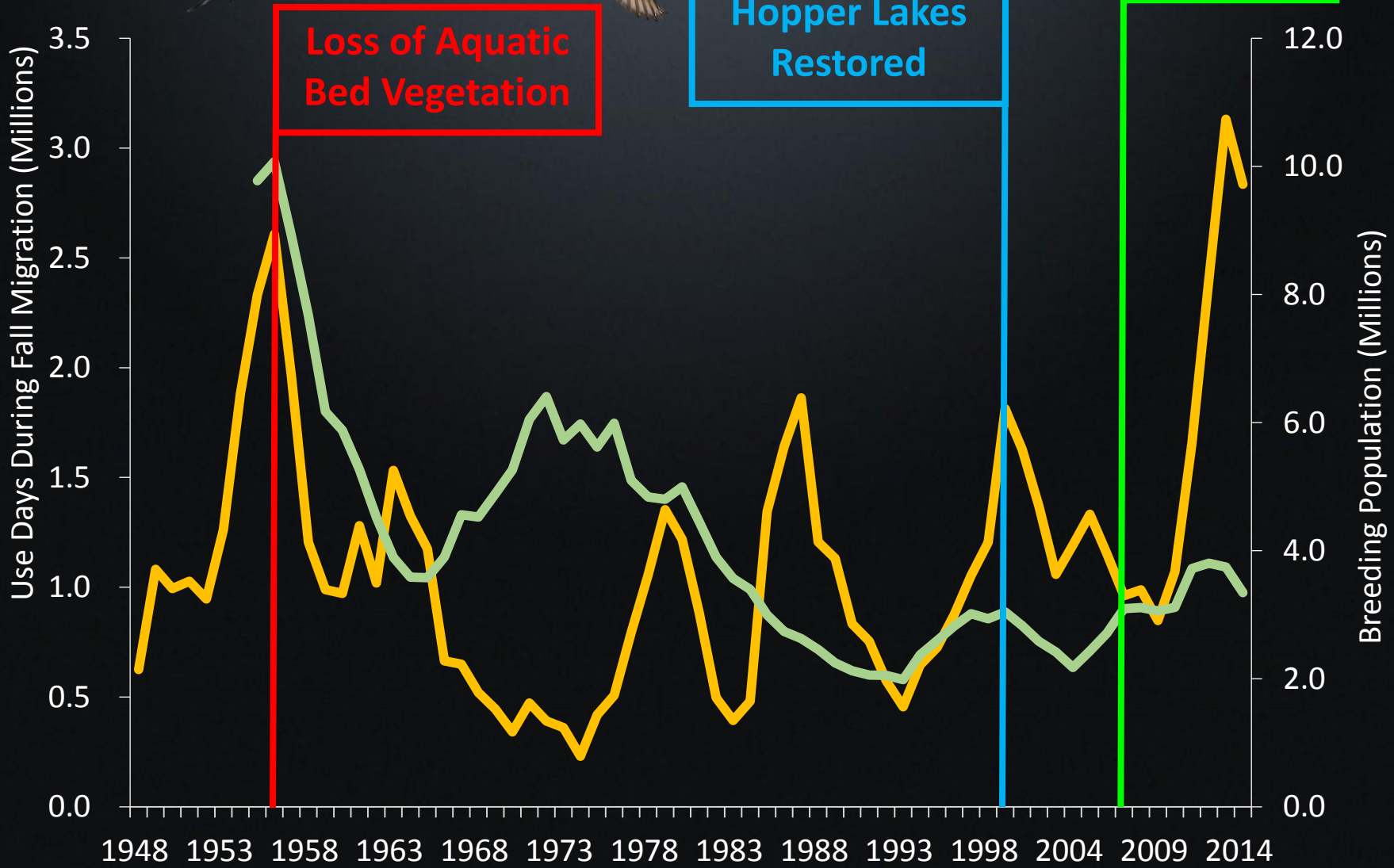
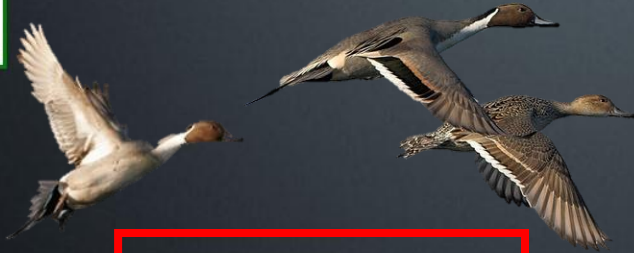
Hennepin and  
Hopper Lakes  
Restored

Emiquon  
Preserve  
Restored

Loss of Aquatic  
Bed Vegetation



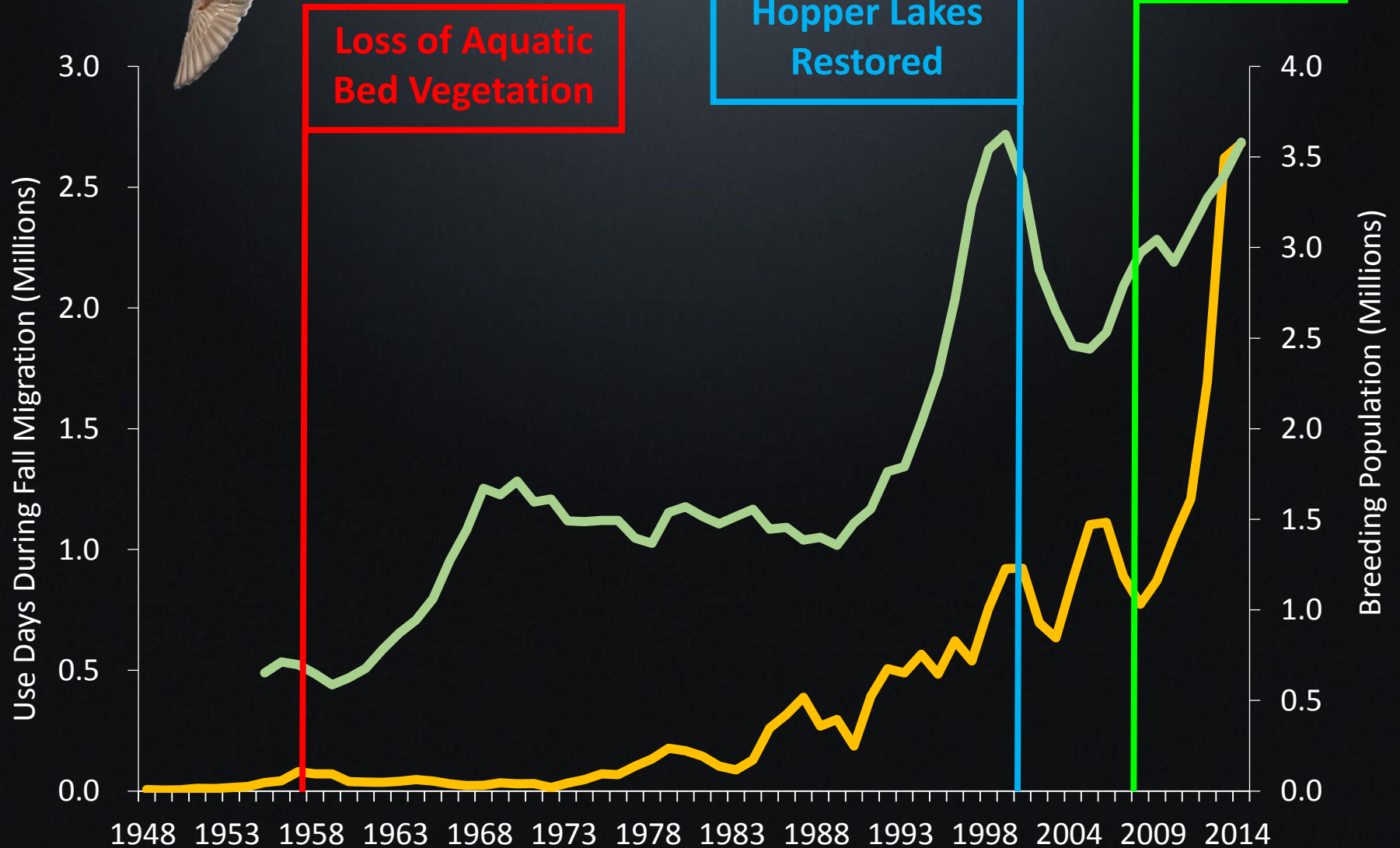




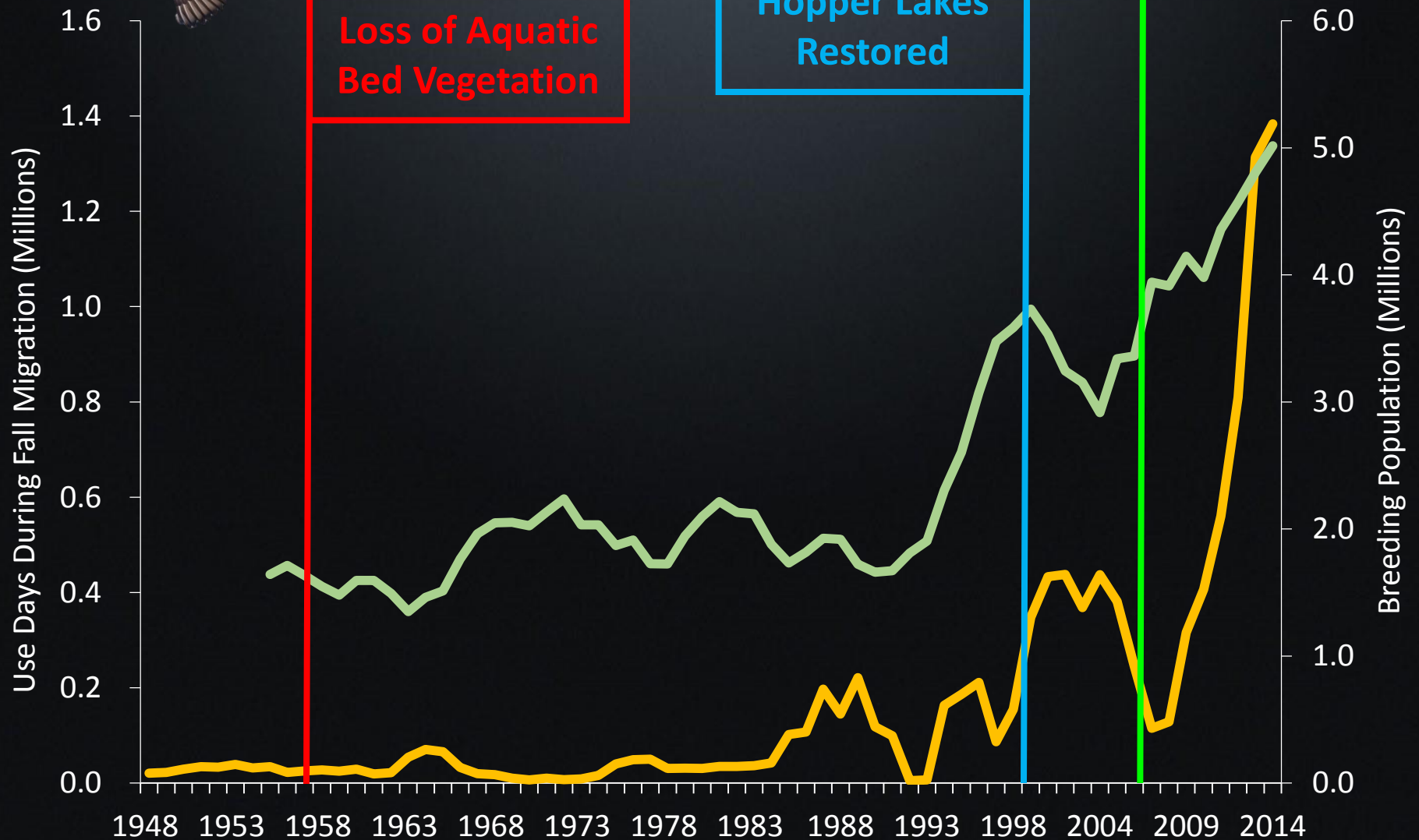
Loss of Aquatic  
Bed Vegetation

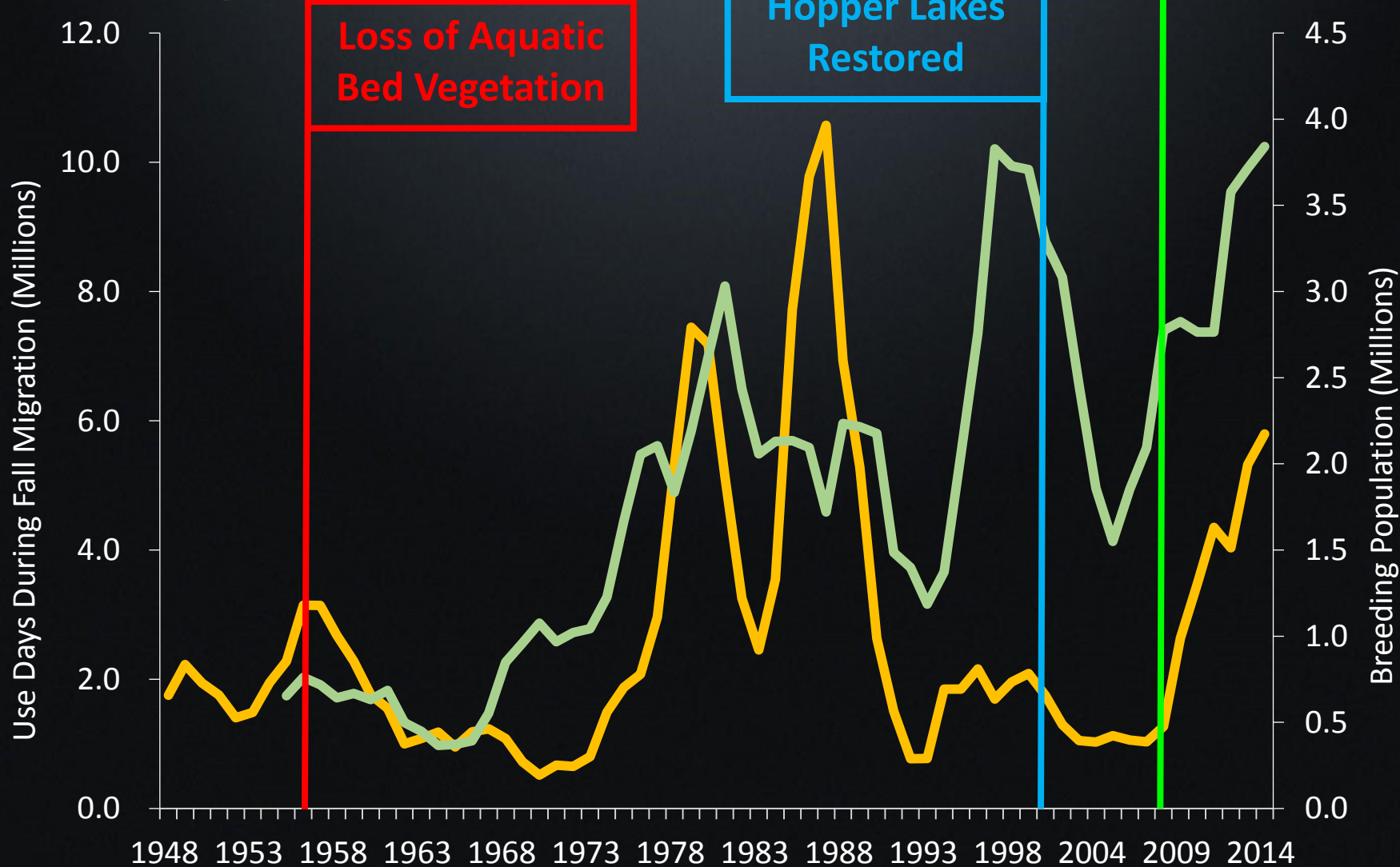
Hennepin and  
Hopper Lakes  
Restored

Emiquon  
Preserve  
Restored



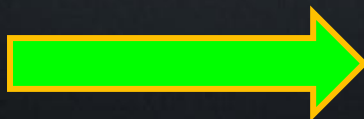








2007

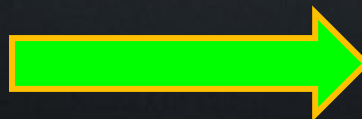
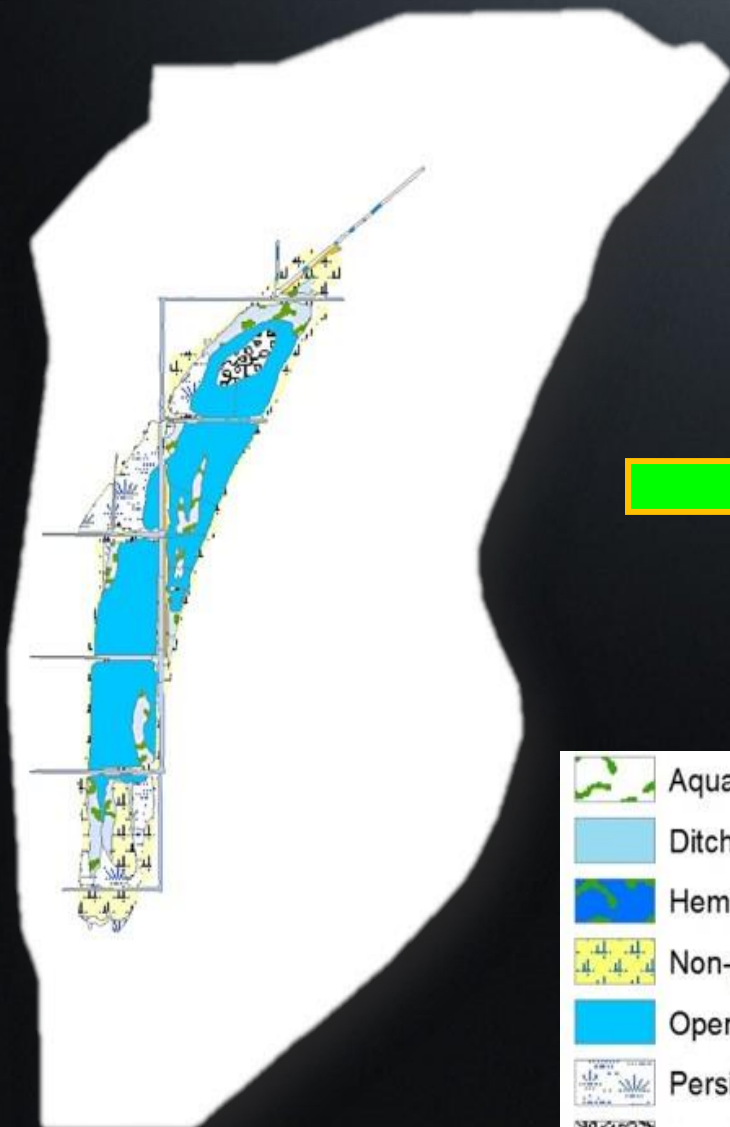


2014

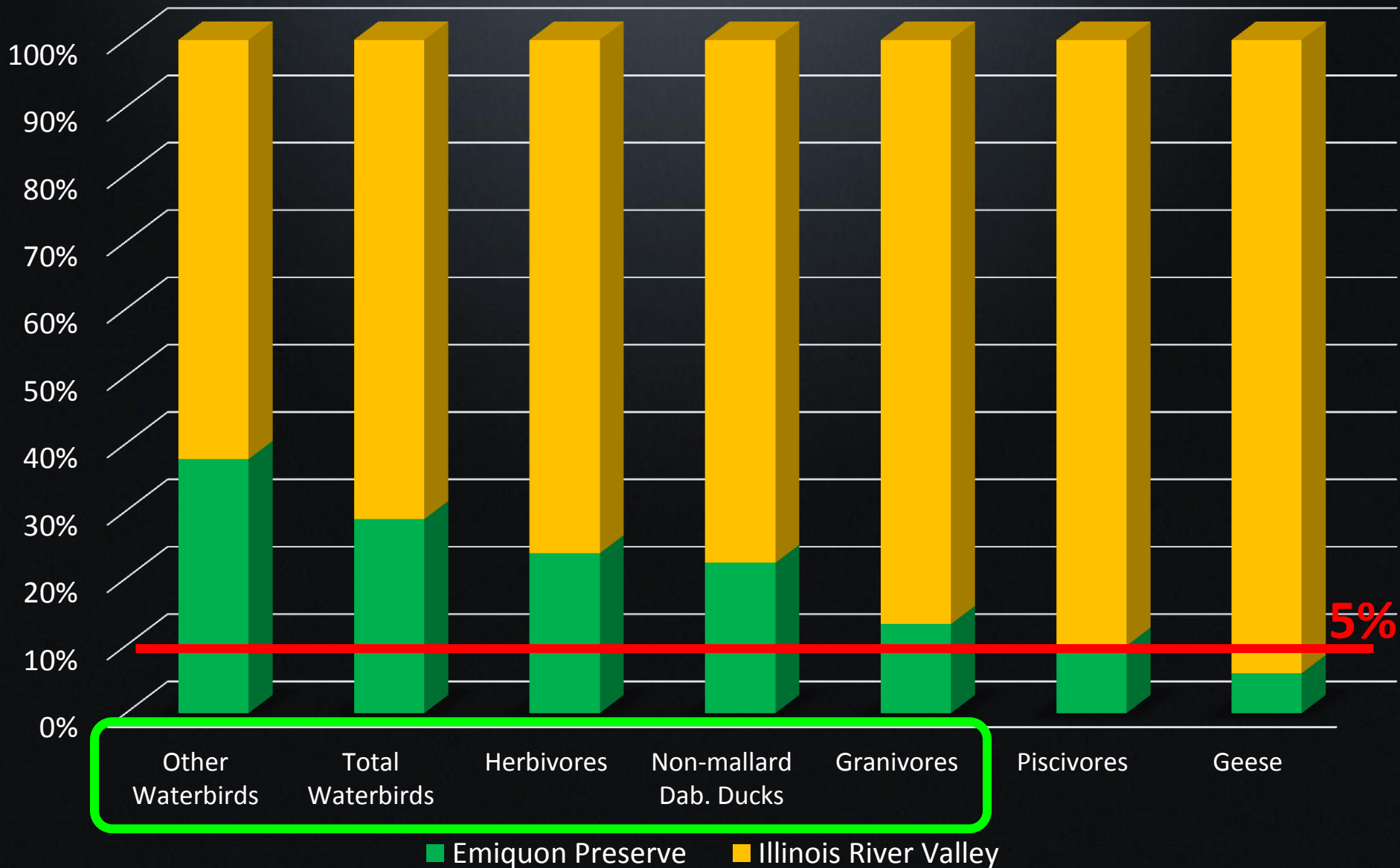


2007

2014

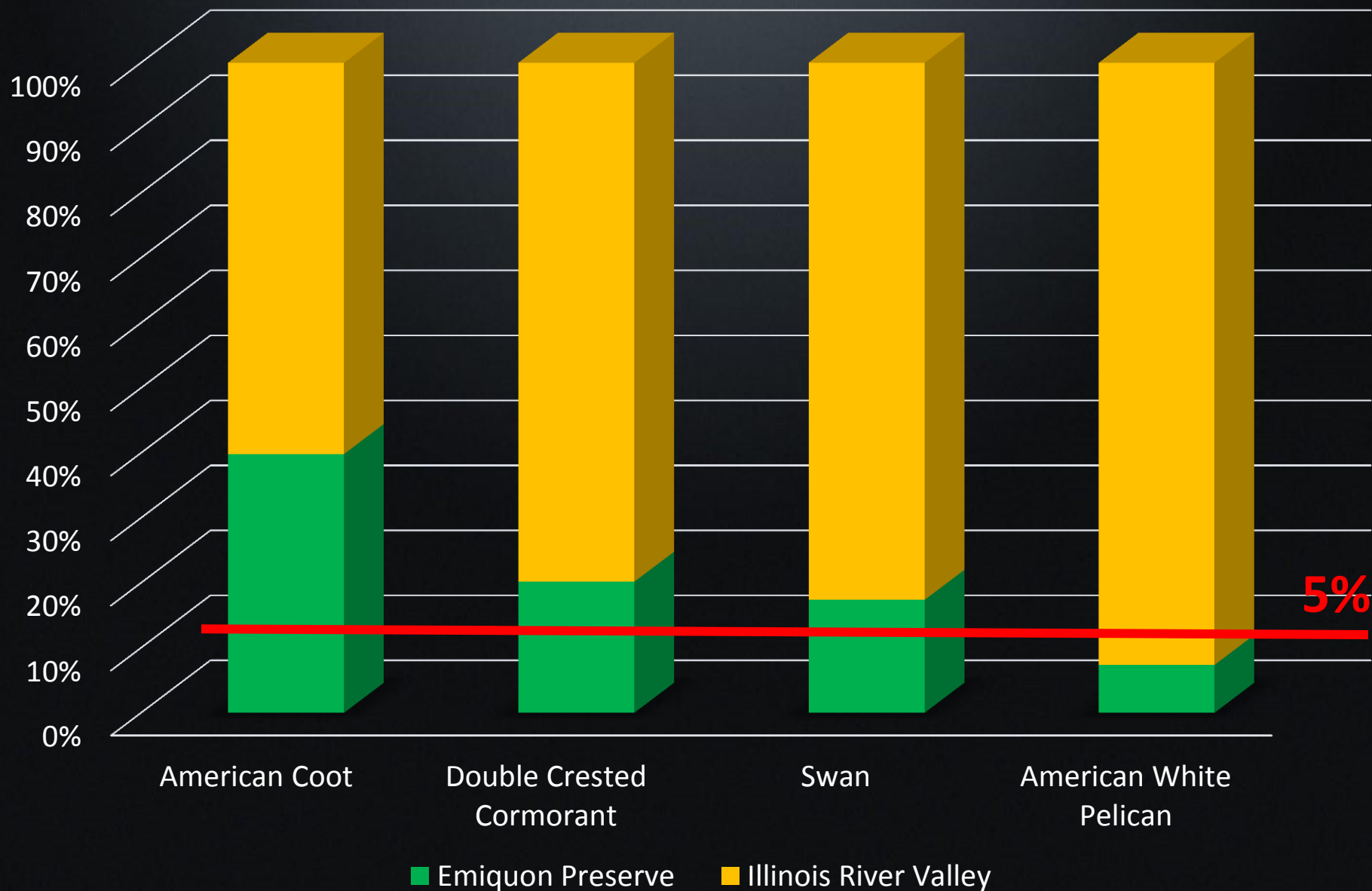


## All Waterbird Guilds - Fall Use Days 2007-2014

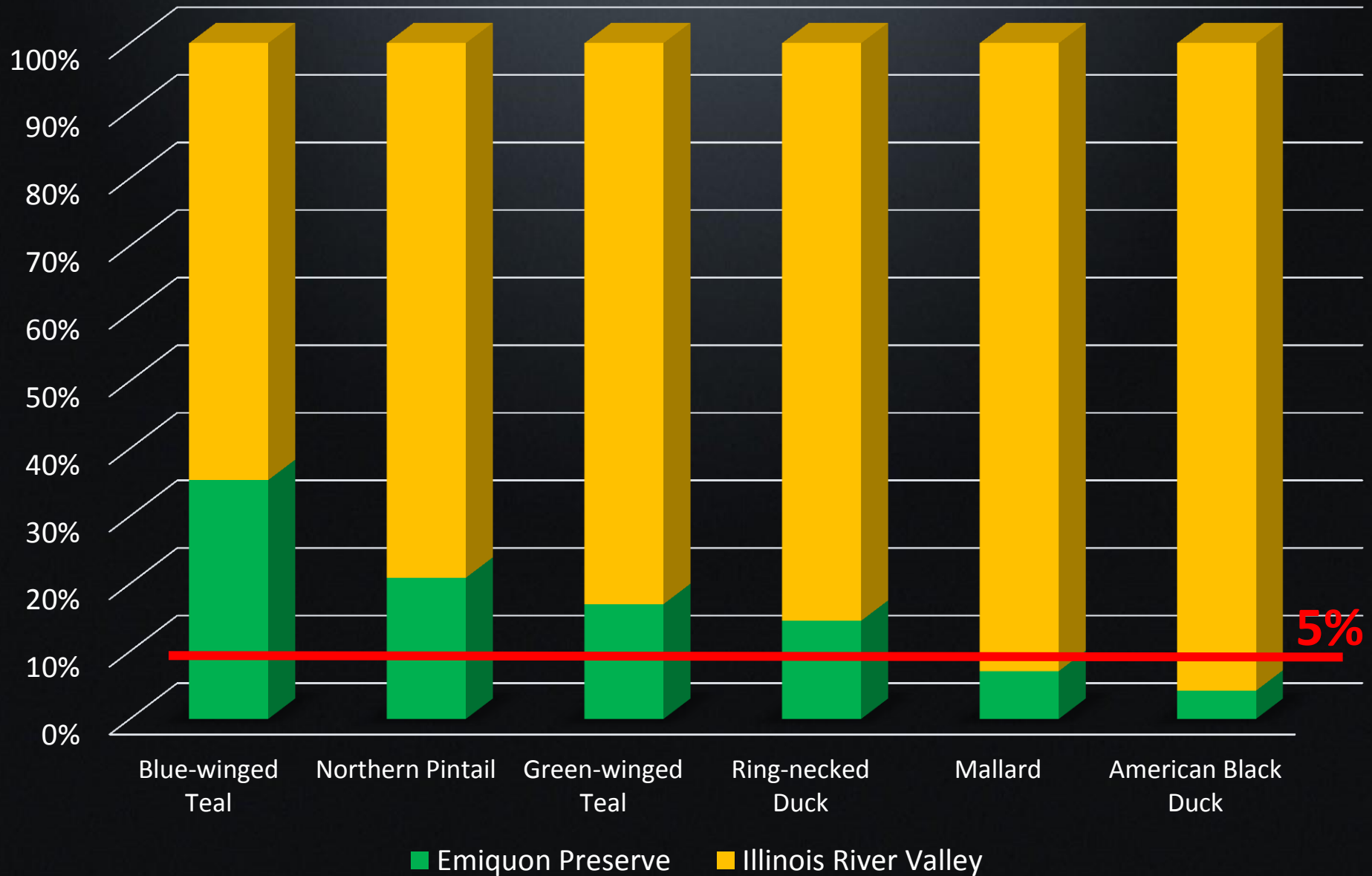




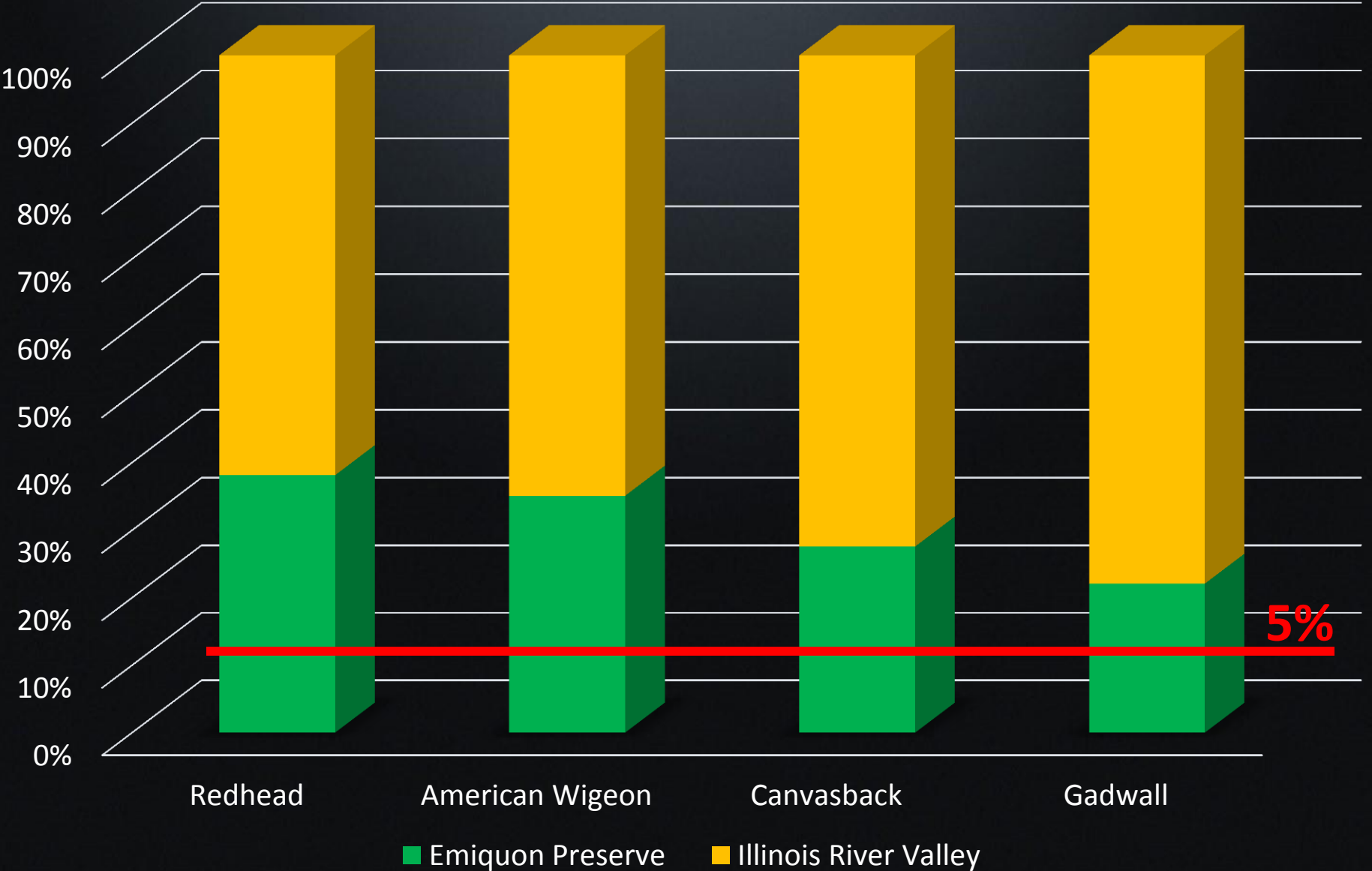
## Other Waterbirds - Fall Use Days 2007-2014



## Granivores - Fall Use Days 2007-2017



Herbivores - Fall Use Days 2007-2014







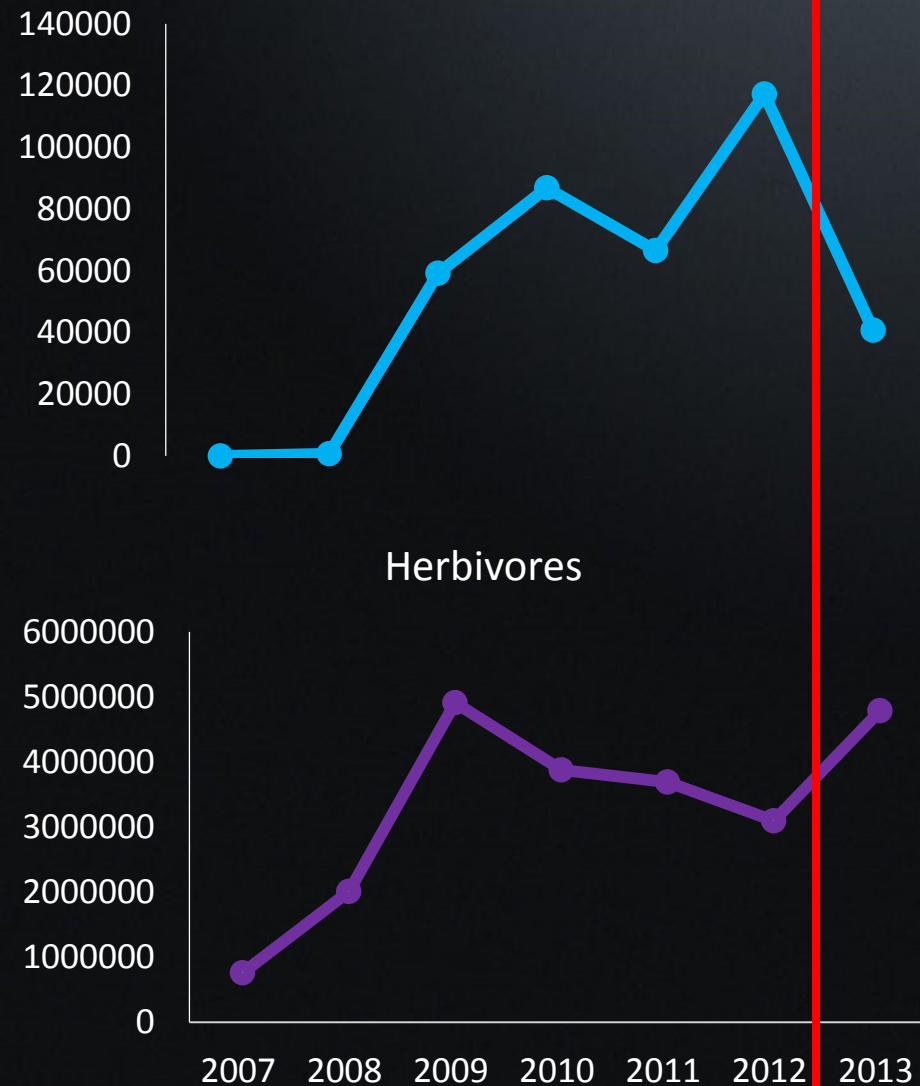




# Emiquon Preserve - Fall Use Days

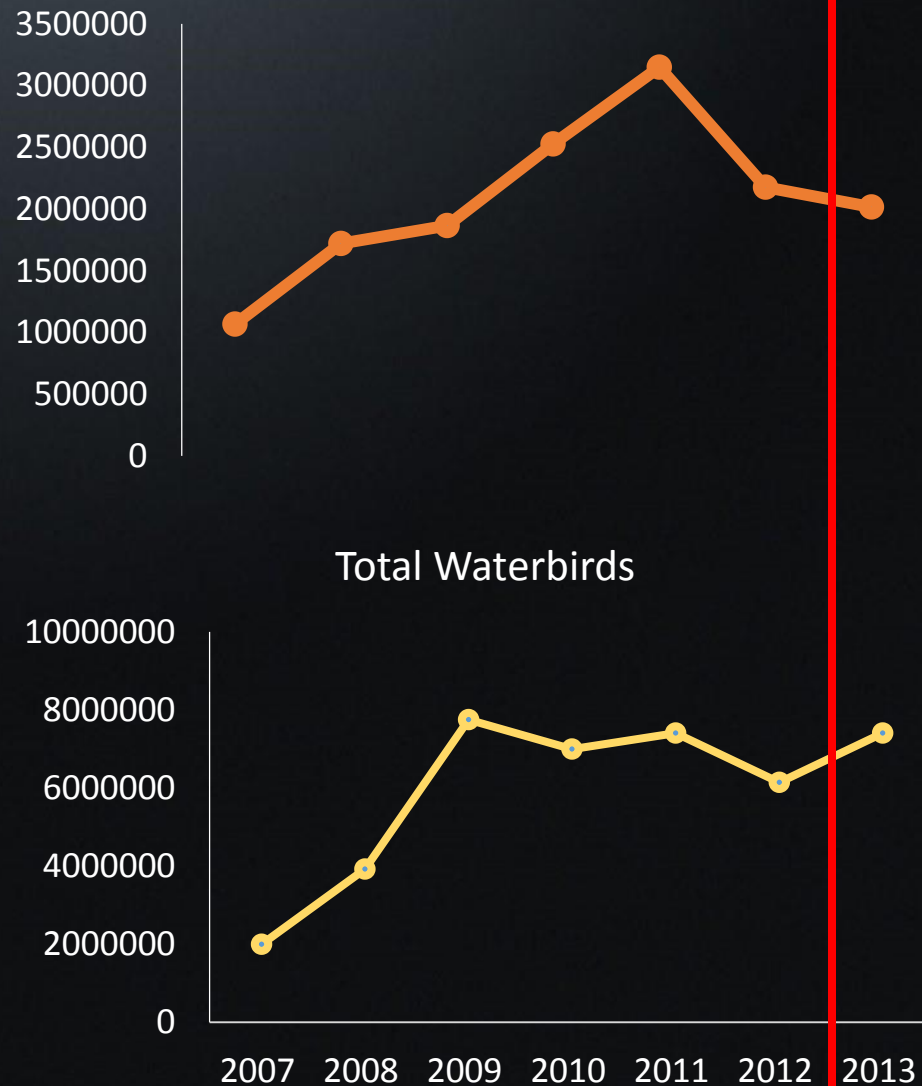
Piscivores

Flood



Granivores

Flood



Herbivores

Total Waterbirds



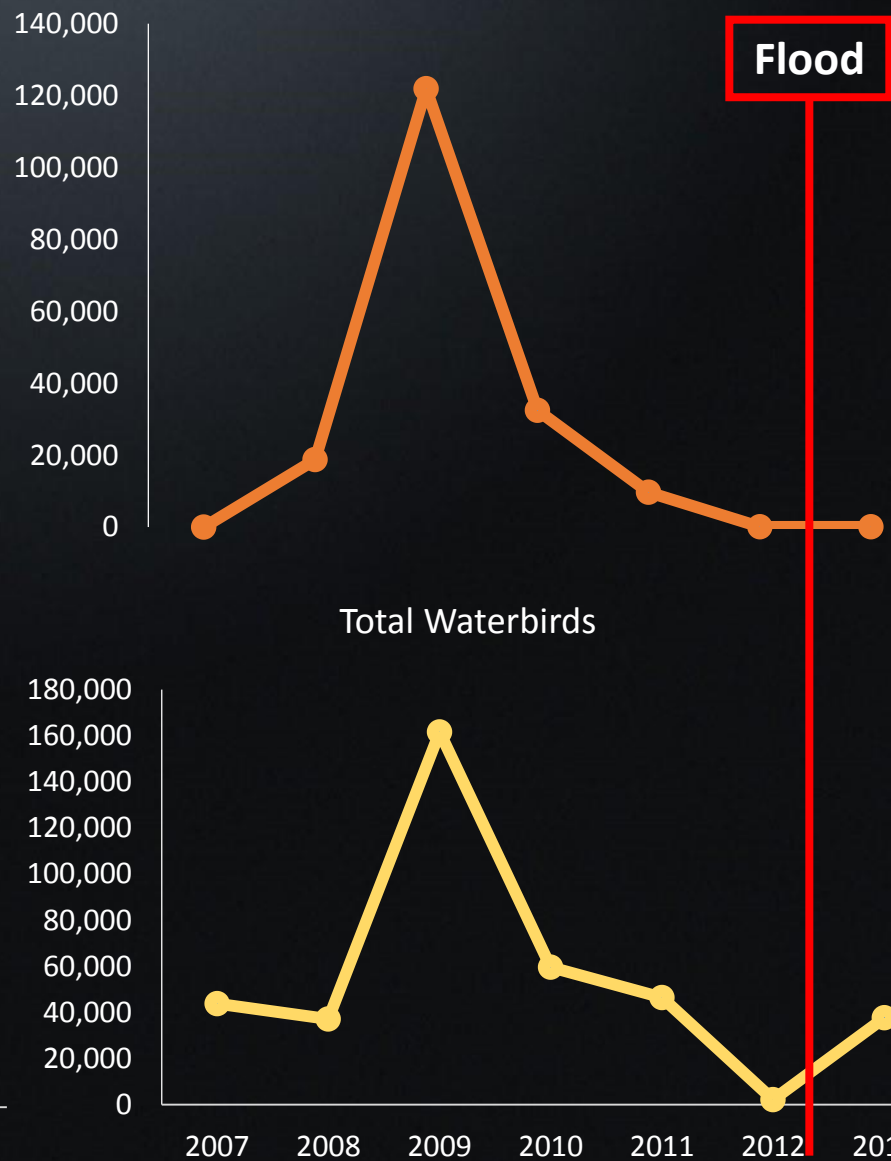


# Merwin Preserve – Fall Use Days

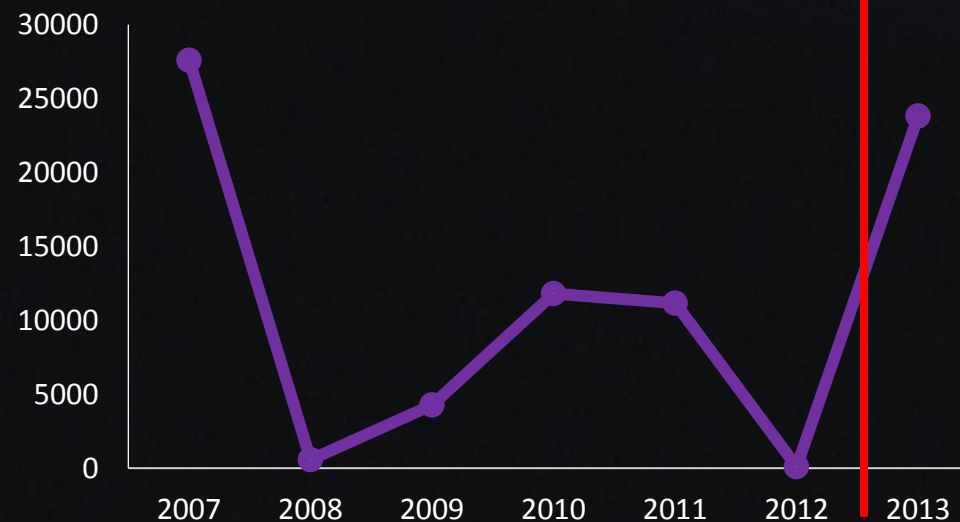
Granivores



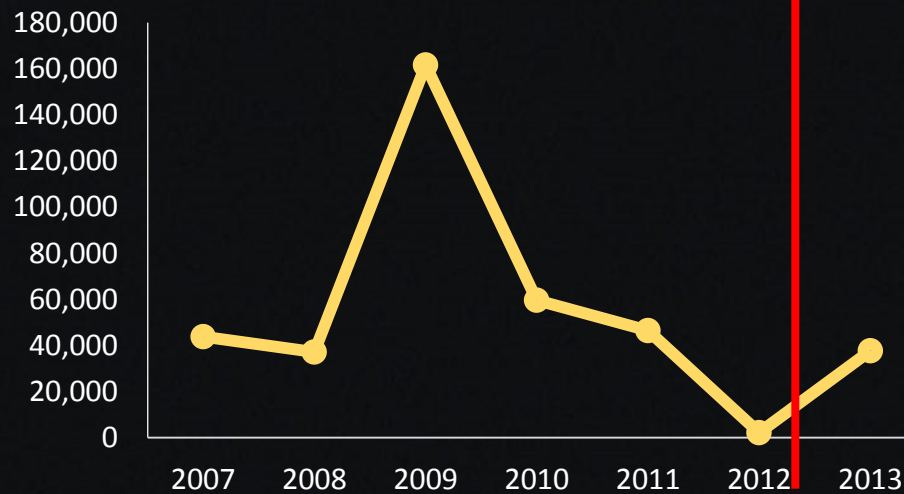
Herbivores



Piscivores

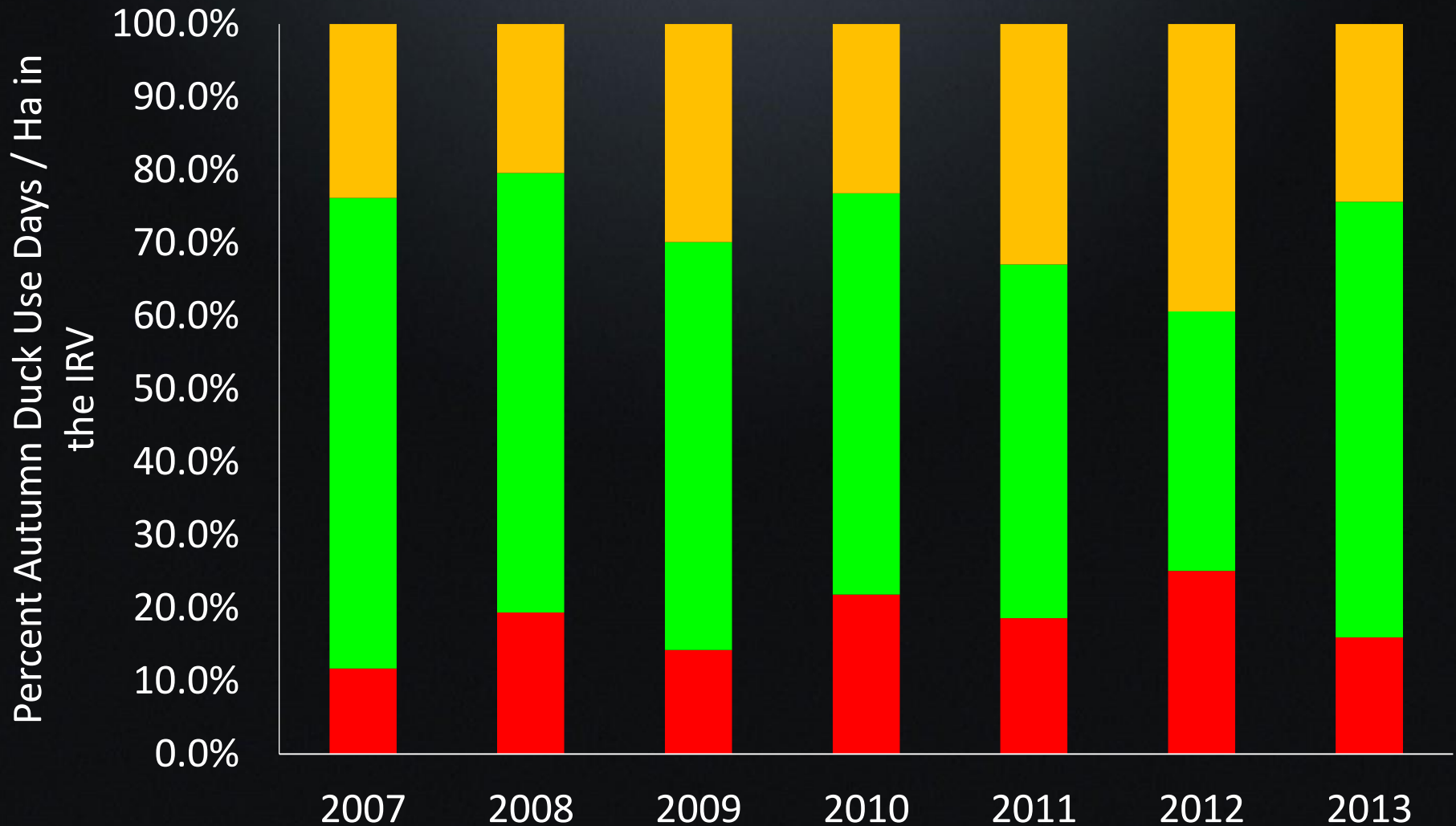


Total Waterbirds



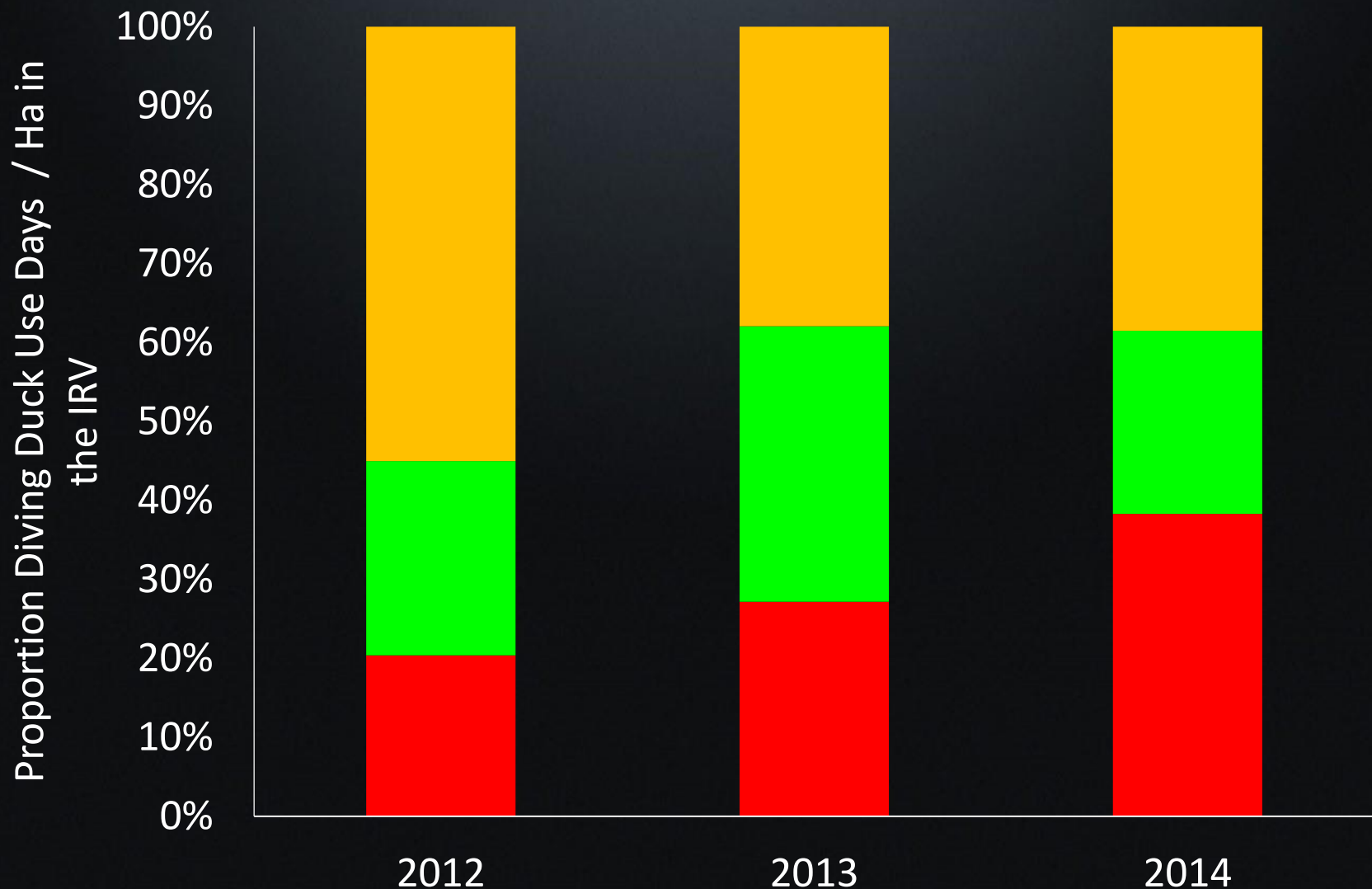
# Autumn Waterbird Use by River Connectivity

Connected Disconnected Partial



# Spring Diving Duck Use by River Connectivity

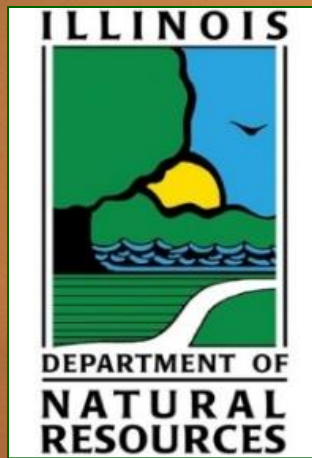
connected disconnected partial





# A Tale of ~~Two~~ Several Connections...

- Granivorous, Piscivorous, and Herbivorous waterbirds responded predictably to flooding and river connectivity
- An open river connection was incompatible with maintenance of submersed and floating leaf aquatic vegetation communities
- When we broaden the picture, it gets more complicated...
- Floodplains CANNOT be quality habitat for all species at all times (Remember – TRADEOFFS)
- Floodplains with no or partial connections to the Illinois River combined with drainage and flooding capabilities may provide the highest quality habitat for the most species.
- Can managed connections be the best of both worlds?



# Acknowledgements

- Coauthors and contributors: Aaron Yetter, Michelle Horath, Randy Smith, and Josh Osborn

