

# Past and Current Status of Smallmouth Bass in the South Fork Shenandoah River



Brad Fink  
Virginia Dept. of Game and Inland Fisheries  
District Fisheries Biologist  
August 8<sup>th</sup>, 2019



# VDGIF Smallmouth Bass Sampling

- Fall Boat Electrofishing
  - South Fork Shenandoah River – 9 sites
  - All habitat types are sampled at each site unless limited by depth – About one hour electrofishing



# VDGIF Smallmouth Bass Sampling

- Spring Raft Electrofishing – Smaller Rivers
  - North Fork – 3 reaches
  - Each reach is about 6 miles long
  - Give us spatial fish and habitat data



# VDGIF Smallmouth Bass Sampling

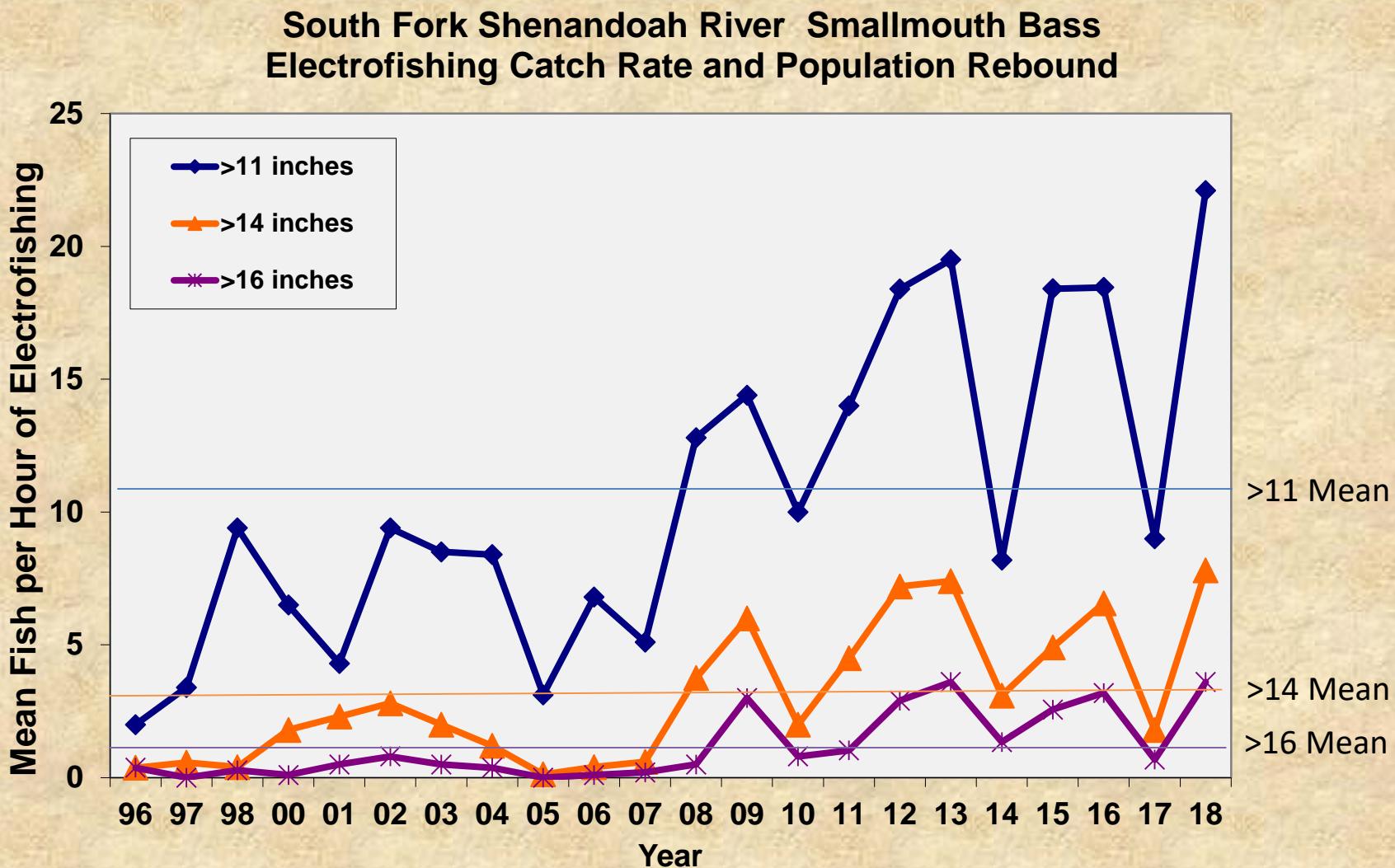
- Data collected
  - Fish Length / Weight
  - Catchrate (CPUE)
  - Length Frequency
  - Relative Weights
  - Spawning Success
  - Species Present
  - Occasionally Age/Growth
  - General Fish Health

# SMB Population

- So what about the fish population size structure and recruitment in the Shenandoah

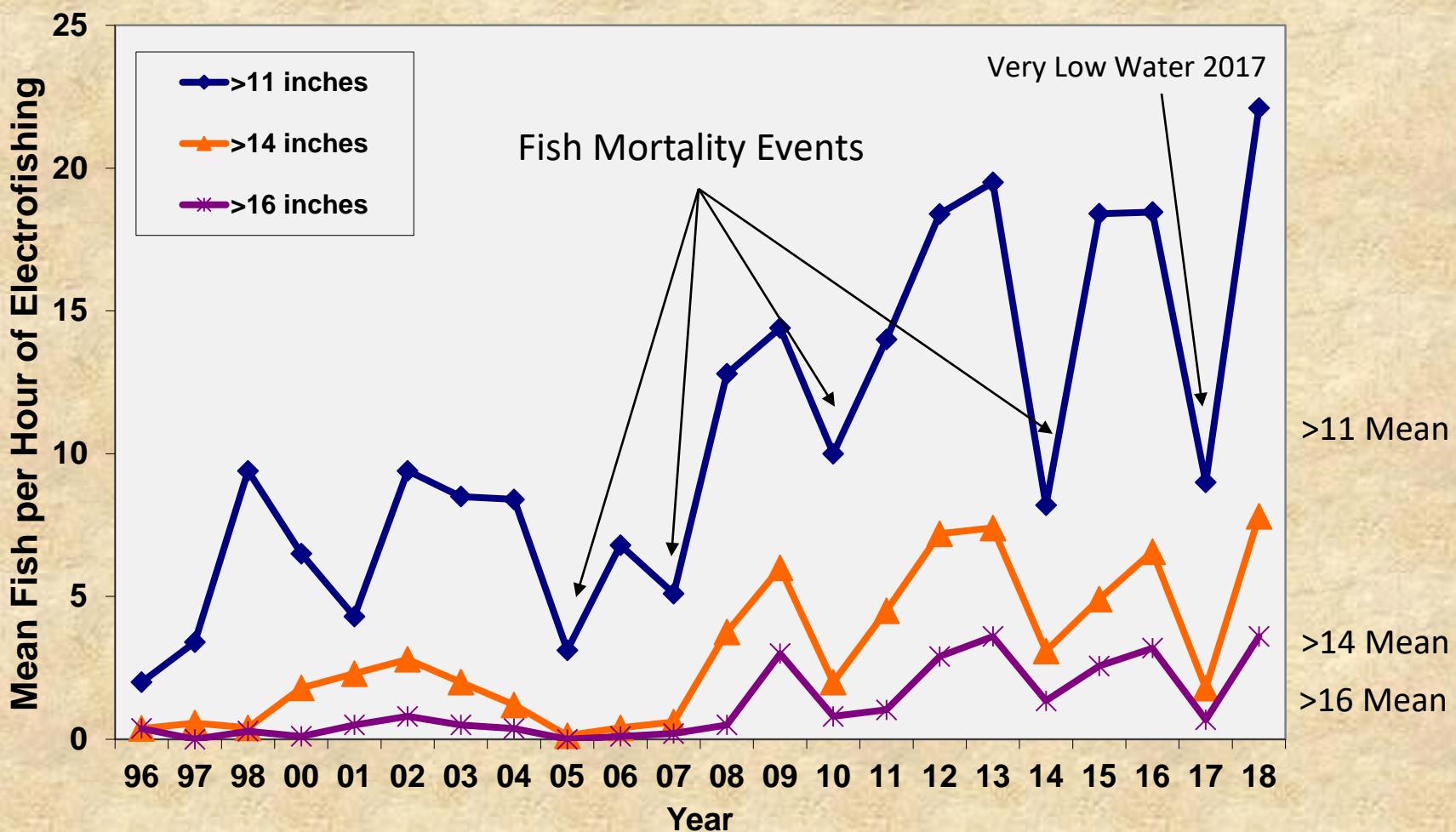


# SMB 19 Year Mean Catchrate



# Fish Mortality Events

South Fork Shenandoah River Smallmouth Bass  
Electrofishing Catch Rate and Population Rebound

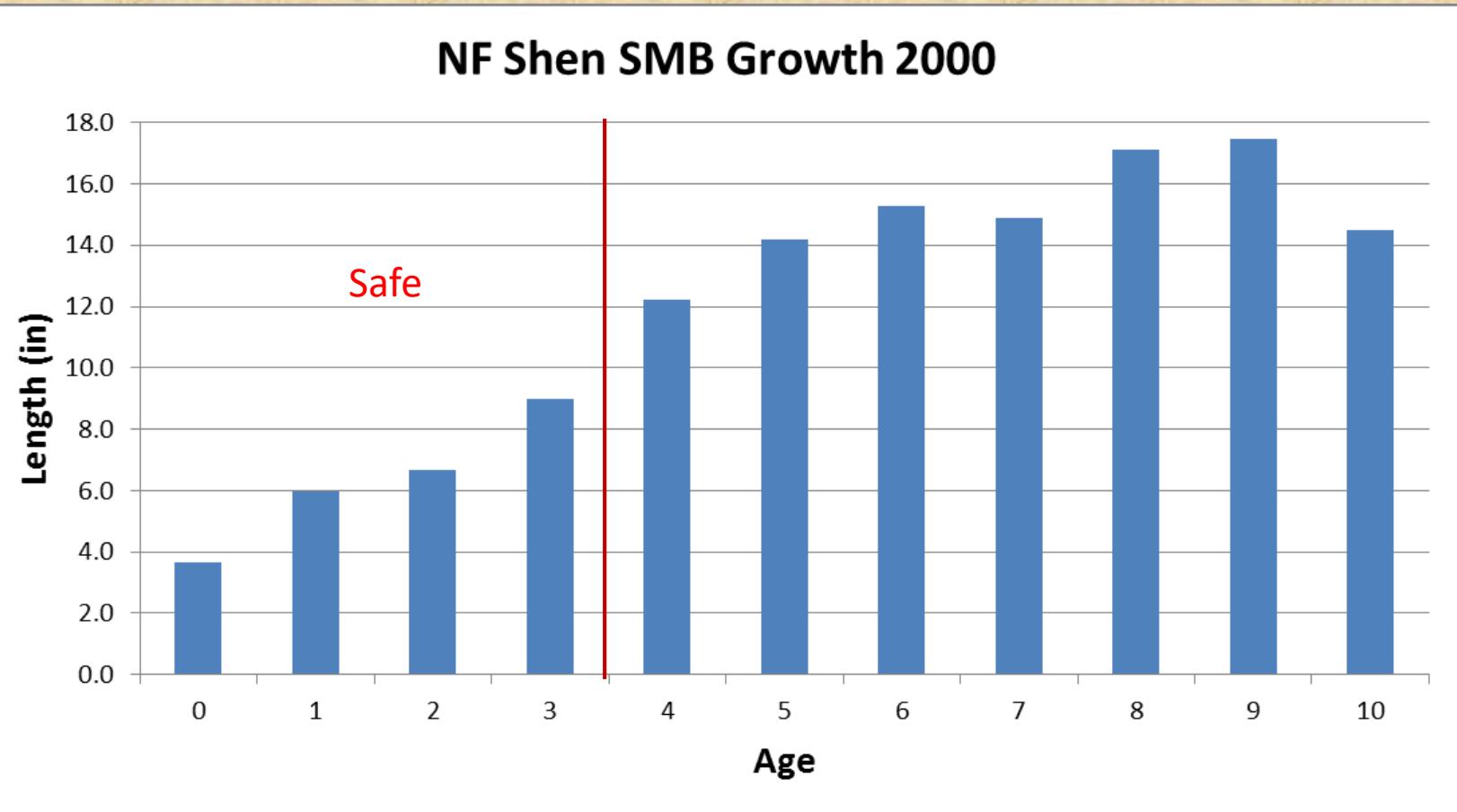


# SMB Population

- Population rebound following a disease outbreak?

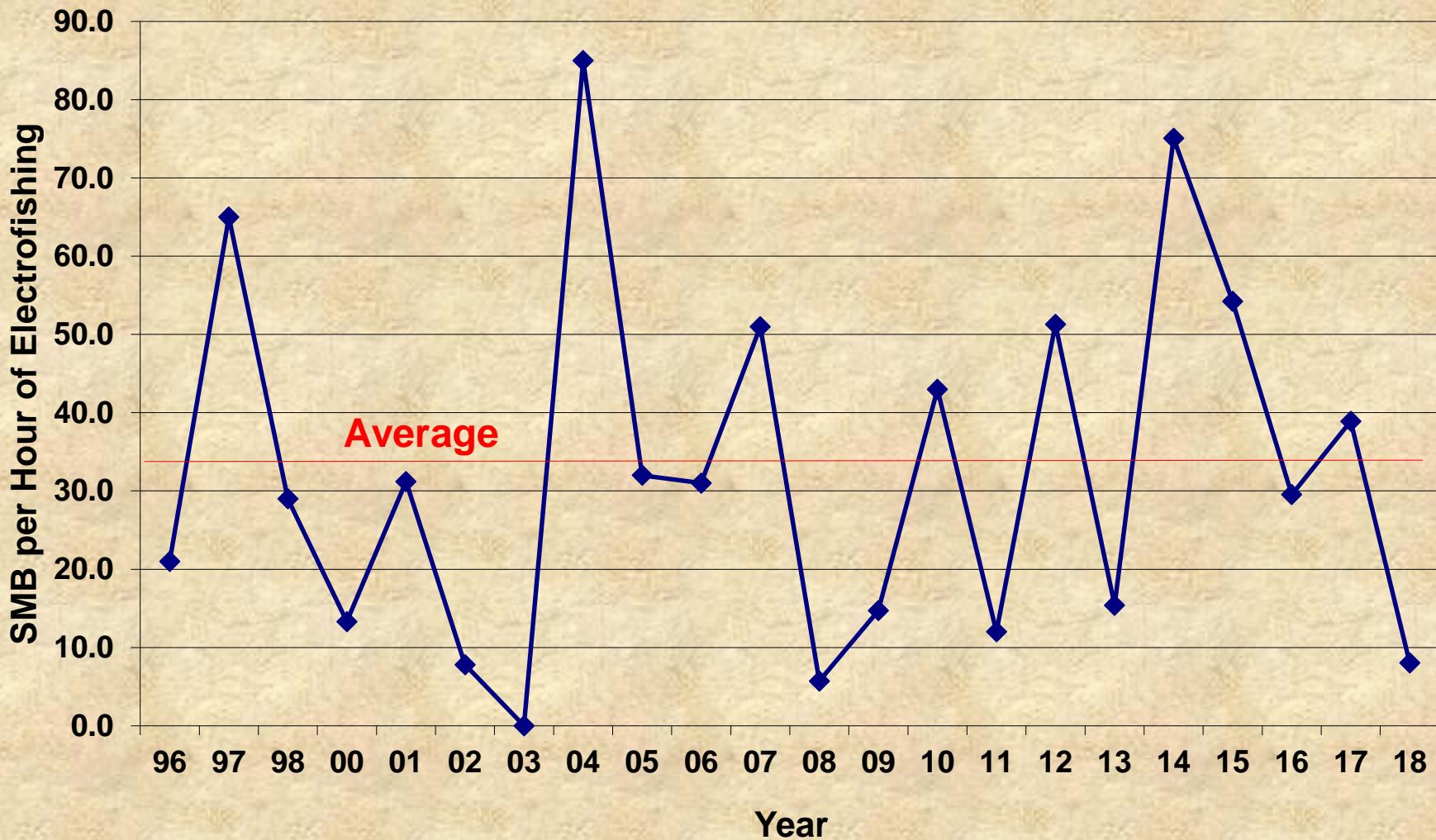


# NF SMB Age/Growth Data



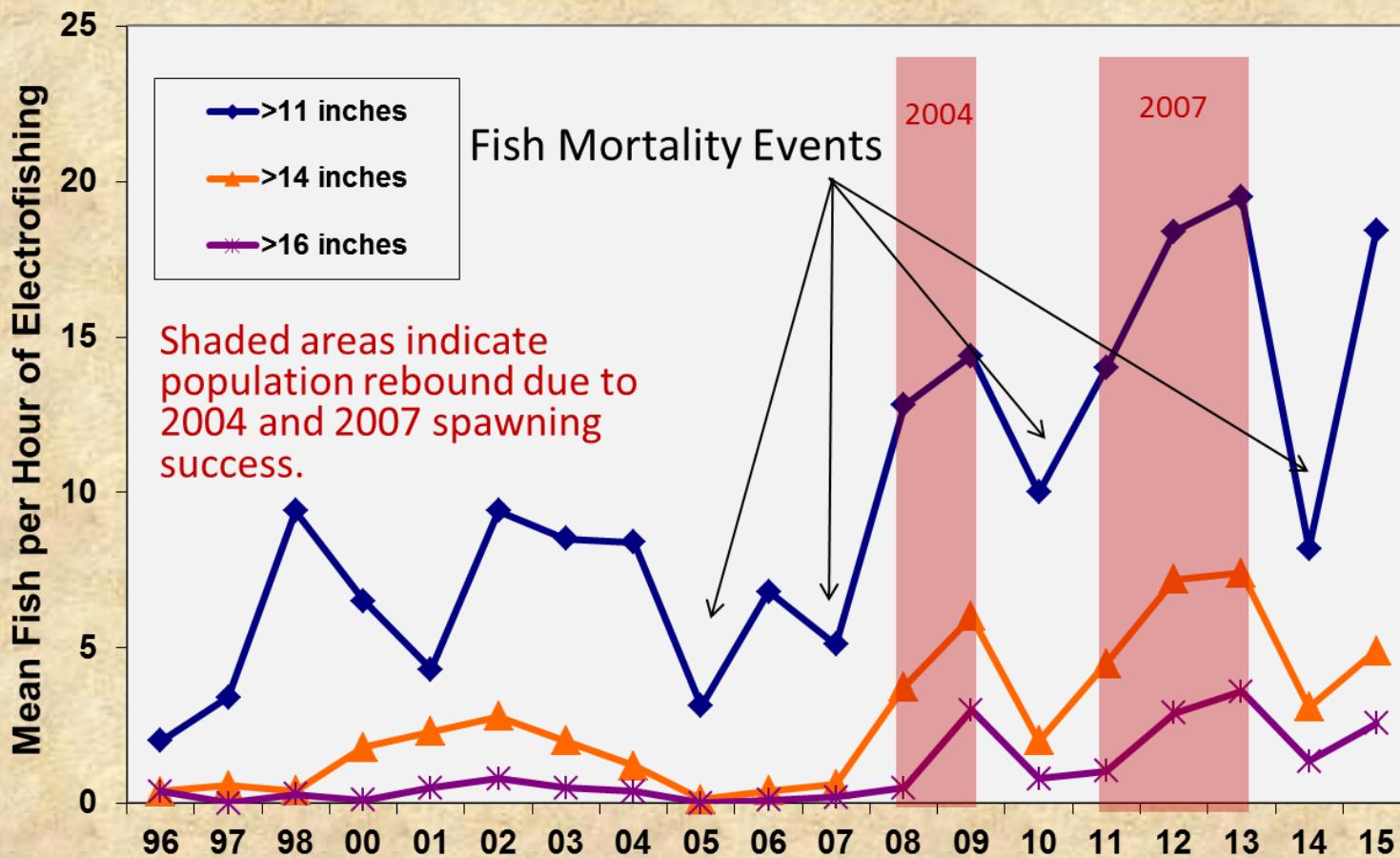
# SMB Spawning Success

South Fork Shenandoah River SMB Spawning Success



# SMB Population Rebound

South Fork Shenandoah River Smallmouth Bass  
Electrofishing Catch Rate and Population Rebound



# Past Research

## **Causal Analysis of Fish Kills in the Shenandoah and Potomac Rivers - June 2007**

- Anoxia due to low DO – Plant Decomposition – No
- Anoxia due to gill injury – parasitic or microbial – (Potential)
- Low Blood Oxygen – Methemoglobinemia – No
- Bacterial, Viral, Parasitic or Fungal Infections – Insufficient Data
- High pH – No (Possible Contributor)
- pH Fluctuations – No (Possible Contributor)
- High Ammonia Concentrations – No (Possible Contributor)
- Mortality due to Toxic Chemical – Insufficient Data
- Mortality due to Starvation – No

# Front Royal SMB Fall 2015



# Questions?



*Contact Information*

Brad Fink

[Brad.fink@dgif.virginia.gov](mailto:Brad.fink@dgif.virginia.gov)

540-248-9360