

# **“Are Striped Bass leaving the Lower Potomac River sooner than normal?”**

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MD-DNR

7/8/16

Sport Fish Advisory Committee

(SFAC) Mtg

# Question asked by Lower Bay Charter Captains

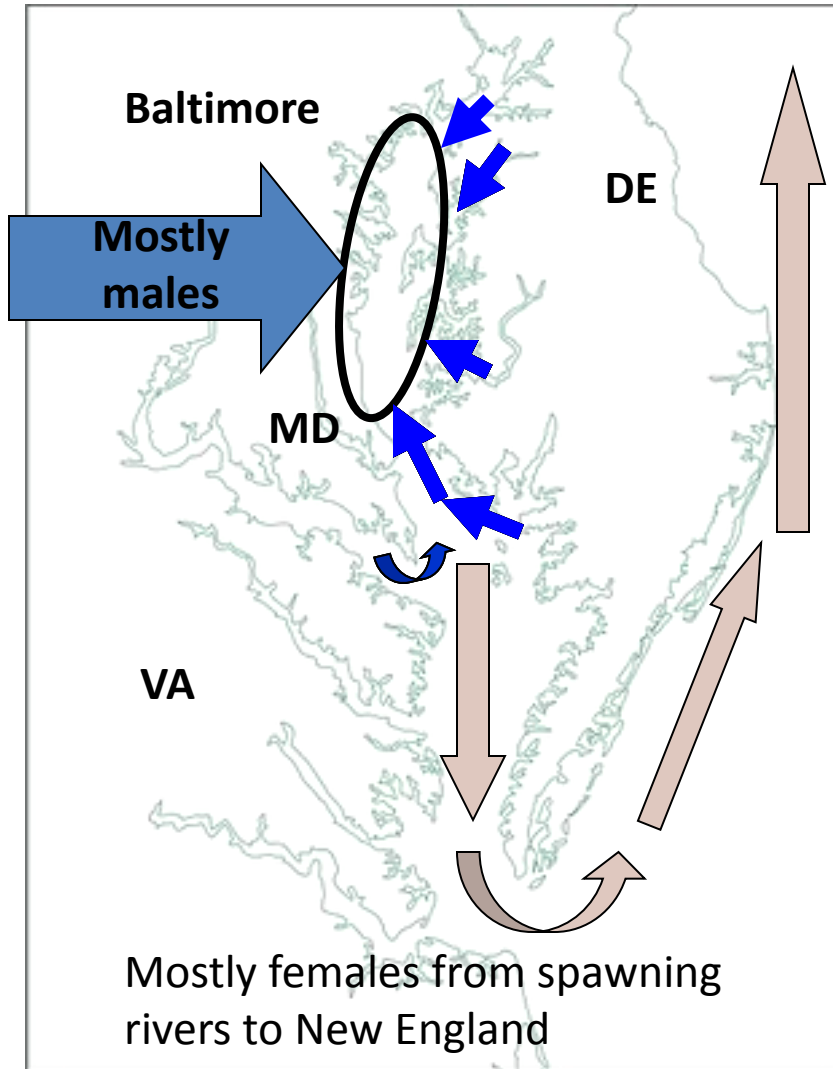
- “Beginning in about 2006, why were the rockfish were moving out of the Potomac River much sooner than normal and heading up to join the summer school of fish residing in the area from about the Choptank River north to Eastern Bay?”
- Prior to 2007, Charter Captains could catch rockfish on the main Bay from Solomons Island down to the Maryland line on reefs from 30 -35 feet deep. After 2007 that pattern disappeared.
- **Source of Question:** Marty Gary, Head of the Potomac River Fisheries Commission and several Charter Captains at one of the periodic PRFC meetings.

# What does our fisheries data show ?

## We looked at our Chesapeake Bay fisheries information:

- General shifts over time in locations of legal fish
- Catch data
- Distribution of Tagging returns
- Forage fish presence
- Rockfish nutrition/condition over time
- Fishing reports

# Striped bass movements after spawning

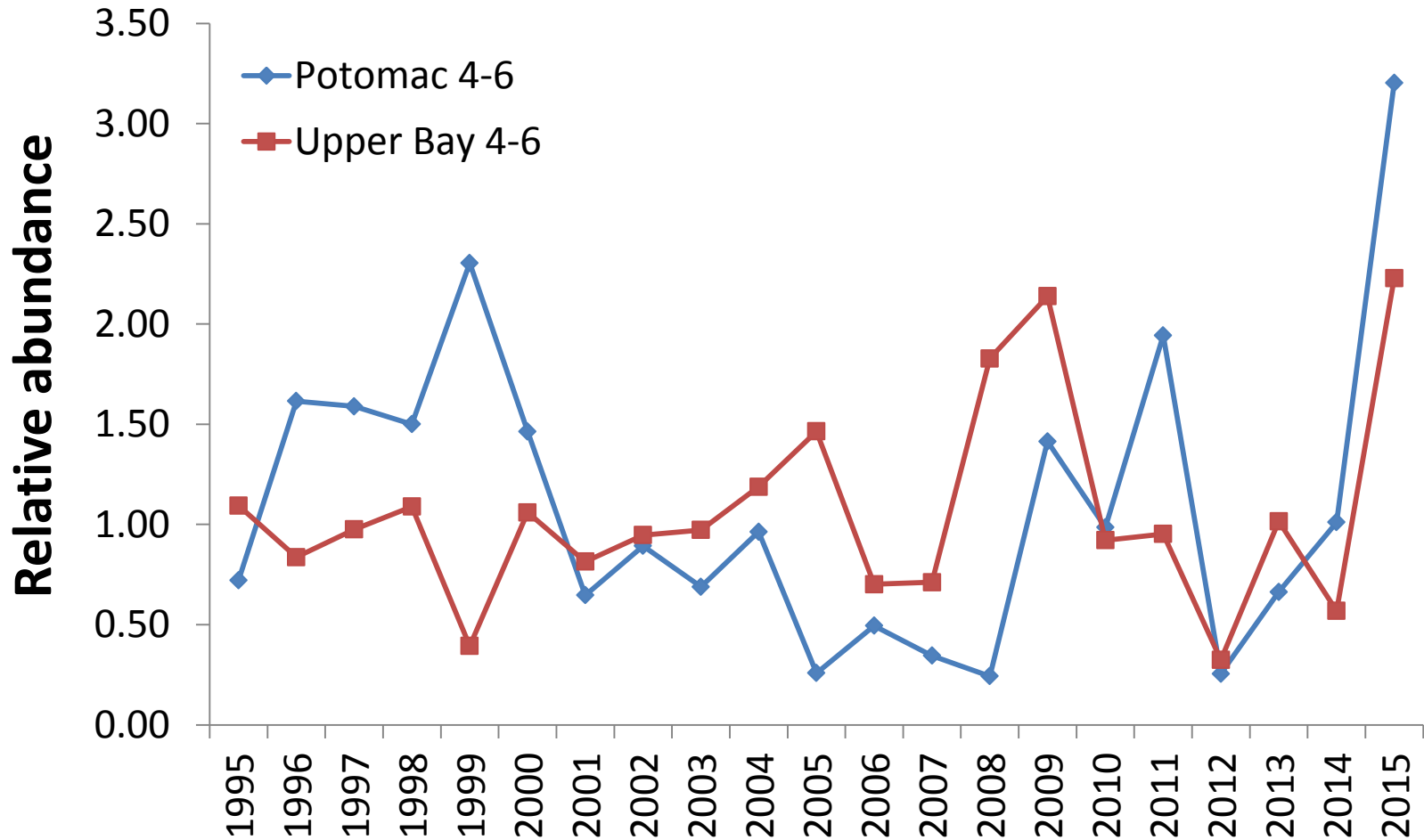


- Mature females leave the Bay
- Some males leave too
- Most males & some immature females stay in Bay (residents)
- Tagging in 1950s-1960s indicate most residents move to mid-Bay region
- Some remain in tributary

# Potomac River Tag Returns

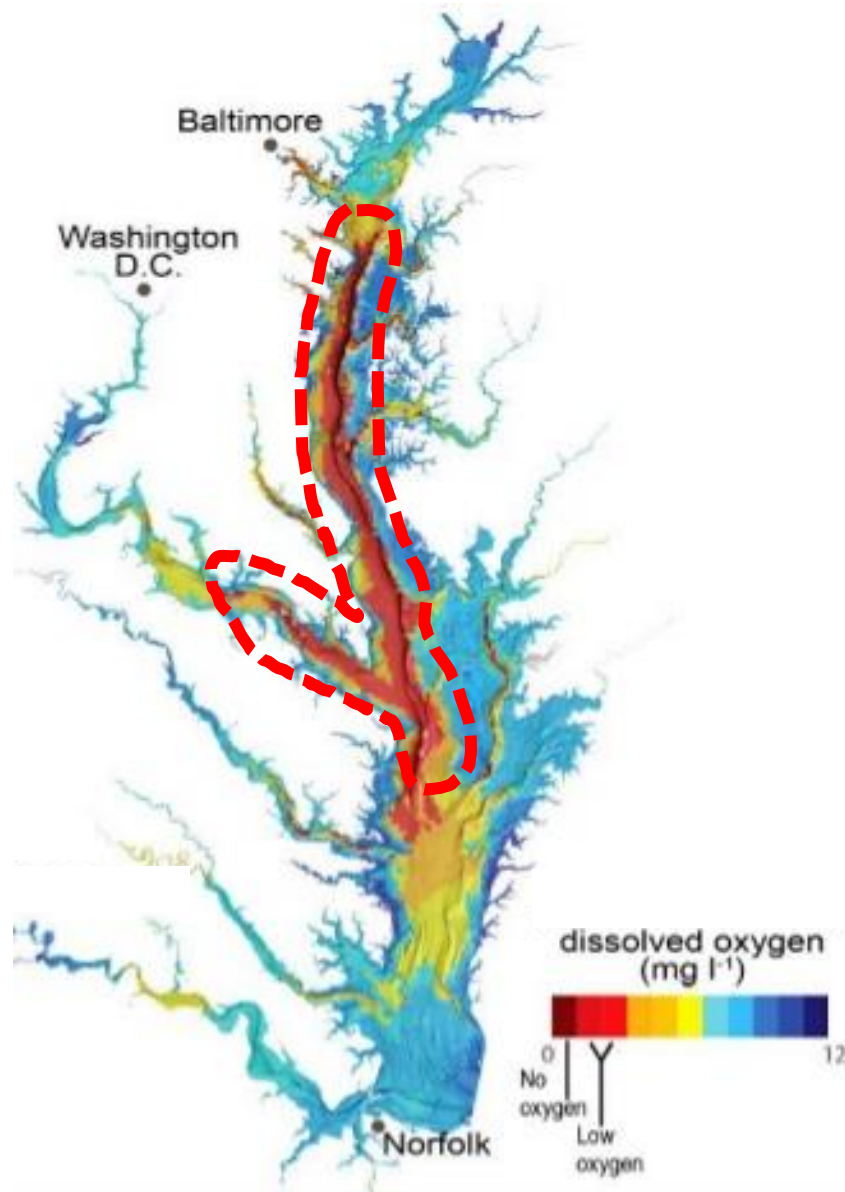
- Striped Bass Program
- 2000-2013 data
- Rockfish tagged on Potomac spawning grounds
- Chesapeake Bay May-August returns only
- Percent tagged in Potomac that were reported caught in Potomac / lower Bay NOAA areas
- Two time periods for adequate sample size.
- 2000-2006, N = 65 and 2007-2013, N = 68
- 51% vs 53% of returns from Potomac / lower Bay
- Does not suggest migration change

# Relative abundance of 4-6 year-old male striped bass in spawning ground surveys (Source: Striped Bass Program)



**What changes are we seeing in the  
Potomac River and lower Bay habitat  
since 2006?**

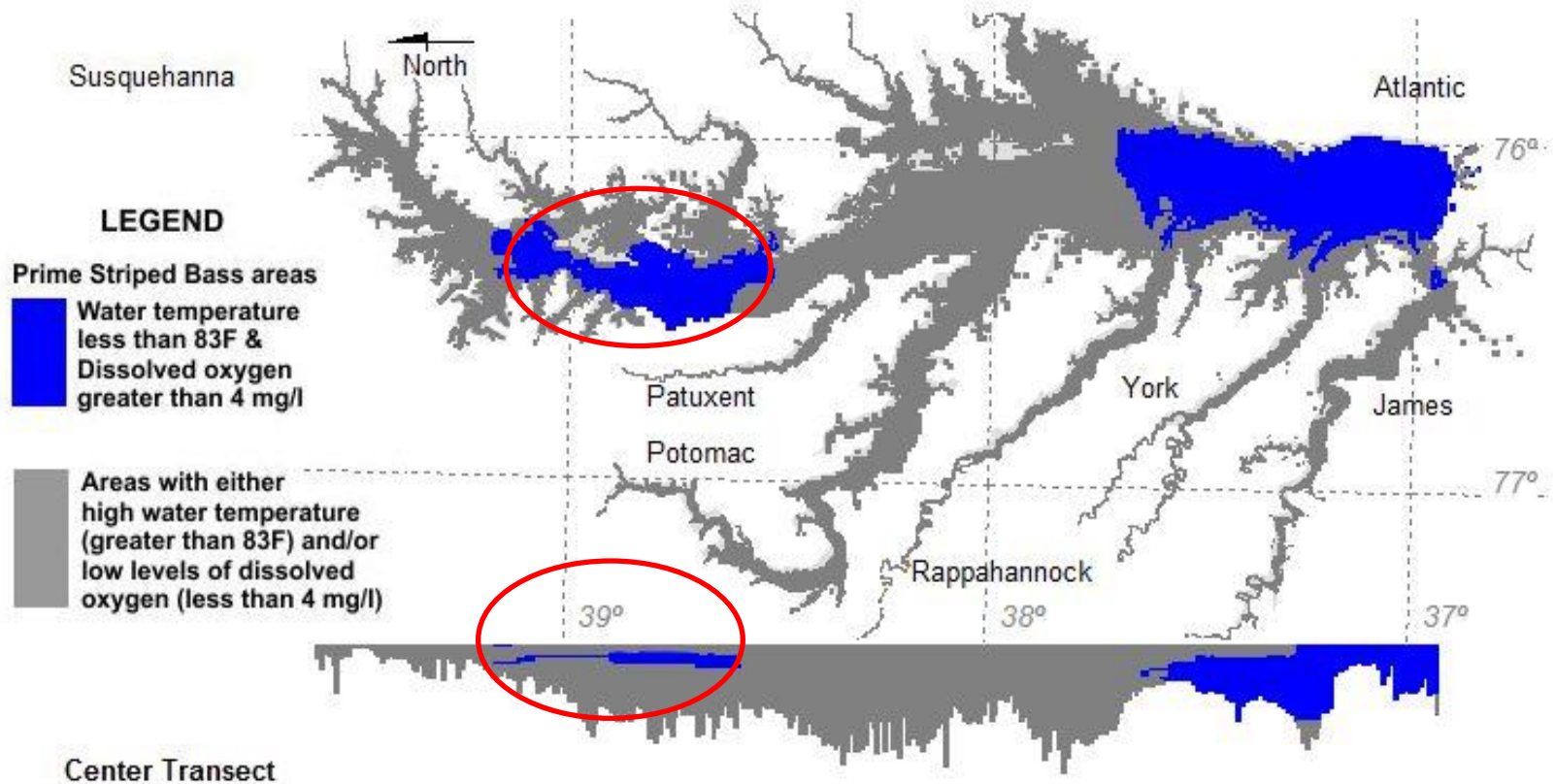
# Low summer dissolved oxygen levels in Chesapeake Bay



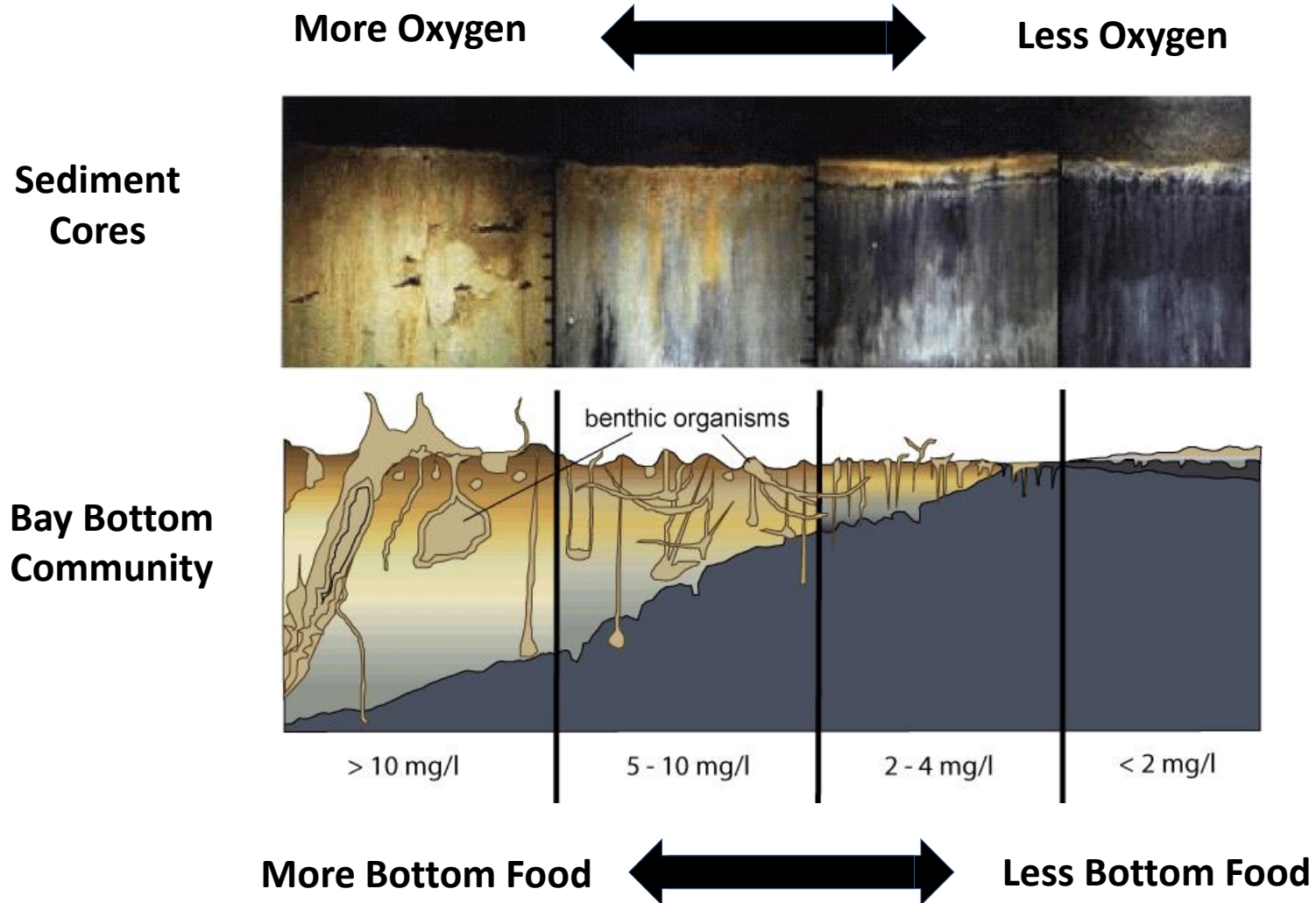


# Common Summertime Location of Rockfish schools

## Striped Bass Fishing Hotspots Coolest water with suitable oxygen for Striped Bass August 8-10, 2016



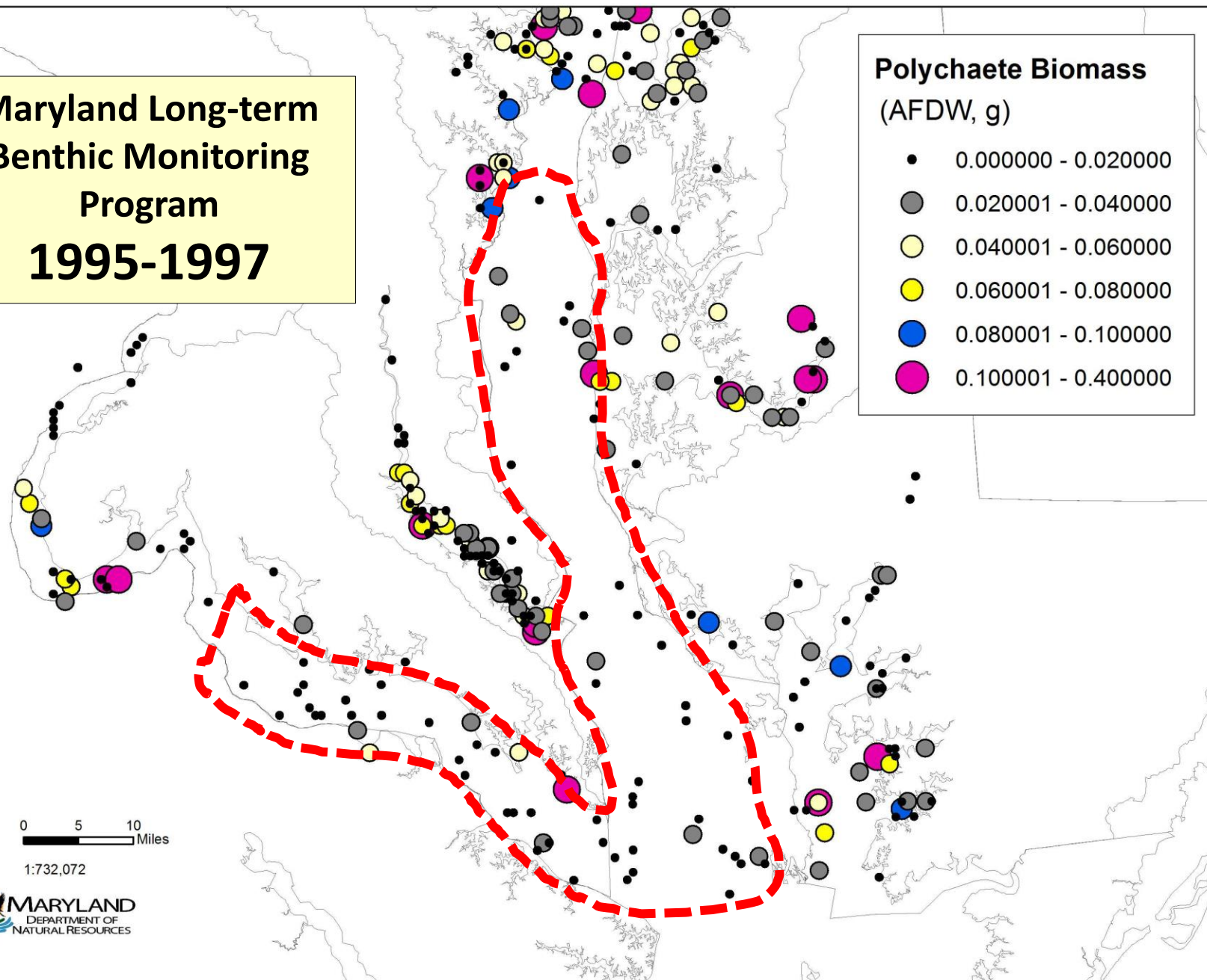
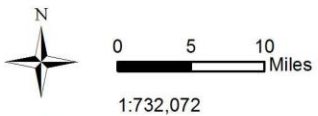
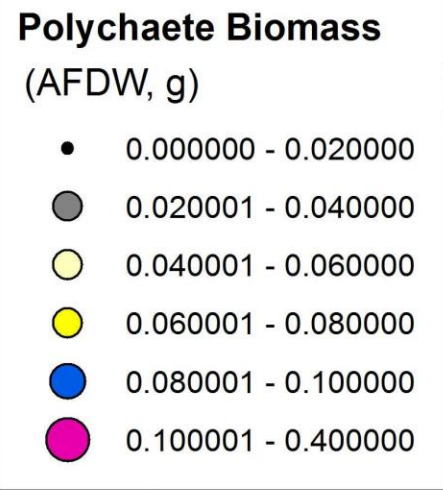
# Low Oxygen levels impact Bay bottom organisms



# Typical rockfish forage found in Bay bottom

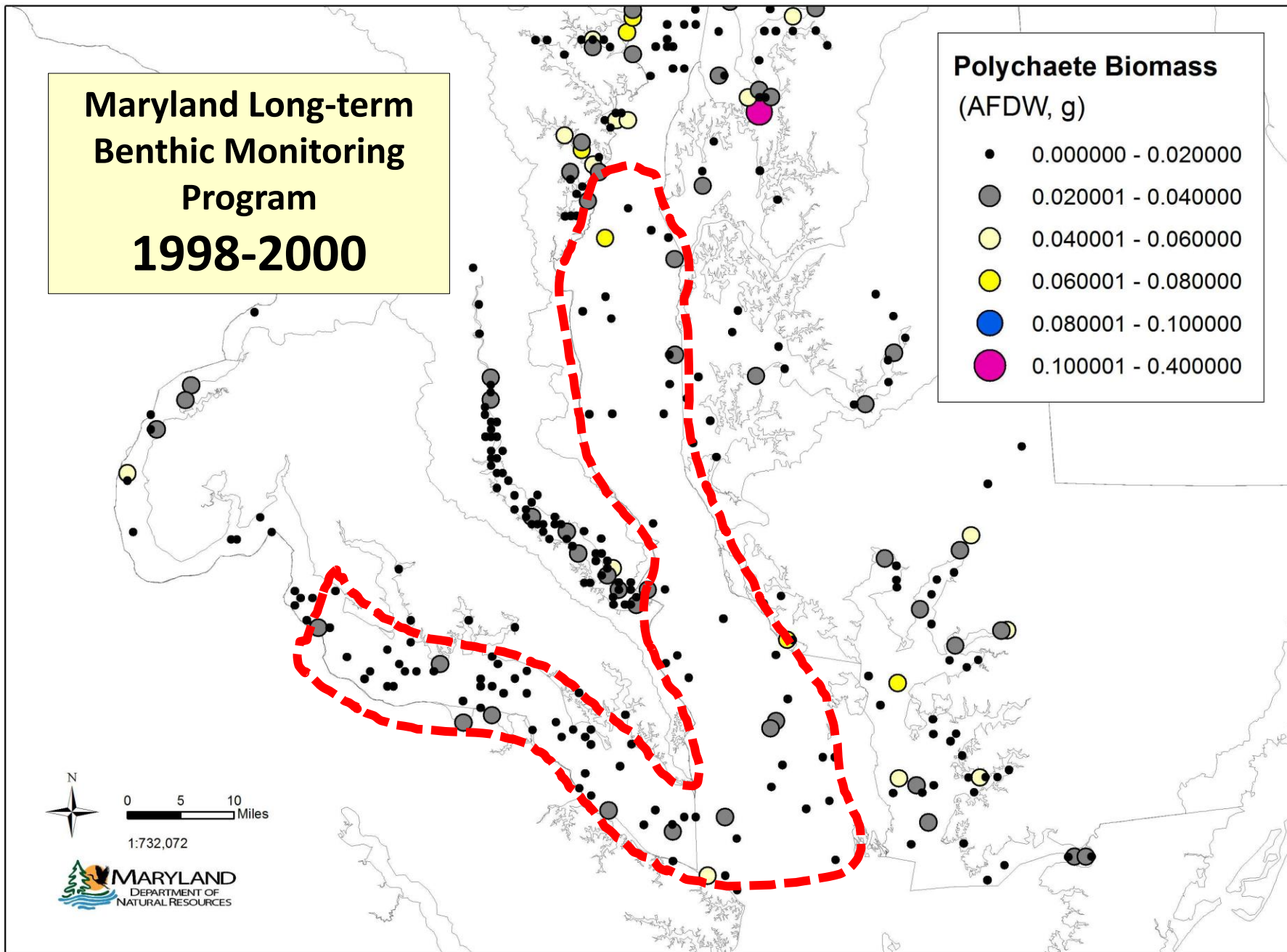
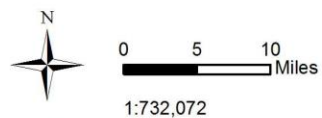
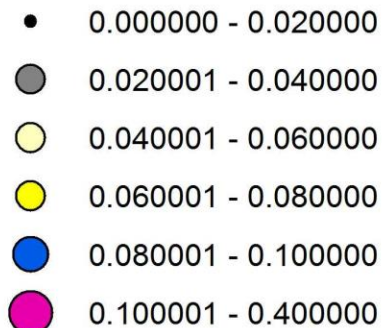


**Maryland Long-term  
Benthic Monitoring  
Program  
1995-1997**



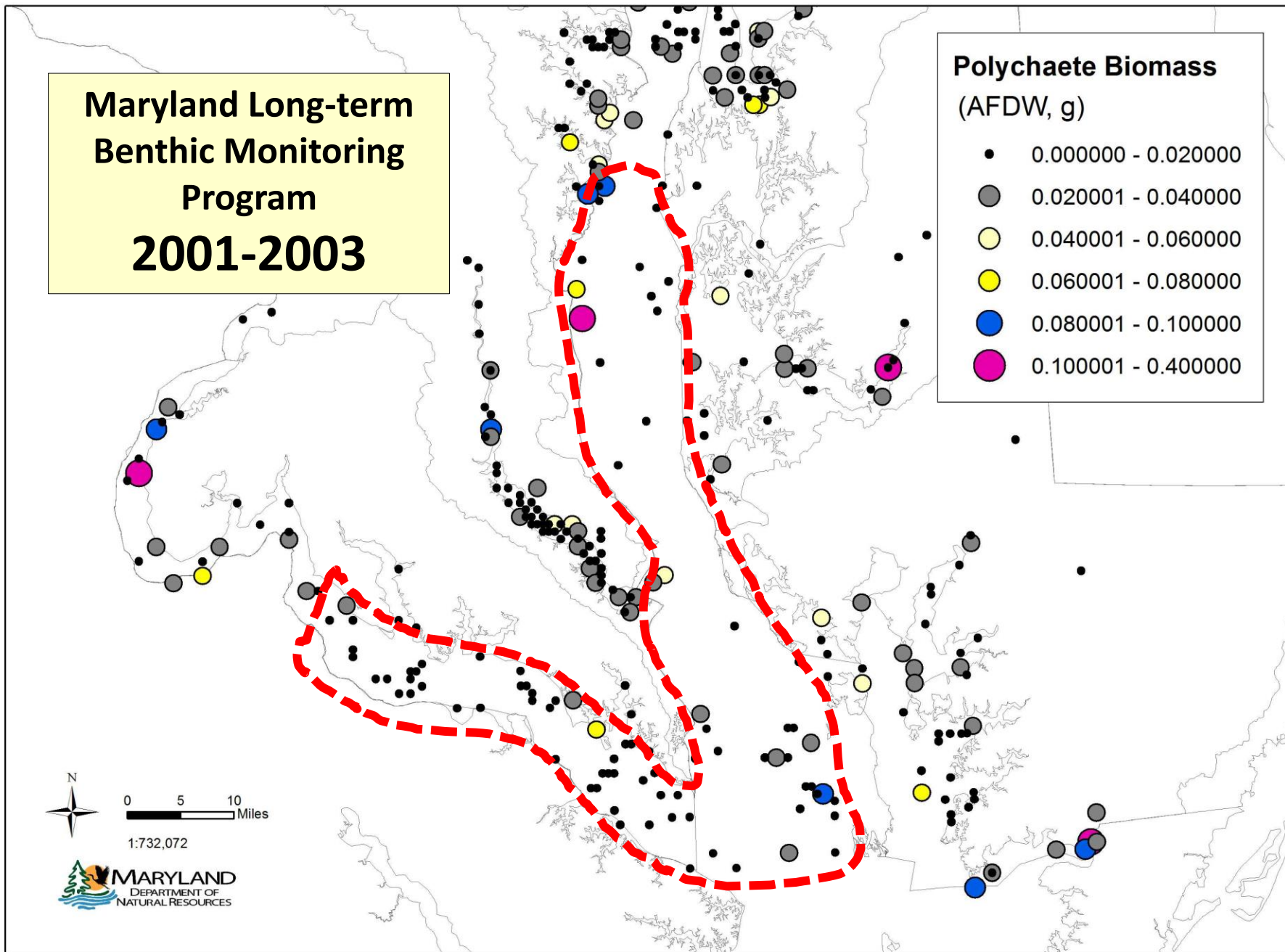
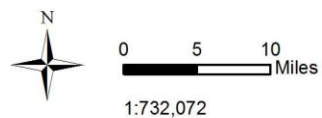
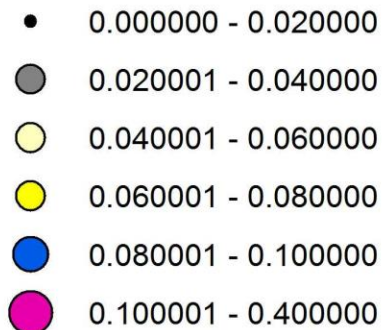
**Maryland Long-term  
Benthic Monitoring  
Program  
1998-2000**

**Polychaete Biomass  
(AFDW, g)**



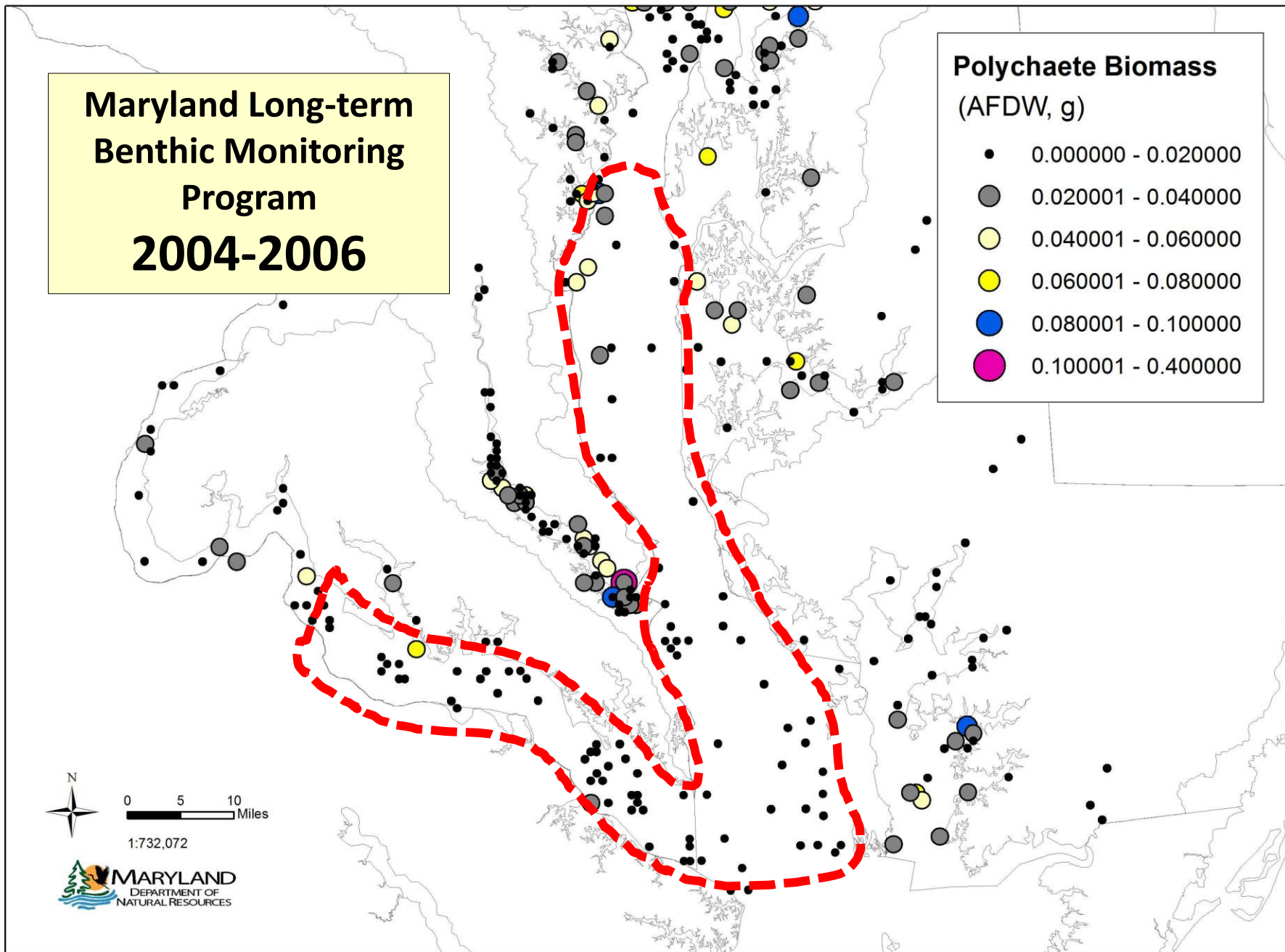
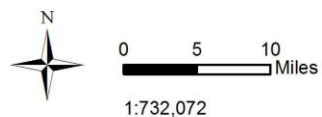
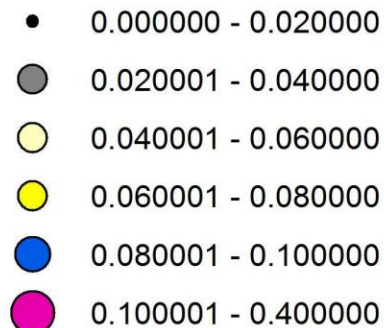
**Maryland Long-term  
Benthic Monitoring  
Program  
2001-2003**

**Polychaete Biomass  
(AFDW, g)**

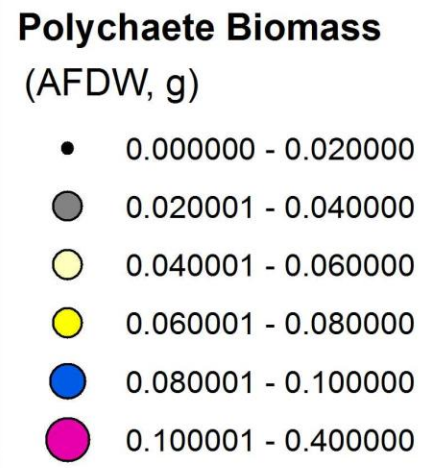


**Maryland Long-term  
Benthic Monitoring  
Program  
2004-2006**

**Polychaete Biomass  
(AFDW, g)**

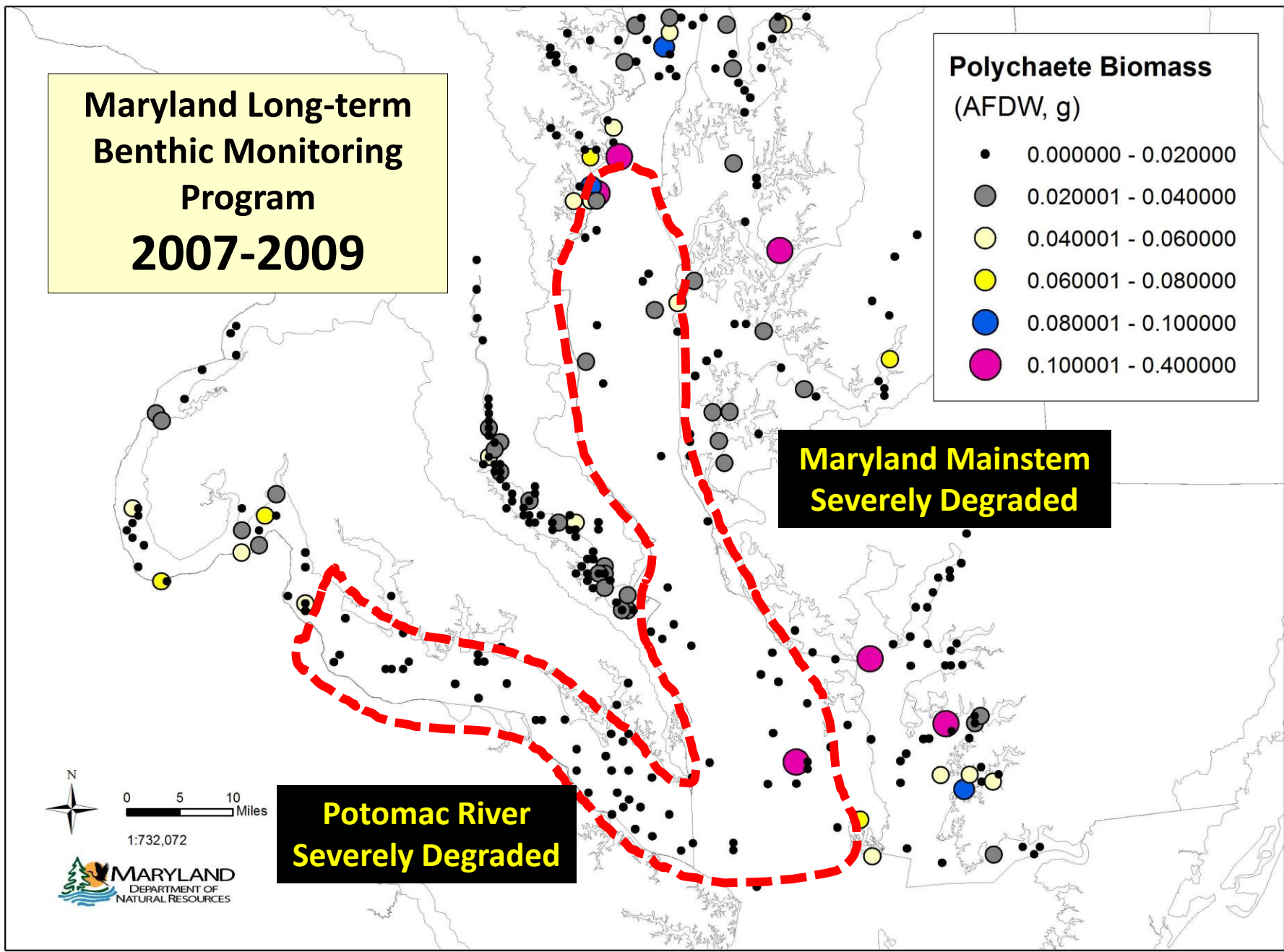
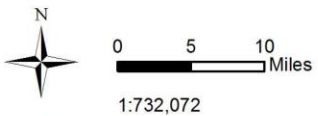


**Maryland Long-term  
Benthic Monitoring  
Program  
2007-2009**



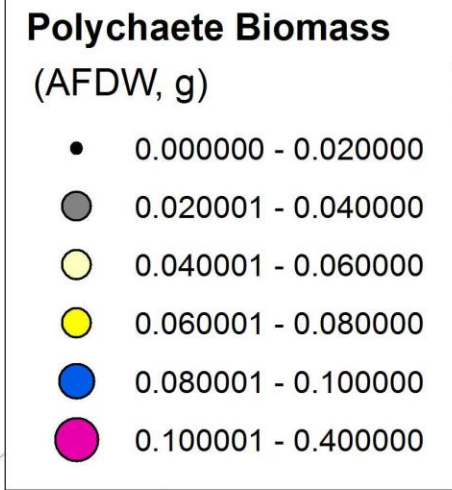
**Maryland Mainstem  
Severely Degraded**

**Potomac River  
Severely Degraded**

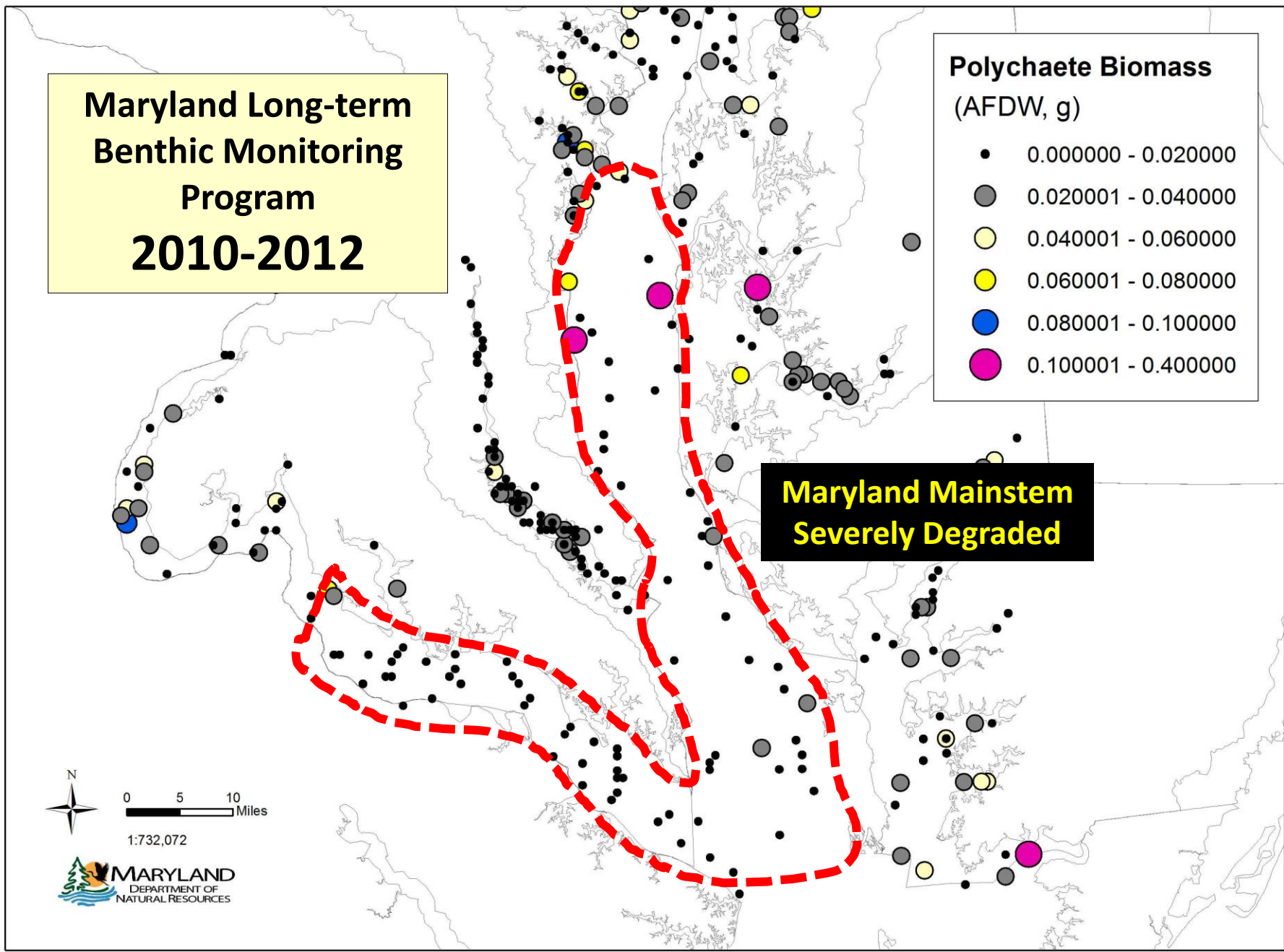
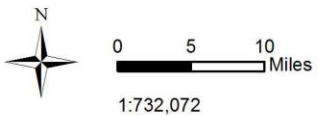




**Maryland Long-term  
Benthic Monitoring  
Program  
2010-2012**

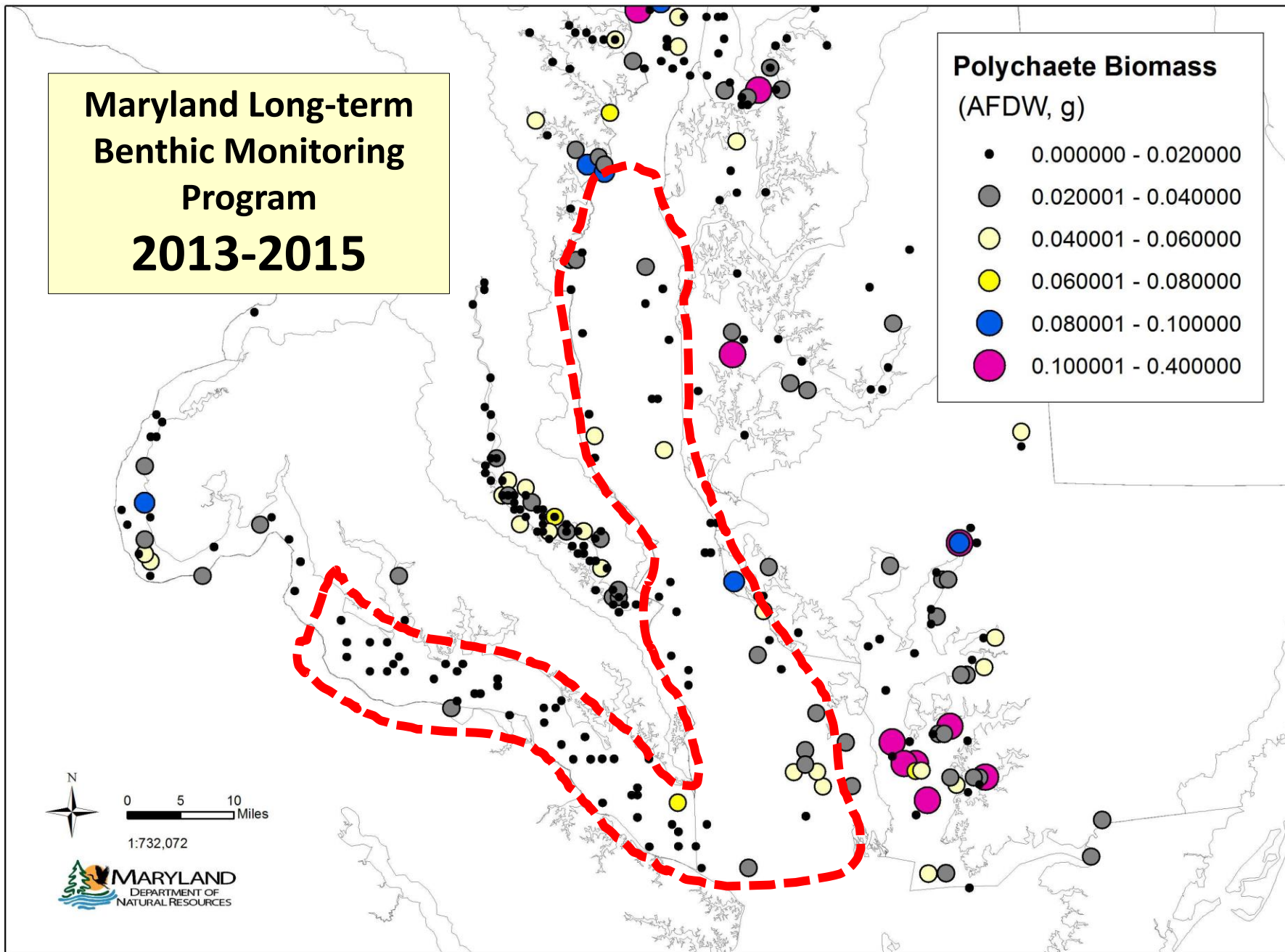
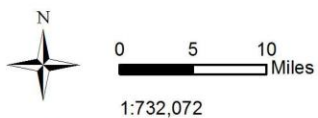
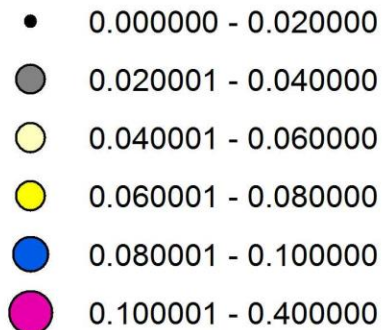


**Maryland Mainstem  
Severely Degraded**



**Maryland Long-term  
Benthic Monitoring  
Program  
2013-2015**

**Polychaete Biomass  
(AFDW, g)**



# Conclusions

- Information available does not offer a clear explanation
- Tagging data does not support a distributional shift
- Gill net survey on the Potomac River spawning grounds indicated that resident rockfish may have been at low abundance in some years
- Habitat conditions in the deeper waters of the lower Potomac/lower Bay became poorer and fish may not have been able to use habitat they once did.

**End**