Unusual Mortality in the Chesapeake

2014: 14 reports

-high mortality (50-85%) within 4 weeks

-common criteria:

-late spring (May-June)

-near market sized oysters

-triploids

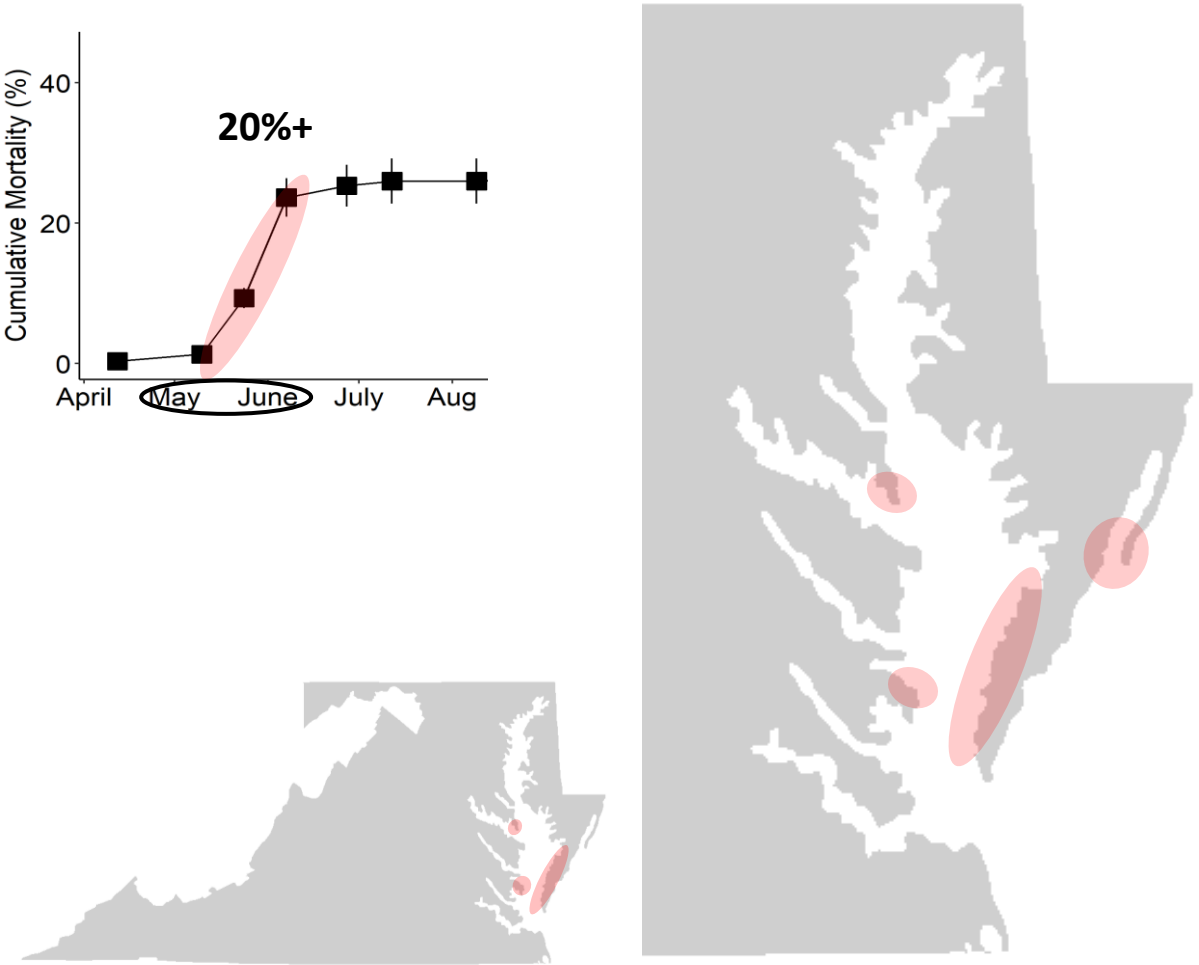
8+ reports with matching criteria since 2014

-at least 4 reports coming in 2019

-most less severe (20-40%)

What makes them unusual

-no link to typical stressors



Unusual Mortality in the Chesapeake: Testable Questions

1) With same stock, does mortality vary by site?

Guévélou et al. 2019. J. Shellfish Res. 38, 101–113.

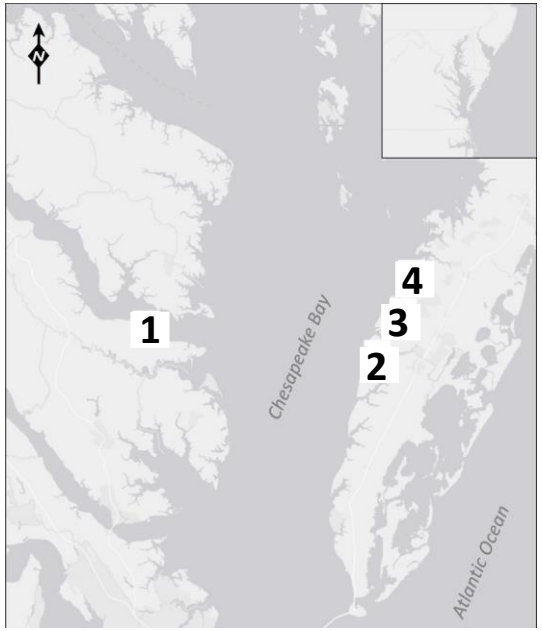
Matt et al. 2020. Aquaculture 735375.

Unusual Mortality in the Chesapeake: Methods and Results from Matt et al. 2020

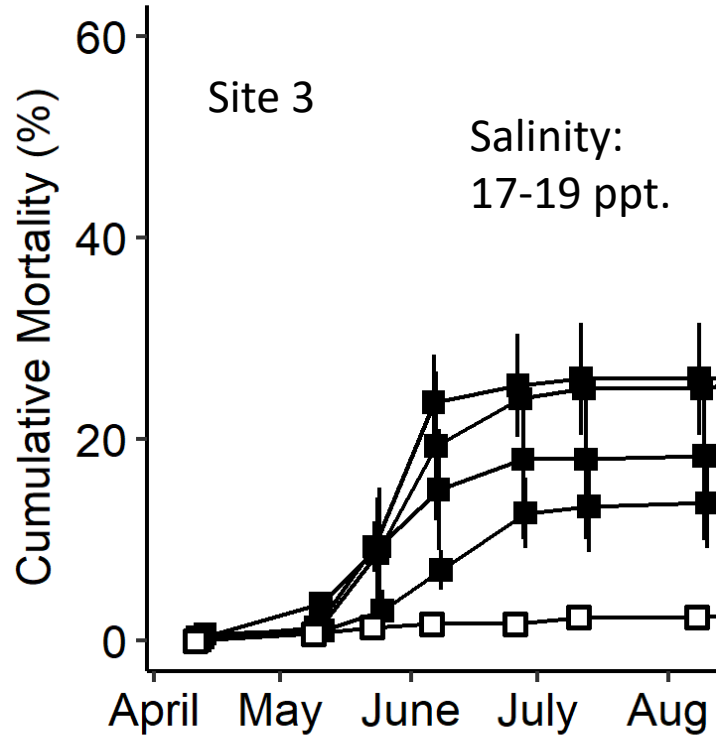
Spawn

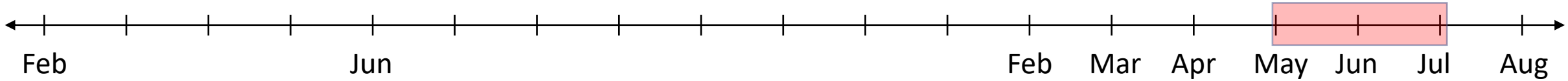
- Diploid
- Triploid A
- Triploid B
- Triploid C
- Triploid D

Deploy



Monitor Mortality
&
Water Conditions





2015

Unusual Mortality in the Chesapeake: Testable Questions

	[1]Guévélou et al. 2019	[2]Matt et al. 2020
With same stock, does mortality vary by site?	✓	✓
Is a specific triploid strain responsible?	✗	✗
Are diploids as susceptible?	—	✗
Is mortality associated with major changes in water conditions?	✗	✗

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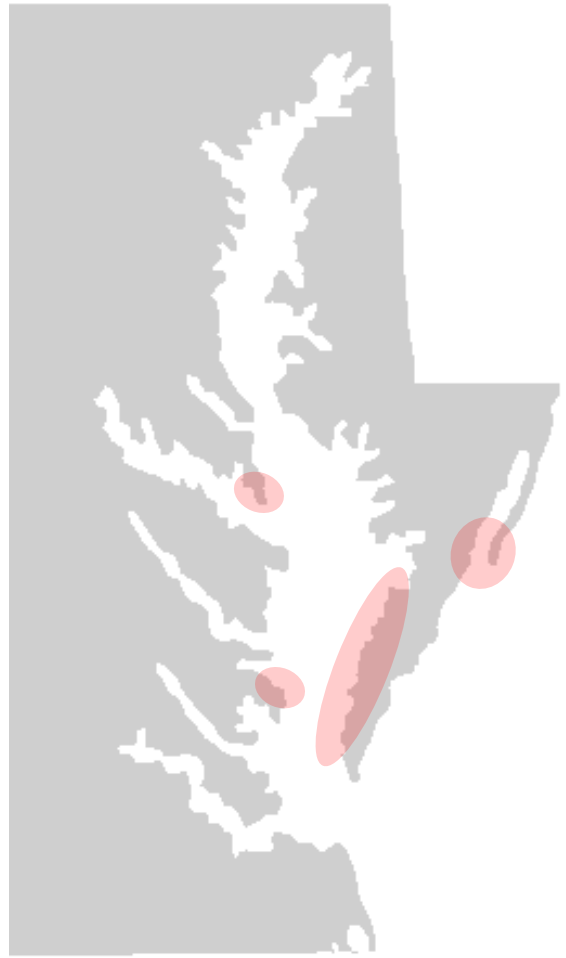
Unusual Mortality in the Chesapeake: Take Homes from Research

- Varies by site and year, but timing is consistent

- Multiple strains of triploids are susceptible

- Diploids may be less susceptible, hence **“triploid mortality” events**

- Can occur without evidence of stress from temperature, dissolved oxygen, or salinity



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