

## APPENDIX A: Teacher Pages

ACTIVITY I: Biotic and Abiotic Conditions Affecting the Eastern Oyster – Oyster Habitat Requirements Concept Map

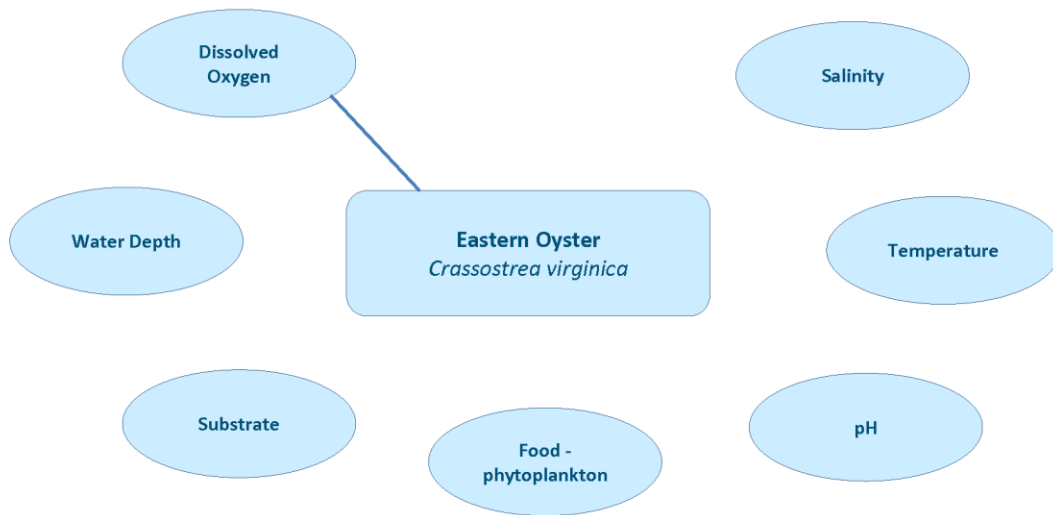
ACTIVITY II: Oyster Life Cycle

ACTIVITY III: Oyster Habitat Requirements Data Table (KEY)

## ACTIVITY I: Oyster Habitat Requirements Concept Map

TEACHER PAGE

Oyster Habitat Requirement Concept Map



### Habitat Criteria which students should consider:

- Salinity
- Temperature
- pH
- Dissolved Oxygen
- Food – Algae (Does the species/size matter?)
- Life Stage
- What zone applies to each life stage?
  - Water column
  - Benthos
- Water Depth
- Sediment type/Substrate - Soft bottom or hard bottom; how does this affect reef structure?
- Disease

### **How could natural or manmade events affect these parameters?**

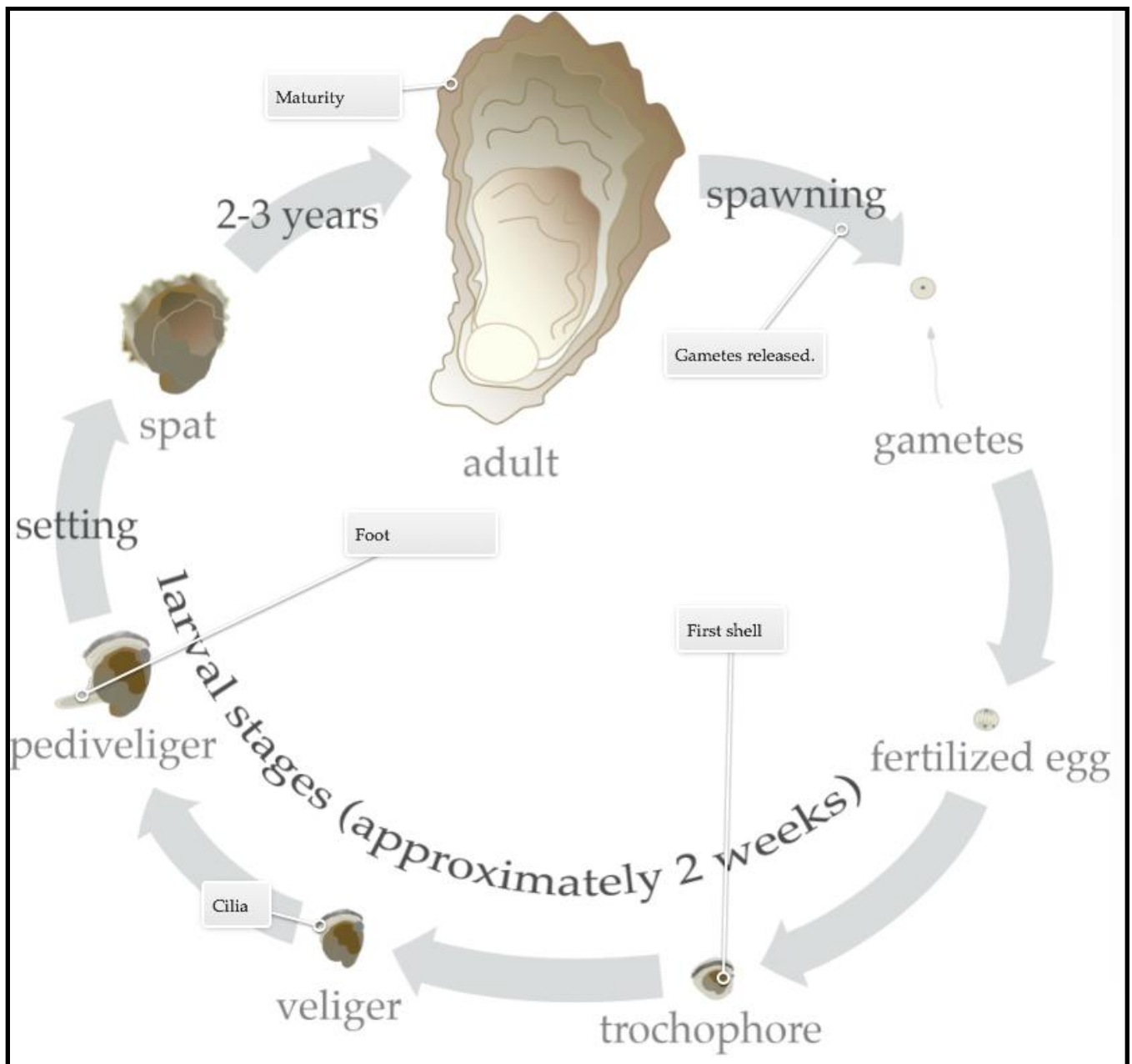
1. Drought – increased salinity
2. Hurricane – increased turbidity
3. Increased air and water temperatures – decreased dissolved oxygen
4. Runoff high in nutrients – increased algal blooms and increased turbidity
5. Runoff high in sediments – increased turbidity
6. Pollution from point sources – mortality

ACTIVITY II: The Oyster Life Cycle  
TEACHER PAGE

Diagram of Oyster Life Cycle

<http://www.chesapeake.com/wp/>

Used with permission from the *Chesapeake Bay Ecosystem Atlas*;  
Chesapeake Environmental Communications 2015



## ACTIVITY III: Oyster Habitat Requirements Data Table TEACHER PAGE

Parameters	Oyster Habitat Requirements										Oyster Disease	
	Eggs	Larvae	Spat	Young	Adults	Survival	Feeding	Growth	Gametogenesis	Spawning	MSX	Dermo
<b>Oyster Bed Designation</b> (sanctuary, commercial, etc.)			Sanc	Sanc	Sanc							
<b>Substrate</b> (soft or hard bottom)			Shell, hard	Shell hard	Shell, hard							
<b>Water Depth</b>			2-15	2-15	2-15							
<b>Water Temperature (°C)</b>	19-32 C	19-32 C	0-32	0-32	0-32	0-32	15-25	15-25	7.5-30	> 20	15-30	10-20
<b>Salinity (ppt)</b>	12.5-35	12.5-27	15-22.5	5-32	5-32	0-36	> 5	> 12	?	>10	>10	>3
<b>DO (mg/L)</b> (June-August)				>1	> 1	> .5						
<b>pH</b>	6.75-8.75	6.75-8.75								6.75-8.75		
<b>Live Oyster Density (#/m<sup>3</sup>)</b>				5	5							