

Using the Chesapeake Oyster Data Tool in aquaculture planning



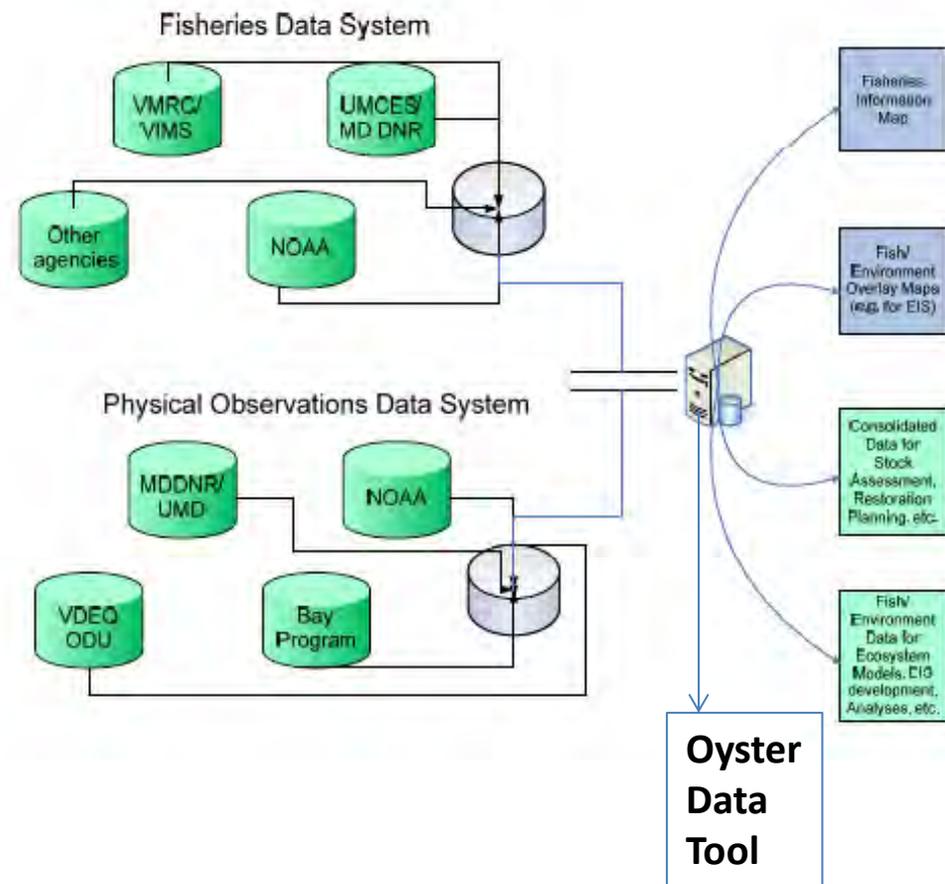
Peter Bergstrom
NOAA Chesapeake Bay Office
November 15, 2011
MD Shellfish Aquaculture Conference

What is it?



- The **Oyster Data Tool** uses a database that NOAA Chesapeake Bay Office is developing, to **help plan oyster restoration and aquaculture**
- It's not finished, but **we'd like to get feedback on the beta version**

Chesapeake Bay Ecosystem Integrated Information Systems



What's included?

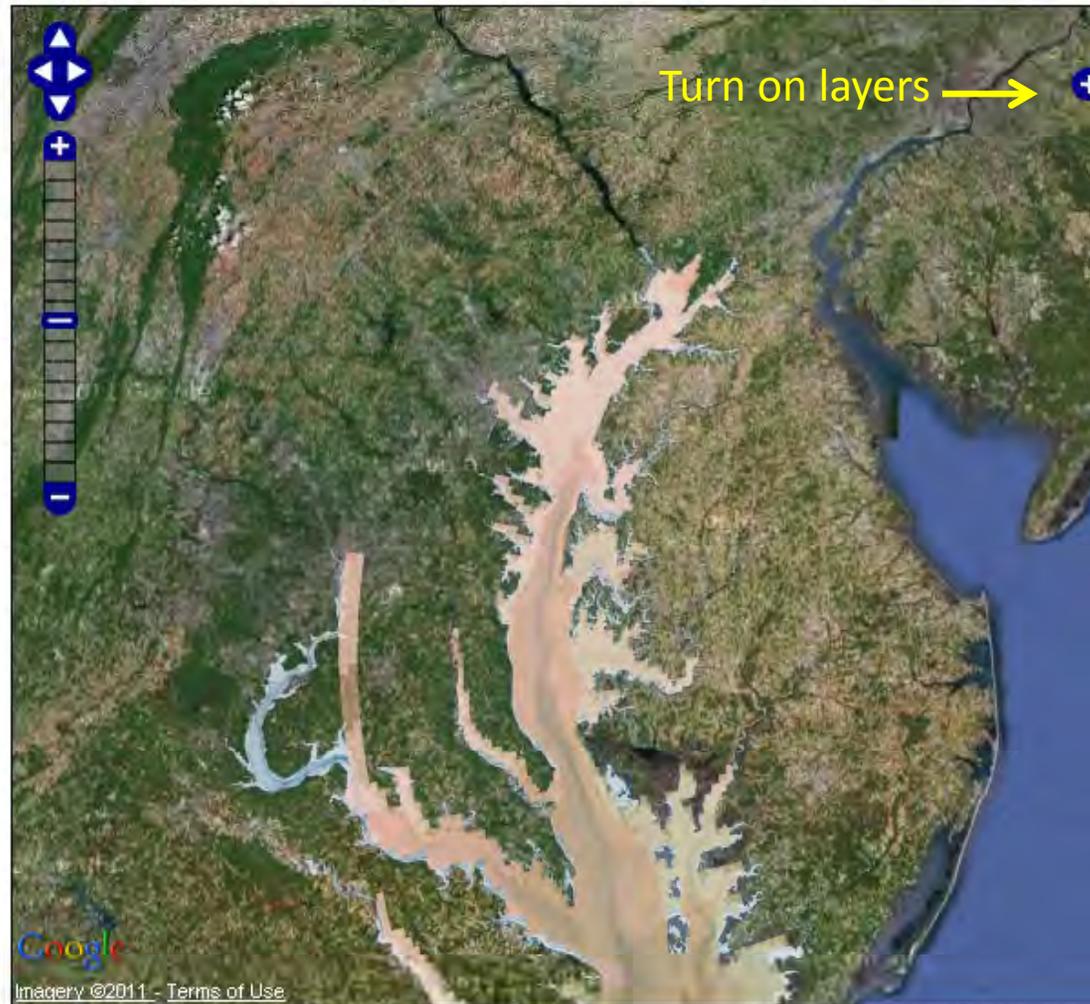


- The **Oyster Data Tool** displays the following as map layers that can be turned on & off:
 - Bathymetry in ranges
 - Bottom type
 - Interpolated modeled bottom salinity & temperature
 - Sanctuaries
 - Oyster bar/survey locations
 - Results of oyster surveys by bar over years
- *All of this is done over the web with no special software required, so anyone can use the maps to assist with **aquaculture lease selection***

Home page—Oyster Data Tool

Chesapeake Bay Oyster Reporting Tool

Username: Password:



Bottom Type:

- Artificial Oyster Shell (High Relief)
- Artificial Oyster Shell (Low Relief)
- Oyster Shell
- Oyster Shell/Mud
- Oyster Shell/Sand
- Fish Haven Artificial Reef
- Boulders
- Granule/Cobble

Bathymetry (m):

- 0 - 3.0
- 3.1 - 6.0
- 6.1 - 9.0
- 9.1 -12.0
- 12.1 -20.0

ChesROMS Month:

2010-11

ChesROMS Salinity Forecast (ppm):

Salinity Avg between 0 and 35
Salinity Min between 0 and 35
Salinity Max between 0 and 35

ChesROMS Temperature Forecast (deg C):

Temperature Avg between 0 and 35
Temperature Min between 0 and 35
Temperature Max between 0 and 35

Click on the map to get feature info

<http://science.ncbo.noaa.gov/oysterHab/>

Layers turned on



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ChesROMS Temperature Forecast (de

Temperature Avg between 0 and
Temperature Min between 0 and
Temperature Max between 0 and 5

Zoom to area of interest



Turn layers on & off to show information



Click on map to get feature info



Click on the map to get feature info

HAB_POLY

FID	GID	OBJECTID	ID	GRIDCODE	SHAPE_LENG	SHAPE_AREA	BOTT_TYPE
hab_poly.2677	2677	1780	1780.00000000	122	4130.98341148	326510.438335	Oyster Shell/Sand
hab_poly.2679	2679	1782	1782.00000000	124	2397.17996842	251779.532358	Oyster Shell/Sand

BATHY

FID	GID	ID	GRIDCODE	AREA_M2	DEPTH_M
bathy.953	953	12238	6	33335074.6228	3.1 - 6.0

CROMS_SAL

FID	MONTHLY_TIMESTAMP	SAL_AVG	SAL_MIN	SAL_MAX
croms_sal.fid-5ae7f671_13365a9e303_-787	Oct 1, 2010 12:00:00 AM	10.06	7.28	11.92

CROMS_TMP

FID	MONTHLY_TIMESTAMP	TMP_AVG	TMP_MIN	TMP_MAX
croms_tmp.fid-5ae7f671_13365a9e303_-786	Oct 1, 2010 12:00:00 AM	15.71	13.51	19.73



[CARVEL Report](#)

Click on this link to get fall oyster survey data

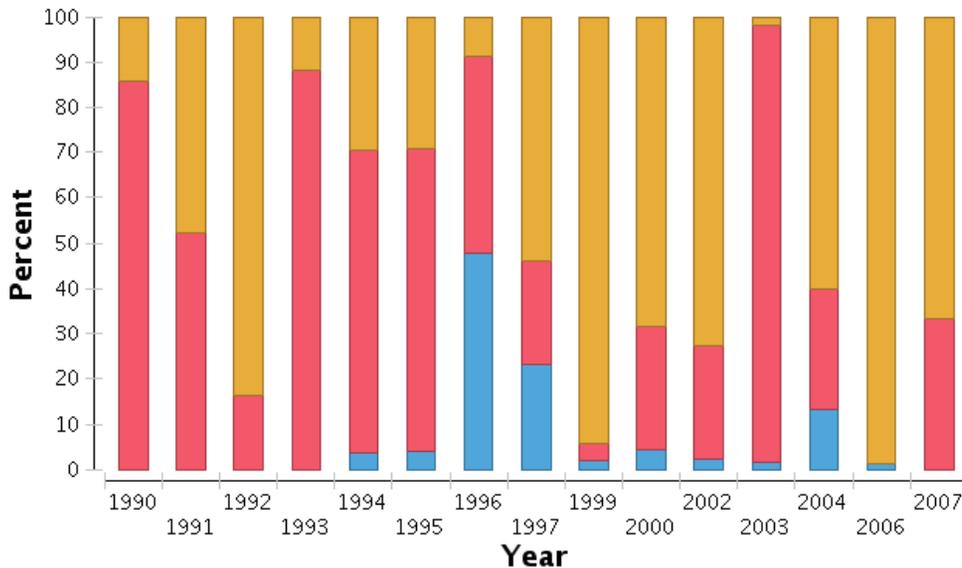
SANCTUARIES

FID	GID	NAME
sanctuaries.19	19	Lower Chester River

Fall oyster survey report--Carvel

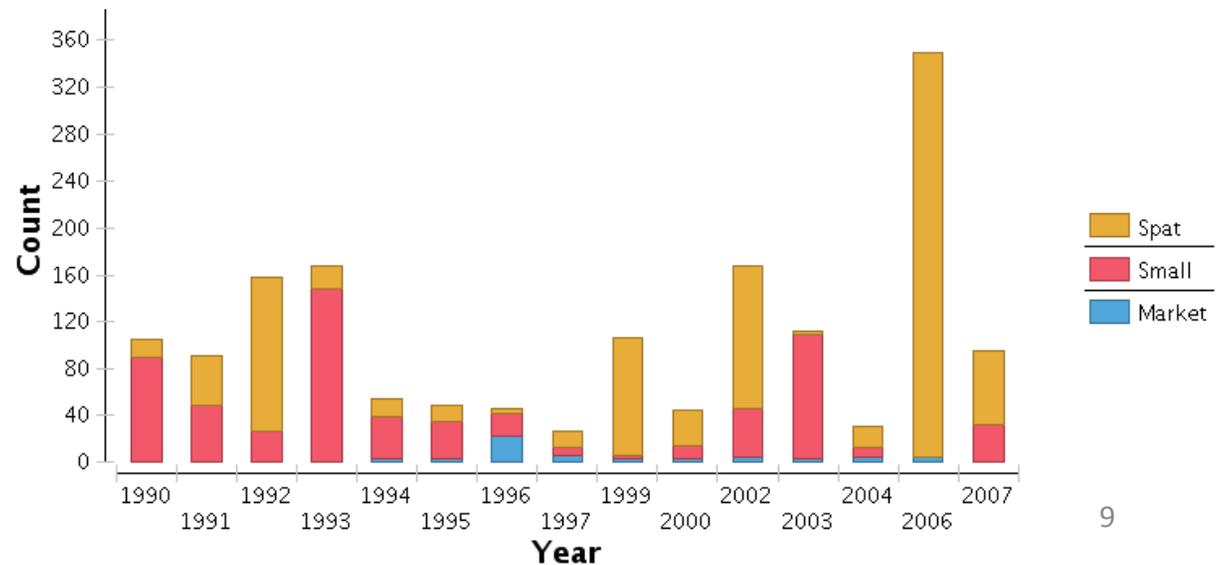
BARBA0

Live Oyster Abundance Size Composition



Does not show disease prevalence; this could be added

Live Oyster Abundance Count



NOTE: clicking "BACK" from this report takes you back to the home page. We'll make the report open in a new window in a future version.

Show depth range of interest

(No oyster shell here)



Light blue=
3.1-6.0 m deep

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- Temperature Max between 0 and 35

Click on bottom types to view on map



Oyster Shell/Mud
on edges →

Bottom Type:

- Artificial Oyster Shell (High Relief)
- Artificial Oyster Shell (Low Relief)
- Oyster Shell
- Oyster Shell/Mud** ←
- Oyster Shell/Sand
- Fish Haven Artificial Reef
- Boulders
- Granule/Cobble

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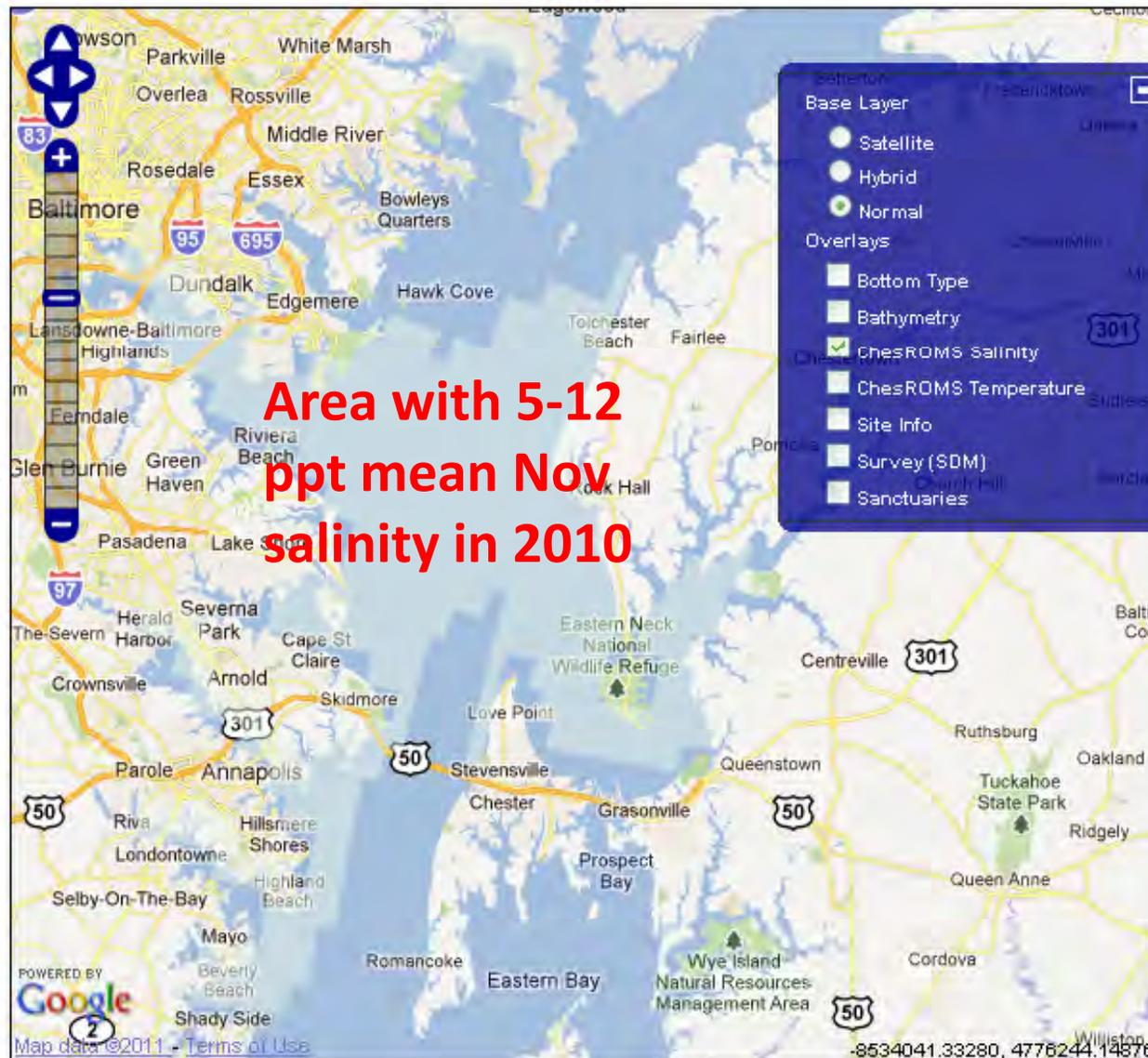
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- Temperature Min between 0 and 35
- Temperature Max between 0 and 35

Map areas with salin or temp range



Bottom Type:

Fish Haven Artificial Reef
Boulders
Granule/Cobble
Sand
Buried Oyster Shell
Clay/Silt
Clay/Silt/Sand
Unclassified

Bathymetry (m):

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6.1 - 9.0
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12.1 -20.0

ChesROMS Month:

2010-11

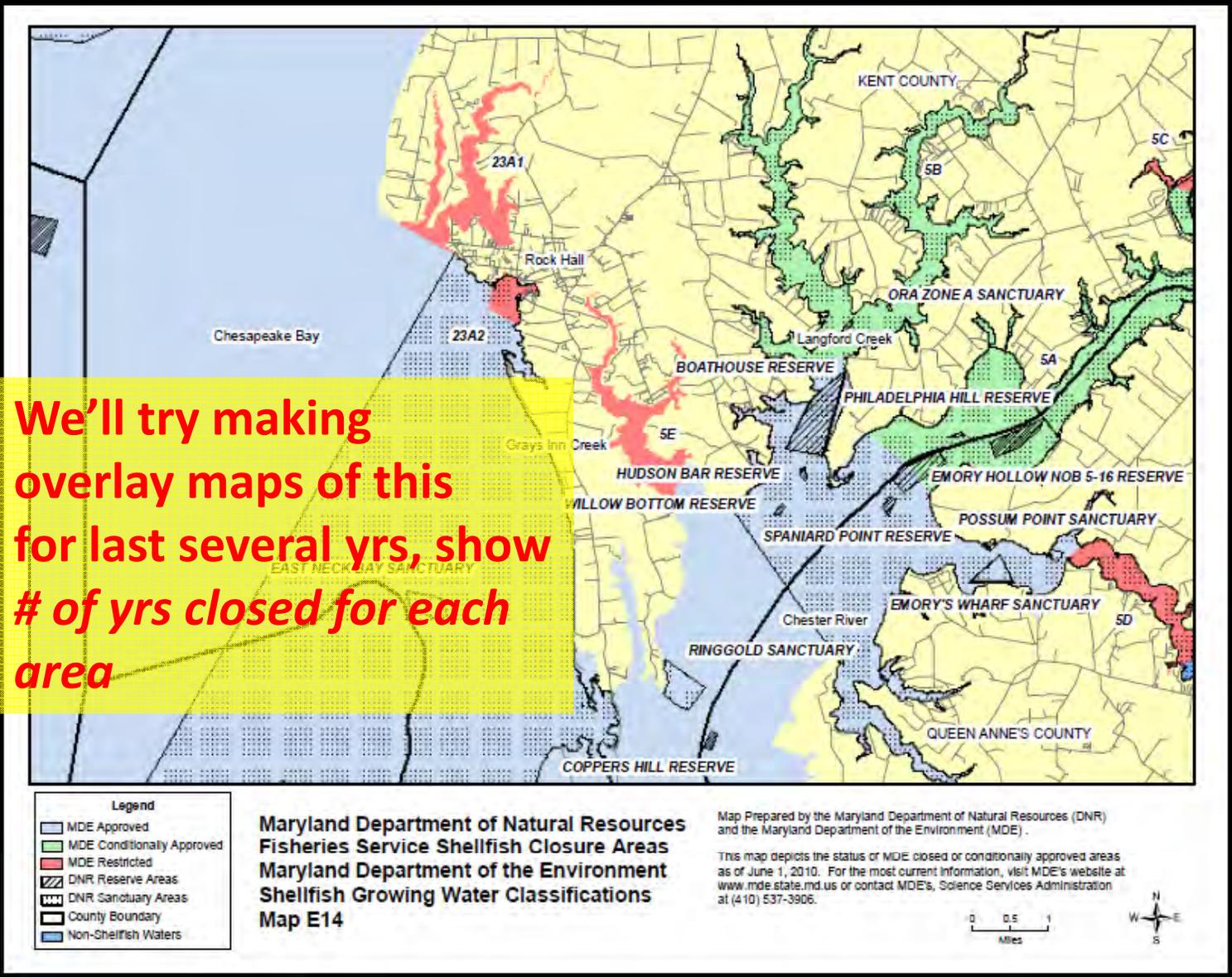
ChesROMS Salinity Forecast (ppm):

Salinity Avg between 5 and 12
Salinity Min between 0 and 35
Salinity Max between 0 and 35

ChesROMS Temperature Forecast (deg C):

Temperature Avg between 0 and 35
Temperature Min between 0 and 35
Temperature Max between 0 and 35

Current shellfish map, Lower Chester



Planned updates



- Updated survey point locations
- Updated survey data (2008-2010) *with disease*
- Have survey report open in a new window
- Add as map layers:
 - currently leased areas
 - AEZ's
 - Closures for bacteria (recent frequency)
 - Results of NCBO's benthic surveys
 - *Other suggestions welcome; please contact me*

URL for tool, contact info



- <http://science.ncbo.noaa.gov/oysterHab/>
- Peter Bergstrom, NOAA Chesapeake Bay Office, peter.bergstrom@noaa.gov or 410-267-5665

