Homework #2 Results

4th and 5th Candidate Restoration Partnership Sanctuaries
### Votes for and against the 4th and 5th candidate restoration partnership sanctuaries

<table>
<thead>
<tr>
<th>Sanctuary Name</th>
<th>1st Choice</th>
<th>2nd Choice</th>
<th>3rd Choice</th>
<th>Total Votes</th>
<th>Total Votes Against</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breton Bay</td>
<td>5</td>
<td>7</td>
<td>0</td>
<td>12</td>
<td>6</td>
</tr>
<tr>
<td>Calvert Shore</td>
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<td>0</td>
<td>0</td>
<td>1</td>
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<tr>
<td>Cedar Point</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Hooper Strait</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Magothy</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Man-O-War Shoals/ Gales Lump</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Manokin</td>
<td>8</td>
<td>2</td>
<td>1</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Nanticoke</td>
<td>1</td>
<td>1</td>
<td>7</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Plum Point</td>
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<td>0</td>
<td>0</td>
<td>1</td>
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<tr>
<td>Severn</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>South</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>St Mary's</td>
<td>2</td>
<td>8</td>
<td>1</td>
<td>11</td>
<td>10</td>
</tr>
</tbody>
</table>

Based on 22 responses
Location of sanctuaries receiving votes for becoming a restoration partnership sanctuary:

- Breton Bay
- Hooper Strait
- Magothy
- Manokin
- Nanticoke
- Severn
- South
- St Mary's

Next 8 slides will list given pros and cons comments provided by commissioners for sanctuaries receiving votes towards becoming a restoration partnership sanctuary.
Breton Bay Sanctuary

Comments provided by the commissioners:

**Pros**
- Potential for positive impact to Potomac River
- Located on western shore
- No impact to eastern shore
- Test area to see if sanctuaries work
- Bottom needs to be restored; in need of hard bottom
- Enforceable
- No waterman pushback; supported by watermen
- Low historic disease levels
- Potential for low disease-related mortality
- Good dissolved oxygen

**Cons**
- Low salinity
- Low reproduction and recruitment
- Low historic spat set
- Selection for disease-resistant oysters may be negligible
- Potential for significant financial investment to restore
## Hooper Strait Sanctuary

Comments provided by the commissioners:

### Pros
- Not located in middle eastern shore near three current restoration partnership sanctuaries
- Medium enforceability
- High spat set and reproduction potential

### Cons
- None given
Magothy River Sanctuary

Comments provided by the commissioners:

**Pros**
- Located on western shore
- Not located in middle eastern shore near three current restoration partnership sanctuaries
- NEPA approved
- Enforceable
- MGO involvement

**Cons**
- Low growth rate for oyster size
- Low salinity
- Low reproduction and recruitment
- Low historic spat set
- Low population growth potential
- Potential mortality from freshets
- Past oyster history indicates low oyster abundance
- MDE restricted area of current fecal coliform and bacteria levels
- Potential for significant financial investment to restore

MGO = Marylanders Grow Oysters
Manokin River Sanctuary

Comments provided by the commissioners:

**Pros**
- Potential to increase regional populations and bars in public fishery adjacent to sanctuary
- Not located in middle eastern shore near three current restoration partnership sanctuaries
- Different salinity regime than near three current restoration partnership sanctuaries
- Ample acres suitable for restoration; “tractable yet meaningful” restoration acreage
- Enforceable
- Low historic disease mortality
- Relatively high oyster density
- Relatively high historic spat set
- Increase in biomass and abundance since becoming a sanctuary in 2010
- Favorable water quality conditions; good dissolved oxygen
- Potential to develop disease resistance
- Relatively easy to restore; potential for limited amounts of substrate and seed
- Potential for limited investment needed to restore

**Cons**
- Too close to the three current restoration partnership sanctuaries
- Possibility of high mortality from MSX and Dermo
- Desired to become a seed area for public fishery
- Economically depressed area
- Will be met with strong political and local opposition
Nanticoke River Sanctuary

Comments provided by the commissioners:

Pros
• Not located in middle eastern shore near three current restoration partnership sanctuaries
• Substantial acres of suitable habitat to restore; “tractable yet meaningful” restoration acreage
• Potential to increase regional populations and bars in public fishery adjacent to sanctuary
• NEPA approved
• Enforceable
• Relative high reproduction potential
• Relative high historic spat set
• Increase in biomass and abundance since becoming a sanctuary in 2010
• Favorable water quality conditions; good dissolved oxygen and depth

Cons
• To close to the three current restoration partnership sanctuaries
• Located on western shore
• Has lots of aquaculture leases
• Possibility of high mortality from MSX and Dermo
• Potential negative impact to public fishery revenue if whole river is expanded to become a sanctuary
Severn River Sanctuary

Comments provided by the commissioners:

**Pros**
- Not located in middle eastern shore near three current restoration partnership sanctuaries
- Located on western shore
- Test area to see if sanctuaries work
- NEPA approved
- Enforceable
- Public support by riverkeeper, MGO, and local citizens
- Easy to monitor oyster population
- Nutrient filtration needed and potential to improve water quality
- Already had some planting by MGO and other organizations
- Bottom already has some substrate prepared for planting oysters

**Cons**
- Low growth rate for oyster size
- Low salinity
- Low reproduction and recruitment
- Low historic spat set
- Low dissolved oxygen; degraded water quality
- Low population growth potential
- MDE concerns of current fecal coliform and bacteria levels
- Not easy to restore; will take a lot of substrate and seed
- Has already had limited restoration activities
- Potential for significant financial investment to restore
South River Sanctuary

Comments provided by the commissioners:

**Pros**
- Not located in middle eastern shore near three current restoration partnership sanctuaries
- Located on western shore
- Test area to see if sanctuaries work
- Area needs restoration
- Public support by riverkeeper, MGO, and local citizens
- Easy to monitor oyster population

**Cons**
- Little historic oyster bottom and low amount of hard bottom to restore
- Low current oyster density
- Low growth rate for oyster size
- Low salinity
- Low reproduction and recruitment
- Low historic spat set
- Potential mortality from freshets
- Low dissolved oxygen; degraded water quality
- Low population growth potential
- Not easy to restore; will take a lot of substrate and seed
- Has already had limited restoration activities
- Potential for significant financial investment to restore
St. Mary’s River Sanctuary

Comments provided by the commissioners:

**Pros**
- Not located in middle eastern shore near three current restoration partnership sanctuaries
- Located on western shore
- Ample acres suitable for restoration; “tractable yet meaningful” restoration acreage
- Potential to increase regional populations and bars in public fishery adjacent to sanctuary
- Different salinity regime than near three current restoration partnership sanctuaries
- Public support from citizens, multiple organizations, and local government; investment towards restoration currently ongoing by these organizations
- Enforceable
- High oyster density
- High historic spat set
- Low historic disease mortality
- Increase in biomass and abundance since becoming a sanctuary in 2010
- Favorable water quality conditions
- Potential to develop disease resistance
- Potential for limited investment needed to restore

**Cons**
- Possibility of high mortality from MSX and Dermo
- Already receiving community led restoration
- Desired to be a seed area for public fishery
- Potential negative impact to public fishery revenue if whole river is expanded to become a sanctuary