Recreational Fishing Indicator for the Inland Bays.
Why recreational fishing?

• A major recreational use of the Inland Bays for both residents and tourists: 25% of Delaware’s saltwater recreational fishing effort occurs there.

• Large economic impact.

• We have very good data on recreational fishing effort.
What can recreational fishing tell us about conditions in the Inland Bays?

• Indirect measure of conditions in the Inland Bays.

• A very simplified formula: Healthy Inland Bays=Abundant fish population=Successful fishing trips=Constant or increasing fishing effort.
Recreational Fishing Data

- Data from the Marine Recreational Fisheries Statistics Survey (MRFSS).
- Data based on aerial surveys, and dockside and telephone interviews.
- Overall PSE for 2005 Inland Bays effort estimate is 6.2%.
Recreational fishing effort and fish landings in the Inland Bays during 1988 through 2005

Year | Effort (Trips) | Landings (Lbs.) | Effort Trend
--- | --- | --- | ---
1988 | 100 | 200 | r²=0.70 p<0.0001
Landings trends of important recreational species, 2001 – 2005

**Striped Bass**

- Year: 2001 to 2005
- Landings (lbs.):
  - 2001: 200,000
  - 2002: 150,000
  - 2003: 100,000
  - 2004: 50,000
  - 2005: 0

- Reg. change indicated.

**Bluefish**

- Year: 2001 to 2005
- Landings (lbs.):
  - 2001: 120,000
  - 2002: 100,000
  - 2003: 80,000
  - 2004: 60,000
  - 2005: 40,000

**Summer Flounder**

- Year: 2001 to 2005
- Landings (lbs.):
  - 2001: 100,000
  - 2002: 80,000
  - 2003: 60,000
  - 2004: 40,000
  - 2005: 20,000

**Atlantic Croaker**

- Year: 2001 to 2005
- Landings (lbs.):
  - 2001: 10,000
  - 2002: 20,000
  - 2003: 30,000
  - 2004: 40,000
  - 2005: 50,000
Using the indicator

- Effort, catch or catch per unit effort can be used but effort had the lowest PSE.
- Constant or increasing trend in effort is indicative of healthy fish stocks BUT must look at many factors if sudden change:
  - Changes in regulations (e.g. summer flounder)
  - Factors outside Inland Bays affecting fish stocks (e.g. coast wide drop in weakfish population)
  - Costs to fish (e.g. gasoline, boats, etc.)
  - Weather, boat ramp repairs, etc.
Recreational Fishing Indicator Usefulness

<table>
<thead>
<tr>
<th>Indicator type</th>
<th>1) Condition Assessment, 2) Evaluation, 4) Communication, 6) Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spatial Scale</td>
<td>Indian River and Rehoboth Bays</td>
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<tr>
<td>Temporal Scale</td>
<td>Annual</td>
</tr>
<tr>
<td>Validity</td>
<td>High for effort (PSE usually &lt; 10%)</td>
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<tr>
<td>Defensibility</td>
<td>High</td>
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<tr>
<td>Communicability</td>
<td>High</td>
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<tr>
<td>Public Involvement</td>
<td>High</td>
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<tr>
<td>Amount of Existing Data</td>
<td>High</td>
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<tr>
<td>Funding Reliability</td>
<td>High</td>
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<tr>
<td>Reference Value</td>
<td>Unknown</td>
</tr>
<tr>
<td>Merit</td>
<td>Medium – Descriptive not predictive, reinforces other available information</td>
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</tbody>
</table>
Pounds of fish caught per recreational fishing trip in the Inland Bays during 1988 through 2005