

1 The Effects of Rays on Commercial Fisheries

By Charlie, Ben, and Jay

2 Rays

- ◆ Cownose rays are the most common rays in the Bay
- ◆ They grow up to 45 in. wide and weigh up to 50 lbs.
- ◆ Live near the bottom
- ◆ Mouth and gills on bottom

3 Rays

- ◆ Travel in schools of 5-20
- ◆ North along east coast during warmer months
- ◆ South during colder ones
- ◆ Spend summers in the Bay
- ◆ Give birth to live young

4 Skates

- ◆ Clearnose skate most common in the Bay
- ◆ Called clearnose because of the transparent spots on either side of their nose

5 Skate Ray →

- ◆ Skates have a thicker tail than rays

6 Skates

- ◆ Unlike rays, Skates lay eggs in a hard sack called a mermaid's purse

7 Effects on the Bay

- ◆ Cow-nosed rays harm oyster beds and clam beds.
- ◆ In the 1970's they were thought to do extensive damage to eel grass beds along with pollutants.

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- ◆ Cow-nosed rays consumed 775,000 oysters in the Piankatank river.
- ◆ That was 90% of the oysters put down.
- ◆ Environmentalist were shocked but most commercial fisherman were not.

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- ◆ The Rays flap their wings to blow a hole on the bottom.
- ◆ They uncover clams which they crush with their brick like teeth.

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- ◆ This can make it dangerous when clamming in deep water.

- ◆ The clammer will be working his clam rake then hit a two foot hole.
- ◆ He could go in over his head or waders.

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- ◆ All commercial fisherman dealing with clams will make a clam bed.
- ◆ These can be 45'X60'.
- ◆ Netting is placed over the beds to keep the rays from eating the whole bed.

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- ◆ If the netting placed over the clam is not tightly sealed the sting rays and cow-nosed rays will rip it up and clean out the clam bed.

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Big Problems

- ◆ VIMS and the Virginia waterman have been thinking of ways to solve the problem
- ◆ Have to be managed carefully
- ◆ They are a big threat to different species of fish and shellfish in the Bay.

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- ◆ Dig clams and oysters, and uproot the Grasses
- ◆ Grasses die, and hurt the crabs
- ◆ Rays are a bigger problem than deceases during the summer months for oysters

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Gear

- ◆ The a school of large rays can destroy a gill net easily
- ◆ Hurt the waterman by tearing gear up
- ◆ The waterman cannot do anything about, because would not be worth the effort

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Trying to Fix It

- ◆ The rays come to the bay from Brazil
- ◆ Give birth to pups in the bay
- ◆ Killing all of them would influence two continents
- ◆ They are a resource that must be managed

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- ◆ "We need some kind of strategy,"
- ◆ Low price for ray on the wholesale and retail market
- ◆ Keep everyone from fishing
- ◆ Population backs up due to recreational hesitance

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Develop Markets

- ◆ Trying to develop a demand overseas for the fish
- ◆ If fishing cannot help fix the problem, other means are needed

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Aquaculture

Aquaculture cages have been developed so that clams and oysters can be either grown with a net over them, or in a cage and not bothered by the rays

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Spat on Shell Oysters

- ◆ Both VMRC and VIMS have developed means of growing the small oysters and getting them to strike on old single shells
- ◆ The rays have more difficulty eating oysters that have already struck rather than singles sitting on the bottom.

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- ◆ www.bayjournal.com/article.cfm?article=3031
- ◆ www.bayjournal.com/article.cfm?article=2734
- ◆ www.chesapeakebay.net

22 Sources

- ◆ http://www.chesapeakebay.net/Info/cownose_ray.cfm
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