

Virginia Marine Resources Commission
Finfish Management Advisory Committee (FMAC) Minutes
2600 Washington Avenue, Newport News, VA
VMRC Commission Room, 4TH Floor
Tuesday, December 15, 2015 – 6:00 P.M.

ATTENDANCE

Members Present

Jeff Deem (Chair)
David Agee proxy for Hon. Dr. Ken Neill
Meade Amory
Jack Austin
Chris Ludford proxy for Scott MacDonald
Beth Synowiec
Robert Weagley
Skip Feller

VMRC Staff Present

Laurie Dozier
Lewis Gillingham
Samantha Hoover
Stephanie Iverson
Katie May Laumann
Rob O'Reilly

Members Absent

Hon. G. Wayne France
Andy Hall
Ernest Bowden
Tom Powers
Walter Rogers

Others Present

Bob Fisher, VIMS
Robert Weagley Jr.
Bob Allen
Honorable Dr. Ken Neill
(attended as member of the
public)
Ike Eisenhower
Ned Smith
Kelly Hoggard
Will Bransom
Mike Avery
Henry Troutner

Minutes were recorded by Laurie Dozier.

I. FMAC Introductions; Announcements and Approval of minutes from October 20, 2015.

The meeting was called to order at 6:04 pm, and a quorum was present with 10 members in attendance. An audio recording of the meeting is available on the agency's website. The minutes from October 20, 2015 were approved unanimously.

II. Report on the Sustainable Fisheries Goal Implementation Team's (GIT) Cownose Ray Workshop (Robert Fisher, VIMS).

Mr. Bob Fisher of VIMS and Virginia Sea Grant presented findings on cownose ray from the GIT workshop. The goal of the workshop was to bring the scientific community together to share research on cownose rays and to better determine the status of the cownose ray population. Just last month, recommendations were provided by the GIT workshop sponsored by NOAA fisheries. The recommendations were that there be outreach to address misconceptions about cownose rays and their life history, to explore development of citizen science efforts working with fisheries, to quantify all sources of fishing mortality (commercial and

recreational bycatch and discards), to work with the shellfish industry to develop predation deterrents and mitigating devices, to prioritize and support continued cownose ray research (population size and life history questions), and to discuss cownose ray research and management at relevant fishery management forums and agencies on the U.S. East Coast.

Mr. Fisher stated cownose rays do not target our commercial species of oysters and hard clams; however, the rays are highly opportunistic feeders. If they are presented with a prey that is easily consumed then they will take advantage of it. So, they do have an impact on commercial shellfish growth. VIMS staff is working with the shellfish growing industry to develop predation deterrents. VIMS is also working on telemetry tagging the young of the year to gain more information on population distribution, migration and habitat information. They are susceptible to over fishing because of low fecundity and long maturity. Mr. Fisher noted there are still many unknowns about cownose ray life history and stock status. There are no current population estimates and a safe removal rate is unknown. There is always a possibility of the development of a Commercial Fishery in the future. Mr. Meade Amory made a motion for FMAC to ask the Commission to send a letter to all commercial fishermen to remind them to report cownose ray harvest and to send a letter out to recreational groups/clubs reminding them that reporting of the cownose ray would be beneficial to monitoring the stock. The publication would also be put onto the agency website and the agency Facebook page. The motion was seconded by Mr. Jack Austin. The motion passed unanimously.

III. FMAC guidance on any additional limitations for spiny dogfish fishery.

The FMAC decided to postpone this discussion until the March 2016 FMAC meeting.

IV. New Business

a. Tidewater Anglers Club request for a recreational fishery of a 4 fish per boat per day possession limit or one cobia per person possession limit.

No one was present to represent the Tidewater Anglers Club or their proposal of 4 fish per boat per day.

Mr. Will Bransom of the Norfolk Anglers Club spoke about the regulations in other states within the South Atlantic stock which extends from Georgia to New York and is managed by the South Atlantic Fisheries Management Council. Mr. Bransom then presented the Norfolk Anglers Club three proposals: They would like the charter captain and mate(s) be excluded from the daily possession limit, a boat limit no less than 6 fish per boat per day, and a landing permit for cobia to be created like the tilefish grouper and striped bass trophy permits. The Norfolk Anglers Club felt that a less than 6 fish boat limit would be drastic and negatively affect the charter industry.

Mr. Mike Avery of the Virginia Saltwater Sportfish Association (VSSA) spoke on behalf of his association. The VSSA recommendation is that FMAC consider three proposals (high, medium and low risks) and then to let the anglers decide and submit

the top proposal to the Commission. The VSSA felt that the Tidewater Anglers Club's proposal of 4 fish per boat is the drastic or high proposal.

Mr. Kelly Hoggard represented himself and is a member of the Virginia Beach Anglers Club, which does not support a vessel limit until more data is available about how many uninspected charter boats exist. He supported the request that a recreational cobia landing permit be made and that recreational catch of cobia be reported.

Mr. Chris Ludford stated that environmental factors greatly affect the movements of the stock. He feels that the cobia stock is healthy. He cautioned the recreational clubs about restricting harvest rashly and complimented them on their passion for conservation. Mr. Skip Feller supported status quo for the cobia possession limit and that a cobia permit be created. Ms. Beth Synowiec also supported the creation of a recreational cobia permit. Mr. Rob O'Reilly suggested the FMAC should encourage a gathering of the recreational clubs to create 5 or 6 options to consider, if these requests are to go forward. His main concern is that many factions would develop; and any action would later be challenged by one or more group(s).

Mr. Henry Troutner of the public represented himself as an angler. He did not support the creation of another permit.

Mr. Austin did not support a recreational vessel possession limit for recreational cobia. Mr. Amory made a motion to ask the Commission to establish a permit to possess recreational cobia with no changes to the current possession limits. The motion was seconded by Mr. Feller and passed unanimously.

b. Updates from recent Mid-Atlantic Fishery Management Council and preview of February ASMFC agenda items.

Mr. O'Reilly presented updates from the Mid-Atlantic Fishery Management Council meeting. On June 4th, 2015, an emergency action was enacted by the National Marine Fisheries Service (NMFS) Greater Atlantic Regional Fisheries Office to constrain fishing mortality on Blueline Tilefish while long-term management measures are developed. The action included commercial and recreational possession limits and required golden tilefish permits for commercial and charter vessels. It was extended once, and will be in effect through June 3, 2016. Mr. O'Reilly informed FMAC about the flounder and black sea bass discussions at the Council. Mr. O'Reilly also shared information about the ongoing development of an Unmanaged Forage Species Amendment, at the Council. ASMFC will meet in the first week of February 2016. Mr. O'Reilly thought it would be a good idea to be able to provide an agenda to the FMAC so that they could provide advice back to the ASMFC. Mr. O'Reilly stated that staff would be working with the FMAC members to set up a webinar.

- c. There was no other new business and the next meeting will be in late January and then again in early March 2016.

V. Adjournment

The meeting was adjourned at 8:20 pm.

COWNOSE RAY WORKSHOP SUMMARY



Emilie Franke

ERT-NOAA Chesapeake Bay Office

Maryland Seafood Marketing Advisory Commission

December 8th, 2015



Background



Historical and present concerns about cownose ray predation on shellfish

2006 Virginia workshop to discuss predation concerns and discuss a possible fishery

Recent media attention on recreational bow-hunting tournaments

Workshop proposed to Sustainable Fisheries GIT to discuss new science

October 2015 Sustainable Fisheries GIT hosts scientific workshop

Workshop Objectives

- What do we know about cownose rays in the Chesapeake Bay (life history, diet, population, fishing interactions)?
- How can we determine population status?

Workshop Participants

Scientists

Lyndell Bade	Colby College; formerly East Carolina University
Tobey Curtis	National Oceanic and Atmospheric Administration
Drew Ferrier	Hood College
Bob Fisher	Virginia Institute of Marine Science, Marine Advisory Services
Dean Grubbs	Florida State University Coastal and Marine Laboratory
Tom Ihde	ERT/ National Oceanic and Atmospheric Administration
Jan McDowell	Virginia Institute of Marine Science, Department of Fisheries Science
Matt Ogburn	Smithsonian Environmental Research Center
Howard Townsend	National Oceanic and Atmospheric Administration

Sustainable Fisheries Goal Team Executive Committee

Bob Beal	Atlantic States Marine Fisheries Commission
Lynn Fegley	Maryland Department of Natural Resources
Marty Gary	Potomac River Fisheries Commission
Rob O'Reilly	Virginia Marine Resources Commission
Peyton Robertson	National Oceanic and Atmospheric Administration
Bruce Vogt	National Oceanic and Atmospheric Administration

Staff and Interested public

Workshop Summary

- Summary chart and recommendations compiled by the workshop scientists.
- Full workshop report will be available in January 2016.

Shellfish Industry Interactions	<p>not found to be significant portions of their diets, localized into intensive feeding on oysters or clams can occur.</p> <ul style="list-style-type: none"> ○ It takes more energy for cownose rays to feed on clustered oysters (i.e. spat-on-shell) than on single oysters. ○ Cownose ray predation is limited by bite force and gape size, so larger shellfish may be less susceptible to predation. <p>- Researchers and industry in Virginia have been working to test various cownose ray predation deterrent devices.</p>	<p>- FOCUSING OF ATTENTION COULD HELP MITIGATE THE THREAT OF COWNOSE RAY PREDATION.</p> <p>- Cownose ray predation deterrents can be costly. Some deterrents proved to be ineffective against cownose ray predation.</p>
Fishing Pressure	<p>- Cownose rays generally interact with shallow water gear types (e.g. pound nets, haul seines).</p> <p>- Cownose rays are caught in Chesapeake Bay as commercial bycatch and are targeted for recreational fishing (bow-hunting).</p> <ul style="list-style-type: none"> ○ Subsidized commercial bycatch fishery in Virginia from 2007-2015. <p>- Potential gear interactions in offshore areas could include trawls, gill nets, and other gears.</p>	<p>- Unknown fishing effort and mortality.</p> <p>- Some landings data available for commercial bycatch in Virginia.</p> <p>- Not possible to differentiate male and female cownose rays from the surface.</p> <p>- Rays that are caught recreationally are not being used.</p>
Marketing	<p>- VIMS Advisory Services staff affiliated with Virginia Sea Grant worked with industry to launch a comprehensive marketing effort over the past several years for cownose ray product. Efforts included exploring domestic and foreign markets as well as working with local chefs and seafood buyers.</p> <p>- 30-34% of cownose ray flesh is usable for human consumption.</p> <p>- The irregular shape makes cownose rays time-consuming and expensive to process.</p> <p>- Poisonous spines make them hard to handle.</p> <p>- To date, continued marketing efforts are not feasible due to low demand and high processing cost.</p>	<p>- Low demand and unsuccessful long-term marketing efforts seem to indicate that a commercial fishery is not feasible at this time.</p> <p>- If cownose ray did become a high value fishery with increased demand in the future, there is potential for overfishing.</p> <p>- A reduction fishery for cownose rays is not an effective solution for shellfish predation concerns.</p>

This is an initial summary of the workshop published December 2015. A full report will be posted to the workshop web page in January 2016.
<http://www.chesapeakebay.net/calendar/event/23141/>

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Recommendations from the Researchers

- Conduct outreach to address the misconceptions about cownose rays in the Chesapeake Bay and throughout their range along the East Coast. Promote coordinated messaging across the region to communicate that:
 - Cownose rays are a highly migratory species along the Atlantic Coast that enter estuaries like the Chesapeake Bay for pupping and mating each year.
 - Cownose rays are not invasive.
 - Cownose rays are not a species of skate.
 - Cownose rays are a slow-growing, slow to mature, and low fecundity species.

Research Summary

- Age, Growth and Reproduction
- Population Dynamics
- Diet
- Shellfish Industry Interactions
- Fishing Pressure
- Marketing
- Recommendations from the Researchers



Photo credit: Becky Gregory/Flickr

Age, Growth and Reproduction

- Slow-growing; late maturity (~7 years).
- Long gestation periods (11 months).
- Low reproductive potential (1 pup per mature female per year).
- Females gives birth once a year in June-July. Right after giving birth, mating occurs and females become pregnant again.
- Mature cownose rays and pups use the Chesapeake Bay for pupping and mating; juveniles (ages 2-4) are rarely observed in the Chesapeake Bay.



Photo credit: R. Dean Grubbs

Population Dynamics

- Mature cownose rays enter the Chesapeake Bay in May.
- Males leave the Bay in June-July after mating occurs.
- Females remain in shallow-water Bay habitats until October.
- Overwintering grounds off Florida coast.
- Chesapeake Bay cownose rays are part of a larger cownose ray population along the U.S. East Coast.
- Low rate of population growth.
- Ongoing research to track movements.



Photo credit: Dorothy Birch/Wikipedia Commons

Diet and Shellfish Industry Interactions

- Cownose rays are opportunistic feeders.
- Chesapeake Bay diet studies:
 - dominant prey items include softshell, Macoma and razor clams.
 - oysters and hard clams not significant parts of the diet.
- Localized, intensive feeding on oysters and clams can occur.
- Predation is limited by bite force and gape size.
- Predation deterrent devices tested in Virginia.



Photo credit: Robert Fisher, Virginia Institute of Marine Science

Fishing Effort

- Interact with shallow water gear types (pound nets, haul seines).
- Caught in the Chesapeake Bay as commercial bycatch and targeted in recreational bow-hunting tournaments.
- Unknown fishing mortality (recreational; commercial bycatch/discards).
- Explored the potential for a cownose ray fishery in Virginia.
 - Landings data for Virginia's subsidized commercial bycatch fishery.



Photo credit: Robert Fisher, Virginia
Institute of Marine Science

Marketing

- Cownose ray product development and market promotion to support exploration of a fishery.
- Products investigated included meat for consumption (wings, fillets, loins), skin (leather), liver oil and bait.
- Public tastings, chef demonstrations, education, domestic and foreign markets.
- Labor-intensive processing, unfamiliar consumers, low demand, high waste volume.



Photos courtesy of Robert Fisher, Virginia Institute of Marine Science



Research Implications

- Cownose rays are easily susceptible to overfishing due to their slow growth, late maturity, low fecundity, and low rates of population increase.
 - Interactions with pregnant females in the Chesapeake Bay.
- Intensive cownose ray predation can be a localized threat to commercial shellfish species, aquaculture operations and shellfish restoration. Need to work with the industry to address these interactions.
- Unknown population size and fishing mortality.
- Marketing efforts seem to indicate that a commercial fishery is not feasible at this time.

Recommendations from the Researchers

- **Outreach to address misconceptions** about cownose rays. Communicate:
 - Highly migratory species along the Atlantic Coast
 - Not invasive.
 - Not a species of skate.
 - Slow-growing, slow to mature, and low fecundity species.
- Explore development of **citizen science** efforts working with fisheries.
- **Quantify all sources of fishing mortality** (commercial bycatch and discards, recreational effort and discards).
- Work with the shellfish industry to **develop predation deterrents** and mitigating devices.
- Prioritize and support continued cownose ray **research** (population size, life history questions).
- Discuss cownose ray research and management at **relevant fishery management forums and agencies** on the U.S. East Coast.

QUESTIONS?



Photo credit: Becky Gregory/Flickr

Contact: emilie.franke@noaa.gov

Workshop Web Page: Presentations, Summary, Report (Jan 2016)

<http://www.chesapeakebay.net/calendar/event/23141/>

Research Publications

- Bade, L.M., C.N. Balakrishnan, E.M. Pilgrim, S.B. McRae and J.L. Luczkovich. 2014. A genetic technique to identify the diet of cownose rays, *Rhinoptera bonasus*: analysis of shellfish prey items from North Carolina and Virginia. *Environmental Biology of Fishes* 97(9): 999-1012. DOI: [10.1007/s10641-014-0290-3](https://doi.org/10.1007/s10641-014-0290-3)
- Blaylock, R. A. 1989. A massive school of cownose rays, *Rhinoptera bonasus* (Rhinopteridae), in lower Chesapeake Bay. *Copeia* 1989:744–748. DOI: [10.2307/1445506](https://doi.org/10.2307/1445506)
- Blaylock, R.A. 1993. Distribution and abundance of the cownose ray, *Rhinoptera bonasus*, in lower Chesapeake Bay. *Estuaries* 16(2): 255-263. DOI: [10.2307/2F1352498](https://doi.org/10.2307/2F1352498)
- Carney, S.I., D.M. McVeigh, J.B. Moss, M.D. Ferrier, and J.F. Morrissey. In review. Preliminary investigation of mitochondrial genetic variation in the cownose ray *Rhinoptera bonasus* from the Chesapeake Bay and Gulf of Mexico. Submitted to the *Journal of Fish Biology*.
- Fisher, R. (ed). 2009. Regional Workshop on Cownose Ray Issues Identifying Research and Extension Needs, Yorktown, VA, June 1-2, 2006. Virginia Sea Grant-09-06. VIMS Marine Resource Report 2009-06. [Link](#)
- Fisher, R.A. 2010. Revised 2012. Life history, trophic ecology, & prey handling by cownose ray, *Rhinoptera bonasus*, from Chesapeake Bay. Final Report to NOAA Chesapeake Bay Office for (NA07NMF4570324) Grant No. 713031. [Link](#)
- Fisher, R.A. 2012. Product Development for Cownose Ray. Final Report Submitted to the Virginia Marine Resources Commission. VIMS Marine Resource Report No. 2012-5. VSG-12-08. [Link](#)
- Fisher, R.A., G.C. Call and R.D. Grubbs. 2011. Cownose Ray (*Rhinoptera bonasus*) Predation Relative to Bivalve Ontogeny. *Journal of Shellfish Research* 30(1): 187-196. DOI: [http://dx.DOI.org/10.2983/035.030.0126](http://dx.doi.org/10.2983/035.030.0126)
- Fisher, R.A., G.C. Call and R.D. Grubbs. 2013. Age, Growth, and Reproductive Biology of Cownose Rays in Chesapeake Bay. *Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science* 5: 224-235. DOI: [10.1080/19425120.2013.812587](https://doi.org/10.1080/19425120.2013.812587)

Research Publications (cont'd)

- Fisher, R.A., G.C. Call and J.R. McDowell. 2014. Reproductive variations in cownose rays (*Rhinoptera bonasus*) from Chesapeake Bay. *Environmental Biology of Fishes* 97(9): 1031-1038. DOI: [10.1007/s10641-014-0297-9](https://doi.org/10.1007/s10641-014-0297-9)
- Fisher, R.A and J.R. McDowell. 2014. Discrimination of Cownose Ray, *Rhinoptera bonasus*, Stocks Based on Microsatellite DNA Markers. Final Report to NOAA Chesapeake Bay Office for (NA11NMF4570215) [Link](#)
- Fisher, R.A. and E.M. Stroud. 2006. An Evaluation of the Behavioral Responses of *Rhinoptera bonasus* to Permanent Magnets and Electropositive Alloys. VIMS Marine Resource Report No. 2006-12 VSG-06-14. [Link](#)
- Grusha, D. S. 2005. Investigation into the life history of the Cownose Ray, *Rhinoptera bonasus*, (Mitchill 1815). Master's thesis. Virginia Institute of Marine Science, College of William and Mary, Gloucester Point. [Link](#)
- Kolmann, M.A., D.R. Huber, P.J. Motta and R.D. Grubbs. 2015. Feeding biomechanics of the cownose ray, *Rhinoptera bonasus*, over ontogeny. *Journal of Anatomy* 227(3): 341-351. DOI: [10.1111/joa.12342](https://doi.org/10.1111/joa.12342)
- Mann, R, R.A. Fisher, M. Southworth, J. Wesson, A.J. Erskine and T. Leggett. 2014. Oyster planting protocols to deter losses to cownose ray predation. Final Report to NOAA Chesapeake Bay Office for (NA11NMF4570227). [Link](#)
- Myers, R.A., J.K. Baum, T.D. Shepherd, S.P. Powers and C.H. Peterson. 2007. Cascading Effects of the Loss of Apex Predatory Sharks from a Coastal Ocean. *Science* 315(5820): 1846-1850. DOI: [10.1126/science.1138657](https://doi.org/10.1126/science.1138657)
- Omori, K.L. 2015. Developing Methodologies for Studying Elasmobranchs and Other Data-Poor Species. Master's thesis. Virginia Institute of Marine Science, College of William and Mary, Gloucester Point. [Link](#)
- Orth, R. J. 1975. Destruction of eelgrass, *Zostera marina*, by the cownose ray, *Rhinoptera bonasus*, in the Chesapeake Bay. *Chesapeake Science*, 16(3), 205-208. DOI: [10.2307/1350896](https://doi.org/10.2307/1350896)