

Chesapeake Bay and Coastal Sport Fishing License and Recreational Fishing
Data
Pilot Program and Task Force

Prepared the Joint Chairmen's Report, Page 98 in 2024 and for the Natural
Resources §4-745.1 (f) in accordance with §2-1257 of the State Government
Article, for the Governor and the General Assembly (SB 455, Chapter 409(2) and
HB 601, Chapter 410(2) in 2022)

Response to the Task Force on Recreational Fishing Data and Licensing
November 2023

*The facilities and services of the Maryland Department of Natural Resources are available to
all without regard to race, color, religion, sex, sexual orientation, age, national origin, or
physical or mental disability. This document is available in an alternative format upon request.*

Table of Contents

Background	2
Pilot Program	3
Response to the Task Force on Recreational Fishing Data and Licensing	7
Introduction	7
Fishery Management Plans	9
1. Chesapeake Bay Fishery Management Plan	10
2. Develop a prioritized list of actions for each species to improve management	10
Improve Accuracy and Precision for Specific Species	12
Data Collection Streams for Additional Metrics for Maryland-Specific Fisheries	12
1. Length, Weights, Harvest and Discards	12
Better Identify the Universe of Anglers Targeting Each Species	13
1. Comprehensively examine license structure to ensure the most rigorous sampling framework.	13
2. Consider a requirement that anyone fishing for or catching certain intensively managed species and/or rare event/newly emerging species, have an endorsement on their license to assist in better defining the universe of anglers pursuing such species, and provide the ability to survey participants or require a report by anyone with such an endorsement.	14
3. Develop a Chesapeake Bay Cobia Data Collection System	15
Data Collection Methodologies	15
Conclusion	17

Background

During the 2022 session of Maryland's General Assembly, legislation (House Bill 601/Senate Bill 455) was passed directing the Maryland Department of Natural Resources (DNR; Department) to undertake certain activities designed to improve the collection of recreational fishing data. This included a pilot program intended to provide some indication of the number of people recreationally fishing without an individual fishing license.

The legislation required the Department to create a Task Force on Recreational Data and Licensing and to promulgate regulations to initiate a pilot program that would:

- COLLECT CONTACT INFORMATION AND DEMOGRAPHIC DATA OF INDIVIDUALS FISHING UNDER A CHESAPEAKE BAY AND COASTAL SPORT FISHING LICENSE ISSUED UNDER § 4-745(D)(2) OF THIS SUBTITLE;
- COLLECT INFORMATION REGARDING THE NUMBER OF TRIPS TAKEN AND FISH CAUGHT AND RELEASED UNDER A CHESAPEAKE BAY AND COASTAL SPORT FISHING LICENSE; AND
- IMPROVE REGISTRATION COMPLIANCE WITH THE FREE REGISTRATION AUTHORIZED UNDER § 4-745(D)(3) OF THIS SUBTITLE.
- THE DEPARTMENT SHALL TRACK ON A MONTHLY BASIS COSTS ASSOCIATED WITH IMPLEMENTING THE PILOT PROGRAM
- ON OR BEFORE DECEMBER 1, 2023, AND EACH DECEMBER 1 THEREAFTER FOR THE DURATION OF THE PILOT PROGRAM, THE DEPARTMENT SHALL REPORT RECOMMENDATIONS ON EXPECTED FUNDING NEEDED TO GROW AND ESTABLISH THE PILOT PROGRAM AS A PERMANENT PROGRAM TO THE GOVERNOR AND, IN ACCORDANCE WITH § 2-1257 OF THE STATE GOVERNMENT ARTICLE, THE GENERAL ASSEMBLY.

Pilot Program

As required by the guiding legislation, DNR modified its licensing system so that anyone wishing to renew a Chesapeake Bay and Coastal Sport Boat License is first required to answer a series of questions aimed at gauging compliance with the free angler registry and learning something about fishing effort and activity. The free angler registration, as referenced in the 2022 legislation, was created in 2011 by the Maryland General Assembly in order to comply with a 2010 recreational angler mandate from the National Marine Fisheries Service. By creating a free registration, anglers in Maryland were exempt from paying the federal \$15 registration fee. This free registration already collects contact information and demographic data of anglers.

These multiple choice questions currently included in a survey within the licensing system are:

Did you purchase a Consolidated Chesapeake Bay and Coastal Sport Boat Decal last year?

Yes

No

How many boat fishing trips did you take using your boat license in the last fishing year?

0-5 15 - 20

5-10 More than 20

10-15 I do not know/do not recall

On average, how many guests 16 years or older fished under your boat license per trip?

0 1-2

3-4 5 - 6

7 or more I do not know/do not recall

N/A I did not have a decal last year

How many of the guests 16 years or older who fished under your boat license had their own fishing license?

All of them

About half of them

None of them

I do not know/do not recall

N/A I did not have a decal last year

How many of the guests 16 years or older who fished under your boat license had the free saltwater angler registry?

All of them

About half of them

None of them

I do not know/do not recall

N/A I did not have a decal last year

In addition to the questions asked above, boat decal purchasers were also asked the top three species caught from their vessel the previous year as well as to describe their fishing habits (i.e., whether they only do catch-and-release angling and what they do after limiting out for their species of interest).

The survey has been collecting information from boat decal purchasers since February 21, 2023. Through October 31, 2023, 37,091 responses have been collected. A summary of the responses collected thus far is provided below. It should be noted that due to the design of the current survey, responses were not required for all questions and fewer than 37,000 responses were collected for the questions later in the survey.

Table 1. Summary of Responses to Survey Questions Requiring Response before Renewal of the Chesapeake Bay and Coastal Sport Decal.

Q1. Did you purchase a Consolidated Chesapeake Bay and Coastal Sport Boat Decal last year?		
Yes	24,398	66%
No	12,693	34%
Total Number of Responses	37,091	

Q2. How many boat fishing trips did you take using your boat license in the last fishing year?		
0-5	13,246	42%
5-10	6,281	20%
10-15	3,286	10%
15-20	1,919	6%
More than 20	2,819	9%
I do not know/do not recall	3,919	12%
Total Number of Responses	31,470	

Table 1. Continued

Q3. On average, how many guests 16 years or older fished under your boat license per trip?		
0	5,542	18%
1-2	14,868	48%
3-4	4,602	15%
5-6	768	2%
More than 7	302	1%
I do not know/do not recall	2,534	8%
N/A I did not have a decal last year	2,635	8%
Total Number of Responses	31,251	

Q4. How many of the guests 16 years or older who fished under your boat license had their own fishing license?		
All of them	6,417	21%
About half of them	6,227	20%
None of them	7,223	23%
I do not know/do not recall	7,266	23%
N/A I did not have a decal last year	3,842	12%
Total Number of Responses	30,975	

Q5. How many of the guests 16 years or older who fished under your boat license had the free saltwater angler registry?		
All of them	6,254	21%
About half of them	2,138	7%
None of them	7,128	24%

I do not know/do not recall	10,865	36%
N/A I did not have a decal last year	3,879	13%
Total Number of Responses	30,264	

The most frequently cited fish caught were striped bass (19%), white perch (15%), spot (7%) and unspecified catfish (7%). Most anglers stop fishing after catching their limit (37%) followed by anglers being strictly catch and release (27%). The other options included continuing to fish for their target species after limiting out for the day (1%) and fishing for other species after limiting out on their target species (6%). Anglers also identified doing a mix of these options depending on the day (16%).

No funding will be required to continue this survey. This survey was included in the Request for Proposals (RFP) for the redesign of the agency's license system (COMPASS). Therefore, this survey, or some version, can continue when the Department launches its new licensing system. While this data will not improve our estimates of catch, discards or effort for species caught in Maryland, it could provide useful information that could be applied to public outreach to encourage compliance with the free angler registry and engagement with volunteer angler surveys. The program is new enough that Fishing and Boating Services has not yet had an opportunity to fully analyze the responses and develop a plan for data application. Based on the results of these analyses, the agency will consider updating questions and format for the new licensing system.

There is no evidence that the addition of this survey increased the number of (or compliance with) the Saltwater Angler Registry. Since Fiscal Year (FY) 2017 the number of resident Saltwater Angler Registries has varied little, ranging from 6,979 in FY 2022 to 7,931 in FY 2018. The number purchased in FY2 2023 was 7,578.

Response to the Task Force on Recreational Fishing Data and Licensing

Introduction

The Maryland Department of Natural Resources (DNR; Department) Fishing and Boating Services (FABS) greatly appreciates the work of the Recreational Fishing Data Collection and Licensing Task Force (Task Force). DNR agrees that recreational harvest data should be a priority area of focus for the Department. However, it should be clearly stated that FABS will struggle to make any significant headway on new or innovative efforts in this area without additional staff resources. This is an unquestionably exciting time for recreational fishing data. Atlantic coast-wide initiatives to bolster recreational data collection are emerging and gaining momentum. One such initiative is the development of the SciFish application (<https://www.harborlightsoftware.com/scifish>) through the Atlantic Coastal Cooperative Statistics Program (ACCSP), a branch of the Atlantic States Marine Fisheries Commission (ASMFC). The goal of SciFish is to provide a citizen science mobile application and menu-driven project builder that partners can use to create a customizable application by selecting specific data fields without having to develop a stand-alone application. Not only does the advent of SciFish present cost-saving opportunities for the State, but it also solves the vexing problems of data standardization and data security that arise with the use of standalone private applications. With an additional staff member, FABS could engage in the development of the Chesapeake Bay and Coastal fisheries data collection programs through SciFish. These opportunities and others are discussed further in the text of this report.

The Task Force had many recommendations centering on building relationships and trust with the angling community as a way to improve both licensing compliance and data input. In large part, DNR agrees with this perspective, and in response, FABS has recently hired a marketing strategist who will be able to inform and improve our efforts to reach constituencies with information to inform and incentivize recreational angling. FABS is also working to improve transparency in management objectives, work priorities, and fishery data. Finally, DNR is in the process of replacing and redesigning its license sales system (COMPASS) which will significantly improve DNR's ability to interact with license holders through messaging and other engagement programs. The redesign will streamline the login process, allow for family accounts, and generally improve the angler buying experience.

It is the intent of this report to provide a thoughtful response to the recommendations of the Task Force, including flagging those ideas that are, in the view of the Department, not viable for pursuit and indicating when expectations may not be reasonable. An example of the latter is a statement on page 21 of the report:

The combination of the existing MRIP survey (enhanced through increased coverage of the APAIS and Maryland-specific FES components), App-based data collection, and Web-based data collection would dramatically increase the accuracy and precision of the data collected for all species from all fisheries. App reporting provides real time data collection and minimizes

issues related to recall bias. Web-based survey reporting – during the spring, summer, fall and winter – provides information while “fresh in mind.”

Assertions like this should be read with an abundance of caution. There is no evidence that this mix of components would dramatically increase the accuracy and precision of data, particularly for all species from all fisheries. These additional components may allow different types of useful data to be collected; they may allow us to answer some very specific questions. However, it is unrealistic to expect significant improvement in the precision and accuracy of all species/fisheries. To improve data collection and, by extension, the management of recreational fisheries, it will be essential to work together with our constituents to identify specific questions we can address through the design of a data collection program.

Recognizing that agency resources are limited for new programs, in the near term, staff will focus on the following action items based on the Task Force Recommendations:

Fishery Management Plans (FMPs)

- a. Revamp the DNR website to provide information about the role of FMPs in management, the process by which they are developed, and to clarify the relative authorities of Chesapeake Bay specific and ASFMC management - ONGOING
- b. Publish existing FMPs online, including distilled summaries of stock status and fishery statistics, including time series of stock components (e.g., spawning stock, recruitment) and harvest - ONGOING
- c. Present the required annual Report to SFAC and TFAC for their feedback - FALL 2024
- d. Publish the annual FMP Report online - FALL 2024

Angler Perception Data - Getting to Know Our Constituents

- e. Actively support and advocate for efforts by partners, such as academic institutions seeking funding, to conduct research on fishery perceptions and participation barriers - ONGOING
- f. Continue advocating for resources to pursue Maryland DNR's approved R3 plan for fisheries - ONGOING

Improve Accuracy and Precision for Specific Species

- g. The Department will continue to stay engaged in the efforts of the ACCSP Recreational Technical Committee to better understand the impacts of the Modern Fish Act funding on the error of recreational catch estimates and how sampling could be adjusted in the future - ONGOING

Create Data Streams for Additional Metrics: Length, Weight and Discards

- h. Continue participation on the Discards Subcommittee of the ACCSP Recreational Technical Committee to develop and support the catch card project that would increase the amount of discard data collected, specifically focusing on data not currently available from the private boat fleet in MRIP (i.e., discard lengths and depths fished). Work to enroll Maryland as a pilot state provided sufficient resources exist - ONGOING

Re-examine License Structure

Rather than an immediate directed re-examination of the license structure, DNR will:

- i. Increase education and outreach around the necessity of acquiring fishing licenses and the free angler registry. Work internally and with partners to develop multilingual (Spanish speaking) tools and educational programs to increase access to licenses - ONGOING
- j. DNR has already made the free registry more accessible and easier to acquire without creating a COMPASS account. DNR will make sure this transitions to the new system that is currently being designed - ONGOING
- k. Work with Natural Resources Police to help ensure enforcement and increase compliance for all types of licenses - ONGOING
- l. Conduct a review of license-free fishing areas. Complete by Fall 2024

Create a Cobia-specific Data Collection Platform

- m. Identify opportunities to increase staff capacity to focus on recreational data collection and continue to build partnerships to collectively create a cobia data collection program using the SciFish platform - ONGOING

Fishery Management Plans

The first series of recommendations in the Task Force report all relate, in some way, to Fishery Management Plans (FMPs). Fishing and Boating Services develops FMPs in accordance with Natural Resources Article, §4-215, Annotated Code of Maryland. An FMP is required to contain certain elements that are listed in the statute and serves as a framework for conserving and wisely using fishery resources. An FMP provides a format for undertaking management measures throughout Maryland state waters and provides authority for the Maryland Department of Natural Resources (DNR) to specifically address issues that are unique to Maryland resources. The goal of an FMP is to protect the resource while allowing sustainable harvest. **The FMP provides authority to the DNR to manage the species for which the plan is created.**

Recommendations of the Task Force:

1. *The Department should initiate the development of a Chesapeake Bay Fishery Management Plan.*
2. *The Department should develop a prioritized list of actions that could be undertaken to improve management for each species.*
3. *The Department should develop a Fisheries Improvement Implementation Plan.*
4. *The Department should develop a Fisheries Improvement Engagement Plan.*

DNR Response:

1. *Chesapeake Bay Fishery Management Plan*

As we understand, the Task Force's intent for a Chesapeake Bay Fishery Management Plan (FMP) would be to provide an overview of the Bay ecosystem and its connections to coastal waters, summarize the stock status and fishery statistics for managed species, and provide information on essential habitat for managed species. Written as such, this document would not be a true FMP that would adhere to all of the requirements of Natural Resources Article, §4-215, Annotated Code of Maryland, and it would not provide any additional management authority to the Department. Currently, FABS does not have the staff resources to create an annual document of this type, and it is unclear what additional benefit such a document would provide. However, many of the desired ecosystem elements of the proposed Chesapeake Bay Fishery Management Plan are already being done, and the elements related to species-specific information are a priority of Fishing and Boating Services to incorporate into the current Fishery Management Plan process, which has not been rigorously followed in recent years.

Fishing and Boating Services can increase transparency and communication regarding the ecosystem and habitat initiatives currently in place. This could be as simple as an ecosystem update annually for both the Sport and Tidal Fisheries Advisory Commissions. A key component of an annual update would be the National Oceanic and Atmospheric Administration's (NOAA) annual state of the ecosystem reports for the Mid-Atlantic, to which DNR's staff contributes and which has specific sections on the Chesapeake Bay. The report also provides a larger view of the interconnections between the Bay and the Atlantic Ocean. The 2022 State of Ecosystem Report for the Mid-Atlantic can be found at [State of the Ecosystem 2022: Mid-Atlantic](#). Other efforts currently underway include participation in ASMFC Technical Committees focused on developing ecosystem reference points for menhaden and horseshoe crabs, providing input and comments to County and Municipal Comprehensive Plans on the potential impacts of development on fish habitat, and working with a variety of NOAA and Chesapeake Bay Program partnership projects. It is also important to note that the 2006 Fisheries Ecosystem Planning for Chesapeake Bay https://hjordt.cbl.umces.edu/multisp/FEP_FINAL.pdf provided key guidance for the inclusion of ecosystem management sections into Maryland's FMPs and is still used as a reference for ecosystem management in general.

The suggested elements of a Chesapeake Bay FMP that relate to individual species, such as stock status and fishery statistics, should be incorporated into an updated and modernized annual FMP report process, which should begin to address recommendations 2 through 4 above.

2. *Develop a prioritized list of actions for each species to improve management*

Fishery-specific FMPs include prioritized lists of research needs and actions that could improve the management of that particular stock.

PROPOSED DNR ACTIONS

An updated annual FMP report process that increases the opportunity for stakeholder review and engagement crystallizes messaging about stock status and fishery statistics and clearly outlines data gaps and research priorities is a current priority of the Department.

Additional planned improvements to the FMP process, as noted above, include:

- a. Revamp the website to provide information about the role of FMPs in management, process, and clarify the relationship between the relative authorities of Chesapeake Bay specific and ASFMC management;
- b. Publish existing FMPs so that they are easily accessible online and include distilled summaries of stock status and fishery statistics;
- c. Present the required annual Report to SFAC and TFAC for their feedback; and
- d. Publish the annual FMP report online on the DNR website.

3 and 4. Develop a Fisheries Improvement Engagement Program to support a Fisheries Improvement Implementation Plan.

DNR believes that an updated FMP process, as described above, would lay the foundation for increased angler participation, trust, and willingness to engage with data.

In its report, the Task Force acknowledges that *‘a sizable fraction of the actions identified in the Fishery Improvement Implementation Plan will involve or benefit from behavior changes...that would rely on increased acceptance, compliance and motivation for stakeholder compliance.’*

Currently, FABS does not have sufficient staff resources to create and maintain a fully operational Fisheries Engagement Program, as well as a supporting Fisheries Improvement Implementation Plan. This is especially true because a current priority is to seek additional and necessary resources to follow through on and pursue DNR’s approved [Angler R3 Plan](#), which has some overlap with the Task Force’s recommendations. Additionally, outreach and awareness-raising strategies described in the Task Force report are not enough to change behaviors around data submission and trust. For this goal to be achieved, the required research on fisheries management perceptions and angler participation barriers would be best tackled by entities such as academic institutions that could secure funding and a multidisciplinary team that includes a social scientist. While the Department would gladly submit a letter of support for an entity seeking a grant to do this type of work, the resources do not exist within the Department. It should be noted that the Chesapeake Bay Program has conducted several [behavior change projects](#) for outcomes related to the Bay Agreement.

PROPOSED DNR ACTIONS

- e. The Department can commit to actively supporting efforts by partners such as academic institutions who are seeking funding to conduct research on fishery perceptions and participation barriers.

- f. Continue advocating for resources to pursue Maryland DNR's approved R3 plan for fisheries.

Improve Accuracy and Precision for Specific Species

This section of the Task Force report lays out concerns with the National Marine Recreational Information Program (MRIP) and recommends both increasing and supplementing MRIP sampling.

As part of the federal Modern Fish Act, Maryland received approximately \$125,000 in additional funding from NOAA beginning in 2021 to increase Access Point Angler Intercept Survey (APAIS) sampling by 291 site assignments per year, a 43% increase over previous sampling levels. States are able to pay for additional APAIS sampling, which may address specific sampling priorities for their state; however, it would be prudent to wait and see how the additional Modern Fish Act funds affect MRIP estimates before deciding to increase sample funding to the APAIS. The ACCSP Recreational Technical Committee has recently sent a memo to MRIP staff requesting assistance to analyze the effectiveness of these additional APAIS assignments in reducing the error of the recreational catch estimates. While the timeline will still need to be set by NOAA, it is expected that these analyses will be completed sometime in 2024. It should be noted, however, that MRIP generally provides good estimates for species that are available throughout the year and are frequently encountered by anglers.

For species that are not encountered frequently or are available for short time periods (i.e., rare event species), MRIP estimates tend to be less precise and there could be benefits to collecting data supplemental to MRIP. DNR agrees that improvements in data collection for these species could be useful and is exploring the species (and associated methods) that could receive the most benefit, as well as potential funding sources. While it is unlikely new fishing permits or new surveys will be developed at this time to estimate total catch, the Department is exploring what additional biological data could be collected via an app from anglers using the SciFish application, which is available through the Atlantic Coastal Cooperative Statistics Program (ACCSP).

PROPOSED DNR ACTIONS

- g. The Department will continue to stay engaged in the efforts of the ACCSP Recreational Technical Committee to better understand the impacts of the Modern Fish Act funding on the error of recreational catch estimates and how sampling could be adjusted in the future.

Data Collection Streams for Additional Metrics for Maryland-Specific Fisheries

1. *Length, Weights, Harvest, and Discards*

The Task Force discussed concerns that MRIP fails to collect sufficient length/weight on many species (discards as well as rare event species). DNR agrees that this information is critical for stock assessments and management. In general, MRIP produces sufficient length and weight data for harvested fish, especially at the state and coastwide levels, for frequently encountered species. However, data are less robust and sometimes lacking altogether for rarely encountered species and discards. In addition, effective and equitable management actions would be better informed with additional angler behavior information, including but not

limited to: more specific fishing locations, information on circle hook usage, types of gear/bait used, and reasons for discarding fish.

One Task Force recommendation is for a questionnaire that would be provided to anglers along with the MRIP survey. This could be an improvement for less frequently encountered species or discarded fish and be a potential method to collect additional data about the fishing habits of anglers. Care would have to be taken to get a representative sample (either randomly selected anglers or a high number of participating anglers), as opt-in data can have severe bias if participating anglers differ from the overall angling population.

It is worth noting that these issues concerning rare event species and discard data are coast-wide, and several initiatives are ongoing through the Atlantic Coastal Cooperative Statistics Program (ACCSP), a branch of the Atlantic States Marine Fisheries Commission. For example, the Recreational Technical Committee of the ACCSP formed a Discards Subcommittee, which has been working on a catch card project that they anticipate submitting to ACCSP for funding in July of 2024. This project would use add-on APAIS assignments to pass out cards to anglers before their fishing trips. Anglers would be asked to keep track of how many fish they release of each species and to record discard lengths for selected managed species. The selected species would focus on those that are primarily recreationally caught, have high levels of discards, and have length- or age-structured assessments that would benefit the most from additional discard length data being collected. The subcommittee is currently working on narrowing down the list of species that would be included, figuring out how many assignments would be needed, and finalizing a sample catch card. There is the potential that Maryland could participate in this study as a pilot state, provided DNR has the necessary resources.

PROPOSED DNR ACTIONS

- h. Continue participation in the Discards Subcommittee of the ACCSP Recreational Technical Committee to develop and support the catch card project that would increase discard data. Work to enroll Maryland as a pilot state, provided sufficient resources exist.

Better Identify the Universe of Anglers Targeting Each Species

In this section, the Task Force provides specific recommendations aimed at improving the sampling frame used by MRIP and by any survey that would estimate the catch and effort of recreational species.

1. *Comprehensively examine license structure to ensure the most rigorous sampling framework.*
DNR response: The most rigorous sampling frames for the estimation of total catch and effort are those that enable a survey to directly link a specific unit of effort with an associated catch. Individual fishing licenses do this very well. Rigor begins to erode when individuals fail to acquire a license, when licenses are conveyed to groups, and when licenses are exempted altogether. In the Department's view, compliance is a more significant issue than license structure, and resources would be better spent bolstering compliance with the structure we have rather than working to change the structure, which would require legislative action and

could discourage license purchases. The Chesapeake Bay and Coastal Sport Boat license is the most common license covering groups of anglers (those who fish on a licensed boat). Anyone fishing on a licensed boat that does not have their own individual license is required to obtain a free angler registration. The Department recognizes that compliance with the angler registry can be low and has made several recent changes to make the free registry more accessible and to increase awareness that it is a requirement. It has also become evident that developing multilingual tools (particularly Spanish) around licensing, educational programs, and surveys could increase both compliance and data input.

PROPOSED DNR ACTIONS

- i. Increase education and outreach around the necessity of acquiring fishing licenses and of the free angler registry. Work internally and with partners to develop Spanish and other multilingual speaking tools and educational programs to increase access to licenses.
 - j. DNR has already made the free registry more accessible and easier to acquire within COMPASS and will make sure this transitions to the new system that is currently being designed.
 - k. Work with Natural Resources Police to help ensure enforcement and increase compliance for all types of licenses.
 - l. Re-evaluate free fishing areas.
2. *Consider a requirement that anyone fishing for or catching certain intensively managed species and/or rare event/newly emerging species, have an endorsement on their license to assist in better defining the universe of anglers pursuing such species, and provide the ability to survey participants or require a report by anyone with such an endorsement.*

DNR Response: Endorsements for particular fisheries are only effective if there is a survey design specifically in place that uses the endorsed population as a sampling frame. Creating such programs adds significant administrative and economic burden to a management agency, and there is no guarantee of improvement in catch and effort estimation. Each additional layer of complexity in the license system causes increased issues of compliance and enforcement. Furthermore, adding complexity to the license system contradicts the goals and objectives of Maryland's Angler R3 Plan. Many anglers already find the diverse license options confusing and a barrier to entry.

Endorsements are additionally problematic because, if they are free, many more people will get them than will use them, resulting in a sampling frame that is larger than the number of anglers fishing for the species. In Maryland, creating a fee for an endorsement would take legislative action. DNR would not support this as an option due to expense, administrative burden, difficulty in enforcement, and limited utility for improvement of data. In short, DNR is not likely to implement an endorsement program but is interested in developing species-specific programs, particularly for cobia, if resources can be obtained. This is discussed in the next section.

A Brief Permit Case Study: Experiences from Virginia's cobia permit, which was implemented from 2016 - 2022, showed multiple problems with the data that did not result in it being a census. First, compliance was not 100%, even with the penalty of not being able to renew a permit the following year. Second, only anglers who intended to fish for cobia got the permit, and data was not collected from anglers who interacted with the species as bycatch. Third, the system did not know when anglers were fishing, so if an angler said early in the season that they were not fishing for the season or they only reported their first trip of the year, their reports were considered complete, even if they later took unreported trips. These issues resulted in uncertainties in the data being a complete census. While a survey could be conducted based on the permitted angler frame, it would still need to account for unpermitted effort and potential bycatch, as MRIP does. Substantial resources would need to be devoted to developing such a survey as well as implementing it. It's also possible that any efforts undertaken would have similar results to Virginia, where significant resources were devoted to a program that did not achieve the desired objective. Given their experiences, Virginia discontinued the requirement of a cobia permit beginning in the 2023 fishing season.

3. Develop a Chesapeake Bay Cobia Data Collection System

DNR response: This idea has particular merit, and DNR would consider pursuing it if additional staff resources were added to Fishing and Boating Services. At current staffing levels, resources do not exist to undertake this sort of project. With an additional staff person, DNR could potentially build a cobia data collection program and collaborate with Virginia to create a Bay-wide program. However, this is likely to be a voluntary program focused on biological data collection. Such a program would be an excellent candidate for the new SciFish platform being developed through the Atlantic Coastal Cooperative Statistics Program (ACCSP) that is designed to support recreational angler data collection programs. This program could be modeled after the North Carolina Catch-U-Later application that runs on SciFish. In order to ensure data quality and avoid bias, the Catch-U-Later App is not openly available to all anglers. Rather, the North Carolina Division of Marine Fisheries Staff are selecting participating anglers from their state license frame to ensure a representative and unbiased sample. In addition, their survey requires a picture of the fish to be uploaded to confirm the flounder identification and the length. This speaks to the complexity of designing these systems.

PROPOSED DNR ACTIONS

- m. Identify opportunities to increase staff capacity to focus on recreational data collection and monitor for opportunities where partnerships could be leveraged to create a cobia data collection program using the SciFish platform.

Data Collection Methodologies

The Task Force had a robust conversation around alternate ways to acquire data from the angling population. Ideas included creating mobile apps and creating a Chesapeake Bay-wide Volunteer Angler reporting system. It is important to note that there is broad documentation on the difficulty in maintaining volunteer systems. Although we agree that increasing communication and outreach and bolstering incentives over time could result in somewhat improved participation, experience shows that success can be limited and efforts need to be consistent through time to keep participation levels high. The Task Force recognized that some additional surveys (the web-based survey) could potentially mitigate recall bias, but the issue of avidity bias is extremely difficult to resolve. This is because it is generally the most avid and expert anglers who use these apps over time and enjoy reporting their results. It is unclear how representative these anglers' data would be of the overall angling public as indicated by the boat decal survey results earlier in the report, which suggest that most anglers only go out a handful of times a year. In addition, the Department has unresolved concerns about data security when using external applications. Working with private entities to provide information poses legal challenges to the Department, particularly in making sure that licensed anglers are receiving the correct information on current statutory and regulatory requirements. Finally, it is critical that the data collected through these apps be standardized in form and function so that they can be readily incorporated into stock assessments for the species in question. Many of these problems with recreational data collection applications will be addressed by the new SciFish application developed by the Atlantic Coastal Cooperative Statistics Program, and will allow states a platform for recreational data collection that has already addressed issues of data standardization and security.

As described earlier in the report, states such as North Carolina, who are successfully using SciFish or other applications to acquire recreational data, are doing so by purposefully selecting the population of anglers who participate to avoid bias (NCDNR Catch-u-Later), or by requiring that the application be used by individuals targeting a specific fish. The Mississippi Tails n' Scales app is an example of the latter. Anyone fishing for red snapper must acquire a code to start a fishing trip and is required to report upon completion of a trip. Dockside monitoring is used to validate catches. While expensive, this is effective because the recreational snapper fleet is fairly small, fishes in discrete known areas, and returns to a very limited number of ports. FABS believes there is great potential in building a system for a species such as cobia but would require staff resources and additional funding to do so.

The Task Force also discussed developing a questionnaire compatible with the fishing effort survey (FES) portion of MRIP. MRIP staff has conducted tests on fishing effort survey designs that reduce recall (i.e., [sample at one month intervals rather than two month intervals](#)) as well as the potential for [using a web-push design for the FES](#). They found that an electronic data submission option decreased response rates and they could not attribute changes in the FES estimates to recall bias between the one month and two month recall periods. Therefore, it is not likely that developing a state version of this program would provide any significant improvements.

Annual and quarterly web surveys to acquire data on fishing participation, effort, locations fished, species targeted, preferences, satisfaction, motivations, and expenditures along with companion surveys to acquire trip-level information were discussed in detail. This would be an extremely resource-intensive project and while it could offer useful information, particularly for rare event species, it would not likely offer improved estimates of catch and effort.

While FABS has concerns about the viability and usefulness of using independent applications and creating web surveys, we do recognize the importance and value in working to encourage anglers to engage with our Volunteer Angler Reporting Systems. There is the potential to develop some new and improved outreach around these with the help of FABS newly hired marketing strategist. However, this is another area where an R3 specialist within FABS could make significant headway. Maryland's approved Angler R3 plan has an action item to "Promote volunteer surveys and citizen science monitoring opportunities and raise awareness of how these actions assist in supporting conservation and management activities."

Conclusion

The Department recognizes the value of constituent-based Task Forces in that they encourage a deeper thought process into the issues at hand and aid in envisioning new and creative ways forward. FABS has appreciated the opportunity to think through the recommendations of the Recreational Fishing Data Collection and Licensing Task Force. There are many actions we can undertake immediately to increase transparency, better communicate information, and clarify for constituents why both licenses and the contribution of fishery data are critical for the fair and equitable management of our fishery resources. In addition to the action items listed at the beginning of this report, FABS will tirelessly convey that recreational data needs to be a priority area of focus for the Department.