A comprehensive verification program for accountable electronic harvest reporting in Maryland's commercial fisheries

Submitted by:
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Applicant Name: Maryland Department of Natural Resources

Project Title: A comprehensive verification program for accountable electronic harvest reporting in Maryland's commercial fisheries

Project Type: New project

Primary Program Priority: Catch, effort, and landings data

Requested Award Amount: $524,940.00

Requested Award Period: March 1, 2024 – June 30, 2025

Principal Investigator: Stephanie Richards, Commercial Harvest Reporting Supervisor, Maryland Department of Natural Resources

Atlantic Coastal Cooperative Statistics Program (ACCSP) Proposal for the State of Maryland 2023

Objectives:
Project Goal: Improve industry accountability and data accuracy in electronic harvest reporting for Maryland commercial and for-hire charter fisheries through a scalable harvest verification framework.
1. Develop a comprehensive (a) dockside monitoring program for Maryland commercial fisheries and (b) onboard monitoring program for Maryland's Chesapeake Bay for-hire charter fishery.
2. Implement the (a) dockside and (b) onboard monitoring programs and track program performance.
3. Evaluate resources required by the Maryland Department of Natural Resources (MDNR) over the short- and long-term to successfully implement a harvest verification program as electronic reporting is transitioned from a pilot program to a formal regulatory reporting option for Maryland commercial fisheries. This evaluation will include budget and level of effort.

Need:
Over the past decade, Maryland has developed an accountable, electronic harvest reporting program for the benefit of managers and harvesters alike. The commercial blue crab, finfish, shellfish, and for-hire charter fisheries operating in the Chesapeake Bay may all report in FACTS™ (Fishing Activity and Catch Tracking System, FACTS™). FACTS™ is a daily, trip-level accountable electronic reporting system that simplifies harvest reporting while providing data to fishery managers in real-time. Harvesters are required to submit a start hail and end hail for each fishing trip they take. These hails include information on fishing effort, harvest details, and where and when harvest offload will occur to allow for harvest verification.

Third-party harvest verification is a recommendation of the ACCSP Accountability Workgroup (ACCSP 2022 Data Accountability Report) and has been a crucial part of Maryland's current electronic harvest reporting program for improving data accuracy and industry accountability. To date, in Maryland harvest verification has only been conducted for individual fisheries at a pilot scale for a small portion of harvesters reporting in FACTS™. Dockside and onboard monitoring during pilot programs have identified fishery-specific mis-reporting issues and underscored the continued need for verification to ensure harvest is reported accurately and harvesters are using best reporting practices (Slacum et al. 2013, Oyster Recovery Partnership (ORP) 2020, 2022, & 2023). For example, dockside and onboard monitoring of the for-hire charter fleet revealed that vessel captains consistently incorrectly reported, or failed to report: discarded fish, fish kept for bait, and the harvest of non-target species (ORP 2022). Specifically, monitoring efforts quantified that 30-55% of striped bass releases and 30-45% of species kept for bait (primarily spot) were misreported by charter captains (ORP 2022). These data allowed the FACTS™ team to explore and implement options to improve reporting, such as a pop-up message to prompt harvesters to report bycatch and improve the quality of data used by fisheries managers. Discrepancies between dockside monitor and harvester reports were minimal during the shellfish pilot (94% of catch amounts matched), which suggests that harvest verification by monitors was effective at improving industry accountability and data accuracy (ORP 2023).

Permitting of harvesters to use FACTS™ to report their harvest is ongoing, so many current FACTS™ users were not participating during periods when dockside monitors have been funded by individual projects. Some fisheries such as the finfish and blue crab fisheries were last monitored four years ago. Therefore, our current understanding of the breadth of reporting compliance and industry training/outreach needs

is limited. Developing and implementing a comprehensive harvest verification program will be critical for identifying ongoing reporting errors and improving data quality.

The improvements in data quality and ability for managers to access and use electronic harvest data has prompted the Maryland Department of Natural Resources (MDNR) to begin transitioning electronic reporting in Maryland from a voluntary pilot program to an established regulatory reporting program. Currently, FACTS™ is being used voluntarily by <20% of all active commercial license holders in Maryland, but use varies among fisheries. Over 27,000 unique Chesapeake Bay fishing trips were reported with FACTS™ in 2022 alone; scaling up will result in at least an order of magnitude more trips reported electronically. Significant financial and personnel resources and an expansion of the existing FACTS™ infrastructure will be required for FACTS™ to accommodate harvest reports from all Maryland commercial license holders. MDNR will need to consider how the existing harvest verification program can be scaled up as FACTS™ becomes an established regulatory program for all Maryland harvesters.

This project aims to improve data quality through industry accountability and data accuracy in electronic harvest reporting for Maryland commercial and for-hire fisheries. This will be accomplished by developing and implementing a comprehensive dockside and onboard monitoring program that can be scaled as FACTS™ becomes an established, regulatory reporting program. Part of this effort includes evaluating resources and level of effort required over the short- and long-term to effectively verify harvest. We expect that additional data needs will be uncovered through subsequent phases, but this project will provide a foundation for verifying harvest reports to support the expansion of electronic harvest reporting in Maryland. The results of this project can guide verification efforts in other states/regions seeking to implement ACCSP's Accountability Workgroup recommendations of developing a harvest verification framework for fisheries reporting electronically.

Results and Benefits:
This project addresses three main goals: (1) improve data accuracy and industry accountability, (2) improve data accessibility, and (3) maintain or improve Maryland e-reporting program functionality. The results will ultimately guide MDNR's plan to scale the existing FACTS™ e-reporting platform and process to a formal regulatory reporting option for all Maryland Chesapeake Bay fisheries. **The proposed project will support the development of the first comprehensive program to monitor all of Maryland's commercial fisheries.** The results and framework developed here will also inform similar efforts in other jurisdictions looking to incorporate harvest verification in existing e-reporting programs, and could prove valuable for improving data accuracy in regional fisheries assessments.

Specific project results and benefits include:
- Improved confidence in harvest data and an improved ability to make management decisions.
- Improvements to the existing verification program framework so that dockside and onboard monitors can be used more efficiently.
- An estimate of the number of trips that should be monitored, number of monitors required, and the individual level of effort needed to verify a reasonable portion of harvest trips. In pilot programs, the target was to verify 10% of harvest trips. With the expansion of e-reporting in Maryland, this project will inform what target is reasonable for significantly improving reporting accountability and accuracy.
- Establish a level of effort-cost ratio to allow MDNR to determine the overall cost to operate an all fisheries-wide monitoring program. The efficiency and effort data will provide MDNR with information needed for a full funding request.

- Identify outreach needs; strengthen communication between MDNR, monitors, and harvesters; and educate industry members of best harvest reporting practices.
- Identify any additional FACTS™ electronic system development needs to support a comprehensive, full-time verification program.
- We will continue to work with ACCSP to develop automated data sharing, auditing, and validation tools. Additional API and ACCSP Data Warehouse development needs will be addressed to ensure data availability to partners. Examples include: recommendations to ACCSP for how to expand the existing data structure to indicate whether individual harvest reports were verified.
- We will work closely with ACCSP to develop the dockside monitoring framework so that it can be adopted by other jurisdictions along the Atlantic Coast. The reporting bias, compliance, and outreach needs identified in this project can be used to inform similar efforts in other jurisdictions looking to expand e-reporting capacity, and could prove valuable for regional fisheries assessments.

The goals of this project directly meet the Atlantic States Marine Fisheries Commission Strategic Plan, Goal 3 – Produce dependable and timely marine fishery statistics for Atlantic coast fisheries – by improving data accuracy through harvest verification. This project also satisfies requirements in ASMFC fisheries management plans for species such as striped bass – which is a primary target species for the for-hire charter fishery and is fished commercially – and Maryland state plans for species such as blue crabs and oysters.

While this project specifically focuses on developing a harvest verification program for Maryland's Chesapeake Bay fisheries, we expect that the project outcomes can be incorporated into the existing (or future) federal electronic reporting framework for Maryland's coastal fisheries. Currently, >90% of Maryland's coastal fisheries report following ACCSP electronic reporting standards, and therefore MDNR's data accountability and reporting needs are more immediate for the Chesapeake Bay. The FACTS™ team will continue to work with ACCSP to assess the needs and requirements for a future e-reporting module for Maryland's coastal fisheries.

Data Delivery Plan:
Maryland harvest data are submitted from FACTS™ to the ACCSP Data Warehouse semi-annually (March and September). An application programming interface (API) is already under development to facilitate real-time transfer of harvest trip data entered in FACTS™ to ACCSP. The data collected by monitors will be included as metadata for the trips sampled. Data entered by monitors are linked to the verified trip by a Trip ID number that is created when the harvester submits a start hail at the beginning of the trip.

MDNR will continue to work with ACCSP to develop automated auditing and data validation tools, as recommended by the ACCSP Accountability Workgroup. An application programming interface (API) is already under development to facilitate real-time transfer of harvest trip data entered in FACTS™ to ACCSP. In addition, MDNR will work with ACCSP to recommend options for expanding the existing data structure to indicate whether an individual harvest trip was verified by monitors. This information is currently shared as metadata, but including this information directly as part of the primary data matrix may improve the ability to access and use this information for management needs, or to communicate information to stakeholders.

Approach:

The existing Maryland e-reporting team is comprised of Maryland Department of Natural Resources (MDNR), Oyster Recovery Partnership (ORP), and Electric Edge Systems Group (EESG). The roles of each project team organization are described under tasks outlined in each project objective.

Objective 1 – Development/Design

The schedule will be developed by ORP with input from MDNR. ORP has designed and managed harvest verification programs for the finfish and blue crab (ORP 2020), for-hire charter (ORP 2022), and shellfish (ORP 2023) fishery pilot projects and has the required expertise to design a more comprehensive monitoring program. MDNR will provide feedback on the proposed monitoring schedule and guidance on reporting needs and requirements.

The FACTS™ team will develop a schedule that will target 5% of trips reported in FACTS™ across all fisheries with dockside monitoring and 15% of charter captains reporting trips in FACTS™ for onboard monitoring of the for-hire charter fishery. In 2021 and 2022, FACTS™ received ~30,000 trips across the finfish, blue crab, shellfish (oyster and clams), and for-hire charter fisheries. We anticipate that reporting will be similar through 2025; although participation is incrementally increasing, no new modules, such as dealer reporting, may be added to the system in this timeframe, and reporting in FACTS™ continues to be voluntary. These targets will allow for the dockside monitoring of 1,500 trips and onboard monitoring of ~45 charter captains, which is on the order of or greater than monitoring efforts conducted during individual pilot programs that were effective at identifying mis-reporting and improving industry accountability (Tables 1 & 2; Slacum et al. 2013, ORP 2020, 2022, & 2023). If this level of effort is not effective at identifying continued reporting errors and improving industry accountability, additional monitoring effort will be employed in future years as MDNR transitions e-reporting to a full-time, mandatory program.

Table 1. Pilot-scale dockside and onboard monitoring effort for each Maryland Chesapeake Bay commercial fishery.

E-reporting Pilot Program	Time Period	Monitor Effort Goal	Active Monitors	# Trips Reported	# Trips Monitored	Actual Effort
For-hire Charter (dockside)	2020-2022	10%	4	36,832	753	2%
For-hire Charter (onboard)	2020-2022	---	1	36,832	81	0.2%
Shellfish	2021-2022	10%	3	2,848	171	6%
Commercial Finfish & Blue Crab	2019	10%	6	10,870	250	2%
Blue Crab	2012	20%	5	1,226	84	7%

Table 2. Pilot-scale onboard monitoring effort for the For-hire Charter fishery, based on the number of captains observed.

Time Period	# Captains Reporting	Active Observers	# Captains Observed	Effort
2020-2022	291	1	36	12%

The project team will develop a schedule for dockside and onboard monitoring that considers variations in time of year, reporting requirements, and operations specific to each Maryland fishery. The team will evaluate previous Maryland fishery-specific monitoring programs and will build on the lessons learned through each pilot project to create efficiencies in monitoring and improve monitoring success rates. For example, common landing times for each fishery will be evaluated and monitors will be scheduled to overlap these landing times. MDNR's current management priorities will be assessed to determine whether additional harvest data should be monitored or if updates to the previous monitoring protocols are necessary.

We will employ a stratified sampling approach based on two strata: (1) dockside monitors will target areas of known activity (i.e., common landing locations) and (2) perform random spot checks at landing locations that are in more remote locations or represent landing locations specific to individual harvesters (e.g., for harvesters who land at their home). This approach will improve monitoring efficiency and collect data that is representative of the landing patterns for each of Maryland's Chesapeake Bay fisheries. For example, several blue crab harvesters land at locations specific to each individual, while the for-hire charter captains more commonly land at heavily trafficked public marinas or docks. We will also leverage the existing working relationship and data-sharing tools between the FACTS™ team and MDNR's APAIS survey staff to minimize the number of for-hire charter trips sampled through both monitoring programs. The resulting schedule will aim to sample each fishery and target every species reported within each FACTS™ module proportional to the number of trips reported for each. All harvesters will have an equal probability of being monitored during each monitoring cycle.

Objective 2 – Implementation
Implementation and management of dockside and onboard monitors will be conducted by ORP in coordination with MDNR. ORP managed day-to-day activities and data collected through three of the previous four pilot projects that employed monitors (ORP 2020, 2022, & 2023) and has the required expertise and staff to maintain this role. MDNR will conduct outreach to harvesters to notify them of monitor activities and review monitor requirements and procedures. Outreach by MDNR will be critical for enforcing harvester compliance. MDNR and ORP will document industry and stakeholder response to monitor activities, and adapt outreach and monitor protocol as needed to enforce best reporting practices and respond to industry concerns or questions.

Eight dockside monitors will be deployed across four regions (Figure 1) of Maryland's Chesapeake Bay. These distinct regions were assigned for previous dockside monitoring programs and will allow for dividing sampling effort geographically while reducing individual monitor travel time and therefore increasing the number of trips a monitor could verify in one shift. Dockside monitors will target trips across all fisheries during each shift. Shifts will be scheduled on weekends and weekdays and will overlap with common landings times for each fishery, which will be determined in Objective 1.
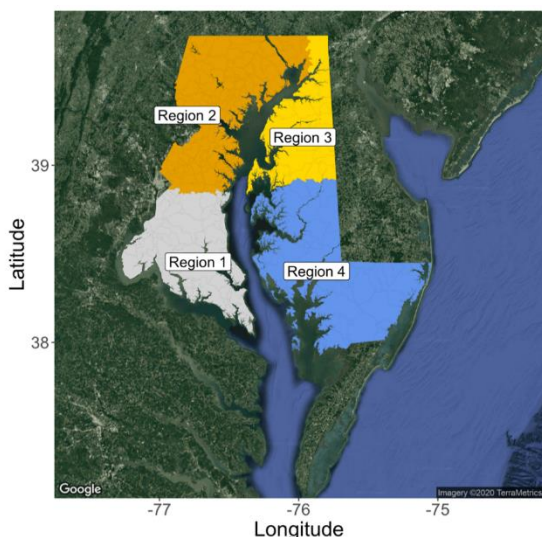
Two of the eight monitors will be assigned to both dockside and onboard monitoring trips; onboard observers will be assigned to two regions (eastern vs. western shores). We will attempt to allocate monitoring effort evenly between and within these two regions to sample a variety of trips using different gear types, which can vary by location (ORP 2022). Onboard observers will schedule and pay for charter trips ahead of time to reserve a spot on the vessel. Onboard observers will be scheduled for trips occurring on the weekends and weekdays and during different times of day to ensure that monitors are verifying a representative sample of charter captains. The two monitors conducting onboard observation will be full-time staff with full insurance and liability coverage.

Figure 1. Dockside monitor regions used to guide verification efforts in Maryland.

Monitoring will be conducted over 10 months from June 2024 through March 2025 to sample trips occurring during the peak fishing activity for each Maryland Chesapeake Bay fishery. Monitors will report a separate trip in FACTS™ for each trip they verify – the data reported will vary for each fishery (e.g., Table 3). Monitors will be instructed to flag charter trips that harvest ACCSP priority/target species including black sea bass, cobia, and Spanish mackerel and finfish trips that harvest American shad and Atlantic menhaden. Harvest of these priority species has been reported in Maryland's Chesapeake Bay in FACTS™ over the past several years, although the frequency and amount of harvest has varied among species.

Table 3. Trip and harvest level details collected by dockside monitors. Onboard observers collect the same harvest details for the for-hire charter fishery. Additional data may be collected for an individual fishery if management needs change.

FACTS™ Fishery Module	Report Details
All Trips (all modules)	Date; Trip start; Time of arrival at landing location; Time spot check occurred; Harvester name; Spot check location; Spot check conducted (Y/N); Trip ID; Comments; Harvester e-signature
For-hire Charter	Species name; Size of fish (legal/undersized); Catch disposition; Count of fish; Weight of fish; Discard reason; Hooking location; Angler count
Shellfish (clam)	Species; Disposition (food or bait); Unit of measure (bushels, count); Quantity; Price/unit
Shellfish (oyster)	Unit (bushels, dozens); Quantity; Crew count; Gear type
Finfish	Species name; Unit (lbs, bushels, boxes, baskets); Quantity (per species)
Blue Crab	Quantity of #1 males, #2 males, females, mixed males, peelers, soft crabs, eels

Monitors will be trained by ORP and be provided with training and sampling materials. Training covers all aspects of each fishery monitored, how to use FACTS™ to intercept trips at their respective landing locations, and the variables monitors will observe and document during dockside and onboard trips. The existing monitor training procedures will be updated to reflect the results from Objective 1. An individual from ORP will conduct random data QA/QC spot checks throughout the project to ensure that

data are being sampled consistently, monitors are using best reporting practices, and to identify and resolve any monitor reporting errors. Monitor data entered in FACTS™ will also be subject to routine inspection conducted on all FACTS™ data by MDNR.

ORP will analyze data collected through this project and compare monitor reports with harvester reports to uncover any reporting bias or issues specific to each fishery. DNR will manage monitor data reported in FACTS™ and will format data for submission to ACCSP. This includes working with ACCSP to understand how to treat additional information about whether a harvest trip was verified.

Objective 3 – Resource Evaluation
The improved data quality and enhanced ability for managers to access and use electronic harvest data has prompted MDNR to begin transitioning electronic reporting in Maryland from a voluntary pilot program to a full-time, formal regulatory reporting option. The harvest verification activities outlined in this proposal support the expansion from ~20% to 100% of all Maryland commercial license holders by providing MDNR with information on program cost, level of effort, and educational needs to effectively verify harvest and improve industry accountability.

Significant resources and an expansion of the existing FACTS™ infrastructure will be required for FACTS™ to accommodate harvest reports from all Maryland commercial license holders. Specific challenges related to expanding harvest verification include (a) a current lack of understanding of the level of monitoring required to effectively verify harvest and (b) the associated costs. MDNR needs to gain a better understanding of these components to scale the existing verification program as FACTS™ transitions to a formal regulatory reporting option for all Maryland harvesters. The data collected through, and costs associated with activities under Objectives 1 and 2 will begin to help fill these data gaps.

MDNR and ORP will evaluate the success of this project (according to the Project Accomplishment Measurements) and conduct a power analysis to assess the (a) level of effort and (b) resources/cost required to scale up a monitoring program to verify a sufficient portion of harvest trips (or captains) reported in FACTS™. The specific goal of this exercise will be to identify what proportion of trips sampled under Objective 2 should be verified to improve data accuracy and enforce best reporting practices. We will randomly subsample portions of data at decreasing intervals to identify at what level of effort (i.e., what % of trips) the metrics calculated on the subsampled data are within a reasonable margin of error of the results of the full dataset. A reasonable margin of error (e.g., 5%) will be guided by MDNR and ACCSP's management and data quality goals.

The cost associated with the level of monitoring effort determined through the power analysis will be assessed using the real costs incurred under Objectives 1 and 2. This will be used to create an effort-cost ratio, which will be used to develop a budget for MDNR to understand the monitoring costs and needs to scale up FACTS™ to a full-time program. Calculating an effort-cost ratio will be especially helpful for predicting the short- and long-term costs associated with making individual FACTS™ modules a formal reporting option incrementally.

Developing an understanding of data management, structure, and sharing needs will also be essential to expanding the capabilities and efficiency of e-reporting in Maryland. ACCSP and MDNR have begun developing additional tools and resources to improve data accessibility and facilitate data sharing. MDNR will continue to work with ACCSP to develop automated auditing and data validation tools, which is a

priority recommendation from the ACCSP Accountability Workgroup. One additional outcome of this project will be for MDNR to provide recommendations to ACCSP for expanding the existing data structure to indicate whether a harvest trip was verified.

References:

Atlantic Coastal Cooperative Statistics Program Accountability Workgroup Report, 2022. 1050 N Highland St 200a n, Arlington, VA 22201.

Oyster Recovery Partnership (ORP). 2020. Dockside monitoring of blue crab and finfish harvesters using Maryland's electronic commercial fisheries harvest reporting system. Prepared for the Atlantic States Coastal Cooperative Statistics Program and Maryland Department of Natural Resources. Oyster Recovery Partnership, 1805A Virginia Street, Annapolis, MD 21401.

Oyster Recovery Partnership (ORP). 2022. Chesapeake Bay charter captains using Maryland's electronic commercial fisheries harvest reporting system. Prepared for the Atlantic States Coastal Cooperative Statistics Program and Maryland Department of Natural Resources. Oyster Recovery Partnership, 1805A Virginia Street, Annapolis, MD 21401.

Oyster Recovery Partnership (ORP). 2023. Integrating shellfish industry reporting into a comprehensive electronic reporting system. Prepared for the National Fish and Wildlife Foundation (Grant #70612) and Maryland Department of Natural Resources. Oyster Recovery Partnership, 1805A Virginia Street, Annapolis, MD 21401.

Slacum, HW Jr., J. Dew-Baxter, R. Corbin, & B. Richkus. 2013. Pilot project to test and evaluate rapid and accountable commercial blue crab reporting in Maryland. Prepared for the Blue Crab Industry Design Team and the Maryland Department of Natural Resources. May 2013. Versar, Inc. 9200 Rumsey Rd., Columbia, MD 20145.

Geographic Location:
The project will be administered out of Maryland Department of Natural Resources headquarters in Annapolis, MD. The scope of the project covers all state waters in Maryland's Chesapeake Bay. Data will be collected from hundreds of landing locations across the Maryland portion of the Chesapeake Bay.

Milestone Schedule:

Activity	2024										2025					
	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J
Obj 1: Develop monitor and observer schedule	▓	▓	▓													
Obj 2: Hire and train monitors		▓	▓													
Obj 2: Implement and manage monitoring program				▓	▓	▓	▓	▓	▓	▓	▓	▓	▓			
Obj 3: Assess level of effort and resources													▓	▓		
Data feeds to ACCSP							▓						▓			
Semi and Annual Report Writing							▓							▓	▓	▓

Project Accomplishments Measurement:
The success of the project will be measured by tracking progress and accomplishments related to three main goals: (1) Improve data accuracy and industry accountability, (2) improve data accessibility, and (3) maintain or improve program functionality.

Goal	Metrics
Improve data accuracy & industry accountability	Dockside monitor - Monitor success rate across all fisheries (number of trips attempted to be monitored vs. number of trips monitored) - Monitor success rate for each fishery - Proportion of harvester and monitor reports that report the same catch across all fisheries - Proportion of harvester and monitor reports that report the same catch (and other reporting components) for each fishery Onboard monitor - Monitor success rate (number of captains attempted to be monitored vs. number of captains actually monitored) - Number and frequency of species observed from ACCSP Biological Priority matrix (e.g., black sea bass, cobia, Spanish mackerel) - Proportion of bycatch reported accurately (number of discards reported by captains vs. number of discards reported by monitors)
Improve data accessibility	Number of trips provided to ACCSP with completed harvest verification
Maintain or improve program functionality	- Proportion of landing locations monitored (compared to number of landing locations reported by harvesters) - Number of monitors trained and active - Proportion of trips monitored (compared to total number of trips reported in FACTS™)

Cost Summary (Budget):

Description	Calculation	Federal Requested	Non-Federal In Kind
Personnel (DNR)		$2,379.20	$4,156.00
Administrator III	$29.74 x 80hrs	$2,379.20	
Program Manager II	$42.04 x 40hrs		$1,681.60
Database Specialist II	$30.56 x 40hrs		$1,222.40
Program Manager III	$44.89 x 20hrs		$897.80
Administrative Specialist	$17.71 x 20hrs		$354.20
Fringe (DNR)		$832.72	$1,454.60
Administrator III	Personnel Costs x 35%	$832.72	
Program Manager II			$588.56
Database Specialist II			$427.84
Program Manager III			$314.23
Administrative Specialist			$123.97
Travel (DNR)		$0.00	$0.00
Equipment		$0.00	$0.00
(items > $5,000)			
Supplies		$0.00	$0.00
Contractual		$521,017.92	$342,208.75
Project management & monitoring staff	(see Budget Narrative)	$449,096.00	
At-sea monitoring trips	$130/trip x 45 trips	$5,850.00	
Field travel expenses	$0.625/mile x 100,800 miles	$63,000.00	
Supplies	(see Budget Narrative)	$3,071.92	
Other		$0.00	$0.00
Totals			
Total Direct Charges		$524,229.84	$347,819.35
Indirect Charges	(Personnel + Fringe) x 0.2211 (17.11% MDNR Negotiated amount + 5% NOAA Admin fee)	$710.16	
Grand Total		**$524,940.00**	**$347,819.35**
Percent Contribution		60%	40%

<u>Budget Narrative:</u>

MDNR is committed to modernizing its fishery-dependent reporting system and has been supporting the development of a comprehensive e-reporting and management system since 2012. Annual system operations and user support (by MDNR employees and outside contractors) are provided through state funding. System development has been supported by state funds, but major system advancements have been accomplished with additional support from external grant funds. Maryland has completed the development of five fishery modules in FACTS™ – blue crab, finfish, for-hire charter, shellfish, and dealers – and is now focused on refining and scaling up other critical components of the FACTS™ system to facilitate the transition of electronic reporting into a full-time harvest process for Maryland's state-managed fisheries.

Requested Federal Funds: $524,940.00

Personnel (MDNR Staff): $2,379.20
Salary for MDNR Principal Investigator (Administrator III) at $29.74 x 80 hours = $2,379.20. The project PI is the Commercial Harvest Reporting Supervisor with MDNR (see CV, attached) and will provide the following contributions to this project:
- Provide guidance on fishery reporting program requirements, assistance with day-to-day harvest reporting management
- Provide input on lessons learned, data gaps, management needs during schedule development (Objective 1)
- Conduct outreach to harvesters regarding monitor requirements, including sending FACTS™ messaging system updates (Objective 2)
- Manage harvester accounts, including back entry for hailing errors (Objective 2)
- Assist with evaluating monitor effort-cost ratio and data, provide feedback on project results and participate in report writing as needed (Objective 3)

Fringe: $832.72
Fringe for MDNR Principal Investigator (Administrator III). Salary at $29.74 x 80 hours x MDNR fringe rate of 35% = $832.72

Contractual: $521,017.92
Oyster Recovery Partnership will be contracted to assist with project coordination, hiring and management of dockside and onboard monitors, and data analysis and management. Oyster Recovery Partnership (ORP) is a 501(c)(3) non-profit organization that designs, promotes, and implements consensus-based and sustainable ecological restoration, shellfish aquaculture, and commercial fishery activities to improve the environment and expand economic opportunities in the Chesapeake Bay. ORP has been an integral partner in the development, testing, and maintenance of MDNR's FACTS™ electronic harvest reporting in Maryland since the inception of the blue crab e-reporting pilot project in 2012. ORP has coordinated and managed previous dockside verification programs as part of several electronic harvest reporting pilot programs in Maryland. The total contractual cost breaks down into the following line items:
- Project management & monitoring staff ($449,096.00) – Salary and administrative charges for ORP staff and monitors.

Personnel	Description	Hours	Total Cost
Senior Administrator; Senior Fisheries Expert	Provides oversight of major partnerships/contracts; responsible for organizational financial and staff resources; plans, directs, and administers all aspects of agency program; support activities under Objective 1-3	160	$19,122.85
Fisheries Program Manager	Directs and coordinates activities of agency program; project manager; manages all activities under Objective 1-3	1,950	$105,881.52
Fisheries Scientist	Manage monitor schedule and day-to-day activities under Objective 2; manages data; assist in developing reports; assist with activities under Objective 1-3	1,600	$65,946.53
Fisheries Technician	Conduct dockside monitoring	1,216	$27,797.76
Fisheries Technician	Conduct dockside monitoring	1,216	$27,797.76
Fisheries Technician	Conduct dockside monitoring	1,216	$27,797.76
Fisheries Technician	Conduct dockside monitoring	1,216	$27,797.76
Fisheries Technician	Conduct dockside and onboard monitoring	1,616	$36,941.76
Fisheries Technician	Conduct dockside and onboard monitoring	1,616	$36,941.76
Coastal Resource Scientist I	Conduct dockside monitoring; conducts entry-level technical biological work and data analysis	816	$26,903.39
Coastal Resource Scientist I	Conduct dockside monitoring; conducts entry-level technical biological work and data analysis	816	$26,903.39
Senior Manager	Performs oversight of managerial policies, practices, methods, agency programs, organizations, procedures, and other functions of management; assist with contract management and invoicing	100	$7,003.73
Fiscal Account Manager	Ensures appropriate and consistent interpretation of and compliance with statutory and generally accepted accounting principles; compiles and submits invoices	120	$7,902.47
Payroll & Finance Specialist	Screens, controls, and enters payroll records, tax, and deduction authorization data electronically	120	$4,357.57
Total		**13,778**	**$449,096.00**

- At-sea monitoring trips ($5,850.00) – Target 45 trips x $130/trip = $5,850.00

- Field travel expenses ($63,000.00) – Mileage for dockside and onboard monitors to travel to landing locations across the state. Estimated 100,800 miles for 8 monitors for 10 months to target 1,500 landings and 45 onboard for-hire charter trips, reimbursed at the current state rate of $0.625/mile = $63,000.00

- Supplies ($3,071.92) – Training and sampling supplies and service fees to support monitor activities. We are only requesting funds for supplies that are needed at this time.

Item	Description	Calculation	Total Cost
Tablet	Electronic tablets to enter harvest trip report into FACTS^{TM}	$85/tablet x 2 tablets needed	$170.00
Data service plan for tablets	Data service plan for tablets	$17.50/tablet/month x 8 total tablets x 10 months activity	$1,400.00
Tablet charger	Hardware	$11.99 each x 5 needed	$59.95
Hat	Monitor uniform	$20 each x 2 needed	$40.00
ID badge holder	Monitor uniform	$4.99 each x 2 needed	$9.98
Fish ID guide	Training materials	$8.95 each x 2 needed	$17.90
Binder	Training materials	$8.87 each x 3 needed	$26.61
Supply case	Sampling materials	$3.50 each x 5 needed	$17.50
Scale	Sample materials – for weighing landed fish	$39.99 each x 2 needed	$79.98
Crate	Sampling materials	$30 each x 4 needed	$120.00
Tape Measure	Sample materials – for measuring landed fish	$2.00 each x 7 needed	$14.00
Printing fee	Cost to print training materials and emergency field datasheets (if cell/data service not available)	$0.37/page x 1600 pages	$592.00
Rite in the Rain Paper	Paper for printing training materials and emergency field datasheets (if cell/data service not available)	$131/ream x 4 reams (500 pages each)	$524.00
Total			**$3,071.92**

Indirect Charges: $710.16
MDNR has negotiated a federal indirect rate of 17.11% for 2023. Indirect costs apply to MDNR salary and fringe only, and includes a 5% NOAA administrative fee. See attached negotiated rate agreement. This rate may change in 2024, and we will adjust the rate as needed for final proposal submission.

Total Non-Federal In-Kind Contribution: $347,819.35

Personnel In-Kind: $4,156.00
MDNR will use combined state and federal grant funding to accomplish the project objectives. This process has been successfully implemented for several previous e-reporting projects. MDNR will provide in-kind support by dedicating four staff to assist in the management and staffing of the project. All staff are integral members of the current FACTS^{TM} e-reporting team and three staff participated in all or portions of the previous e-reporting pilot projects. Job duties for each staff are intricately related to the goals and activities proposed in this project and offering time in-kind will not jeopardize the team's ability to complete the project objectives.

Personnel	Calculation	Non-Federal In-kind
Program Manager II	$42.04 x 40hrs	$1,681.60
Database Specialist II	$30.56 x 40hrs	$1,222.40
Program Manager III	$44.89 x 20hrs	$897.80
Administrative Specialist	$17.71 x 20hrs	$354.20
Total		**$4,156.00**

Fringe In-Kind: $1,454.60
Fringe for MDNR staff offering in-kind time in support of the project. MDNR fringe rate is 35% of salary.

Personnel	Calculation	Non-Federal In-kind
Program Manager II	$42.04 x 40hrs x 0.35	$588.56
Database Specialist II	$30.56 x 40hrs x 0.35	$427.84
Program Manager III	$44.89 x 20hrs x 0.35	$314.23
Administrative Specialist	$17.71 x 20hrs x 0.35	$123.97
Total		**$1,454.60**

Contractual In-Kind: $342,208.75
Since the success and function of this project rely on the existing FACTS™ structure, data procedures, and maintenance, the funding that supports the ongoing work for maintaining FACTS™ is offered in-kind for 13 months of the project. This includes the 10 months that monitors will be actively reporting in FACTS™ and 3 additional months during which FACTS™ data will be accessed and used to conduct activities under project Objectives 1 and 3.

ORP is under contract from MDNR to provide staff and technology to administer, maintain, and support the FACTS™ electronic reporting system, a 24hr helpline, and a 24hr call center for Maryland's e-reporting operations through June 2025. The executed contract offers the following in kind for 13 months of the proposed project:

Service	Description	Total In-kind
Program Management, User Support, Training, Outreach	ORP staff time to manage and support daily e-reporting functions, training, and outreach needs, including coordinating a 24hr helpline.	$68,602.08
System Operations and Maintenance	Service fee to the FACTS™ electronic reporting system software developer (Electric Edge Systems Group) to maintain the FACTS™ system. The FACTS™ system has functions that are used by monitors to schedule spot checks based on daily trips reported by hails. Dockside and onboard monitors also submit harvest details directly into FACTS™ using tablet computers.	$251,940.00
Call Center	Low-tech harvesters or harvesters who are experiencing limited cell data service have access to a 24hr call center to report harvest. The call center representatives enter the trip and harvest details directly into FACTS™. While not directly supporting the monitor function of this project, the call	$17,121.00

	center accepts harvest from harvesters who may be checked by a dockside or onboard monitor.	
Program IT	Text integrator service for messaging harvesters through FACTS™. Helpline phone cost and service plan.	$4,545.67
Total		**$342,208.75**

Funding Transition Plan:

Harvest verification is a key component of Maryland's electronic harvest program. Understanding the level of effort and resources required to implement a comprehensive harvest verification program is a priority as MDNR transitions FACTS™ from a pilot to a formal regulatory reporting program. The proposed project is Phase I of this process. In calendar year 2024, we will apply for additional funding to support Phase II. Results from the proposed project will be used to further evaluate and identify resource needs so that MDNR can develop a request for state funds to establish a formal monitoring program. The process outlined here follows the same process used to add fishery-specific modules in FACTS™ over the past 11 years. Using federal funds to support pilot-scale projects and support the development of a state budget has been successful in expanding Maryland's electronic harvest reporting and data management capabilities and capacities, and maintaining this process.

Proposal Summary

Proposal Type: New project

Program Priority: Catch and Effort (80%)

The proposed project will support the development of the first comprehensive verification program to monitor all of Maryland's commercial fisheries. Harvest verification is a recommendation of the ACCSP Accountability Workgroup and has been a crucial part of Maryland's current electronic harvest reporting program to improve data accuracy and industry accountability. Dockside and onboard monitors will be used to verify catch, effort, and landings data for trips reported electronically.

Metadata – The data collected by monitors will be sent to ACCSP as metadata for the trips sampled, which are linked using a unique Trip ID.

Project Quality Factors:

Multi-Partner/Regional impact and broad applications – This project will focus on verifying harvest from four Maryland Chesapeake Bay fisheries. Many of these species are managed at the regional level (e.g., striped bass), and harvest and verification data collected during this project will be used by regional partners. Part of this project includes evaluating resources and the level of effort required to effectively verify harvest, which can guide verification efforts in other states/regions seeking to implement ACCSP's Accountability Workgroup recommendations of developing a harvest verification framework for fisheries reporting electronically.

Funding Transition Plan – This proposal contains a Funding Transition Plan on page 17. The proposed project is Phase I of II for which federal funds will be requested. The results of these projects will help inform MDNR's state budget requests for the anticipated funding transition. The use of federal funds to guide the development of a budget and acquisition of state funds has successfully been applied to develop Maryland's e-reporting platform since 2012.

In-Kind Contribution – 40% of this project is funded by MDNR

Improvement in data quality/quantity/timeliness

- Data Quality – Developing and implementing a comprehensive harvest verification program using dockside and onboard monitoring will improve trip-level harvest data accuracy and improve industry accountability.
- Data Quantity – MDNR is transitioning e-reporting to a formal regulatory reporting option and this project will help guide efforts to scale up capacity to accept and verify more harvest trips electronically.
- Timeliness – A detailed data delivery plan and data recommendations/outcomes from this project are outlined on page 5. MDNR will work with ACCSP to improve data delivery timeliness and how verification data are shared and used.

Potential Secondary Module

- Biological Sampling (15%) – The proposed project will improve harvest reporting for ACCSP priority species including black sea bass, cobia, and Spanish mackerel, which have been reported in FACTS^{TM} during Chesapeake Bay for-hire charter trips. This project will also contribute to the following Recreational Technical Committee's goals: (a) comprehensive for-hire data collection and monitoring; (b) improve recreational fishery discard and release data (through for-hire trips); (c) improve in-season monitoring by designing a monitoring program that accounts for seasonality of specific target species/fisheries.

- Socioeconomic (5%) – The proposed project addresses the Committee on Economics and Social Sciences priority to collect trip-level detail on fishing activity information. Adding a harvest verification component will enforce reporting, can collect additional socioeconomic data, and will ensure that licensees not submitting reports are truly not fishing.

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.

Stephanie V. Richards
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(301) 421-0163
3301 Lyncrest Ct., Burtonsville, MD 20866

EDUCATION

George Mason University
Bachelor of Arts in Biology

Fairfax, VA
May 1989

PROFESSIONAL EXPERIENCE

November 2022 – Current: **Commercial Harvest Reporting Supervisor, Maryland Department of Natural Resources, Fishing and Boating Services**

- Manage the Commercial Harvest Reporting Program for reporting compliance and the timely/accurate processing of harvest data, including the E-Reporting with FACTS™ system and monthly paper reports.
- Coordinate transition of the E-Reporting with FACTS™ pilot program to a formal regulatory reporting option for real-time commercial harvest reporting for 5000+ Maryland watermen.
- Supervise the data entry (QA/QC) of monthly harvest reports, customer service, pilot program recruitment/training, and database management for paper and electronic reporting.
- Issuance of Pilot Program Participant Permits for the E-Reporting with FACTS™ program. Includes 12% of the Blue Crab/Finfish license holders and 88% of the for-hire Charter fleet, for 1700+ active permits.
- Data management for accuracy and FACTS™ trip level reporting (28,304 trips in 2021), for hailing-based system with real-time harvest reporting. Verification provided by Roving Monitors and Onboard Observers.
- Respond to request for proposals (RFP) and write federal grant reports. Provide E-Reporting with FACTS™ program summary for annual Fisheries Management Plan (FMP) report to Maryland General Assembly.
- Review and approve invoices for pilot activity: Roving Monitors, Onboard Observers, and general expenses.
- Coordinate with Maryland Natural Resources Police (NRP) for program development, including field officer training, verification of trip activity and compliance with Pilot Program Permit terms and conditions.
- Point of contact for E-Reporting with FACTS™ 24 hour Helpline staff for all issues requiring department review, including electronic transfer of striped bass quota and charter vessel registration updates.
- Serve on Atlantic Coastal Cooperative Statics Program (ACCSP) Operations Committee.

April 2015 – November 2022: **E-Reporting Program Coordinator, Maryland Department of Natural Resources, Fishing and Boating Services**

- Coordinate expansion of the E-Reporting with FACTS™ commercial fisheries real-time harvest reporting pilot program. Move from initial phase (Blue Crab) to additional modules (Finfish, Charter, Shellfish, Roving Monitors and Onboard Observers) for 5000+ Maryland watermen.
- Program requirements gathering; work with both department staff and industry members (design teams) to inform fisheries managers. Address technology accessibility in a diverse stakeholder population.
- Manage program outreach, recruitment, and training, including but not limited to: curriculum development, conducting program participant in-person training sessions, developing online training modules, producing a video tutorial series, creating website content, and authoring printed program materials.
- Responsible for management of database for 2000+ recruits, harvest reporting compliance review, and customer service support.
- Issuance of Pilot Program Participant Permits for the E-Reporting with FACTS™ program. Includes 10% of the Blue Crab/Finfish license holders and 85% of the for-hire Charter fleet, for 1500+ active permits.
- Data management for accuracy and FACTS™ trip level reporting (28,304 trips in 2021), for hailing-based system with real-time harvest reporting. Verification provided by Roving Monitors and Onboard Observers.
- Prepare semi-annual and final reports for federal program grants, respond to Public Information Act (PIA) requests, and provide program updates to MDNR leadership, as needed.
- Review and approve contractor invoices for pilot projects, including roving monitor activity, onboard observer bookings, and general program expenses.
- Provide E-Reporting with FACTS™ program summary for annual Fisheries Management Plan (FMP) report to Maryland General Assembly.
- Coordinate with Maryland Natural Resources Police (NRP); provide support and training for officers. NRP leadership mandated system training for all field officers.
- Point of contact for E-Reporting with FACTS™ 24 hour Helpline staff for all issues requiring department review, including electronic transfer of striped bass quota and charter vessel registration updates.
- Serve on Atlantic Coastal Cooperative Statics Program (ACCSP) Operations Committee.

March 2013 – April 2015: **Administrative Coordinator, Maryland Department of Natural Resources - Fisheries, Aquaculture Division**
- Manage the issuance of 1600+ Shellfish Aquaculture Harvester Permits (SAHP), required for all workers engaged in harvest activity on established leases.
- Coordinate distribution and review of 300+ Annual Usage Reports for evaluation of lease activity.
- Process lease transfer requests, including comprehensive review of historical lease documents to confirm legal status of the owner.
- Attend Aquaculture Coordinating Council (ACC) meetings, prepare and distribute minutes, and make presentations, as needed.
- Manage databases for shellfish aquaculture lease records and data entry/verification of monthly harvest reports.
- Prepare end of month activity summaries for MDNR leadership review, including but not limited to analysis of SAHP issuance, summertime landing declarations, annual usage planting data, and public notice publication of lease applications.
- Prepare Army Corps of Engineers (ACOE) Annual Executive Summary for Regional General Permit (RGP-1) lease activity report and permit verification.
- Manage Shellfish Aquaculture Sanctuary Hotline for reporting harvest activity on designated lease locations.

June 2012 – March 2013: **Administrative Aide, Maryland Department of Natural Resources – Fisheries, Harvest Reporting and Statistics**
- Complete processing of monthly commercial fisheries harvest reports for 5000+ Maryland waterman.
- Conduct stakeholder outreach to improve accuracy of commercial harvest reporting using paper reports.

PRESENTATIONS

Chesapeake Bay Charter Captains Using Maryland's Electronic Commercial Fisheries Harvest Reporting System. Amrhein, E., Coleman, K.E., Aus, J., Slacum, H.W. Jr., Richards, S., Stevenson, B., Walters, B., Kennedy, C., and Corbin, R. Poster presentation by Amrhein, E. at American Fisheries Society Meeting, November 2021.

Chesapeake Bay Charter Captains Using Maryland's Electronic Commercial Fisheries Harvest Reporting System. Amrhein, E., Coleman, K.E., Aus, J., Slacum, H.W. Jr., Richards, S., Stevenson, B., Walters, B., Kennedy, C., and Corbin, R. Updated poster presentation by Amrhein, E. at Chesapeake Community Research Symposium, June 2022

Improving Shellfish Harvest Data through Daily Electronic Reporting. Amrhein, E., Walters, J., Caretti, O., Slacum, H.W. Jr., Coleman, K., Baxter, J., Richards, S., Kennedy, C., Stevenson, B., Mole, M., and Corbin, R. Presentation by Amrhein, E. at National Shellfisheries Association Conference, March 2023.

TECHNICAL REPORTS

Richards, S., Amrhein, E., Caretti, O., Slacum, H.W. Jr., Stevenson, B., Kennedy, C., Corbin, R. and Mole, M. 2023. **Expanding Accountability in Reporting: A Tool for Comprehensive For-Hire Data Collection and Monitoring in Maryland**. NOAA Final Project Report, NA19NMF4740192

Richards, S., Amrhein, E., Coleman, K.E., Aus, J., Slacum, H.W. Jr., Stevenson, B., Walters, B., Kennedy, C., and Corbin, R. 2021-2022. **Expanding Accountability in Reporting: A Tool for Comprehensive For-Hire Data Collection and Monitoring in Maryland**. NOAA Semi-Annual Progress Reports, NA19NMF4740192

Oyster Recovery Partnership. 2023**. Integrating Shellfish Industry Reporting into a Comprehensive Electronic Reporting System**. Prepared for the National Fish and Wildlife Foundation. Oyster Recovery Partnership, 1805A Virginia Street, Annapolis, MD 21401.

Oyster Recovery Partnership. 2022. **Chesapeake Bay Charter Captains using Maryland's Electronic Commercial Fisheries Harvest Reporting System**. Prepared for the Atlantic States Coastal Cooperative Statistics Program. Oyster Recovery Partnership, 1805A Virginia Street, Annapolis, MD 21401.

SELECT HONORS

2015, 2016 Fisheries Service Award – Special Recognition, Maryland Department of Natural Resources
2011 Divers Alert Network (DAN) Provider Award, Emergency Responder – Emergency Rescue

PROFESSIONAL SERVICE

Scholarship Reviewer: 2011 NOAA Earnest F. Hollings Undergrad Scholarship Program
Professional Society: American Fisheries Society (AFS), national membership

SELECT CERTIFICATIONS, TRAININGS, & ADVANCED LEARNING

2020 Divers Alert Network (DAN) Diving Emergency Management Provider (DEMP) Certification
2018 Problem Solving and Decision Making, MAT, Association of Fish & Wildlife Agencies
2018 Leadership and Supervisory Training Program, MDNR, Anne Arundel Community College
2015 Hazard Analysis Critical Control Point (HACCP) FDA Certification, University of Maryland Extension

United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, DC 20240

State and Local Governments
Indirect Cost Negotiation Agreement

EIN: 52-6002033 **Date:** 09/16/2022

Organization: Report Number: 2022-0395 Maryland Department of Natural Resources

580 Taylor Avenue, B-4 Tawes State **Filing Ref.:**
Office Building

Annapolis, MD 21401 Last Negotiation Agreement dated: 05/13/2021

The indirect cost rate contained herein is for use on grants, contracts, and other agreements with the Federal Government to which 2 CFR Part 200 applies subject to the limitations in Section II.A. of this agreement. The rate was negotiated by the U.S. Department of the Interior, Interior Business Center, and the subject organization in accordance with the authority contained in applicable regulations.

Section I: Rate

Start Date	End Date	Rate Type	
07/01/2022	06/30/2023	Fixed Carryforward	**Name Rate Base Location Applicable To**
			Indirect 17.85 % (A) All Forest Service
			Indirect 18.19 % (A) All Park Service
			Indirect 26.92 % (A) All Resource Assessment Service
			Indirect 19.82 % (A) All Wildlife & Heritage Service
			Indirect 11.43 % (A) All Natural Resources Police
			Indirect 82.21 % (A) All Chesapeake & Coastal Services
			Indirect 17.11 % (A) All Fishing & Boating Services

(A) Base: Total direct salaries and wages, <u>including</u> fringe benefits. The rate applies to all programs administered by the non-federal entity. To determine the amount of indirect costs to be billed under this agreement, direct salaries and wages and related fringe benefits should be summed and multiplied by the rate. All other program costs should be eliminated from the calculation.

Treatment of fringe benefits: Fringe benefits applicable to direct salaries and wages are treated as direct costs; fringe benefits applicable to indirect salaries and wages are treated as indirect costs.

Section II: General

A. **Limitations:** Use of the rate(s) contained in this agreement is subject to any applicable statutory limitations. Acceptance of the rate(s) agreed to herein is predicated upon these conditions: (1) no costs other than those incurred by the subject organization were included in its indirect cost rate proposal, (2) all such costs are the legal obligations of the grantee/contractor, (3) similar types of costs have been accorded consistent treatment, and (4) the same costs that have been treated as indirect costs have not been claimed as direct costs (for example, supplies can be charged directly to a program or activity as long as these costs are not part o f the supply costs included in the indirect cost pool for central administration).

B. **Audit:** All costs (direct and indirect, federal and non-federal) are subject to audit. Adjustments to amounts resulting from audit of the cost allocation plan or indirect cost rate proposal upon which the negotiation of this agreement was based will be compensated for in a subsequent negotiation.

C. **Changes:** The rate(s) contained in this agreement are based on the accounting system in effect at the time the proposal was submitted. Changes in the method of accounting for costs which affect the amount of reimbursement resulting from use of the rate(s) in this agreement may require the prior approval of the cognizant agency. Failure to obtain such approval may result in subsequent audit disallowance.

D. **Rate Type:**
   1. Fixed Carryforward Rate: The fixed carryforward rate is based on an estimate of the costs that will be incurred during the period for which the rate applies. When the actual costs for such period have been determined, an adjustment will be made to the rate for a future period, if necessary, to compensate for the difference between the costs used to establish the fixed rate and the actual costs.

   2. Provisional/Final Rate: Within six (6) months after year end, a final indirect cost rate proposal must be submitted based on actual costs. Billings and charges to contracts and grants must be adjusted if the final rate varies from the provisional rate. If the final rate is greater than the provisional rate and there are no funds available to cover the additional indirect costs, the organization may not recover all indirect costs. Conversely, if the final rate is less than the provisional rate, the organization will be required to pay back the difference to the funding agency.

   3. Predetermined Rate: A predetermined rate is an indirect cost rate applicable to a specified current or future period, usually the organization's fiscal year. The rate is based on an estimate of the costs to be incurred during the period. A predetermined rate is not subject to adjustment.

E. **Rate Extension:** Only final and predetermined rates may be eligible for consideration of rate extensions. Requests for rate extensions of a <u>current</u> rate will be reviewed on a case-by-case basis. If an extension is granted, the non-Federal entity may not request a rate review until the extension period ends. In the last year of a rate extension period, the non-Federal entity must submit a new rate proposal for the next fiscal period.

F. **Agency Notification:** Copies of this document may be provided to other federal offices as a means of notifying them of the agreement contained herein.

G. **Record Keeping:** Organizations must maintain accounting records that demonstrate that each type of cost has been treated consistently either as a direct cost or an indirect cost. Records pertaining to the costs of program administration, such as salaries, travel, and related costs, should be kept on an annual basis.

H. **Reimbursement Ceilings:** Grantee/contractor program agreements providing for ceilings on indirect cost rates or reimbursement amounts are subject to the ceilings stipulated in the contract or grant agreements. If the ceiling rate is higher than the negotiated rate in Section I of this agreement, the negotiated rate will be used to determine the maximum allowable indirect cost.

I. **Use of Other Rates:** If any federal programs are reimbursing indirect costs to this grantee/contractor by a measure other than the approved rate(s) in this agreement, the grantee/contractor should credit such costs to the

Section II: General (continued)

affected programs, and the approved rate(s) should be used to identify the maximum amount of indirect cost allocable to these programs.

J. **Central Service Costs:** If the proposed central service cost allocation plan for the same period has not been approved by that time, the indirect cost proposal may be prepared including an amount for central services that is based on the latest federally-approved central service cost allocation plan. The difference between these central service amounts and the amounts ultimately approved will be compensated for by an adjustment in a subsequent period.

K. **Other:**

1. The purpose of an indirect cost rate is to facilitate the allocation and billing of indirect costs. Approval of the indirect cost rate does not mean that an organization can recover more than the actual costs of a particular program or activity.

2. Programs received or initiated by the organization subsequent to the negotiation of this agreement are subjec t to the approved indirect cost rate(s) if the programs receive administrative support from the indirect cost pool. It should be noted that this could result in an adjustment to a future rate.

3. Indirect cost proposals must be developed (and, when required, submitted) within six (6) months after the close of the governmental unit's fiscal year, unless an exception is approved by the cognizant agency for indirect costs

Section III: Acceptance

Listed below are the signatures of acceptance for this agreement:

By the State and Local Governments By the Cognizant Federal Government Agency <u>Maryland Department of</u>

<u>Natural Resources US Department of the Interior - FWS</u>

Signature Signature

Katina Conn Craig Wills
Name: Name:

                                            Division Chief
                                    Indirect Cost & Contract Audit Division
Director, Finance & Administrative   Interior Business Center
Services
Title: Title:
 9/19/2022 9/19/2022   Date Date

                                 Negotiated by: Elena Chan
                                 Telephone: (916) 930-3824

                                 Next Proposal Due Date: 12/31/2022