

Projects under EM Cooperative Research Plan

C2 Cooperative Research Plan Tables
OCTOBER 2014

Type	Project			Who		Timeline			Notes
	Short title	Description	Key Outcomes	Project Lead	Other Team members	For Nov EM meeting	Present to SSC in Feb	Before 2015 fieldwork	
Written products	Alternatives	Refine the 'purpose and need' and alternatives document	Discussion draft of 'purpose and need' and alternatives to be analyzed for a Council amendment package, and how the elements of the strawmen mesh with the amendment analysis.	Diana Evans	Jennifer Mondragon, Martin Loefflad	X	X	X	
	Fishery Demographics	Summarize the fishery demographics - number of vessels, gear used, landing ports, target fishery. Also, summary of effort (trips, length, hauls per day, length of sets), vessel configurations (side/stern haul, shelter deck or open).	Summary paper that describes demographics of the fixed gear fleet in terms of effort, retained and discarded catch by catch area and/or port.	Diana Evans	Mike Fey, Howard McElderry	X	X	X	
	Catch Composition	Summarize the catch composition and disposition	Tables describing the catch composition in each fixed gear target fishery (halibut, sablefish, Pacific cod), and which species are discarded.	Diana Evans	Mike Fey, Howard McElderry	X	X	X	
	Strawman Monitoring Options	There are a series of 'strawman' monitoring options that can be use to address the different alternatives. A 'strawman' is a methods summary of the key elements of each monitoring option and describes how EM technology integrates with other tools to meet management needs. Key elements include vessel size criteria, data requirements for catch estimation, vessel operator responsibilities, EM system operating specifications, EM data collection specifications, analysis requirements, and integration with other tools. The strawman links the data requirements with the specific way EM technology and other tools are being used.	Discussion document to provide a summary of monitoring approach and decision points for an EM configuration that meets the Council's goal for estimating catch; analysis of each approach in terms of overall suitability, the level of difficulty, decision points, strengths and weaknesses and operational feasibility by fishery/fleet.	Howard McElderry	Dan Falvey, David Polushkin, Malcolm Milne, Farron Wallace, Jennifer Mondragon, Brian Lynch, Dave Colpo	X	X	X	

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Written products)	Vessel Obligations	Each strawman monitoring option will carry specific vessel obligations in order to ensure the data collection objectives are met. This work task provides a comprehensive description of vessel requirements for each option, including duty of care responsibilities, on board catch handling requirements, ancillary data collection and other reporting obligations.	Discussion document summarizing the vessel requirements for each monitoring option; feasibility evaluation for each fishery/fleet; analysis of strengths and weaknesses of each approach.	Howard McElderry	Dan Falvey, David Polushkin, Malcolm Milne, Farron Wallace, Jennifer Mondragon, Brian Lynch, Dave Colpo			X	
	Monitoring Program Design	The use of EM technology for fisheries monitoring requires support services to ensure technology is deployed correctly, operator responsibilities are met, and on-board data sets collected and evaluated against dockside information in a timely manner. This task outlines key elements of an operational EM program, tailored to the Alaska fixed gear fishery.	Discussion document outlining the key elements of the monitoring program and relative cost contribution. The report will present different strategies for equipment deployment and examine the impact of the number of service ports.	Howard McElderry	Dan Falvey, David Polushkin, Malcolm Milne, Farron Wallace, Jennifer Mondragon, Brian Lynch, Dave Colpo			X	
	Dockside Monitoring Program Design	Some of the monitoring options require dockside monitoring to obtain an independent estimate of landed catch by species. This task summarizes the information requirements, monitoring procedures, and other program elements for a dockside monitoring program.	Discussion document of key elements and decision points of a dockside monitoring program, information needs, monitoring procedures and cost elements.	Howard McElderry	Dan Falvey, David Polushkin, Malcolm Milne, Farron Wallace, Jennifer Mondragon, Brian Lynch, Dave Colpo, Nathan Lagerwey			X	
	Catch Estimation	List potential catch estimation procedures for EM data for a presumed strata (alternative).	Discussion paper that describes the trade offs and assumptions of various catch estimation procedures for expanding catch to the fishery level.	NMFS		X	X		
	Weight	There are a number of potential methods to derive weight for piece counts. Each of these methods will have an accompanying list of assumptions and data collections that will be evaluated.	Summary paper that describes potential ways to derive weight estimates for piece counts.	Farron Wallace	Dave Colpo, Bruce Leaman, Bernie Burkholder	X	X		

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(Written products)	Video Review Tradeoffs	Analysis of how much video review is needed	Summary paper describing the tradeoffs of reviewing video for all fish, or only discards; subsampling; etc.	NMFS	Dave Colpo					
	Cost Framework	How will costs be analyzed with respect to EM decision points, what is the framework that will be used in the analysis? What are major cost centers in the program, and how does that affect design or decisionmaking?	Discussion paper framing the range of costs that might be associated with different decisions in the suite of alternatives, and how fieldwork or other methods will be employed to inform those costs.	Diana Evans, Sam Cunningham	Howard McElderry, Dan Falvey, Dave Colpo		ideally			
	Seabird Handling	Seabird procedures	Discussion paper outlining 1) the handling procedures that will be required for seabird interactions when operating EM, and 2) if any permits will be required of EM vessels	NMFS					x	
	Datasheet data elements	Discussion of what self reported data elements need to be collected to support EM catch estimation	Outline of datasheet fields & how those compare to current IPHC and NMFS logbook data elements	NMFS	Dave Colpo, Malcolm Milne, Heather Gilroy				x	used to be Track 4
	Data review protocol	Identify which data elements should be extracted from the imagery obtained under the various field studies, and the review processes that should be followed.	Continue to refine the video data review protocol procedure document	Martin Loefflad	Dave Colpo, Howard McElderry, Jennifer Mondragon, Farron Wallace, Morgan Dyas, Dan Falvey, Heather Gilroy				x	
	<i>(not part of Cooperative Research Plan)</i>	Expanded report on 2014 field research to date	Update PSMFC report with the background/context of what we are doing with video analysis so far, and why. Incorporate Saltwater and AMR reports on vessel activity in 2014.	Dave Colpo	Howard McElderry, Morgan Dyas	(Oct Council mtg)				

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Field Testing/ research	Operational testing	Results from the spring 2014 field season and written products (described above) will be used to determine research priorities for the 2015 season. It is expected that the field program will continue to evaluate program operational infrastructure in key ports, continue to socialize EM technology with the fleet, and test some aspects of the strawman monitoring options. This work will be a collaborative effort involving service providers, the fishing industry, NMFS and PSMFC.	The key elements of this program include decision points, operational plans, field work, EM data sets, dockside monitoring data, and a technical report, jointly prepared by PSMFC and service providers.	Howard McElderry	Dan Falvey, David Polushkin, Malcolm Milne, Farron Wallace, Jennifer Mondragon, Brian Lynch, Dave Colpo	x	x	x	used to be Track 1
	Standard configuration research	The research is intended to provide field-tested methods that allow collection of quantifiable image-based data from fisheries that can be used to estimate species-specific catch and at-sea discard amounts. Specifically, we will evaluate the applicability of EM technologies in a standard configuration at the rail to collect catch, effort, and species composition data.	A research document that will describe results of testing: differences in count and species composition data between EM (single and stereo cameras) in a standard configuration at the rail and an at-sea biologist; ability to derive length from stereo camera.	Farron Wallace		x	x	x	used to be Track 2
	Chute camera research	Image quality from EM systems are often influenced by environmental conditions and system maintenance reducing our ability to distinguish species, an essential part of estimation. A camera chute system provides a way to collect high definition images constantly thus has the potential to derive lengths and improve reliability of species identification.	A research document that will describe results of testing: differences in count, length, and species composition data between a stereo camera in a chute and an at-sea biologist; ability to derive length from stereo camera; potential for automation of species identification.	Farron Wallace		x	x	x	used to be Track 3
	Halibut DMR research	Investigate the relationship between release methods and discard mortality rates. IPHC interested in pursuing this for fixed gear as well as trawl vessels.	Research study that will allow IPHC to assign discard mortality rates based on a release method, rather than based on injury codes.	Bruce Leaman					

How projects address decision points

		Field Services	Data Services	Technology Specification	Vessel Responsibilities	Cost Structure	Implementation
Written Products	Alternatives	x		x		x	x
	Fishery Demographics	x			x		
	Catch Composition		x		x		
	Strawman Monitoring Options		x	x	x		x
	Vessel Obligations				x		
	Monitoring Program Design	x			x	x	
	Dockside Monitoring				x		
	Catch Estimation	x	x		x		
	Weight		x	x	x		
	Video Review Tradeoffs		x				
	Cost Framework	x	x	x	x	x	
	Seabird Handling		x		x		
	Datasheet data elements		x	x			
	Data review protocol						
Field Testing/ research	Operational testing	x	x	x	x		x
	Standard configuration research		x	x			
	Chute camera research		x	x			
	Halibut DMR research		x		x		