

All three states: Survey Compilation (4 surveys)					
GEAR INNOVATION					
	Cost to Fishery (HIGH/LOW)	IS IT DOABLE?	LIKELY TO MAKE A DIFFERENCE TO WHALES? YES/NO/MAYBE	TESTABILITY (GOOD PROSPECT FOR TESTING?) YES/NO/MAYBE	Comments
Sinking or neutral lines	Low	Yes	Yes	Yes	Research plan underway-unknown if profiles of various gear configurations will be different or make a difference, but follows common sense Mandatory change would cost=high, but most? already use
	Low	Yes	Maybe/Yes	Yes	
	High	Yes	Maybe	Yes line profile	
Change length of trailer lines	Low	Yes	Maybe?	Yes	Might be able to model effectiveness for whales. Certainly testable for feasibility and possible identification of differences more just a change—hard to see anything from testin
	Low	Yes	Maybe/Yes	Yes-feasibility of using	
	Low	Yes		No--	
Keep gear tighter	Low	Yes	Maybe??	Yes	Might be able to model effectiveness for whales. Certainly testable for feasibility and possible identification of differences Test line profile in different currents
	Low	Yes	Maybe/Yes	Yes	
	Low	Yes	Maybe	Yes	
Breakaway gear (weak links, “finger traps”)	High	Maybe	Maybe	Yes	Feasibility of design to workable length Low cost to buy—but high cost of lost gear
	Med	Yes	Maybe/unknown	Yes	
	Low & High		nYes		
Whale-friendly buoys (smooth, no knots)	Low	Yes	Yes	Yes	Feasibility might be able to model on effectiveness Potentially test feasibility, less easy to see reduction in entanglement
	Med	Unknown	Maybe/Unknown	Yes	
	High	Yes	n No/Maybe	Yes	
Time-release line cutter tool	High	Yes	Maybe	Yes	Feasibility High cost, high chance of human injury
	High	Unknown	Maybe/Unknown	Yes	
	High	?	n Yes	Yes	
Pool noodle deflection sleeve below buoy	Low	No			Feasibility Hard to test for effectiveness in reducing entanglement, but could see feasibility
	Low	Yes	Maybe/No	Yes	
	Low	Yes	Maybe/No	Yes	
Line visibility Colored lines or lights	Low	Yes	Maybe	Yes	Feasibility, also possible to test behavioral response Feasibility Could watch for whale avoidance
	Low	Yes	Maybe/Unknown	Yes	
	Low	Yes	n Maybe	Yes/maybe	
Multiple traps on line (less vertical lines)	High	Maybe	Yes	Yes	Feasibility. Also possible to analyze potential impact to whale injury See feasibility of 2 traps/line-end of season, low # of fishermen
	Med	Yes	Yes	Yes	
	?	?	Maye	Yes!	
Sampson line (stronger, thinner rope)	High	No	Maybe worse	Yes	Feasibility—not sure it wouldn’t ? Seems like it could
	High	Yes	No	Maybe	
	High	Yes	Could be harmful	Yes	
Elimination, where possible, of lead and line splices	Low	Yes	Maybe	Yes	Feasibility Could look at line profile
	Low	Yes	Yes	Yes	
	Low?	Yes	Maybe/Yes	Maybe	
Buoyless gear (line free gear, remote release)	No	No	No	No	Feasibility Expensive but I would like to see if it would work—concerned about enforcement
	High	Yes	Yes	Yes	
	High	Yes	Yes	Yes	

Acoustic deterrence	High Med High	Yes Unknown Yes	Yes Maybe/No No/Maybe	Yes Maybe Maybe/Yes	Concerned about collateral impact :Lower priority for research
OTHER?					
LOST GEAR RETRIEVAL					
	Cost to Fishery (HIGH/LOW)	IS IT DOABLE	LIKELY TO MAKE A DIFFERENCE TO WHALES? YES/NO/MAYBE	TESTABILITY (GOOD PROSPECT FOR TESTING?) YES/NO/MAYBE	Comments
Expand/ change in-season gear retrieval program (e.g. allow for in-season or earlier gear recovery—e.g. in April)	Low Low Low Depends on how program structured	Yes Yes Yes Yes	Yes No-minimal Yes/maybe Probably	Maybe Maybe Yes	Lots of politics, could benefit whales and competition with other fisheries PSMFC can help with this if you all need help
Expand/change in-season gear retrieval program	Low Low Low Depends on how program structured	Yes Yes Yes Yes	Yes No-minimal Maybe Probably	Maybe Yes	Lots of politics, could benefit whales and competition with other fisheries PSMFC can help with this if you all need help
Other?					
SEASONAL CHANGES					
	Cost to Fishery (HIGH/LOW)	IS IT DOABLE	LIKELY TO MAKE A DIFFERENCE TO WHALES? YES/NO/MAYBE	TESTABILITY (GOOD PROSPECT FOR TESTING?) YES/NO/MAYBE	Comments
Close or decrease fishing effort in spring (reduced pot limits, earlier closure, other mechanisms?) (requires state level action)	High	Yes	Yes	Yes	Costs are more individual—as a whole maybe not a high cost. Might actually be measurable as to effectiveness for whales
	Low	Yes	Yes	No Need	It is the only option we have that we know would work 100% and would be immediate. Requires no testing. Small economic impact to the fleet
	Potentially high for % of fishermen	Yes	Yes	Maybe	Maybe an early closure or late season gear mod? Or even a 2 season approach with second permit for spring fishery
			Probably		Do we know enough about effort currently (no)
Change contour lines in response to specific oceanographic conditions; prey type/ conditions; predicted whale presence	Med/Low	Yes	Yes	Yes	Need some science on whales to assist. Might actually be measureable as to effectiveness
	Low	Hard to do Yes	Maybe/No	Maybe	Potentially hard for fishermen & enforcement. Could benefit whales
Seasonal gear changes	Moderate	Yes	Yes/Maybe	Yes	Need good ideas to seasonally implement
	Low	Yes	Yes	Yes	
	Depends	Yes	Maybe	Yes!	Best chance to test—late season, costs vary

Start the season early if market sizes met in November	Low? ?	Yes? ?	No-worse? Maybe/No	Maybe Yes?	Seems lie you’d want to be sure whales aren’t still around first Doesn’t matter, people will fish til the end no matter when you start. Could be fishing when whales still here—could be worse.
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RESEARCH QUESTIONS

Line profile, gear marking, changes to line type?
Economics of late season fishery
Compare CA/OR/WA entanglements w/East Coast and Australia to look at humpbacks to see any trends

WHAT HAS ALREADY DONE? (what things have already been done that have helped to reduce entanglements)

Best Practice guide in California that was done to appease the NGO’s that was already flowed by the vast majority of the fleet
Not sure anything based on trends! Appreciate gear tag—helps id gear. Leads to better information for managers.