Appendix B. All ideas for action items (here called "solution ideas") generated by participants at the first Ocean Litter Strategy Workshop. Ideas are organized alphabetically, by "detailed solution type," as assigned by the planning team. Ideas that fall under the same, general "detailed solution type" are highlighted in the same color, for visual aid. The first table (pages 1-9) includes all land-based litter ideas, while the second table (pages 10-12) includes all ocean-based litter ideas.

Solution idea	What type of solution?	Detailed solution type	How would you achieve this?	Barriers	Needs/Gaps	Resources available, sample/model projects	Idea attribution	Breakout session
Straw ban	Policy/Legislation, Outreach/Education	Ban	Recommend policy statewide (as opposed to starting on local patchwork); City pilot and measure; Legislative champion; NGO campaign; Leaning on prior policy decisions (zero waste)	Perceptions; Habits; Industry - food service/retail customer service; Specific parameters of the law; Hospitals/disabilities; Gov't involvement in personal habits; Boba	Effects of alternatives; Cost-effective alternatives; More focused studies on straw pollution; Baseline data (getting baseline data for cups might be easier since the data is built into their POS); Designing a baseline study	Alternatives industry	Breakout Group A (Green)	Source/Producers
Ban straws, both plastic and paper (with exceptions, available on need basis)	Policy/Legislation	Ban					Breakout Group B (Blue)	Consumers/Institutions, would fit better in Source/Producers
Ban plastic straws and stirrers	Policy/Legislation, Outreach/Education	Ban	Paper/wooden			Heal the Bay "Rethink the Drink" campaign regarding single use drink items – ban straws on Santa Monica Pier, straws upon request, paper straws if requested – microeconomic study that could happen there

Clean Water Action – broken down the cost savings, GHG savings, et | Breakout Group C (Red) | Source/Producers |
Ban single use items (straws, utensils, lids, stirrers); Ban flexible packaging (potato chip bag, baby food container, etc.)	Policy/Legislation	Ban					Breakout Group A (Green)	Source/Producers
Ban polystyrene foam containers and transport packaging	Policy/Legislation	Ban	1) Fund advocacy organizations - collect data on extent of the problem; 2) Author for the bill; 3) Develop grassroots community support; 4) Engage the media; 5) Develop advocacy toolkit for local advocates (fact sheets, talking points, sample letters to editor, sample media engagement strategies); 6) Work with industry allies that already have alternative products in place; 7) Identify key legislative districts who will be key opponents and supporters; 8) Engage local officials and agencies in providing support; 9) Significant public education and engagement campaign	Economic impacts to businesses; Public opposition/habits - inconvenience; Industry opposition (manufacturers, trade associations); False story of recyclability of polystyrene - e.g., Dart container setting up recycling systems with local government; Funding for advocacy organizations; Enforcement of ban?	Alternatives that don't meet the intent of the legislation - will this lead to alternatives that create more litter?	Model projects: Plastic bag ban, local foam bans, local water bottle in government venues bans; NGOs; Clean Seas Coalition; Plastic Pollution Coalition; Local governments that have passed bans; Reporting on effectiveness of bag ban (a few NGOs and local governments are collecting data)	Breakout Group B (Blue)	Consumers/Institutions, would fit better in Source/Producers
Mylar balloon ban	Policy/Legislation, Research/Monitoring, Outreach/Education	Ban	record (in an app, hand-written) data (needs standardization), need to share data at best forum	Already have a mylar balloon release ban (bill in 2016)		Seen by many water people (e.g. fishers, boaters during races)	Breakout Group C (Red)	Ocean Litter in Final Destination, would fit better in Source/Producers
Bottle ban on campus	Policy/Legislation, Outreach/Education	Ban - mandate to use reusables in specific setting	Student advocacy, self-regulation; Convince institution to make that change; No bottled water sold on campus; Given reusable bottles (and other supplies) at orientation; Mandatory exchange program at cafeterias; Advertising where you can refill your bottle; Bring existing campaigns together/breaking down silos; Roll-out on a UC level	Access to water/places to refill your reusable water bottle; Existing contracts (phase-in approach); Industries that are reliant on plastic bottles for their product	Life-cycle awareness of reusable bottle	Find existing campaigns on campuses; Bulk dispensers already available in larger cafeterias (roll-out to smaller corner stores)	Breakout Group A (Green)	Consumers/Institutions
Ban single use plastic bottled water in all public venues	Policy/Legislation	Ban - mandate to use reusables in specific setting					Breakout Group B (Blue)	Consumers/Institutions
Mandating reusables for events/facilities/buildings	Policy/Legislation	Ban - mandate to use reusables in specific setting	Set initial metric/goal to achieve by a certain time; Educate elected officials and staff; legislative champion	Health codes; Water use; Cost to vendors (don't want to make it harder for vendors to do business); Different populations/industries (i.e., tourist economy, college town economy); Consistency in health codes; Access to water; Culture/habit	Research on health codes for specific localities	Cost-benefit analyses to make case for institutions; Businesses that can specifically fulfill mandate exist and become an option for facilitiy; Music concerts/festivals already developing consistency	Breakout Group A (Green)	Consumers/Institutions
Ban PFAS's for food packaging (also think about banning phthalates, hormones...)	Policy/Legislation	Ban - toxins					Breakout Group B (Blue)	Source/Producers
Zero waste mandates	Policy/Legislation	Ban - zero waste mandate				e.g., SF pushing efforts for single use	Breakout Group A (Green)	Source/Producers, might fit better in Consumers/Institutions if City-wide
Evaluate efficacy of current bans and policies (How are things from the first strategy? Is the city saving money? Litter reduction?)	Research/Monitoring	Ban/Policy - evaluation of efficacy	Monitoring is crucial (case studies that showcase scientifically credible evaluation of before and after - "we did activity A and it reduced litter on land by 10%"); Replicable research; Determine strategies that are working most efficiently				Breakout Group A (Green)	Source/Producers
Data for cities about costs saved from implementation of bag ban/litter reduction policies	Outreach/Education, Research/Monitoring	Ban/Policy - evaluation of efficacy			National campaign to preempt city laws

Federal preemption | OPC/OST is appropriate entity to do that research

Don't negate citizen science, when collected with rubrics | Breakout Group C (Red) | Source/Producers |

Solution idea	What type of solution?	Detailed solution type	How would you achieve this?	Barriers	Needs/Gaps	Resources available, sample/model projects	Idea attribution	Breakout session
Music industry, festivals, concerts	Outreach/Education, Policy/Legislation (certification)	Business/Industry responsibility	Raise profile of green events - certification? (Business/Industry responsibility with assistance from muncipalities, NGO, etc.)				Breakout Group C (Red)	Consumers/Institutions
Sporting events	Outreach/Education, Policy/Legislation (certification)	Business/Industry responsibility	(Business/Industry responsibility with assistance from muncipalities, NGO, etc.)			Los Angeles as Olympics 2024 site	Breakout Group C (Red)	Consumers/Institutions
Film industry	Outreach/Education, Policy/Legislation (certification)	Business/Industry reponsiblity	Production-specific water bottle, refill station Craft services - food service permitting fee reduced for green practices Partner with bottle company, etc. Plastic audit - statement comes up during credits that this production was "green"			Ocean Recovery Alliance - plastic audit	Breakout Group C (Red)	Consumers/Institutions
Pressure tobacco industry to take responsibility	Policy/Legislation, Outreach/Education	Business/Industry responsibility	Make recyclable. Label cigarette packages that butts are not biodegradable and you can't toss them	Ban sale of filtered cigarettes across state – PR difficulty, not advised to do without careful calculation		Change Lab (Oakland) produced EPR – educate about and use local ordinance Cigarette filters are useless/illusion to make it seem safer – can make health worse – needs more education about this issue	Breakout Group C (Red)	Source/Producers
Education for employees (hotels)	Outreach/Education	Business/Industry responsibility					Breakout Group C (Red)	Source/Producers
Highlight companies that are acting "responsibly"	Outreach/Education	Business/Industry responsibility	NGOs/Government certification program??			Green Dot	Breakout Group C (Red)	Source/Producers
Restaurants (e.g., gelato shop) that have a trash can in front of shop should have to pay if it is overflowing	Policy/Legislation	Business/Industry responsibility - cleanup					Breakout Group A (Green)	Consumers/Institutions
Require commercial businesses to remove trash in front of their establishments on a daily basis	Policy/Legislation	Business/Industry responsibility - cleanup					Breakout Group B (Blue)	Ocean Litter in Transit
Resource guides for various industries (may be "tool" rather than solution)	Outreach/Education	Business/Industry responsibility - resource guide	Identify what already exists; Social media/online friendly	Must have direct incentive/financial piece to encourage businesses to use toolkit that is prepared (show cost-benefit analysis)	Social media metrics; Entity to guide industries through this process (NGO, volunteer); Are resource guides effective?	CA Product Stewardship Council; Plastics, Packages, and Colleges (EPA-funded); Last Straw Community Toolkit; Sustainable Purchasing Council	Breakout Group A (Green)	Consumers/Institutions
Cost-benefit analyses on transitioning to reusables for businesses (makes sense to transition to a more reusable operation)	Research/Monitoring, Outreach/Education	Business/Industry responsibility - resource guide					Breakout Group A (Green)	Source/Producers, would fit better in Consumers/Institutions
Outreach campaign to hospitals, public institutions, etc., to encourage BMPs	Outreach/Education	Business/Industry responsibility - resource guide	Water refill stations, food waste, food service waste Plastic audit of your institution - become public knowledge Report out what is being diverted Organizational toolkit - brought in from outside organization			SF banned use of bottled water at all city facilities, concerts, etc. - organizers are required to bring in water refill stations, coul dbe spread to other municipalites Ocean Recovery Alliance - plastic audit	Breakout Group C (Red)	Consumers/Institutions
Require remodeling/siting of new grocery stores to include bulk bins for certain dried commodity goods	Policy/Legislation	Business/Industry responsibility - reusables					Breakout Group A (Green)	Source/Producers, would fit better in Consumers/Institutions
Significant transition to reusable products - a % of products that are single use need to be transitioned to durable, reusable products (packaging - transport, food and bev, consumer products) (not specified WHO needs to transition to reusables, so assumed businesses/industry)	Policy/Legislation	Business/Industry responsibility - reusables					Breakout Group B (Blue)	Source/Producers, would fit better in Consumers/Institutions
Institutional dining system purchasing (university - CSUs, UCs - & corporate) transition away from disposable and towards reusable	Policy/Legislation, Outreach/Education	Business/Industry responsibility - reusables					Breakout Group B (Blue)	Consumers/Institutions
Require restaurants to have dishwashing capacity (reusables on site)	Policy/Legislation	Business/Industry responsibility - reusables					Breakout Group A (Green)	Source/Producers, would fit better in Consumers/Institutions

Solution idea	What type of solution?	Detailed solution type	How would you achieve this?	Barriers	Needs/Gaps	Resources available, sample/model projects	Idea attribution	Breakout session
Customer education campaign to promote bringing reusable cup to coffee shop	Outreach/Education	Business/Industry responsibility - reusables	Have reusable cup with prominent sign at register with discount written on it Sign outside store - did you remember your cup? Bean bags - educating stores about reuse	Store dependent Employee education		Managers can be open about it if employees talk to them (personal experience)	Breakout Group C (Red)	Consumers/Institutions
Make it easier for consumers to take reusable containers to restaurants for take-out	Policy/Legislation	Business/Industry responsibility - reusables		Public health laws likely prohibit this			Participant index cards	N/A
Business responsibility toward using reusables/pooled fund towards trash cleanup	Policy/Legislation, Outreach/Education, Research/Monitoring	Business/Industry responsibility - reusables, cleanups	Identify "worst offenders"; Implement policy; Restaurant certification programs, breaks for good behavior				Breakout Group A (Green)	Ocean Litter in Transit, could fit in Consumers/Institutions as well
Innovation forum on trash capture. Showcase success stories.	Research/Monitoring, Outreach/Education	Capture - technology					Breakout Group B (Blue)	Ocean Litter in Transit
Improving street sweeping efficiency	Research/Monitoring	Capture - technology, Gaps/leaks in waste management					Breakout Group B (Blue)	Ocean Litter in Transit
Public campaign for picking up litter (engaging community in litter cleanup) - build off of coastal cleanup day, needs to become a habit. Creating a behavioral change to cleanup up community areas	Outreach/Education	Cleanups - community engagement	Similar to dog bags at parks - encouraging folks to pick up trash on their own, in public spaces; Ongoing education campaign - potential CalTrans funding?; How do you change behavior in a very urbanized area? Apt complexes? Municipalities funding (Track 2 in Trash Amendments)				Breakout Group B (Blue)	Ocean Litter in Transit
Incentivize fishers, etc to pick up trash for up-cycling (i.e. want to remove mylar balloons)	Policy/Legislation, Outreach/Education	Cleanups - community engagement	Use TeraCycle for up-cycling of marine debris/ocean litter	Inconvenient for people to have another avenue for recycling Time and Money		TeraCycle	Breakout Group D (Ocean-Based)	Ocean Litter in Transit
Increase opportunities for DIY stations for cleanups at beaches (non-profit ran)	Outreach/Education	Cleanups - community engagement					Breakout Group C (Red)	Ocean Litter in Final Destin
Focusing cleanups on specific items (i.e., golf balls, needles, balloons), with the goal of banning specific items (e.g., banning the sale of balloons near the coast)	Policy/Legislation	Cleanups - data		Safety hazards			Breakout Group A (Green)	Ocean Litter in Final Destination, could fit in Source/Producers as well (bans)
Identify and direct resources to trash hotspots on the coast (removal/cleanup)	Policy/Legislation	Cleanups - hotspots					Breakout Group B (Blue)	Ocean Litter in Final Destination
Alignment and compilation of beach cleanup efforts	Research/Monitoring, Other: Collaboration/Integration of existing efforts	Cleanups - standardized methodologies, database, collaboration	Bring together existing resources or create a single system/database (gov't curated?); Decide upon best-practice for data collection; Creation of a data hub; Improved technology to characterize/analyze litter (possible in GIS); Create a calendar to align all beach cleanup efforts (use colors to indicate regions); Ensure that there is a targeted objective for this alignment	Different ways of collecting data	Brand data; Technological capabilities to categorize trash?	Existing databases	Breakout Group A (Green)	Ocean Litter in Final Destination
Creative technological solutions (sorting trash, cleanup, packaging design)	Research/Monitoring	Cleanups - technology	Lasers/optical sorting; Roomba for the beach; Better packaging; Hold a challenge for packaging design (connect with universities)			Mr. Trash Wheel	Breakout Group A (Green)	Ocean Litter in Final Destination
Explore effectiveness of skimmers and other removal gear, expanded use of skimmers/gear for trash removal nearshore; EPR/producers should fund cleanup in marinas	Research/Monitoring, Policy/Legislation	Cleanups - technology					Breakout Group B (Blue)	Ocean Litter in Final Destination
Mr. Trash Wheel	Outreach/Education	Cleanups - technology			- Maintenance, who would take over after it is built? Will the State be in control of it? - Crowdfunding needed? - Trash wheel/trash boom considered full capture system?	- Baltimore - Mr. and Dr. Trash Wheel - Georgia Aquarium to be looking into it	Breakout Group C (Red)	Ocean Litter in Transit
Incentive program for individuals to collect litter items. Collect/Turn in items for second use?	Policy/Legislation, Outreach/Education	Consumer responsibility - cleanup, incentive programs					Breakout Group B (Blue)	Consumers/Institutions

Solution idea	What type of solution?	Detailed solution type	How would you achieve this?	Barriers	Needs/Gaps	Resources available, sample/model projects	Idea attribution	Breakout session
Set targets for the quantity of packaging generated by residents that need to be reduced over time (e.g., 25% reduction of food and bev, consumer product, and transport packaging put into the market place by 2025)	Policy/Legislation, Outreach/Education	Consumer responsibility - waste reduction	Determine how to measure reduction [3 possible ways to measure: 1) No. lbs per person per year (not the right measure), 2) No. pieces/units of packaging per person per year, 3) Volume of packaging per person per year]; Evaluation of what's coming through the waste stream?				Breakout Group B (Blue)	Source/Producers, would fit better in Consumers/Institutions
Develop incentive programs - reduce volume of trash at home, for example - to get at reducing garbage fee	Policy/Legislation, Outreach/Education	Consumer responsibility - waste reduction, incentive programs					Breakout Group B (Blue)	Consumers/Institutions
More containers for cigarette disposal	Policy/Legislation Outreach/Education	Gaps/Leaks in waste management		Enforcement needed	How effective are these kinds of programs? Data needed	- Terracycle, Surfrider SD - cigarette butt containers near bars - Law in SF that requires cigarette ash trays within 20 ft of front door of buildings - most buisnesses don't - Surfrider has been putting up ash trays in SF - Smoke Free LB (Long Beach) - no smoking in public areas, designating very specific areas where smoking is allowed	Breakout Group C (Red)	Ocean Litter in Transit
Address direct discharge hotspots - areas that do generate trash but are out of MS4 (homeless encampments, regional parks and high use beaches, schools and transportation ways); Better education and enforcement of discharge hotspots	Policy/Legislation, Outreach/Education, Research Monitoring	Gaps/Leaks in waste management - direct discharges					Breakout Group B (Blue)	Ocean Litter in Transit
Preventing illegal dumping	Policy/Legislation, Outreach/Education, Research/Monitoring	Gaps/Leaks in waste management - direct discharges					Breakout Group B (Blue)	Ocean Litter in Transit
Ensure closed receptacles and proper schedule for maintenance exist at all access points to ocean	Policy/Legislation	Gaps/Leaks in waste management - direct discharges					Breakout Group B (Blue)	Ocean Litter in Final Destination, could fit in Ocean Litter in Transit as well
Improving trash transfer from can to truck (leakage in waste management system)	Research/Monitoring	Gaps/Leaks in waste management - improve efficiency					Breakout Group B (Blue)	Ocean Litter in Transit
Better outreach about existing large item pickup programs	Outreach/Education	Gaps/Leaks in waste management - improve efficiency					Breakout Group B (Blue)	Ocean Litter in Transit
User-friendly lids for trashcans (beaches, parking lots); more signage to pack it in, pack it out (could use children's art--effective to reduce vandalism)	Outreach/Education	Gaps/Leaks in waste management - improve efficiency	Provide guidance for management to increase uniformity and improve pickups so trash doesn't overflow	Different locations want different things for management (trash)--standardize without going against design ideas for the area			Breakout Group C (Red)	Ocean Litter in Final Destin
Establish oversight of areas without trash/recycling receptacles (e.g., Route 1 - trails to recreation areas where litter accumulates), place receptacles where there aren't any, think about automobilie crashes/cleanups	Policy/Legislation, Other: Closing gaps in waste management	Gaps/Leaks in waste management - oversight					Breakout Group B (Blue)	Consumers/Institutions, would fit better in Ocean Litter in Transit
Health Inspectors, Green Business Certification Programs, mandated to inspect packaging/amount of litter produced by businesses; Local business education	Policy/Legislation, Outreach/Education	Government responsibility - oversight, education					Breakout Group B (Blue)	Consumers/Institutions
Statewide Adopt a Storm Drain program	Policy/Legislation Outreach/Education	Government responsibility - oversight, education	Oakland share resources with other municipalites - program exists in a box that can be handed off to other municipalities - Department of Public Works		Need people in other Public Works Departments to be willing to take it on	City of Oakland - Lake Merrit has been under a trash TMDL - their program should go statewide: Adopt a Storm Drain. Get notice a few days before storm is expected for org to clean storm drain, offer tools to do this. Activates 100s of people across the city to clean trash out before it gets swept out	Breakout Group C (Red)	Ocean Litter in Transit

Solution idea	What type of solution?	Detailed solution type	How would you achieve this?	Barriers	Needs/Gaps	Resources available, sample/model projects	Idea attribution	Breakout session
Prioritize procurement of products where safer alternatives are found (items that are littered, items that are particularly harmful, for example)	Policy/Legislation	Government responsibility - procurement					Breakout Group B (Blue)	Consumers/Institutions
NGOs/communities educate local government to push them towards reusables (show gov'ts the variety of solutions available to them)	Outreach/Education	Government responsibility - procurement					Breakout Group A (Green)	Source/Producers, would fit better in Consumers/Institutions)
All (local, state, federal) government lead by example by minimizing/stopping the use of single-use products, both through internal procurement and through education of businesses	Policy/Legislation, Outreach/Education, Other: Statutory	Government responsibility - procurement, education	Procurement (could happen voluntarily or through mandate): 1) Identify the decisionmakers (e.g., Dept of General Services); 2) Analysis of alternative options Education: Green Business Certification Programs, ReThink Disposable	Procurement: Lack of political will; Inconvenience; Enforcement; Low priority in current climate; Bureaucracy Education: Lack of funding; Lack of people power; Low priority; Lots of work/resource intensive; Interest from food businesses in participating in voluntary programs; Big turnover in food industry --> constant training of staff			Breakout Group B (Blue)	Consumers/Institutions
Integrate marine debris curriculum into school programs (curriculum already exists)	Outreach/Education	K-12 education					Breakout Group B (Blue)	Consumers/Institutions
End incineration of packaging (including waste to energy conversion)	Policy/Legislation	Legislation					Breakout Group B (Blue)	Source/Producers
"Next Generation" trash laws	Policy/Legislation, Research/Monitoring	Legislation	figure out which types of trash could be the next big type of litter and pass a law accordingly				Breakout Group C (Red)	Ocean Litter in Final Destin
Correct labeling – "not recyclable" label as well (would this change consumer behavior?)	Policy/Legislation, Outreach/Education	Legislation	Label cigarette packages that butts are not biodegradable and you can't toss them	Community by community – not even within/across counties Regulatory consistency across state	Labeling is regulated by FDA – federal issue, not state		Breakout Group C (Red)	Source/Producers
Attach lids to bottles	Policy/Legislation Research/Monitoring	Legislation				Crystal Geyser to make an attached lid (still water, not carbonated water yet) Retrofitted by June in CA, it will be recyclable (HDPE) Patents do exist for carbonated water!	Breakout Group C (Red)	Source/Producers
Pass bill that does away with cigarette filters	Policy/Legislation	Legislation					Participant index cards	N/A
Address under 5 mm microplastics. Including fragments of consumer products, cigarette butts, fibers (could include a statewide ban on Styrofoam products)	Policy/Legislation, Outreach/Education, Research/Monitoring	Microplastics - discharge					Breakout Group B (Blue)	Ocean Litter in Transit
Wastewater treatment plants to stop discharge of microplastics	Research/Monitoring, Policy/Legislation	Microplastics - discharge					Breakout Group B (Blue)	Ocean Litter in Transit
Microfiber solutions	Research/Monitoring, Outreach/Education, Other: Product Design	Microplastics - technology, product design, education	Technical solutions for more efficient washing machines; Technical solutions for apparel; Recycling water mandates (co-benefits); Education about microfibers, encouraging people not to have plastic-based clothing; Biggest manufacturer's pay into wastewater treatment upgrades, or largest sellers/retailers pay into upgrades; Complementary marketing (rozalia balls with synthetic clothing); Sponsorship with washing machines/add-ons	Possibly cost prohibitive; Circular economy trend (i.e. clothes made from bottles)	We need field data, and where the hotspots are; A lack of alternatives; Eliminating a next-life solution for recycled plastic; Which kinds of plastic fabrics shed the worst? Recycled PET? Fleeces? Any polyester fabric?	5 Gyres webinar and Surfrider microfibers blog; Patagonia's report; SFEI is launching a 2 year study on microplastics in the Bay; Rozalia Project	Breakout Group A (Green)	Ocean Litter in Transit, could fit in Source/Producers as well (product design/source reduction)
EPR – need to build political power	Policy/Legislation, Outreach/Education	Producer responsibility					Breakout Group C (Red)	Source/Producers
EPR	Policy/Legislation	Producer responsibility					Breakout Group A (Green)	Source/Producers
Promoting packaging redesign efforts, direct corporate engagement	Research/Monitoring	Product/Packaging design					Breakout Group A (Green)	Source/Producers
Technological solutions for packaging (i.e. shellfish)	Research/Monitoring	Product/Packaging design					Breakout Group A (Green)	Ocean Litter in Final Destination
Design products that are commonly littered to have less plastic	Research/Monitoring, Other: Product Design	Product/Packaging design	Create a venue for sharing innovative designs, support the innovators (e.g., take-out paper cups with no plastic resin liner)				Breakout Group B (Blue)	Source/Producers

Solution idea	What type of solution?	Detailed solution type	How would you achieve this?	Barriers	Needs/Gaps	Resources available, sample/model projects	Idea attribution	Breakout session
Make packaging recyclable	Policy/Legislation, Outreach/Education	Product/Packaging design	Biodegradable to original organic form Compostable and/or reusable Incentivize producers to use recyclable materials more		Need list for what kind of materials are actually biodegradable/reusable – needs to be mandated, not just recommendation, needs label	Walmart – economics of the stores influenced entire supply chain to reduce volume of packaging by 5% (better for their bottom line) – get them to talk to other companies Walmart has internal goal so they are leveraging the companies in charge of products (Proctor and Gamble, etc.)	Breakout Group C (Red)	Source/Producers
Create new nursery products	Policy/Legislation, Outreach/Education	Product/Packaging design					Breakout Group C (Red)	Source/Producers
Manufacturers of clothes washing machines add filtration to remove microfibers - or something to add to the washing machine to filter/collect microfibers	Research/Monitoring, Policy/Legislation	Product/Packaging design, Microplastics					Breakout Group B (Blue)	Ocean Litter in Transit
Changing composition of plastics so they break down easier, making them less likely to emit toxins (marine degradable plastics/products? --- requires caution, standards)	Research/Monitoring, Other: Product Design	Product/Packaging design, Toxicology	Give incentive to companies to make this happen? State dollars/state procurement?				Breakout Group B (Blue)	Source/Producers
Target gap in young adults for cleanups and reduced littering	Outreach/Education	Public education	Target 18-30yr olds; Game/app to incentivize	Hard to engage with some workplaces/groups		Snapchat (Snaptrash), collect data on location of trash; working with Salesforce	Breakout Group C (Red)	Ocean Litter in Final Destin
Education about low-waste lifestyle	Outreach/Education	Public education	fund DIY workshops, educate people about how to affordably have a lower-waste lifestyle/helping those who have less access to these resources/stores				Breakout Group A (Green)	Source/Producers, would fit better in Consumers/Institutions)
Education of consumers on reuse and recycling	Outreach/Education	Public education	Engaging media/starpower; Using uplifting/positive stories (avoid doom and gloom!); Creating documentaries that highlight successes; what does recycling really mean? how much tax payer money is being applied to aggressive mandates? Compelling communication strategies that reach other parts of the state (inland - make everyone care about ocean issues)	Language; Cost of outreach (time, face-to-face); Measurement/sustained results	What is the best way to communicate to the population of CA (i.e., millennials); create targeted messaging		Breakout Group A (Green)	Consumers/Institutions
Public education (street litter goes to the ocean)	Outreach/Education	Public education					Breakout Group A (Green)	Ocean Litter in Transit
Turn-in-your-trash programs	Outreach/Education	Public education					Breakout Group A (Green)	Ocean Litter in Transit, could fit in Consumers/Institutions as well
Behavior modification (single-use plastic, littering)	Outreach/Education	Public education			Research on how to change behaviors		Breakout Group A (Green)	Ocean Litter in Final Destination
Truth campaign about cigarette filters	Outreach/Education	Public education					Breakout Group C (Red)	Consumers/Institutions
Education campaign for recycling/biodegradable and how it actually works/means	Outreach/Education	Public education	Providing toolkit for local high school/college students for how they can educate people in their specific communities			Heal the Bay runs high school club program - educate public, grocery stores, etc. - college students?	Breakout Group C (Red)	Consumers/Institutions
Majority of people still don't understand that trash on city street can end up as marine debris	Outreach/Education	Public education	- Utilize billboards - find other ways to message other than talks/outreach - Education system - get it into the curriculum - State of CA should focus on regulation, legislation, and then research - not education (NGO fill gap) - Tie in health system to community health/environmental health to take responsibility for education/informing - State provided funding for research for health effects - especially in seafood	Language does not include most current science/stats - still technically appropriate but hasn't kept up - also doesn't encourage behavior change because public schools aren't allowed to do that		- Outreach and education, stenciling stormdrains, etc. has already happened but myabe not reaching enough - There is an existing state curricula that includes plastic - EEI, education and the environment initiative - Has worked with "Don't Mess with Texas" campaign - saw massive amounts of trash reduction, and once they stopped spending money on the campaign then roadside litter went up again - Keep California Beautiful - funded by ACC - Tobacco Control Program within Department of Public Health working on PSA - LA Times followed cigarette butt to ocean	Breakout Group C (Red)	Ocean Litter in Transit
Public education on reusable, non-wasteful women's menstruation products that everyone can have access to (affordable)	Outreach/Education	Public education	subsidies for lower income people to have access to affordable feminine hygiene; make it possible to purchase the products with your food stamp card?				Breakout Group A (Green)	Source/Producers, would fit better in Consumers/Institutions)

Solution idea	What type of solution?	Detailed solution type	How would you achieve this?	Barriers	Needs/Gaps	Resources available, sample/model projects	Idea attribution	Breakout session
Focus on corporations, but a lot of consumers are disconnected - how to balance corporations and consumers being responsible? Consumers wouldn't buy the products if they didn't want it…	Outreach/Education	Public education - consumer behavior resarch					Breakout Group C (Red)	Ocean Litter in Transit
Survey (with small incentive) to look at consumer behavior - convenience, choices, incentives	Research/Monitoring	Public education - consumer behavior research					Breakout Group B (Blue)	Consumers/Institutions
Engage consumers in corporate targeting campaigns focused on companies that are generating the most products that end up as marine litter	Outreach/Education	Public engagement - brand trageting					Breakout Group B (Blue)	Consumers/Institutions
West Coast Pacific Protection Initiative	Policy/Legislation	Regional collaboration	Refocus resources from West Coast Governor's Alliance to broader resource protection – MOU to be signed by Pacific, set target reductions Take smaller regional efforts and increase momentum to create larger regional effort – support UN direction of global plastic bag ban			Marine Debris Alliance doesn't have a lot of political power – this could make things more formal	Breakout Group C (Red)	Source/Producers
Look at effectiveness of social programs (homeless communities, other vulnerable communities (inmates?)?)	Research/Monitoring	Social programs - effectiveness	Look at San Jose program, Russian River program, and analyze effectiveness				Breakout Group B (Blue)	Ocean Litter in Transit
Engagement with homeless communities	Outreach/Education	Social programs - homeless community engagement	Mapping hotspots of encampments that have litter associated with them; Credit towards programs that tackle homelessness (municipalities are getting credits if they have foam bans, could extend to get credit for creating programs to tackle homelessness); Interagency effort, pull in variety of expertise	Homeless peoples' rights groups (political correctness); Administrative coordination/bureaucracy; Moving target, appearance of new homeless encampments	Funding sources; Multidiciplinary expertise; Governance/politics of specific communities; Focused study on relationship between homeless encampments and litter	Downtown Streets Team	Breakout Group A (Green)	Ocean Litter in Transit
Create economic rubric/template for other municipalities to use when measuring litter reduced, costs, saved, etc	Outreach/Education Research/Monitoring	Standardized methodologies - monitoring					Breakout Group C (Red)	Source/Producers
Develop standardized monitoring and compliance methods for trash and microplastics	Research/Monitoring	Standardized methodologies - trash monitoring					Breakout Group B (Blue)	Ocean Litter in Transit
Increase reporting and standardize data collection on debris that is being removed	Research/Monitoring	Standardized methodologies - trash monitoring					Breakout Group B (Blue)	Ocean Litter in Final Destination
Standardize data collection	Research/Monitoring	Standardized methodologies - trash monitoring				Many groups already use Ocean Conservancy app (shoreline and at sea)	Breakout Group C (Red)	Ocean Litter in Final Destir
Standardization/alignment in trash research (microplastics, larger-sized trash)	Research/Monitoring	Standardized methodologies - trash research					Breakout Group A (Green)	Ocean Litter in Transit
More scientific methodologies to determine measurable reductions of litter; more tools in our toolbox	Research/Monitoring	Standardized methodologies/Metrics - litter reduction					Breakout Group A (Green)	Ocean Litter in Transit
Charge businesses a fee/tax/etc if they produce a high volume of takeout food to pay into City/County fund that pays for cleanup efforts (could be exempt if they go through a certain program (e.g., transitioning to different packaging))	Policy/Legislation	Tax/Funds					Breakout Group A (Green)	Source/Producers, would fit better in Consumers/Institutions

Solution idea	What type of solution?	Detailed solution type	How would you achieve this?	Barriers	Needs/Gaps	Resources available, sample/model projects	Idea attribution	Breakout session
Charge consumers for disposables (don't hand out disposables for free anymore)	Policy/Legislation	Tax/Funds				worked with bag ban	Breakout Group A (Green)	Source/Producers, could fit in Consumers/Institutions also
Use tax on plastic bottles	Policy/Legislation	Tax/Funds					Breakout Group A (Green)	Consumers/Institutions
Charge for single use food service packaging. Use money to fund local government educating consumers and food service industry to use less packaging OR money is spent by the EPR system to do education work	Policy/Legislation, Outreach/Education	Tax/Funds					Breakout Group B (Blue)	Consumers/Institutions
Create alternative funding mechanism for local government and municipalities to fund stormwater trash programs (prop 218 for trash collection?)	Policy/Legislation	Tax/Funds					Breakout Group B (Blue)	Ocean Litter in Transit
Research toxicological impacts of ocean pollution on marine life and human health	Research/Monitoring, Outreach/Education	Toxicology	Commission a study (focusing on youth, reproductive impacts, long-term); Research on single-use items (i.e., foam) and their effects on humans; Establishing labs dedicated to this type of research; Survey of existing information	Funding; Timescale; FDA regulations	Ensure research method is appropriate for the problem/question; Historical data of populations with high fish diets	Chelsea Rochman (researcher); Sam Mason; Scripps researchers; Marcus Erikson; 5 Gyers; Point Blue (bird datasets)	Breakout Group A (Green)	Ocean Litter in Final Destination
Test chemicals that are in products that dominate beach litter (brand recognition, report, media outreach)	Research/Monitoring, Outreach/Education	Toxicology	Test chemicals in products common in beach litter, identify brand of products, write a report, conduct media outreach (very important!)			Example: DTSC work on fast food packaging (PFAS's), nail products	Breakout Group B (Blue)	Source/Producers
Research on plastic toxicity, human health, combined toxicity	Research/Monitoring, Outreach/Education	Toxicology	Translate plastic + human health aspects (current and past research) for the layman		Learn what universities are doing currently (sustainability)	EPA compilation paper, plastic is toxic to humans; LA is doing this (translate and publicize the science)--modeling for the State, bring up in coastal communities; Monterey Bay and Delta programs (toxicitiy in seafood & environment); Universities (with grant money) could contribute to research on toxicity; engage student groups for projects; competitions and community projects through schools to Go Green!	Breakout Group C (Red)	Ocean Litter in Final Destin
Research food chain toxicity	Research/Monitoring	Toxicology	fingerprint debris, more than brand information, hold business accountable	Difficult to identify; push back from industry			Breakout Group C (Red)	Ocean Litter in Final Destin
Strengthen State's oversight of food packaging [chemicals] under the Dept of Public Health	Policy/Legislation	Toxicology - government oversight, Government responsibility	Identify chemicals in food packaging, and ensure that carcinogens and endocrine disruptors are not included in packaging				Breakout Group B (Blue)	Source/Producers
Target reductions of trash - zero trash by 2026 (Trash Amendment)	Policy/Legislation	Trash Amendment	- State needs to think about how to implement this in a regulatory way - 25% trash reduction by 2022 (for example) in order to each 2026 goal - Identify high littering businesses - charge them more for permit, opportunity to get fee reduced when positive changes are made - Consumer "pay as you throw" policy - if consumers have to pay for what they are throwing away then they will reconsider how much they throw away - Couple public facing institutions as the example for how to achieve this Fishing companies that interact with public, as example as well - Update on trash amendment and where we are now - come back to this conversation after listening to tomorrow's session	- Industry/retail institutions will push back on additional costs - Bioplastic - what does that mean to the public (communication issues)? What are the scientific data regarding life cycle (do we have them)? - Trasparency - are data available? - Environmental justice issues - communities that can afford reusable - Individual behavior is hard to track, hard to remain consistent over time, this is why institutions should lead charge	- Knowing what alternatives are/their pros and cons - Has this been working in areas that already have pay as you throw policies? - Socioeconomic study/focus - systemic change	- Never underestimate the power of shaming! (Individual and corporate) - Voluntary program - like LEED certification, Seafood Watch, etc. - defined metrics - Rwanda - countrywide bag ban	Breakout Group C (Red)	Consumers/Institutions

Solution idea	What type of solution?	Detailed solution type	How would you achieve this?	Barriers	Needs/Gaps	Resources available, sample/model projects	Idea attribution	Breakout session
Producers have shared responsibility to help municipalities achieve/pay for Trash Amendment requirements	Policy/Legislation	Trash Amendment	- Capturing brand information would be powerful - source ID studies, incentivize, include in local permits - can promote better assessment - NRDC trash in our waterways study from 2013 - how much is it costing local jurisdictions - should we keep this updated every 5 years (for example)? - Effectiveness study will insulate from preemption - Question of how to measure and what to measure - weight, number of units, overall volume - State can't tell producers they have to pay for it - but local governments could do that - so state could write narrative language saying that local governments should do that, incentivize source ID - encourage local NGOs - Recommendation for executive orders related to litter reduction for state facilities specifically	- Not enough? The beaches are still trashed even in areas that have brand names on the bins like they adopted it. - Gaps in the study - didn't look at costs saved for source reduction - Trash booms are designed to break during a storm - they are collected during a storm to allow for water to flow through - also only captures floating debris - Is Prop 218 actually a limitation? Refuse collection is not covered - sotrm water is - Costs with assessment at local level - Costs for enforcement	- Research needed for how effective bins are? Are more bins more effective? Are having bins available making it become an area for dumping and attracting more trash? - Anyone over a certain number of units of trash has to do XYZ? - Funding needed - Funding needed	- Pepsi has done research that 1/3 of single use materials are from people "on the go" - area where there is not a public recycling bin - tried to install 2000 recycling machines around the South and have had some success - when brands see how much their brand is captured then they could "adopt" areas and pay for the bins or other ways that litter is in transit - take "responsibility for geographic area" which is also good for their branding - Policy letters to state of CA CalRecycle EPR program - state litter policy could echo	Breakout Group C (Red)	Ocean Litter in Transit
Microplastics research (effects on humans - finding microplastics in fish in grocery stores, quanitfy costs to fishermen/analyzing impacts on fishermen livelihoods and tourism)	Research/Monitoring	Trash research - impacts					Breakout Group A (Green)	Ocean Litter in Final Destination
Robust statewide studies on the impact of marine debris on marine resources, to demonstrate how important of an issue it is (ecosystem impacts, species, habitat, ecosystem function) [negative impact of microplastics in fish well demonstrated].	Research/Monitoring	Trash research - impacts	Start with lit review and gaps analysis, studies need to be collated, working group to flesh it out.				Breakout Group B (Blue)	Ocean Litter in Final Destination
Mapping hotspots; determining target areas (large trash inputs)	Research/Monitoring	Trash research - inputs/hotspots					Breakout Group A (Green)	Ocean Litter in Transit
Coming up with highest priorities for reducing ocean litter - focus on a few specific products and the brands [and who is purchasing/making decisions, e.g., retailers, institutions, food service providers, gov't, etc.]; Identify products that can be minimized or banned (diff solutions for diff products - solutions include fees, bans, corporate advocacy campaigns, etc.)	Research/Monitoring, Other: Planning for future action	Trash research - inputs/hotspots	Look at data that already exists, OR Take specific data on litter that ends up in storm drains, on streets, on beaches, etc. (baseline data), OR Look at market data to determine biggest producers of straws, for example; Identify entities/institutions making decisions to use those products - what is the ultimate source? [e.g., fast food packaging companies, schools, other sources]; Provide data to local community?; Perhaps create an environmental/economic "incentive" for brand to work toward achieving reduction goals (reward them for doing so); [advocates can "target" brands, State can "work with" brands]; State and local government engage those sources in meeting measurable reductions (could utilize government purchasing to drive market)				Breakout Group B (Blue)	Source/Producers
Statewide program to model and monitor microplastics and macroplastic transport - modeling of movement through water column. Perhaps modeling of trash degradation too. Need for basic science.	Research/Monitoring	Trash research - transport, degradation	Identify funding - EPR producer funded; Develop modeling framework and methods (ASTM)	Funding; Variety of types of monitoring (habitat types vary, etc)	Funding	SCCWRP, BASMA modeling approach, NSF socioeconomic grants	Breakout Group B (Blue)	Ocean Litter in Transit

Ocean-based litter ideas generated by the participants at the first Ocean Litter Strategy Workshop.

Solution idea	What type of solution?	Detailed solution type	How would you achieve this?	Barriers	Needs/Gaps	Resources available, sample/model projects	Idea attribution	Breakout session
Boater, fisherman, diver participation in cleanup programs (incentivized?, or fund fuel costs and any permitting required for fishermen to bring people on boats).	Outreach/Education, Policy/Legislation	Cleanups - community engagement			Funding is important (e.g., collaboration amongst oyster growers in Tomales and Grigg's Bays might be more robust if there was funding)		Breakout Group B (Blue)	Ocean Litter in Final Destination
Develop working groups to collaborate in addressing marine debris (e.g., Tomales Bay - oyster growers, kayak companies, neighbors)	Outreach/Education, Other: Collaboration	Cleanups - community engagement			Identify problem areas, where debris is found, etc.		Breakout Group B (Blue)	Ocean Litter in Final Destination
Cleanups: industry (aquaculture) taking the initiative	Outreach/Education	Cleanups - community engagement	Partner with others Map of coverage along the coast (who does what)	Money		ArcGIS online	Breakout Group D (Ocean-Based)	Ocean Litter in Transit
Get fishing gear off beach, organize on-going/annual/quarterly program for cleanups (Santa Barbara Channel/Channel Islands/Tomales Bay/etc), monitor trash over time	Research/Monitoring Other: Cleanup	Cleanups - data	Partner/coordinate with others (industry: fishers, aquaculture) for cleanups (e.g. BBQs), keep on same page (central calendar) Collect data to get funding (from State), create database; outreach to tell people to keep track of what they cleanup	Money Permits People power Get collectors to record data and keep it in centralized place Risk of perception (retrieve gear fishers they lost in first place)	Standardized/central database to input data	Some databases available Ocean Conservancy database for cleanups; used for Coastal Cleanup day NOAA Marine Debris tracker and other apps Adopt-A-Beach program (applies to any waterway)	Breakout Group D (Ocean-Based)	Ocean Litter in Transit
Identify funding mechanism and start a program to remove commerical boats (a partner program to the Dept of Boating and Waterways which can only remove rec boats)	Policy/Legislation	Derelict Fishing Vessels			Funding, Statutory mandate		Breakout Group B (Blue)	Ocean Litter in Final Destination
Develop plan and promulgate plan among managers, hold onto found gear that's been cleaned up and record that data to improve process (Parks, etc.); regional	Policy/Legislation, Outreach/Education	Government responsibility - oversight, education					Breakout Group D (Ocean-Based)	Source/Producers
Biodegradable fishing line (monofilament)	Policy/Legislation, Outreach/Education, Research/Monitoring	Lost gear - entanglement reduction	Acoustic release ballons for traps (Scripps prototype); Using powerful imagery to engage the public				Breakout Group A (Green)	Ocean Litter in Final Destination
Reduce repetitive equipment losses	Outreach/Education, Research/Monitoring	Lost gear - prevention	Improve technology to ensure they don't get lost (better attachments)	Lack of control (storms, etc.)			Breakout Group A (Green)	Ocean Litter in Final Destination
Highlight issues to focus policy and funding on prevention and recovery share what we've learned, via action documents, lectures, events, testimony, film at legislative/regulatory procedings -- try to distill needs for next 5 years and start to implement them. Channel Islands - county, state, feds	Outreach/Education Research/Monitoring	Lost gear - prevention, Government responsibility - oversight					Breakout Group D (Ocean-Based)	Source/Producers
Update Fish and Game Commission policies: aquaculture best management practices (new and renewed leases)	Policy/Legislation	Lost gear - prevention, Government responsibility - oversight, education		These groups may disagree on issues			Breakout Group D (Ocean-Based)	Ocean Litter in Transit
Update Fish and Game Commission policies to include BMPs for certain trap fisheries (lobster, crab, etc.)	Policy/Legislation	Lost gear - prevention, Government responsibility - oversight, education					Participant index cards	N/A
Incentivize or require before becoming licensed to use best fishing practices and be educated before entering the fishery	Policy/Legislation, Outreach/Education	Lost gear - prevention, Government responsiblity - oversight, education					Breakout Group D (Ocean-Based)	Source/Producers

Solution idea	What type of solution?	Detailed solution type	How would you achieve this?	Barriers	Needs/Gaps	Resources available, sample/model projects	Idea attribution	Breakout session
Better feedback loop betwen gear manufacturers/producers and users, or between different growers, on what methods produce the least waste. There is a need to come up with the most efficient design.	Outreach/Education, Other: Collaboration	Lost gear - prevention, Product/Packaging design					Breakout Group B (Blue)	Ocean Litter in Final Destination
Design and put into practice durable and long-lasting gear (aquaculture gear)	Outreach/Education Research/Monitoring	Lost gear - prevention, Product/Packaging design					Breakout Group D (Ocean-Based)	Source/Producers
Education/BMPs: Understand how different gear types can be tailored to specific areas (aquaculture gear)	Outreach/Education Research/Monitoring	Lost gear - prevention, Product/Packaging design	Keep record of lost gear and why, respond proactively; research and monitoring				Breakout Group D (Ocean-Based)	Source/Producers
Biodegradable fishing line (monofilament)	Research/Monitoring Other: Technology	Lost gear - prevention, Product/Packaging design	Depends what you mean by biodegradable, don't want a source of microplastics, could break apart and increase lost gear, need long-term studies, no fluorocarbon				Breakout Group D (Ocean-Based)	Source/Producers
Best practices guide for fishing industry	Outreach/Education	Lost gear - prevention, resource guide	Seafood labeling style - incentivize consumer to purchase "green fishing practices"		Could this be built into Seafood Watch rubric?	MBA Seafood Watch does consider entanglement/sustainability factors	Breakout Group C (Red)	Consumers/Institutions
Education/Best Fishing Practices: Keep track of weather, move fishing gear to deep water when weather is bad	Outreach/Education	Lost gear - prevention, resource guide		Picking up gear is difficult (harder for some fisheries than others, e.g. Dungeness crab) Scheduling/time and weather conditions			Breakout Group C (Red)	Source/Producers
Compile and enforce consistent BMPs for aquaculture growers/fisheries	Outreach/Education, Policy/Legislation	Lost gear - prevention, resource guide				Coastal Commission has list of BMPs for the permitting process already	Breakout Group B (Blue)	Ocean Litter in Final Destination
Education/Best Fishing Practices: New fishers need to be educated before they start fishing, apprenticeship	Outreach/Education, Policy/Legislation	Lost gear - prevention, resource guide	Implemented by CDFW/FGC Send best practices guide out to fishers	People have tried to get apprenticeship, unsuccessful because people don't want to; make adaptable to different fisheries			Breakout Group D (Ocean-Based)	Source/Producers
Regular inventory of gear so post-storm, know lost gear (done using GPS), record keeping (aquaculture)	Research/Monitoring, Outreach/Education	Lost gear - reporting/database		Scheduling and weather, need more education & best practices			Breakout Group D (Ocean-Based)	Source/Producers
Central database for reporting for lost fishing gear	Research/Monitoring	Lost gear - reporting/database			What to do with the gear once returned? What gaps were noticed from the reporting?		Breakout Group A (Green)	Ocean Litter in Final Destination
Outreach to fishing community to improve reporting of lost gear. Reporting system for lost gear (data) that does not penalize fishermen.	Outreach/Education, Research/Monitoring	Lost gear - reporting/database				SeaDoc society? Database that SeaDoc maintains - doing outreach with fishing communities to report lost gear, in a way that doesn't penalize them. Better tracking how much it costs, how much habitat is affected	Breakout Group B (Blue)	Ocean Litter in Final Destination
Analysis of existing fishing gear data to better understand benefits	Research/Monitoring	Lost gear - reporting/database					Breakout Group B (Blue)	Ocean Litter in Final Destination
Establish website to report GPS location for traps	Research/Monitoring	Lost gear - reporting/database	Lobster Fishery Management Plan will allot 300 tags per permit (will hopefully reduce trap loss)	Not used very often		Already have a database in place (UC Davis, SeaDoc, CDFW)	Breakout Group D (Ocean-Based)	Ocean Litter in Transit
Research and monitoring how many traps are lost and found yearly	Research/Monitoring	Lost gear - reporting/database	Groups of people survey for lost traps, report			ACCESS (Applied California Currents Ecosystem Studies) cruises - to count whales and crap traps	Breakout Group D (Ocean-Based)	Ocean Litter in Transit
Data on recreational fishing gear loss (why/how/where/what of losses/abandonment of recreational trap gear). Tie to permit number - fees associated with losing certain number of traps?	Research/Monitoring	Lost gear - reporting/database					Participant index cards	N/A
Ensure researchers retrieve gear	Outreach/Education	Lost gear - retrieval					Breakout Group A (Green)	Ocean Litter in Final Destination
Removing derelict/lost fishing gear; address loopholes for out of state fishermen in permitting or fee process	Policy/Legislation, Outreach/Education, Research/Monitoring	Lost gear - retrieval				SeaDoc society? Database that SeaDoc maintains - doing outreach with fishing communities to report lost gear, in a way that doesn't penalize them. Better tracking how much it costs, how much habitat is affected	Breakout Group B (Blue)	Ocean Litter in Final Destination

Solution idea	What type of solution?	Detailed solution type	How would you achieve this?	Barriers	Needs/Gaps	Resources available, sample/model projects	Idea attribution	Breakout session
Improve fishing line program	Research/Monitoring, Outreach/Education	Lost gear - retrieval	Develop collaborations with industry, use Periscope to retrieve line (containers are on-board)	Stores complain about interior decorating, don't want to include PVC pipe that contains returned fishing line in their stores			Breakout Group D (Ocean-Based)	Ocean Litter in Transit
Research policy barriers to lost gear and understand barriers to ocean-sourced marine cleanup	Research/Monitoring Other: Technology	Lost gear - retrieval	Create concise summary of policy barriers, go to legislators to remove those barriers; make a map of jurisdictions (lots of overlap) to simplify/speed up (e.g. for cleanups); MOU between different Fed/State agencies	Current barrier: policy (permitting) and jurisdiction - restrictions on collecting gear Effort and advocacy			Breakout Group D (Ocean-Based)	Source/Producers
Establish permanent fund/program at State to remove debris from ocean; need to inventory the problem	Policy/Legislation	Lost gear - retrieval, Government responsibility - oversight	Pass legislation to create a fund or use a fund recovery process Create an action agenda Put forth a bill to create a permanent fund Solicit foundations	Time and Money Need permits Need best management practices Foundations not want to fund this type of project	Trust fund for oil spill response		Breakout Group D (Ocean-Based)	Ocean Litter in Transit
Require marking of gear for aquaculture	Policy/Legislation	Lost gear - retrieval, Government responsibility - oversight					Breakout Group B (Blue)	Ocean Litter in Final Destination
Pilot project testing best gear tagging/marking methods for aquaculture, different fisheries	Research/Monitoring	Lost gear - retrieval, Product/Packaging design		Doesn't have to be plastic, but paint can be covered by algae, heat stamping can make gear weaker (need alternative methods)			Breakout Group B (Blue)	Ocean Litter in Final Destination
Microchip, GPS tracking for gear	Research/Monitoring, Other: Technology	Lost gear - retrieval, Product/Packaging design	Silicon Valley, start-up; analogous to PIT tag in fish (cheap per tag)	Cost $$ Short range on PIT tags			Breakout Group D (Ocean-Based)	Source/Producers
Buy-back program (recycle old gear afterward)	Policy/Legislation	Producer responsibility	Make easier to get rid of gear	Accessibility (need in every port) Cost			Breakout Group D (Ocean-Based)	Source/Producers
Direct Coastal Commission mitigation funding for debris removal, fishing gear removal	Policy/Legislation	Tax/Funds			Data needs: GPS tagging where fishermen report where they lose their gear - track where they lose gear (don't penalize people for this), better tracking how much removal costs, impacts to ecosystems		Breakout Group B (Blue)	Ocean Litter in Final Destination