Committee Members

Shelia Young, **Chair**Oro Loma Sanitary District
Jerry Pentin, **Vice Chair**City of Pleasanton
Keith Carson, County of Alameda
Kriss Worthington, City of Berkeley
Dave Sadoff, Castro Valley Sanitary District
Melissa Hernandez, City of Dublin
Vinnie Bacon, City of Fremont
Bob Carling, City of Livermore
Mike Hannon, City of Newark

AGENDA

ALAMEDA COUNTY WASTE MANAGEMENT AUTHORITY MEETING OF THE PROGRAMS AND ADMINISTRATION COMMITTEE

Thursday, July 12, 2018

9:00 A.M.

StopWaste Offices 1537 Webster Street Oakland, CA 94612 510-891-6500

Wendy Sommer, Executive Director

Deborah Cox, City of San Leandro

Dan Kalb, City of Oakland

Lorrin Ellis, City of Union City

1. Convene Meeting

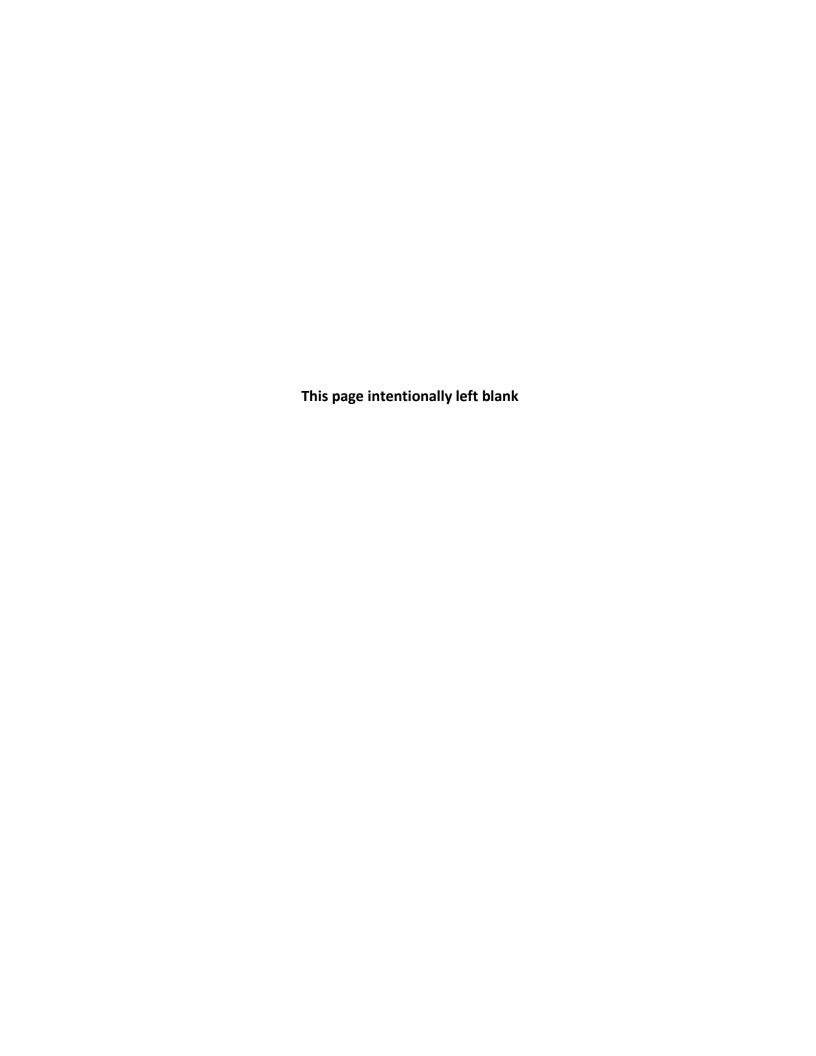
2. Public Comments

Open public discussion from the floor is provided for any member of the public wishing to speak on any matter within the jurisdiction of the Programs & Administration Committee, but not listed on the agenda. Each speaker is limited to three minutes unless a shorter period of time is set by the Chair.

Page

- 1 3. Approval of the Draft Minutes of the June 14, 2018 meeting (Pat Cabrera)
- 5 4. Food Service Packaging, Litter and Marine Debris (Justin Lehrer) This item is for information only.
 - 5. Member Comments
 - 6. Adjournment

The Programs & Administration Committee is a Committee that contains more than a quorum of the Board. However, all items considered by the Committee requiring approval of the Board will be forwarded to the Board for consideration at a regularly noticed board meeting.



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MINUTES OF THE ALAMEDA COUNTY WASTE MANAGEMENT AUTHORITY MEETING OF THE PROGRAMS AND ADMINISTRATION COMMITTEE

Thursday, June 14, 2018

9:00 A.M.

StopWaste Offices 1537 Webster Street Oakland, CA 94612 510-891-6500

Members Present:

Castro Valley Sanitary District

City of Livermore

City of Oakland

City of Newark

Oro Loma Sanitary District

City of Pleasanton

Dave Sadoff

Bob Carling

Dan Kalb

Mike Hannon

Shelia Young

Jerry Pentin

Absent:

County of Alameda Keith Carson
City of Berkeley Kriss Worthington
City of Dublin Melissa Hernandez
City of Fremont Vinnie Bacon
City of San Leandro Deborah Cox
City of Union City Lorrin Ellis

Staff Present:

Wendy Sommer, Executive Director Pat Cabrera, Administrative Services Director Tom Padia, Deputy Executive Director Miya Kitahara, Program Manager Arliss Dunn, Clerk of the Board

1. Convene Meeting

Chair Dave Sadoff called the meeting to order at 9:10 a.m. The agenda was reordered to hear item #4 first. Board member Kalb arrived during the presentation and a quorum of the members were reached.

2. Public Comments

There were none.

3. Approval of the Draft Minutes of May 10, 2018 (Pat Cabrera)

Board member Pentin made the motion to approve the draft minutes of May 10, 2018. Board member Hannon seconded and the motion carried 6-0 (Ayes: Carling, Hannon, Kalb, Oddie,

DRAFT

Pentin, Young. Nays: None. Abstain: None. Absent: Bacon, Carson, Cox, Ellis, Hernandez, Worthington).

4. Circular Economy Principles for Materials Management (Miya Kitahara)

This item is for information only.

This item was presented first. Miya Kitahara provided an overview of the staff report and presented a PowerPoint presentation. A link to the staff report and the presentation is available here: Circular-Economy-Presentation-06-14-18.pdf. Ms. Sommer stated that this is the first in a series of informational items designed to prepare us for the priority setting session in the fall and the presentation on the Circular Economy is intended to provide insight to the Board on how staff is implementing these approaches into our day-to-day projects, and to also assist in reaffirming these approaches when we have the priority setting session in the fall. Additionally, staff will be offering attendance to the upcoming conferences for Board members that are interested in attending.

Board member Pentin commented that the goal is systemic change in all areas but inquired with respect to materials management, what would be the largest stream or the biggest gain by percentages, and requested that staff provide presentations individually on each of the materials. Ms. Kitahara noted that the waste stream percentages informed our organics focus and that we do not currently have the tools to measure the total materials accumulating within our communities which do not yet show up in the waste stream but will eventually. Board member Pentin inquired if the Circular Economy Principles is a 50 state effort. Ms. Kitahara stated that circular economy and sustainable materials management have been an increasing focus along the west coast, for example through the West Coast Climate and Materials Management Forum. There is increasing interest in upstream materials management also in the Northeast, some examples include the work of Northeast Recycling Council and Northeast Waste Management Official's Association. Board member Carling inquired with respect to deconstruction plans for buildings, as to the difference between designing for deconstruction versus requiring deconstruction plans for existing buildings. Board member Carling inquired if there is any information regarding incremental costs or value to the owner. Ms. Kitahara stated that a jurisdiction could require developers to provide the deconstruction plan for a building at the time of construction under circularity principles, i.e. to optimize the likelihood of being able to recover as much of the new building when it is eventually deconstructed. Ms. Kitahara stated that there is yet little information regarding incremental costs, though some early case studies show a positive return on investment of the incremental cost. Chair Sadoff stated with respect to cost and value to the owner, if the building is designed to be adaptable to varying tenancy and uses, even with incremental costs the design could be a selling point and provide value to the owner. Board member Kalb inquired if the primer referenced in the staff report was provided to member agencies. Ms. Kitahara stated that the member agencies provided their input and a draft of the primer was provided to them. Ms. Kitahara added the final draft is in process of being completed. Board member Kalb asked that a copy be provided to the Board and inquired if the primer will include recommendations with respect to local legislation, regulations, local ordinances, etc. Ms. Kitahara stated yes, staff can provide a copy of the primer to the Board and it will include recommendations for local government policies. Also, if there is interest, staff can do model ordinances or policies as well. Board member Hannon suggested with respect to built environments that staff work with permit officials in the State of California with respect to anticipated use or reuse and the life span of the building. Board member Hannon further commented that most people want to recycle but face challenges regarding what is recyclable and usually err due to confusion. Board member Hannon stated that there should be a clearly visible and recognizable label that affirms that the item is recyclable. He further added that there should be consideration for incentivizing businesses to include a rating system on products that will inform

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the consumer of the reusability of recyclability of a product. Board member Young stated that she concurs with Board member Pentin regarding bringing back a discussion of each material independently. Board member Young stated that she would like to have information on the disposition of e-waste. She further added that we should stress the importance of clean compost. Board member Young commented with respect to building for future use and deconstruction we must also be cognizant of property rights.

Del Hudson, Head of US & North America Operations, Ellen MacArthur Foundation, provided an overview of the foundation's efforts and its collaboration with StopWaste. A link to the foundation website is available here: https://www.ellenmacarthurfoundation.org/

The committee expressed appreciation for the report and asked that the presentation be made available on the agency website. Chair Sadoff thanked Ms. Kitahara for her presentation.

5. Election of Chair and Vice Chair (Wendy Sommer)

Staff recommends that the Programs and Administration Committee elect a Chair and Vice Chair for the July 2018 – June 2019 term.

Chair Sadoff made the motion to elect Vice Chair Young as the Chair for the July 2018-June 2019 term. There were no further nominations. Board member Pentin seconded. Board member Kalb made the motion to elect Board member Pentin as Vice Chair for the July 2018-June 2019 term. There were no further nominations. Board member Hannon seconded and the motions carried 6-0: (Ayes: Carling, Hannon, Kalb, Oddie, Pentin, Young. Nays: None. Abstain: None. Absent: Bacon, Carson, Cox, Ellis, Hernandez, Worthington)

6. Member Comments

Ms. Sommer thanked Chair Sadoff for his support as Chair in ensuring that the committee has regular meetings and keeping the Board engaged. Ms. Sommer presented Chair Sadoff with a recycled content glass gift. Chair Sadoff announced that Castro Valley Sanitary District will be signing a contract with a new hauler: ACI.

7. Adjournment

The meeting adjourned at 10:11 a.m.

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DATE: July 12, 2018

TO: Programs & Administration Committee

FROM: Pat Cabrera, Administrative Services Director

BY: Justin Lehrer, Senior Program Manager

SUBJECT: Food Service Packaging, Litter and Marine Debris

SUMMARY

At its May 23, 2018 meeting, the WMA Board adopted a process and timeline for its fall Priority Setting, which will update guiding principles to inform the Agency's focus, work plan and budget for the next two years. This report and presentation on food service packaging and marine debris is part of a series of presentations to provide context and background for a thoughtful decision-making process.

DISCUSSION

Pollution associated with single-use plastics, including food ware (straws, cups, lids, utensils, takeout containers) and plastic bags has increased in prominence as an international environmental issue in recent years. Media coverage is at an all-time high, and has contributed to greater public awareness and desire to take action. There is greater pressure on the industries linked to the proliferation of single-use plastic items that often end up as contamination in compost, litter on land or in marine environments.

Urgency of the issue has been buoyed by alarming data on the scale of the problem. A 2015 Ocean Conservancy/McKinsey study estimates greater than 80% of ocean plastic originates from land-based sources, and another study found that 60% of the land-based plastic in the ocean originates from five Asian countries. Locally, Clean Water Action's Bay Area litter study identified that food and beverage packaging comprises a majority of the litter in our region.

The issues related to single-use plastics are complex and lack a straightforward solution. There has been significant research and investment into compostable and other degradable plastics, but actual performance, certification/labeling, collection and processing remain fraught with challenges. Many items end up as contamination in the recycling and composting streams or become litter in the environment where they can break down into microscopic pieces, becoming increasingly toxic by absorbing contaminants from municipal and agricultural runoff. Wildlife mistake plastic pieces for food, which then passes plastics up the food chain. Alternative fiber-based food ware often contains harmful fluorinated compounds (PFA's) that persist and can bioaccumulate in living organisms.

There is increasing recognition that recycling is not a viable solution for the endless flow of small plastic items, particularly those used for food service. Material Recovery Facilities are not equipped to deal with small-sized items, and there is now zero tolerance for food contamination. Currently around 9% of plastics are captured for recycling or recovery worldwide.

In order to develop a thoughtful and effective approach to this issue, we need to consider the lens we are viewing the issue through, the problem we are trying to solve, and the most effective role for StopWaste:

- Waste Reduction focus on reducing the amount of single-use plastics produced to address stormwater/marine pollution from plastics discarded as litter, illegal dumping, or other uncontrolled dispersion into the environment. Support reusables to enable a shift away from single-use plastic food ware and related packaging.
- Toxics Reduction focus on eliminating the use of fluorinated compounds in fiber-based packaging, to allow these materials to be used for human consumption and enter the composting stream without adverse environmental and human health effects.
- Proper Recycling focus on maximizing recycling or composting of food service ware and
 packaging discarded into the formal solid waste system and keeping materials out of the landfill
 and contaminants out of the recycling and compost.

Efforts to Date

StopWaste

Up to this point, StopWaste has emphasized voluntary waste reduction and choosing reusables whenever possible, in support of circular economy principles to keep materials cycling through the economy as higher value products. With our support, the Rethink Disposable campaign (www.rethinkdisposable.org) has reached 430 businesses, with 50 sites implementing measures that reduced over 11,000 lbs. of disposable single-use food ware products. The *Purchasing Compostable Food Service Ware* guide provides food service operations with information on compostable/recyclable purchasing choices when single-use items must be used. The Agency also supports the Reuse to Go campaign (www.reusetogo.org), a regional reuse campaign developed through the Bay Area Recycling Outreach Coalition in partnership with the nine Bay Area counties.

Our countywide Reusable Bag Ordinance has reduced the number of bags used and flowing into the storm water system since 2013. While solid waste reduction and resource conservation are achieved to some extent, a major success of the ordinance has been litter reduction and increased public awareness.

State and Local

- In California, the current legislative session includes six bills aimed at reducing plastic pollution.
- Many local governments around the country, including over 100 in California, have adopted a food ware ordinance of some kind to address this waste stream.
- At least 12 jurisdictions in Alameda County already have expanded polystyrene (EPS) food ware bans in place, with several also requiring all compostable or recyclable packaging for food ware.
- Alameda and Oakland passed ordinances requiring straws by request, and Berkeley and other cities in Alameda County are considering new policies targeting all takeout food ware.

International

A number of jurisdictions around the globe have employed legislative and policy tools to address single-use plastics. Several countries, such as France, India, and the United Kingdom have passed legislation banning specific single-use plastics, and the European Union is currently considering a proposed ban on all single-use plastics.

Private Industry

A number of multinational companies have taken notice and announced commitments as well:

- Nestle, PepsiCo and Unilever have pledged to make packaging more recyclable, compostable, biodegradable and from higher recycled content by 2025, and continue to face pressure from major investors organized by As You Sow, a nonprofit shareholder advocacy group based in Oakland.
- Proctor & Gamble aims to reduce its plastic packaging by 20 percent by 2020 and about 90 percent of its packaging is already recyclable.
- McDonald's is phasing out plastic straws from all of their 1,391 stores in the UK.
- IKEA has committed to phase out single use plastic products from its stores and restaurants by 2020.

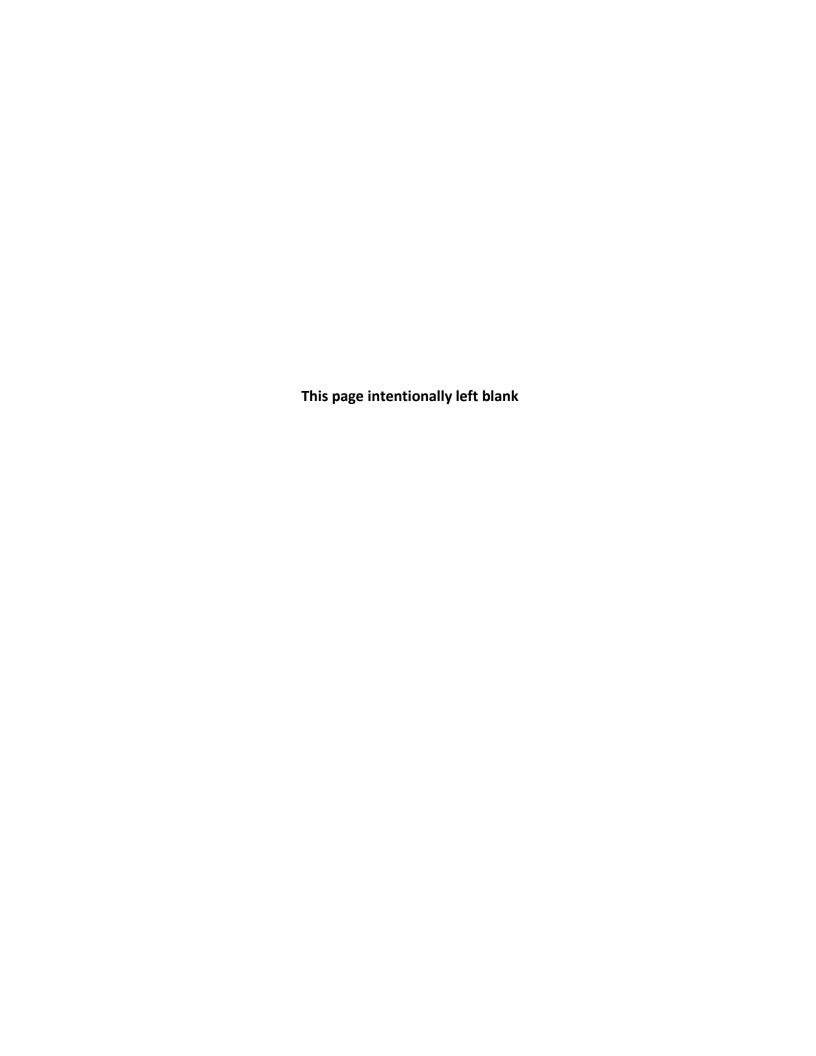
Additional Opportunities

Given the heightened awareness and assertive approach toward solutions favored by the public and local governments, the presentation of this item will allow time for discussion of approaches StopWaste could take in upcoming years to address the issues outlined above. Some possibilities include:

- Research and develop a countywide food ware ordinance, or customizable model ordinance for local adoption.
- Support Member Agencies with countywide outreach efforts.
- Continue to offer technical assistance and grant funding to businesses for reusable food ware and to brand owners for circular packaging design for reuse, recycling, and composting.
- Develop additional guidance on safe food ware options and waste prevention in food service.
- Support statewide legislation that incorporates design for circularity, such as requiring increased recycled content in single-use plastics to drive increased recycling, and banning problematic materials that are not recyclable, compostable, and that contain PFA's or other harmful additives.

RECOMMENDATION

This item is for information only.

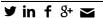


 $\mbox{Home (/)} \rightarrow \mbox{Food Packaging (/food-packaging)} \rightarrow \mbox{What `chemicals of concern' are in your food packaging?}$



What 'chemicals of concern' are in your food packaging?

By Packaging Digest Staff in Food Packaging (/taxonomy/term/365) on June 08, 2018







PFAS chemicals in packaging provide water and grease resistance but are highly persistent in the environment and should be replaced with a safer alternative.

Hazardous chemicals that persist indefinitely in the ecosystem have no place in a circular economy. Brand owners using packaging materials that contain per- and polyfluoroalkyl (PFAS), for example, should look for better replacements to ensure the health and safety of consumers and the environment.

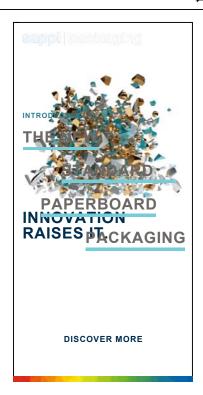
By Elizabeth Ritch

Per- and polyfluoroalkyl substances (PFAS) have gotten a lot of criticism recently from environmental groups (https://www.ewg.org/research/update-mapping-expanding-pfas-crisis#.WvSu4dMvxTY) and the media

(https://www.cnn.com/2017/02/01/health/fast-food-packaging-chemicals-pfas-study/index.html). Do you know what they are, and whether they're in the packaging of the products you sell?

PFAS are a large family of chemicals that share a similar structure—they are all based on a backbone of carbon and fluorine bonds, which are stable and persistent in the environment. These chemicals have been widely used for commercial and industrial applications, including water-, oil- and stain-repellent fabrics, nonstick products and fire-fighting foams.

PFAS are also widely used in food packaging, where they provide water and grease resistance. A 2017 study (https://pubs.acs.org/doi/abs/10.1021/acs.estlett.6b00435) found widespread use of fluorinated chemicals in dessert and bread wrappers, sandwich and burger wrappers, and paperboard food packaging, and the Center for Environmental



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Beverage packaging preview: Cameo printed can end (/cans/beverage-pkg-preview-cameo-can-end-1806)
Article

Health found PFAS (https://www.ceh.org/campaigns/endocrine-disrupting-chemicals/edc-resources/) in 100% of the microwave popcorn bags and molded fiber food serviceware they tested.

Certain PFAS based on a chain of eight carbon atoms (such as perfluorooctanoic acid [PFOA] and perfluorooctanesulfonic acid [PFOS], also referred to as C8 chemicals) were widely used for decades and have been associated

(http://www.c8sciencepanel.org/prob_link.html) with high cholesterol, ulcerative colitis, thyroid disease, testicular cancer, kidney cancer, and pregnancy-induced hypertension and preeclampsia. These particular chemicals are no longer manufactured in the United States, following a phase-out initiative (https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/risk-management-and-polyfluoroalkyl-substances-pfass#tab-3) led by the Environmental Protection Agency (EPA). However, due to the strength and stability of the carbon-fluorine bond, they are highly persistent in the environment, so people are still exposed to them via drinking water (https://www.ewg.org/research/mapping-contamination-crisis#.Wrk-M9PwZTY) and other sources.

When C8 PFAS were phased out, chemical suppliers and product manufacturers looked for replacement chemicals that would provide similar performance, particularly for water, grease and stain resistance. Many turned to shorter-chain PFAS that were structurally similar to those that had been phased out, but contained fewer carbon atoms, such as GenX (manufactured by DuPont and its successor Chemours).

Unfortunately, these replacement PFAS are based on the same extremely stable carbon-fluorine bonds, meaning they are also highly persistent in the environment. While less toxicity data is available about these newer chemicals, they have been associated with liver and kidney damage

(https://www2.mst.dk/Udgiv/publications/2015/05/978-87-93352-15-5.pdf), and animal studies suggest an association with increased rates of certain cancers (https://files.nc.gov/ncdeq/GenX/GenX%20factsheet%20FINAL%2013Sep2017.pdf). The replacement of long-chain PFAS with short-chain PFAS seems to be a case of regrettable substitution (https://www.hsph.harvard.edu/news/hsph-in-the-news/harmful-chemicals-removed-from-products-often-replaced-with-something-as-bad-or-worse/): the substitute chemical may have similar health concerns or be only marginally better than the original.

Short-chain PFAS are still approved by the U.S. Food and Drug Administration for use in food contact packaging. This is a problem both because PFAS can migrate (https://www.researchgate.net/publication/5539983_Migration_of_fluorochemical_paper_additives_from_food-contact_paper_into_foods_and_food_simulants) from packaging into food, and because the chemicals persist after the end of the useful life of the package. PFAS have been detected in leachate from landfills (https://pubs.acs.org/doi/abs/10.1021/acs.est.6b05005) and biosolids from wastewater

(https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3776589/). When biosolids are applied to agricultural fields, the PFAS can be taken up by crops and enter the food supply (https://cfpub.epa.gov/si/si_public_record_report.cfm?

dirEntryId=307369&simpleSearch=1&searchAll=Perfluorochemicals+OR+Perfluoroalkyl+OR+Perfluorinated+OR+Polyflu

Increasingly, advocacy groups, the public and regulators are recognizing that substitute PFAS aren't the solution. Recently, Washington State became the first in the country (https://toxicfreefuture.org/governor-inslee-signs-ban-nonstick-chemicals-food-packaging/) to ban all PFAS from fiber-based food packaging. The ban will go into effect on Jan. 1, 2022, as long as safer alternatives are identified by the Washington Department of Ecology by Jan. 1, 2020. At SPC Impact

(https://sustainablepackaging.org/events/spc-impact-2018/) in April 2018, Jen Jackson of the San Francisco Department of the Environment said that the city of San Francisco is implementing procurement strategies and considering possible ordinances to support markets for PFAS-free compostable food serviceware.

Crafty brewer harvests benefits from sleevelabeled cans (/cans/crafty-brewer-harvestsbenefits-sleeve-labeled-cans1806)

USDA proposes bio-engineered food labeling rules (/labeling/usda-proposes-bio-engineered-food-labeling-rules-2018-06-04)
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While certain progressive jurisdictions are starting to take action, the fact is that regulations don't always keep up with the latest information about chemical hazards in packaging. So how can brands ensure that they are part of the solution?

Malene Teller Blume, quality manager for Coop Denmark, the largest retailer in Denmark, shared her company's story at SPC Impact. In September 2014, in light of growing evidence of harm caused by PFAS, the company decided to ban PFAS in all its private label products. At the time, it wasn't able to find PFAS-free microwave popcorn bags, so in 2015 it actually stopped selling microwave popcorn in its stores until a safer alternative could be found. In less than six months, PFAS-free microwave popcorn bags were back on store shelves, and the positive publicity received from its strong public stance more than made up for the lost sales.

Brands that enact comprehensive, proactive policies to eliminate chemicals of concern from their packaging will be better positioned both to deal with PFAS now, as well as the next emergent chemical of concern. Given how little we know about so many of the chemicals in commerce today, there will almost certainly be more problematic chemicals that come to light.

Safer alternatives do exist, and now is the time for companies to take action. Companies should make sure they understand what chemicals are in the products and packages they sell, and what the hazards associated with those chemicals are, to avoid replacing a hazardous chemical with an equally hazardous substitute. Hazardous chemicals that persist indefinitely in the environment have no place in a circular economy.



Elizabeth Ritch joined GreenBlue, the parent organization of the Sustainable Packaging Coalition (http://www.sustainablepackaging.org), in May 2016 as a project associate focusing on the CleanGredients program. She works with manufacturers of chemical products to find, use and market greener chemistries. Prior to joining GreenBlue, she worked with Ramboll Environ as an environmental consultant helping companies evaluate environmental risks in the context of business transactions, providing litigation support related to soil and groundwater contamination issues, and assessing compliance with environmental regulations. Ritch holds a BA in Environmental Thought and Practice and Physics from the University of Virginia.

Production efficiencies, ecommerce challenges, sustainability trends, new bioplastic technologies and more are among the topics on the agenda at the new Packaging

(http://advancedmanufacturingnewyork.com/epack?

_mc=arti_x_packdgstr_le_aud_pierce_epke_pkg_121_x-NY18SPCChemicals) (June 12-14; NYC). This free educational program will have more than 15 hours of can't-miss presentations, demonstrations and hands-on activities. Register to attend for free today! (http://advancedmanufacturingnewyork.com/epack?

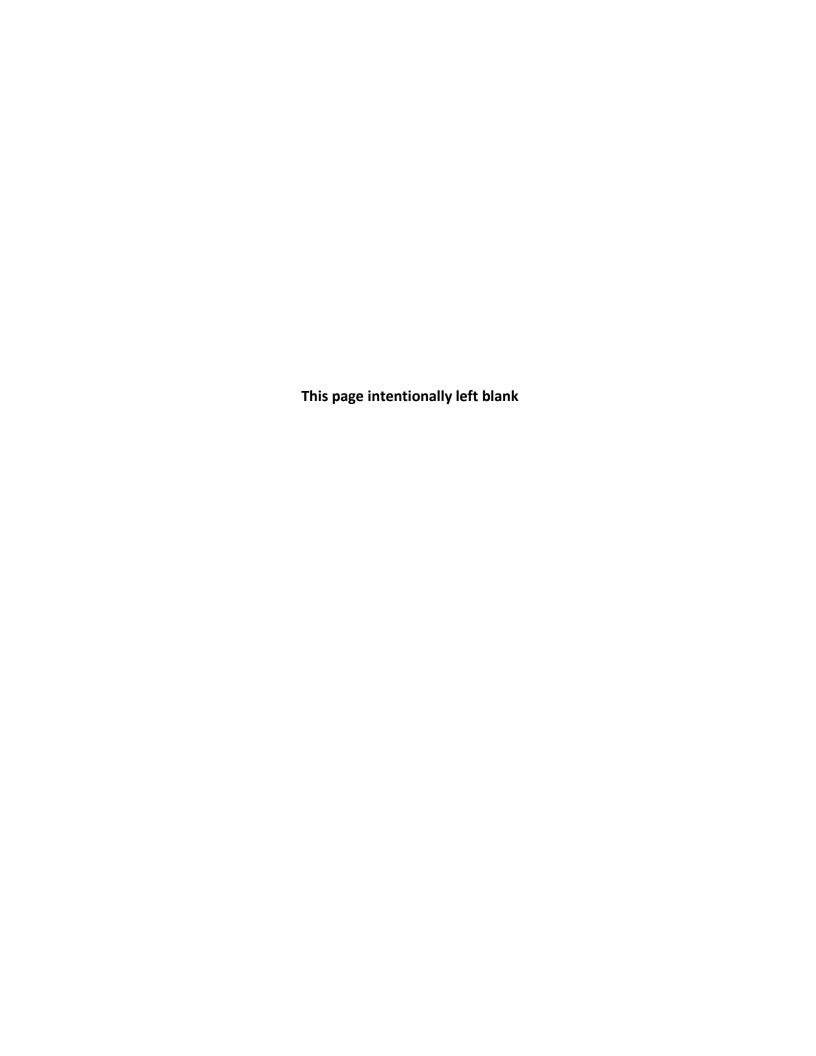
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Sustainable Packaging Coalition (/sustainable-packaging/sustainable-packaging-coalition) Additives (/directory/additives) Coatings (/directory/coatings)

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Education Hub at EastPack 2018



Business

Investors Demand Nestle, Pepsi and Others Cut Plastic Use

By <u>Emily Chasan</u> June 21, 2018, 11:57 AM PDT *Updated on June 21, 2018, 12:11 PM PDT*

A group of 25 investors managing more than \$1 trillion in assets are demanding that Nestle SA, PepsiCo Inc., Procter & Gamble Co. and Unilever NV reduce the plastic packaging, calling it environmentally damaging.

The initiative was organized by As You Sow, a nonprofit shareholder advocacy group that pushes companies to act responsibly. It was signed by investment m including Hermes Investment Management, Impax Asset Management, NEI Investments and Walden Asset Management.

"Without fundamental redesign and innovation, about 30 percent of plastic packaging will never be reused or recycled," the investors said in their Letter Letter . "These materials can persist in the environment, partially degraded, for hundreds of years, which, as well as causing damage to marine life, could also have impact by exposing companies to reputational damage."



The group is asking the companies to disclose annual plastic packaging use, set plastic use reduction goals, facilitate recycling and transition to recyclable, recompostable packaging as much as possible.

The investors said they want to push the companies to hold to those promises after five of the Group of Seven nations, excluding the U.S. and Japan, adopted https://g7.gc.ca/en/official-documents/charlevoix-blueprint-healthy-oceans-seas-resilient-coastal-communities/ aimed at significantly reducing single-use pla 2040.

Similarly, Nestle, PepsiCo and Unilever have pledged to make packaging more recyclable, compostable, biodegradable and from higher recycled content by 2

P&G aims to reduce its plastic packaging by 20 percent by 2020 and about 90 percent of its packaging is already recyclable. "We agree we must be part of the reduce plastic waste," the company said in an emailed statement.

"We share concerns about the growing accumulation of packaging waste and the need to do something to minimize its impact on the environment," Nestle sa statement. The company said it has already eliminated more than 100,000 tons of packaging materials from its production processes through last year, under environmental projects.

Pepsi and Unilever didn't immediately respond to requests for comment.

- With assistance by Lauren Coleman-Lochner, and Craig Giammona

(Adds P&G response in seventh paragraph.)

In this article

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The Guardian

Our plastic pollution crisis is too big for recycling to fix

Annie Leonard

Recycling alone will never stem the flow of plastics into our ocean. We must address the problem at the source

Sat 9 Jun 2018 06.00 EDT



'The truth is that we cannot recycle our way out of this mess.' Photograph: Daniel Leal-Olivas/AFP/Getty Images

very minute, every single day, the equivalent of a truckload of plastic enters our oceans. In the name of profit and convenience, corporations are literally choking our planet with a substance that does not just "go away" when we toss it into a bin. Since the 1950s, some 8.3bn tons of plastic have been produced worldwide, and to date, only 9% of that has been recycled. Our oceans bear the brunt of our plastics epidemic - up to 12.7m tons of plastic end up in them every year.

Just over a decade ago, I launched the Story of Stuff to help shine a light on the ways we produce, use and dispose of the stuff in our lives. The Story of Stuff is inextricably linked to the story of plastics - the packaging that goes along with those endless purchases. We buy a soda, sip it for a few minutes, and toss its permanent packaging "away". We eat potato chips, finish them, then throw their permanent packaging "away". We buy produce, take it out of the unnecessary plastic wrap, then throw its permanent packaging "away".

The cycle is endless, and it happens countless times every single day. But here's the catch - there is no "away". As far as we try to toss a piece of plastic - whether it's into a recycling bin or not - it does not disappear. Chances are, it ends up polluting our communities, oceans or waterways in some form.

For years, we've been conned into thinking the problem of plastic packaging can be solved through better individual action. We're told that if we simply recycle we're doing our part. We're told that if we bring reusable bags to the grocery store, we're saving the world. We think that if we drink from a reusable bottle, we're making enough of a difference. But the truth is that we cannot recycle our way out of this mess.

Recycling alone will never stem the flow of plastics into our oceans; we have to get to the source of the problem and slow down the production of all this plastic waste. Think about it: if your home was flooding because you had left the faucet on, your first step wouldn't be to start mopping. You'd first cut the flooding off at its source - the faucet. In many ways, our plastics problem is no different.



'We need corporations to step up and show real accountability.' Photograph: Bloomberg/Bloomberg via Getty Images

We need corporations - those like Coca-Cola, Unilever, Starbucks and Nestlé that continue to churn out throwaway plastic bottles, cups, and straws - to step up and show real accountability for the mess they've created. Drink companies produce over 500bn single-use plastic bottles annually; there is no way that we can recycle our way out of a problem of that scale.

Municipal bag, cup and straw bans like those in Morocco, Iceland, Vancouver and some US cities are a great start, but also not enough. And while clean-up efforts are helpful in addressing litter problems, they can't begin to touch the problems created by microplastics - the tiny participles of plastic that now permeate our waterways and broader environment.

Not long ago, we existed in a world without throwaway plastic, and we can thrive that way again. The world's largest corporations – with all their profits and innovation labs – are well positioned to help move us beyond single-use plastics. All over the world people are already innovating toward solutions that focus on reusing and reducing plastics. It's time to accelerate this process and move beyond half measures and baby steps. Corporations are safe when they can tell us to simply recycle away their pollution.

But we aren't buying that any more. This is their crisis to tackle. We will continue to do our part, but it's time for the world's largest corporations to do theirs. Some 322m tons of plastic were produced in 2015, and that number is expected to double by 2025. The good news is that we are at a turning point. All over the world, people and businesses are waking up to the dangers created by single-use plastic. Now, we must demand a new era that prioritizes people and planet over profit and convenience.

Annie Leonard is the executive director of Greenpeace USA

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Plastic Straws Aren't the Problem

Skipping straws may be hip. But there are much better ways to fight pollution.

By Adam Minter

29 June 7, 2018, 2:00 PM PDT



They're fine. Photographer: Patrick Pleul/DPA

New York's top cocktail bars are facing something of a crisis. A fashionable global protest movement has nightlife venues scramblingto replace their plastic strawswith more sustainable alternatives, such as paper ones, on the theory that doing so will reduce plastic waste in the oceans. It all sound virtuous -- but in reality, it's likely to make matters worse. Straws make up a trifling percentage of the world's plastic products, and campaigns to eliminate

them will not only be ineffective, but could distract from far more useful efforts.

The anti-straw movement took off in 2015, after a <u>video</u>
https://www.youtube.com/watch?v=4wH878t78bw of a sea turtle with a straw stuck in its nose went viral. Campaigns soon followed, with activists often citing http://science.sciencemag.org/content/347/6223/768 of the growing ocean plastics problem. Intense media interest in the so-called Great Pacific Garbage Patch

https://www.theguardian.com/environment/2018/jun/05/man-begins-six-month-swim-through-great-pacific-garbage-patch -- a floating, France-sized gyre of oceanic plastic -- only heightened the concern.

But this well-intentioned campaign assumes that single-use plastics, such as straws and coffee stirrers, have much to do with ocean pollution. And that assumption is based on some highly dubious data. Activists https://thelastplasticstraw.org/ and news media https://www.nytimes.com/2018/05/01/travel/straw-bans-hotels-resorts.html often claim that Americans use 500 million plastic straws per day, for example, which sounds awful. But the source of this figure https://reason.com/blog/2018/01/25/california-bill-would-criminalize-restau turns out to be a survey conducted by a nine-year-old. Similarly, two Australian scientists estimate https://phys.org/news/2018-04-science-amount-straws-plastic-pollution.html that there are up to 8.3 billion plastic straws scattered on global coastlines. Yet even if all those straws were suddenly washed into the sea, they'd account for about .03 percent of the 8 million metric tons https://jambeck.engr.uga.edu/landplasticinput of plastics estimated to enter the oceans in a given year.

In other words, skipping a plastic straw in your next Bahama Mama may feel conscientious, but it won't make a dent in the garbage patch. So what will?

A recent <u>survey https://www.nature.com/articles/s41598-018-22939-w">https://www.nature.com/articles/s41598-018-22939-w by scientists affiliated with Ocean Cleanup, a group developing technologies to reduce ocean plastic, offers one answer. Using surface samples and aerial surveys, the group determined that at least 46 percent of the plastic in the garbage patch by weight comes from a single product: fishing nets. Other fishing gear makes up a good chunk of the rest.</u>

The impact of this junk goes well beyond pollution. Ghost gear, as it's sometimes called, goes on fishing long after it's been abandoned, to the great detriment of marine habitats. In 2013, the Virginia Institute of Marine Science estimated that lost and abandoned crab pots take in 1.25 million blue crabs each year.

This is a complicated problem. But since the early 1990s
http://www.fao.org/blogs/blue-growth-blog/towards-voluntary-guidelines-on-marking-fishing-gear/en/, there's been widespread agreement on at least one solution: a system to mark commercial fishing gear, so that the person or company that bought it can be held accountable when it's abandoned. Combined with better onshore facilities to dispose of such gear -- ideally by recycling -- and penalties for dumping at sea, such a system could go a long way toward reducing marine waste. Countries belonging to the United Nation's Food and Agriculture Organization have even agreed http://www.fao.org/news/story/en/item/1099767/icode/ on guidelines for the process.

But while rich countries should be able to meet such standards with ease, in the developing world -- where waste management is largely informal -- the problem is much harder. In Indonesia, for example, one studyconcluded that fishermen have little incentive to bring someone else's net to a disposal point unless they're getting paid to do so.

That's where all that anti-straw energy could really help. In 1990, after years of consumer pressure, the world's three largest tuna companies agreed https://gps.ucsd.edu/_files/faculty/gourevitch/gourevitch_cs_kwon.pdf to stop intentionally netting dolphins. Soon after, they introduced a "dolphin safe" certification label and tuna-related dolphin deaths declined precipitously. A similar campaign to pressure global seafood companies to adopt gear-marking practices -- and to help developing regions pay for them -- could have an even more profound impact. Energized consumers and activists in rich countries could play a crucial role in such a movement.

That's a harder sell than trendy anti-straw activism, of course. But unlike those newly virtuous night clubs, it might actually accomplish something useful.

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Straws. Bottle caps. Polyester. These are the new targets of California's environmental movement











A shorebird walks amid trash that washed ashore after a storm. (Mark Boster / Los Angeles Times)





It took years of activist campaigns to turn the plastic bag into a villain, and hard-fought legislation to reduce its presence in oceans and waterways. Now, environmentalists and lawmakers are deploying similar tactics against a new generation of plastic pollutants.

There are drinking straws, which as a viral video shows can get stuck in <u>a sea turtle's nose</u>. The hundreds of thousands of bottle caps that wind up on beaches. And the microfibers that wash off polyester clothes, making their way into the ocean, the stomachs of marine life and ultimately our seafood.

Each is the subject of statewide legislation under debate in Sacramento, as California again considers new environmental law that's at once pioneering and controversial.

Their action comes as plastic takes center stage as the environmental concern du jour.

There could be more plastic by weight than fish in the world's oceans by 2050, according to a widely cited World Economic Forum report. A recent UC Davis study sampled seafood sold at local markets in Half Moon Bay and found that one-quarter of fish and one-third of shellfish contained plastic debris.

A survey comparing <u>150 tap-water samples</u> from five continents found synthetic microfibers in almost every sample — 94% in the United States. The Great Pacific Garbage Patch is at 1.8 trillion pieces of trash, <u>most of it plastic</u>, and counting. The European Commission on Monday proposed new <u>across-the-board rules</u>, including a ban on single-use plastic products "where alternatives are readily available and affordable."

The call to break the world's disposable-plastic habit is resonating, especially in California. More than half a dozen bills aimed at plastic pollution were introduced in Sacramento this year alone — by both coastal legislators and more moderate inland colleagues who see the potential damage not just in oceans but also rivers, lakes and the state's water supply. No one, they

said, wants to drink a glass of water and wonder if they're also downing a glass of plastic.

As the White House pulls back on environmental issues, California leaders say it's on them to push forward. The state, after all, was the first in the nation to ban single-use plastic bags, setting the stage for others to follow. When a state law barred exfoliating beauty products with plastic microbeads, the industry impact was so large the ban was adopted at the national level in President Obama's final year.

"What we do has not just national, but international implications. We're the fifth-largest economy in the world," said Assembly Majority Leader Ian Calderon (D-Whittier), who introduced a <u>bill</u> this year that bars sit-down restaurants from providing plastic straws unless a customer requests one. "You better believe that if we do something and it works here, everyone's going to adopt it."

Read more: Plastic trash could top 13 billion tons by 2050. And recycling doesn't help much »

Calderon has also teamed up with Assemblyman Mark Stone (D-Scotts Valley), a longtime environmental leader, on a <u>law</u> that would prohibit retailers from selling single-use plastic bottles with caps that do not remain tethered to the container after opening.

A <u>bill</u> by Assemblyman Richard Hershel Bloom (D-Santa Monica), who had authored the microbeads bill and is a co-author on the straws and caps bills, requires all new clothing made with more than 50% synthetic material have a label that warns of microfiber shedding during washing.

All three have passed committee and are expected to go to the Assembly floor this week.

These bills have sparked intense pushback by conservatives and a coalition of manufacturers and industry groups. Assemblyman Travis Allen (R-Huntington Beach), not shy to use Trumpian tactics in his campaign to be California's next governor, took to Twitter to lambaste the straw proposal.

"California Democrat Leader Ian Calderon wants to ban PLASTIC STRAWS. Is there any part of your life that Democrats don't want to control? As Governor, this is exactly the type of legislation that I will VETO."



California Democrat Leader Ian Calderon wants to ban PLASTIC STRAWS. Is there any part of your life that Democrats don't want to control? As Governor, this is exactly the type of legislation that I will VETO latimes.com/politics/essen...

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The concerns from the Plastics Industry Assn., California Chamber of Commerce, International Bottled Water Assn. and dozens of others have been more measured. Most have backed off on the straws bill, acknowledging that giving customers the option to request one was a reasonable compromise.

Their opposition questions the limited existing research on microfiber pollution and the approach of the bottle cap bill, saying these changes "would negatively impact tens of thousands of manufacturers and retailers that do business with California."

"We understand the desire to reduce plastic waste, but feel that this will not solve the problem," they said in a joint statement on the connect-the-cap bill. "A more effective approach would be to educate consumers about recycling lids with the bottles."

And while the microfiber issue is important, another coalition said, a label doesn't solve the problem, which needs more study, and would just cause confusion for consumers and create potential liability for producers.

Nate Herman, senior vice president of supply chain for the American Apparel & Footwear Assn., said an additional label would also "add extensive cost" to product development and ultimately would force companies to "add labeling to all impacted products even if being sold in other states."

Supporters say this year's suite of bills present a range of actions that could be taken to address plastic pollution: Encouraging change in consumer habits, requesting a redesign by manufacturers and raising public awareness — especially with microfiber.

Synthetic fabrics such as polyester, nylon, acrylic and spandex are everywhere, and so are their sheddings. A Patagonia <u>study</u> found that a microfleece jacket could release more than 1,000 milligrams of microfibers per wash. Laundry machines today are not equipped to filter out microfibers, usually less than 5 millimeters long, and <u>up to 40% of microfibers</u> pass through wastewater treatment plants.

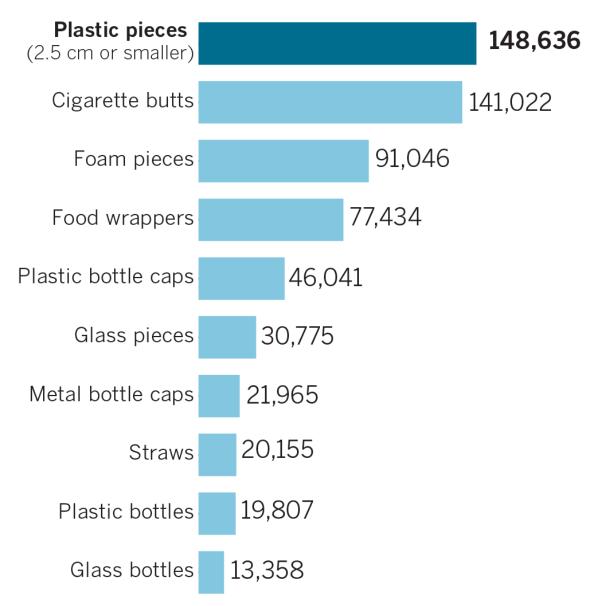
The <u>study</u>, conducted with UC Santa Barbara, found that a single treatment plant discharged 3.73 billion microfibers, estimated at 179 pounds, per day.

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One day of trash on California beaches

Hundreds of thousands of items were collected during a one-day coastal cleanup in 2017* on beaches across California.

Most common trash found on Coastal Cleanup Day



*2017 data is preliminary

Sources: Ocean Conservancy, California Coastal Commission

@latimesgraphics

Some environmentalists were disappointed the bills — AB 1884, AB 2779 and AB 2379 — didn't go further. Others say any step toward a fundamental consumer or manufacturing change helps.

This is Stone's second year trying to get bottle manufacturers to redesign lids. In last-minute efforts to work with opposition before the bill went before Assembly, he scaled back the requirement to just plastic water bottles, not all beverage bottles. Smaller companies that sell bottled beverages will also be exempt.

"Californians are becoming more interested in being responsible toward the impacts that plastics have on our environment, but trying to push through policy in Sacramento is a very different calculation," Stone said. "It took more than 125 local jurisdictions doing the plastic bag ban for the Legislature to finally say 'OK, we're going to step in."

The state's plastic bag ban, which set off one of the fiercest lobbying battles in 2014, took eight years and has paved much of the way for today's bills. In 2016, plastic bag makers spent \$6 million in an effort to convince voters to overturn the bag ban through two ballot measures. Californians upheld the ban, which went into effect at the end of that year.

Shoppers have adapted with little grumbling and the economic impacts so far have not been dramatic, advocates say. The decline in bags found on beaches has been substantial: The number of plastic bags collected on the most recent annual Coastal Cleanup Day dropped more than 60% compared to 2010.

(Los Angeles Times)





Justin Malan of Ecoconsult, which works with the Clean Seas Lobbying Coalition, says California has come a long way from the days when it was a political "pitchfork battle against just about everybody except the coastal advocates."

"This issue has become much more mainstream," Malan said.
"We don't have to fight some of those earlier environmental

fights."

Helping the momentum are the many cities that have already banned plastic straws: Malibu, Santa Monica, Manhattan Beach and San Luis Obispo.

Considering the magnitude of the plastic problem, however, this item-by-item, city-by-city approach isn't a long-term solution, Heal the Bay President Shelley Luce said.

"It's still cheaper for the manufacturer and the consumer to use single-use disposable plastic everything than it is to use a bamboo replacement or metal replacement or something that is more easily reused or recycled," Luce said. "We have to think about incentivizing new designs and helping manufacturers move toward new materials."

Sara Aminzadeh, a state coastal commissioner and executive director of California Coastkeeper Alliance, agrees that the more complete solution is part cultural, part market-driven.

"Companies will need to take responsibility for the amount of plastic that they're producing," she said, "and we need to proactively acknowledge that and include them as part of the solution."

In Malibu, where restaurants and coffee shops have been testing paper and bamboo straws before the city's ban begins this summer, owners said the new rules might be a little more costly but worth it in the long run. Colette Richardson, manager of Le Cafe de la Plage by Point Dume, said she's also switching to wooden spoons to serve the cafe's handcrafted ice cream.

Her last 10 boxes of plastic straws will be donated to a local artist, who's collecting from businesses around town to create a public sculpture.

Sitting outside, Jimmy Summerall considered what it would be like using a paper straw for the smoothie and iced coffee he had just purchased from SunLife Organics. Wouldn't it get soggy?

He's good about recycling but admits straws are not the first item he thinks of when it comes to being environmentally friendly. Summerall is not one to ask for straws, he said, and only finds himself using them when a shop sticks one in his beverage.

"I'll definitely be thinking about straws more," he said. "You really can't unsee it."

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Interested in coastal issues? Follow @RosannaXia on Twitter.

UPDATES:

3:50 p.m.: This article was updated to include the European Commission's proposed ban on single-use plastic.

This article was originally published at 3 a.m.

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Rosanna Xia covers the environment, with a focus on California's coastline. She previously reported on natural disasters and wrote articles that connected science, infrastructure and policy. With a team of reporters, she published a series in 2013 that prompted lawmakers and the public to confront thousands of buildings at risk of collapse in a major earthquake. She has also covered higher education for The Times and reported for the Business section. An East Coast transplant, she graduated from Tufts University.

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