



NEW JERSEY PLASTICS ADVISORY COUNCIL

First-Year Report

**MAY 4, 2023
FINAL REPORT**



*Ocean Advocacy
Since 1984*

Clean Ocean Action

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April 4, 2023

Dear Governor Murphy, Legislative Leaders, and Fellow New Jerseyans:

The post-World War II era of the 1950s ushered in a “throw-away society” which exploded during the 1960s as “overconsumption” and “consumerism” became the norm. Over the past 70 years efforts to curb societal hunger for single-use products and packaging have failed, as evidenced by the scale and scope of their exponential growth in manufacture, use, and disposal. According to a 2022 report by the National Academies of Sciences, Engineering and Medicine, *Reckoning with the U.S. Role in Global Ocean Plastic Waste*, the United States is the #1 generator of plastic waste. Concerted effort is needed immediately, both globally and individually, to shift our societal norm to an ethic of sustainable living.

Toward this end, Governor Phil Murphy signed into law Chapter 117 on November 4, 2020, to ban single-use paper and plastic bags in New Jersey along with dispensing of polystyrene foam food service products and single-use straws. In its findings, the Legislature noted that “*since 1950, global annual production of plastics has increased from two million tons to over 381 million tons; that approximately one third of all plastics produced are single-use plastics, and that an estimated 100 billion single-use plastic carryout bags and 25 billion Styrofoam plastic coffee cups are thrown away in the United States each year.*” These findings further highlighted the significant environmental and public health threats posed by continued reliance on single-use plastics. The Legislature ultimately determined that, “*it is no longer conscionable to permit the unfettered use and disposal of single-use plastics in the State.*”

As established and directed by the law, the Plastics Advisory Council (PAC) has met since April, 2022 to fulfill its statutory obligation to evaluate the implementation and effectiveness of Chapter 117 and to make recommendations to strengthen and enforce the law. The PAC has further begun its study of the environmental and public health impacts of single-use plastics, along with measures needed to advance plastic waste reduction and increase plastics recycling.

It is my honor to herein present to the Governor and Legislature the “first-year report” prepared by the PAC. Throughout the past year we have met, studied, and solicited input from subject matter experts across the spectrum of issues associated with plastics as directed by the Legislature. We have also engaged in collegial debate from the many perspectives that comprise PAC membership. We respectfully submit the following 20 specific recommendations for consideration by the Governor, Legislature and administrative agencies that have participated in our Council proceedings.

I wish to offer my most sincere thanks to those who gave their most valuable time to contribute to this body of work, especially our PAC members, agency staff and subject matter experts with whom we consulted. Our work proves, once again, that we can make a difference simply through coming together as a concerned community working toward a common goal.

Sincerely,



Cindy Zipf, Executive Director
Clean Ocean Action
Chair, New Jersey Plastics Advisory Council

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Acknowledgements

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Jeanne Cretella	Landmark Hospitality
Judith Enck	Beyond Plastics, Bennington College
Tim Fekete	Department of Agriculture (NJDA)
Janine MacGregor	Department of Environmental Protection (DEP)
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Loel Muetter	Department of Health (DOH)
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Mary Ellen Peppard	New Jersey Food Council
Beth Ravit	Rutgers University
John Weber	Borough of Bradley Beach

Special thanks to advisors, contributors, and researchers, especially those from the NJ Department of Environmental Protection, Division of Sustainable Waste Management and in particular Julia Rossi, Secretary of the PAC, as well as those who collected, tabulated, and prepared the metrics in Section One and provided programmatic support: Christina Page, Jill Aspinwall, Katie Greer, Seth Hackman, Nell Henry, and Erin Jensen; from the Division of Waste and UST Compliance and Enforcement, Sonya Silcox and Morgan Lojek; from the Office of Communication and Outreach, Mandy Futey, Gladys Giron, and Kaitlyn Njoroge. Importantly, experienced and knowledgeable individuals from allied organizations and agencies participated including Alan Talarsky from NJ Department of Health, JoAnn Gemenden, NJ Clean Community Council, and Melanie Willoughby, NJ Business Action Council, Lauren Lamin, NJ Business Action Center, Kari Martin, M.S. and Swarna Muthukrishnan, Ph D. from Clean Ocean Action, and Catie Douglass, Landmark Hospitality.

Primary Author, Gary Sondermeyer - Vice President of Operations, Bayshore Family of Companies, has the esteemed gratitude of the PAC for the drafting and preparation of this report. An artful thanks for the impressive graphic design to John DiFolco, Owner, Lead Designer, Axial Creative, by way of Bayshore Family of Companies.

Special Contributors and Subject Matter Experts: Numerous individuals provided valuable expertise and time which enriched the PAC’s deliberations and were essential to the success of the report. They are recognized in detail in Appendix A.

Introduction and Executive Summary

On November 4, 2020, Governor Phil Murphy signed into law P.L. 2020, c117, which prohibits the use of single-use plastic carryout bags in all stores and food service businesses statewide and single-use paper carryout bags in larger grocery stores. The law also prohibits the dispensing of polystyrene foam food service products and single-use straws. All provisions of the law became effective on May 4, 2022.

Section 7 of the statute created a “Plastics Advisory Council” (PAC or Council) to monitor the implementation and evaluate the effectiveness of the law in reducing single-use plastics and plastic waste in New Jersey. Sixteen members were appointed to the Council by the Governor. Regular meetings of the PAC began shortly thereafter in April, 2022. Chapter 117 further provides that the PAC is to prepare a written report within 12 months to evaluate the law’s implementation and effectiveness and to make recommendations for legislative or administrative actions needed to improve implementation and effectiveness. This “first-year report” was prepared to meet the obligations of Chapter 117 and is respectfully submitted to the Governor’s Office and Legislature, more specifically the chairpersons of the Senate Environment and Energy Committee and Assembly Environment and Solid Waste Committee.

Beyond the first-year report, the statute requires the PAC to study:

- the environmental and public health impacts of single-use plastics and micro-plastics;
- healthy and environmentally-friendly alternatives to single-use plastics;
- strategies and policies to increase the recyclability of plastics and reduce the amount of plastic entering the environment;
- the technological feasibility of increasing recycled content of consumer plastics and expanding the types of plastics that may be manufactured from recycled material; and
- ways to enhance the development and expansion of markets of post-consumer recycled plastic, including State and local purchasing and procurement practices.

Following study, the PAC was further directed to submit a “second-year report” to the Governor and Legislature and to make recommendations to reduce the use of plastics and the amount of plastic entering the environment, and to increase the rate of recycling plastics.

Shortly after convening, the PAC elected a Chair and Vice-Chair and formed three committees to carry out the above referenced charge. They are:

- Education, Assessment and Compliance Committee;
- Environment and Public Health Committee;
- Plastic Reduction and Recycling Committee.

Chairpersons were selected for each committee and PAC members chose on which committee they wished to serve. A decision was also made not only to address the first-year report legislative charge to evaluate the effectiveness of the implementation of Chapter 117, but also to summarize efforts during the first year to address environmental and public health impacts of plastics/microplastics, as well as strategies to reduce plastics and increase recycling.

Procedurally, and with minor exception, the PAC met monthly as did each of its committees. Meeting minutes were taken at each meeting, distributed to membership, and approved at the next monthly meeting. First-year workplans were prepared by each committee which served as an outline of objectives, milestone deadlines and deliverables needed to inform the first-year report. Experts were consulted to provide background and perspectives which educated PAC members and helped inform the suite of first-year report recommendations that follow.

The first-year report is presented in four sections:

Section 1 represents the PAC evaluation of the implementation and the effectiveness of Chapter 117 during the first year following the effective date;

Section 2 provides a concise summary of PAC recommendations or “Opportunities for Action” pursuant to the statute;

Section 3 frames the focus areas the PAC plans to address in a workplan for the upcoming year that will inform development of its second-year report;

Section 4 includes various Appendices of background information regarding resources reviewed and subject matter experts consulted:

- Appendix A: Listing of subject matter experts consulted and presentations provided to the full PAC and to individual committees;
- Appendix B: Bibliography of resources consulted by the PAC during the first year;
- Appendix C: Full copy of P.L. 2020, Chapter 117.

To ensure robust and comprehensive evaluation and furtherance of the legislative goals, Chapter 117 called for diverse membership in the PAC. In summary, three members from State agencies (DEP, DOH and NJDA), four members from the environmental community, four representing stores and food services businesses, two from the academic community and one each from the recycling and polystyrene industries and local government. Throughout the past 12 months, PAC members have worked cooperatively through the above referenced committees and in monthly PAC meetings in an attempt to develop consensus recommendations to present to the Governor and Legislature. By and large, this was achieved as the vast majority of the “Opportunities for Action” reflect consensus positions. However, given the mission of some of the organizations participating in the PAC, this was not possible in all cases. As a result, an opportunity to express dissent was afforded to all members. Dissenting views are provided at the end of Section 2.

The first-year study by the PAC has identified 20 “Opportunities for Action” outlined in Section 2. For each Opportunity for Action, the PAC has attempted to identify specific recommended actions to be taken. From these recommendations, a number of themes have emerged which can be concisely summarized as follows:

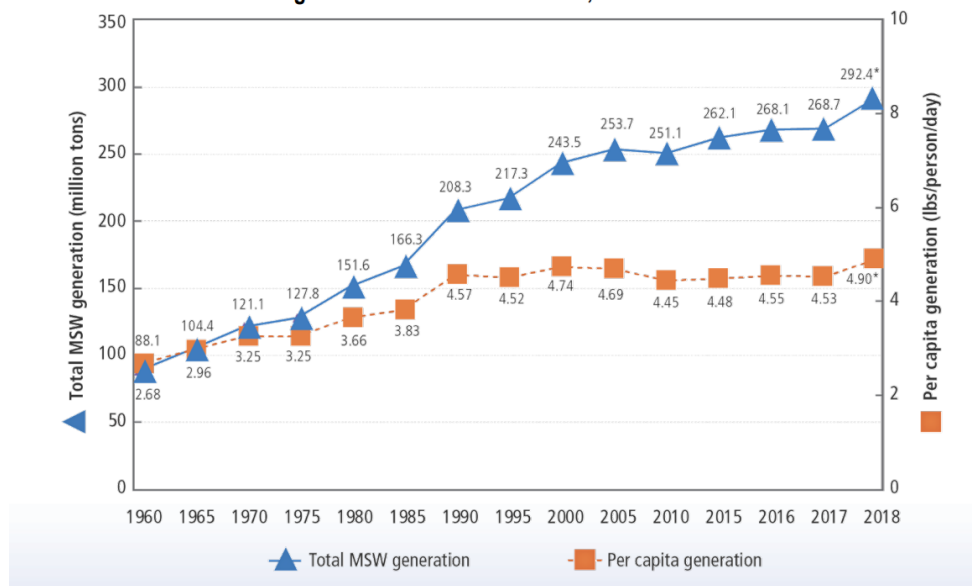
Implementation of Chapter 117 has been highly effective: There is little question that the law has been effective in reducing single-use bags. From survey work conducted by the New Jersey Food Council, it can be extrapolated that approximately 5.5 billion single-use plastic bags and 110 million single-use paper bags were eliminated from entering the waste stream and environment by the supermarket sector alone from the effective date of the law on May 4, 2022 through the end of

the year. It is likely that far more single-use plastic bags and paper bags were reduced this past year, which the PAC will attempt to further quantify in its second-year work. Compliance inspections conducted by DEP, County Environmental Health Act agencies and municipalities showed relatively few violations and those cited were quickly addressed (for a full discussion, see Section 1 – DEP Compliance and Enforcement Data). Also, Clean Ocean Action’s 2022 Beach Sweeps report compared data from 2021 to 2022 and showed a significant decrease in litter collected from items targeted by the Get Past Plastic Law, with 37.31% fewer single-use plastic bags, 39.04% fewer plastic straws, and 37.84% less foam waste found along the Jersey Shore. Finally, the education campaigns implemented by DEP, the Clean Communities Program and New Jersey Business Action Center, as well as private sector associations such as the New Jersey Food Council and New Jersey Restaurant and Hospitality Association, clearly reached NJ consumers and businesses. Over 3.2 million hits were recorded on the websites of these three agencies for only portions of the year. Five of the “Opportunities for Action” outlined in Section 2 of this report address ways of increasing the effectiveness of Chapter 117 in subsequent years, as follows:

- Opportunity for Action #1 to address the unanticipated problem of reusable bag build-up at the consumer level as an unintended consequence of the dramatic increase in home grocery delivery services during the pandemic;
- Opportunity for Action #2 to assess the need for clarifications related to some key definitions provided in Chapter 117 through rulemaking from the DEP anticipated in 2023;
- Opportunity for Action #3 which recommends evaluating the need for establishing an analytical testing procedure to determine compliance of reusable bags placed in the marketplace with Chapter 117, as currently exists in the State of California;
- Opportunity for Action #4 to establish uniform enforcement procedures, standards and reporting by State, county and local environmental and public health inspectors;
- Opportunity for Action #5 to clarify for food-service businesses the requirements related to dispensing of straws, including such items as customer signage, specific instructions for food-service employees and the use of alternative products, particularly at self-service stations in restaurants and common public places.

Waste reduction must be our future focus: In popular nomenclature we often speak of the “3-R’s” of Reduce, Reuse, Recycle. Since the Resource Conservation and Recovery Act (RCRA) was passed at the national level in 1976, the societal responsibility for solid waste management and, later recycling, was delegated by the Federal government to the 50 states and localities. Historically, nearly all programmatic focus by states and localities has been on only “1” of the “3-R’s,” recycling. Both nationally and in New Jersey waste reduction efforts have largely been ineffective. The following table from the USEPA’s “Advancing Sustainable Materials Management: 2018 Fact Sheet” (most recent data available) graphically tells the tale in presenting some 58 years of municipal solid waste generation data. The bottom line: we continue to generate more waste each year, even when population increases are accounted for through per capita waste generation estimates.

Figure 1. MSW Generation Rates, 1960 to 2018*



Toward the future of effectively addressing plastics in our environment, our focus must primarily shift to reducing the amount of plastic manufactured and plastic “waste” produced that goes to disposal (landfills or incinerators) or ends up on the land, in the waterways, and in the ocean. Throughout the past year the PAC has studied this issue and has presented five “Opportunities for Action” to advance plastic and overall waste reduction. Section 2 of this report addresses plastic waste reduction in:

- Opportunity for Action #6, which recommends a statewide waste reduction public education campaign;
- Opportunity for Action #7, which recommends a related and expanded Get Past Plastic promotional campaign;
- Opportunity for Action #13 which recommends executive action to promote plastic waste reduction at all public facilities and identification of ways to extend reduction programs to the county and municipal level;
- Opportunity for Action #14 to expand waste reduction and recycling in New Jersey’s 2,500 public schools through the vehicle of the “Sustainable Jersey” program;
- Opportunity for Action #17 to remove regulatory barriers to foster a true “reuse and refill” green business economy.

Effective plastics recycling must be improved and made easier: According to 2018 USEPA national data, plastics make up approximately 12.2 % of the municipal waste stream. Overall recycling of plastics nationally is very low (4.5%) compared to other recyclable commodities like paper and paperboard (66.5%) and metals (12.6%). This is largely due to the degree of difficulty in recycling plastics used in product packaging by manufacturers. Some elements of plastic recycling, however, are effective. Although low, the national recycling rate of #1 PET bottles and jars (e.g., soft drinks, cooking oils) was 29.1% in 2018 and #2 HDPE natural bottles (e.g., milk and water bottles) was 29.3%. New Jersey recycling rates for all plastics (11.14%) are considerably higher than national figures (4.5%) but still low compared to other recyclable commodities.

Combined plastic container recycling of PET and HDPE in New Jersey is estimated at 50.65% where total container recycling (including glass, steel, aluminum cans and plastic containers) averages closer to 60%.

In addition to historically low recycling percentages, no material within the recycling stream causes more confusion and challenges than plastic. The International Plastic Resin Coding System confuses consumers, as do different requirements for plastic recycling in New Jersey's 21 counties. The Resin Code numbers have come to represent how recyclable a container or package is, with #1 and #2 plastics required for recycling in every New Jersey County Recycling Plan, while some also include #5, and some processing facilities welcome all 1 – 7 to be included for curbside collection. This causes great public confusion as to what plastic containers are or are not recyclable and results in “wishful recycling” creating unprecedented levels of contamination in the plastic recycling stream. Section 2 of this report identifies five “Opportunities for Action” related to improved plastics recycling which, to some extent, mirror the recommendations of the New Jersey Recycling Market Development Council in their final report released in April, 2022:

- Opportunities for Action #6 and #7 noted previously to advance a public education and Get Past Plastic promotional campaign;
- Opportunity for Action #13 which recommends executive action to advance public sector recycling efforts;
- Opportunity for Action #18 which recommends studies to determine the efficacy of standardizing requirements for PET (#1), HDPE (#2) and PP (#5) recycling Statewide as opposed to county-by-county;
- Opportunity for Action #19 to investigate the re-establishment of a low interest loan recycling equipment infrastructure funding program.

Reduction of microplastics released to the environment: The PAC is also charged with studying public health and environmental impacts associated with the manufacture and use of plastics including microplastics. The Camden County Municipal Utilities Authority performed an “optimization study” to review how system enhancements can increase the efficiencies of plastics removal during the wastewater treatment process. Based on this experience, the PAC recommends that the DEP bring together the 10 largest wastewater treatment plants in New Jersey to seek the performance of voluntary optimization studies without changing prescriptive standards applicable in DEP permits. If successful, such optimization studies could be performed at smaller wastewater treatment plants located across the State as well. Similarly, microplastic and microfiber release to the environment could be decreased through better filtration built into the manufacturing of new washing machines. It is estimated that as much as 30% of microplastics released to the environment come from the washing of clothing in the home and commercial laundries. Five “Opportunities for Action” have been identified by the PAC to address the reduction of microplastics and microfibers to the environment:

- Opportunity for Action #8 which specifically calls for the DEP to lead an effort with the 10 major wastewater treatment plant operators in the State to perform voluntary optimization studies;

- Opportunity for Action #9 that provides PAC support for legislative action to further study and develop incentive programs to limit microplastics in drinking water, while reserving judgment on the details of such legislation;
- Opportunity for Action #10 which recommends a subcommittee of the PAC to review legislation passed in France and proposed in Canada, California and Oregon to require manufacturers to install advanced microfiber filtration systems in new washing machines;
- Opportunity for Action #11 to establish New Jersey academic institution collaboration regarding integrated microplastic and nano-plastic research;
- Opportunity for Action #12 to investigate and capitalize on microplastics research and regulatory models developed in other states and countries.

Additional legislation, now pending, will guide the future of waste reduction, recycling and sustainable materials management in New Jersey.

On January 19, 2022, Governor Murphy signed into law the “Recycled Content Act.” This law will require manufacturers to utilize certain percentages of post-consumer recycled content when manufacturing new products, which increase over time based on different material schedules established in the statute. The law is primarily focused on plastic beverage containers, rigid plastics, plastic garbage bags and glass, along with an outright ban on the use of polystyrene packaging peanuts. While not yet fully implemented, the Recycled Content Act will be extremely important to further develop markets and increase demand for post-consumer materials, including plastics. The next “frontier” in materials management public policy is “Extended Producer Responsibility” (EPR), where “producers” (manufacturers) take responsibility for their products and packaging once those materials are in the waste stream. EPR shifts the economic burden of the cost of materials management from the public to the producer of the product. In 2022, the Legislature introduced the “Product Packaging Stewardship Act” (S426/A1444) which would establish an EPR framework for New Jersey. The States of Maine, Oregon, California, and Colorado have adopted EPR laws, none of which have yet reached the full implementation phase. The PAC supports the adoption of strong EPR legislation in New Jersey. Related to public education about plastics recycling is the issue of claims made by manufacturers regarding the recyclability or biodegradation potential of products or packaging. In March of 2022, “Truth in Labeling” legislation was introduced in the New Jersey Senate as S2145. Three “Opportunities for Action” were identified by the PAC in Section 2 of this first-year report related to the referenced legislation and the legislative process itself:

- Opportunity for Action #15 supporting the need for a “Product Packaging Stewardship Act” proposed in the New Jersey Senate, and for which the PAC has identified guiding principles that should be addressed toward implementation of a balanced and effective EPR platform for the State;
- Opportunity for Action #16 supporting the concept of “Truth in Labeling” legislation which the PAC will study further as part of its second year workplan;
- Opportunity for Action #20, which recommends improved dialogue between legislative leaders and State agencies like the DEP/DOH prior to the introduction of major bills related to plastics (and other sectors related to materials sustainability). The recommendation also proposes the provision of general appropriation funding to meet staffing and resource needs within legislation, as opposed to the authorization to assess fees through rulemaking, a

time-consuming process that may not produce the funds or staff needed to successfully implement new laws in a timely fashion.

Section 3 of this first-year report, “Second-Year Plastics Advisory Council Workplan,” outlines the work proposed to be undertaken by the PAC to further evaluate the implementation and effectiveness of Chapter 117. It frames what is needed for effective plastics waste reduction, measures to improve plastics recycling, and study needed to evaluate the environmental and public health implications of plastics in our environment, as well as the issues concerning biodegradable and compostable plastic. This section of the first-year report presents two lists of the 20 Opportunities for Action bullets outlined in Section 2. The first are actions which the PAC plans to undertake itself. The second are those actions suggested by the PAC for the DEP and DOH to undertake for discussion in the second-year report.

Disclaimer: This report reflects the viewpoint of the Plastics Advisory Council and does not represent the administration’s commitments to legislation or funding.

Plastics Advisory Council Membership

Chair: Cindy Zipf, Executive Director, Clean Ocean Action

Vice-Chair: Gary Sondermeyer, Vice President of Operations, Bayshore Family of Companies

Commissioner of Environmental Protection Designee: Janine MacGregor, Director, Division of Sustainable Waste Management

Commissioner of Health Designee: Loel Muetter, Director, Consumer, Environmental, and Occupational Health Service

Secretary of Agriculture Designee: Tim Fekete, Soil Erosion & Sediment Control Specialist

Two Members of the Academic Community:

- Judith Enck, Bennington College, Professor
- Beth Ravit, Rutgers University, Retired

Four Members Representing the Environmental Community:

- Nandini Checko, Association of New Jersey Environmental Commissions, Project Director
- Melissa Miles, New Jersey Environmental Justice Alliance, Executive Director
- Amanda Nesheiwat, Hudson County Improvement Authority, Deputy Director of Sustainability and Community Outreach
- Cindy Zipf, Clean Ocean Action, Executive Director

Four Members Representing Stores and Food Service Businesses in the State:

- Gary McElyea, Coca-Cola, Group Director
- Jeanne Cretella, Landmark Hospitality, President
- Charles Malaniak, LKQ Corporation, Director Environmental Compliance
- Mary Ellen Peppard, New Jersey Food Council, Vice President

One Member Representing the Polystyrene Foam Industry: Christine Cassidy, Dart Container Services, Recycling Manager

One Member Representing the Recycling Industry: Gary Sondermeyer, Bayshore Recycling, Vice President of Operations

One Member Representing Local Government: John Weber, Councilman, Borough of Bradley Beach

Section 1: Evaluation of the Implementation and the Effectiveness of Chapter 117

There are many metrics that were considered to evaluate the success of Chapter 117. The most important is a most simple one. The PAC can report that since its effective date of May, 2022, Chapter 117 had the direct effect of eliminating approximately 88 million single-use plastic bags from New Jersey's environment per month, as represented by data from 160 grocery stores and 275 convenience stores surveyed. This number is certainly an underestimation, as New Jersey is home to approximately 6,000 grocery stores. Considering the 55 million bags eliminated per month by the grocery stores surveyed, the eight months that the law was in effect for 2022 (May-December 2022) resulted in an estimated 16.5 billion plastic bags eliminated in the state from grocery stores alone. This number does not include all the other types of stores in New Jersey subject to the law. If this data were available, estimates for the numbers of bags eliminated would certainly be much higher. More information on elimination of plastic and paper bags is found within this section of the report.

Introduction

Shortly after convening the PAC, a committee structure was created to address the statutory obligations outlined by the Legislature in Chapter 117. Within the 16-member council, three 5-member committees were created with the PAC Chair participating in all three.

The committee to evaluate the implementation and effectiveness of Chapter 117 during the first year after the effective date of the Act was titled the Education, Assessment, and Compliance Committee. (The specific statutory references to the work of this Committee can be found in Section 6.a. and c. and Section 8.a. and b. of the statute, please refer to Appendix C).

One of the first tasks of the PAC and the Education, Assessment and Compliance Committee was to identify what metrics could be used to evaluate progress and success, determining if such information existed, and then gathering and evaluating the data. Data were collected from DEP, DOH, and other organizations to assess the available metrics that could be used to evaluate the effectiveness of the law in reducing the use of single-use carryout plastic bags, single-use paper bags, polystyrene foam food service products and single-use plastic straws. Prior to the implementation of Chapter 117, there were several organizations that collected litter data, but very few that collected the detailed litter information necessary to document the effectiveness of Chapter 117. Further challenges for the PAC were the lack of data on the number of single-use plastic bags that were sold or brought into the State and the lack data on the number of plastic straws or polystyrene foam used in food service businesses.

Despite these challenges, it is possible to conclude that the implementation of Chapter 117 was very successful. As mentioned above and based on reported data obtained by the New Jersey Food Council from a very small percentage of the food businesses within the State, implementation of Chapter 117 had the direct effect of eliminating approximately 88 million single-use plastic bags per month from New Jersey's environment.

The metrics presented below were gathered by the DEP Solid Waste Compliance and Enforcement (SWC&E) Program, New Jersey Clean Communities, the New Jersey Food Council, Clean Ocean Action (COA) and the New Jersey Restaurant and Hospitality Association and are presented in the three categories: Public Outreach and Implementation, Effectiveness, and Compliance. The combination of the data shows that within one year, Chapter 117 was successfully implemented and has been effective in achieving the mandates therein.

PUBLIC OUTREACH and IMPLEMENTATION METRICS

Prior to the implementation of Chapter 117, the DEP partnered with New Jersey Clean Communities and New Jersey Business Action Center to establish a campaign designed to educate the residents and businesses of New Jersey on the law. Together, this campaign included over 50 educational trainings, three educational websites, effective social media messaging and multiple mass media events in multiple languages. The metrics presented below show how each partner used their strengths to provide a successful educational campaign.

New Jersey Clean Communities Council: Bag Up NJ Multimedia Advertising Campaign

As required by Chapter 117, the New Jersey Clean Communities (NJCC) was mandated to develop and implement a statewide public information and education program. This program was required to include educational programs, public service announcements, and the distribution of free reusable carryout bags throughout the State. The NJCC implemented this multimedia campaign that, based on data provided by their advertisement management company, is estimated to have reached over 17 million people. To assist the NJCC in the development and implementation of the required task, the DEP was required to provide \$500,000 from the DEP's Clean Communities Program Fund to the NJCC for the first three years of the Chapter 117 effective date.

The NJCC hired an advertisement management company to create the Bag Up NJ multimedia campaign. This outreach initiative aimed to educate New Jersey residents about Chapter 117, reminding residents to bring their own bags to stores when they shop. The Bag Up NJ website, which has since been changed to Litter Free NJ, [Litter Free New Jersey \(litterfreenj.com\)](http://litterfreenj.com) offers many resources for both members of the public and businesses and has gained an immense amount of exposure. In addition, various advertising strategies from the campaign have now reached millions of people. Educational and informational materials such as the examples below are being used throughout the state by many businesses to convey the message that when you go grocery shopping, you need to bring a reusable bag.



The campaign was further displayed in various locations including public spaces like the Port Authority Trans Hudson (PATH) stations, billboards, and businesses; radio; web banners; social media; and daily email newsletters. The media type employed varied depending on the location and allowed for a greater exposure of the campaign to the residents of New Jersey. In addition, many of the radio ads were conducted in both Spanish and English. For example, using audio formats consisting of seven radio stations and one podcast enabled an estimated 1.3 million listeners to be made aware of the campaign. The use of web banners on several digital news and entertainment websites like nj.com and TAPinto reached an estimated 540,000 people. Subscribers to the TAPinto newsletter were periodically reminded of the law upon receiving their daily newsletter via email and finally, residents were further exposed to the campaign on social media through promotional posts uploaded by TAPinto on their Facebook and LinkedIn pages.

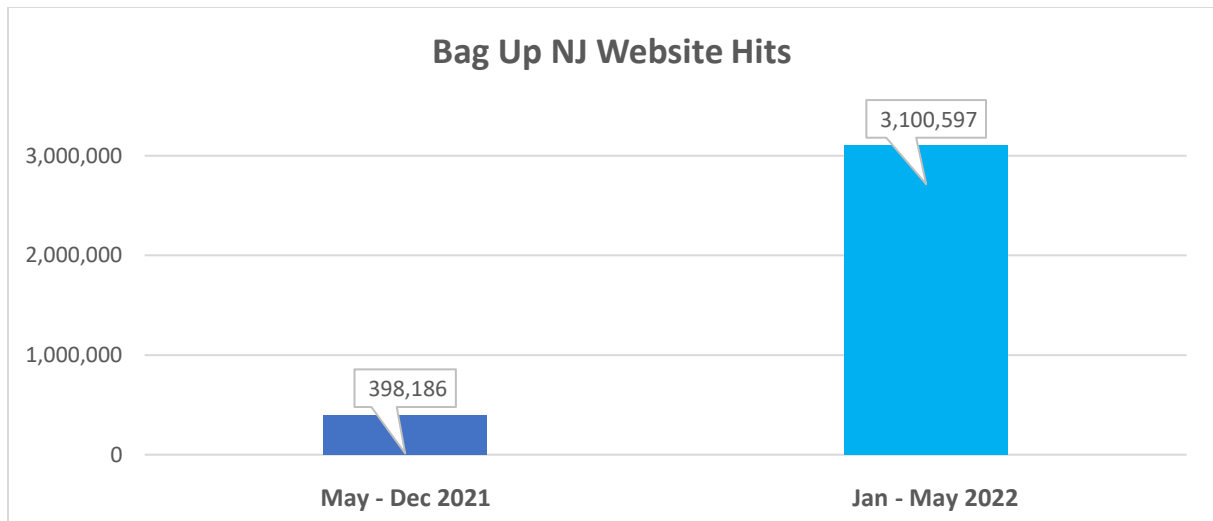
Businesses were given many tools to assist their customers in the implications of Chapter 117, such as various educational signage including sandwich boards, tent cards and postcards to spread the message to Bag Up when shopping.

The campaign was further displayed throughout New Jersey with the placement of placards (advertisements) on the side of eight New Jersey Transit buses. In addition, seven New Jersey Motor Vehicle Commission (MVC) inspection locations displayed signage relating to the Bag Up NJ campaign for a total of eight weeks. The MVC is the most public-facing NJ State agency, so these promotions reached many residents of New Jersey due to the high volume of people in and out of inspection stations on a daily basis as well as the number of people on the roads who would see the New Jersey Transit buses.

As a result of the campaign, the NJCC noted an increase in website traffic leading up to the effective date of the law. This partnership included educational videos featuring the DEP Commissioner, a kindergarten through grade 12 public service announcement contest, and many combined panel discussions at statewide events like the Solid Waste Association of North America (SWANA) annual conference, the League of Municipalities conference and other events listed in additional detail below. All these efforts led to increased awareness and outreach.

New Jersey Clean Communities: Bag Up NJ Website

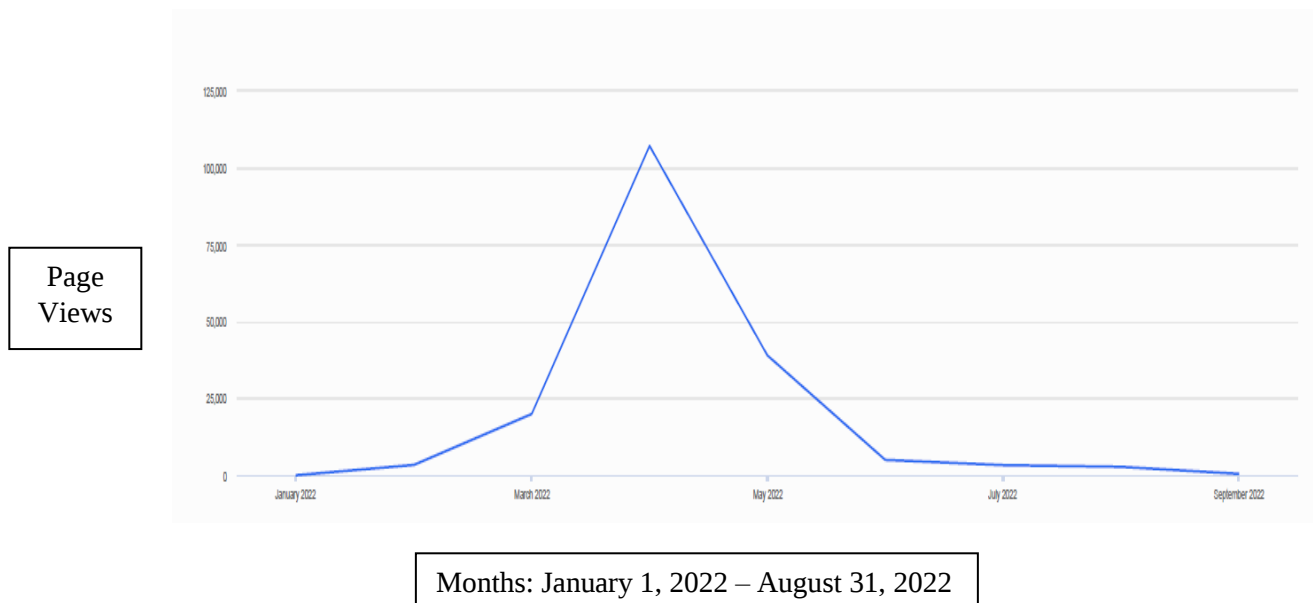
The graph below depicts the increase in web traffic to the Bag Up NJ website during the year leading up to the effective date of Chapter 117. This timeframe is when a majority of the outreach and education campaign took place, and the success of the outreach is demonstrated by the 678% increase in website hits in the five-month time-period between January and May 2022 compared to the seven-month time period of May through December 2021.



DEP: Get Past Plastic Page

The DEP developed the Get Past Plastic campaign as a companion to the Bag Up NJ campaign. As part of this campaign, the DEP developed the DEP Get Past Plastic website (<https://dep.nj.gov/get-past-plastic/>). This website offers guidance and resources for the residents of New Jersey to understand the law, including, the full legislation, Frequently Asked Questions (FAQs), DEP contact information, as well as the contact information of the DEP's partners.

The total volume of internet traffic received by the DEP Get Past Plastic website from January 1, 2022, through September 6, 2022, totaled 204,789 page views, which are counted as the number of times a page is loaded by a browser. The graph below depicts that as May 4, 2022 approached the internet traffic received by the website began to rise and peaked just before Chapter 117 went into effect, followed by a decline as the law was implemented.



DEP Social Media Presence

In addition to the Get Past Plastic webpage, the DEP used its broad social media presence on several platforms including Facebook, Instagram, and Twitter to provide information to the residents of New Jersey. The DEP's most popular Facebook post related to Chapter 117 reached over 2,000 people on March 16, 2022. Also, during the month of April 2022, the hashtag #GetPastPlastic received the third highest number of users on the DEP Facebook page. This post is shown below.

It's May 4, 2022, and you're checking out at the local supermarket. You smile at the cashier and make your way to the end of the checkout area to help bag your groceries with your reusable carryout bag. All's right with the world.

And it is! Because starting May 4, the State of New Jersey is taking another step toward a more sustainable future by restricting the use of single-use plastics and polystyrene foam food service products in stores.

So, stock up on reusable bags and #GetPastPlastic with us.

For more information, check out our infographic below or visit <http://www.nj.gov/dep/get-past-plastic/>.

#SkipTheStraw #BagUpNJ #recycleright #singleuseplastic #newjersey

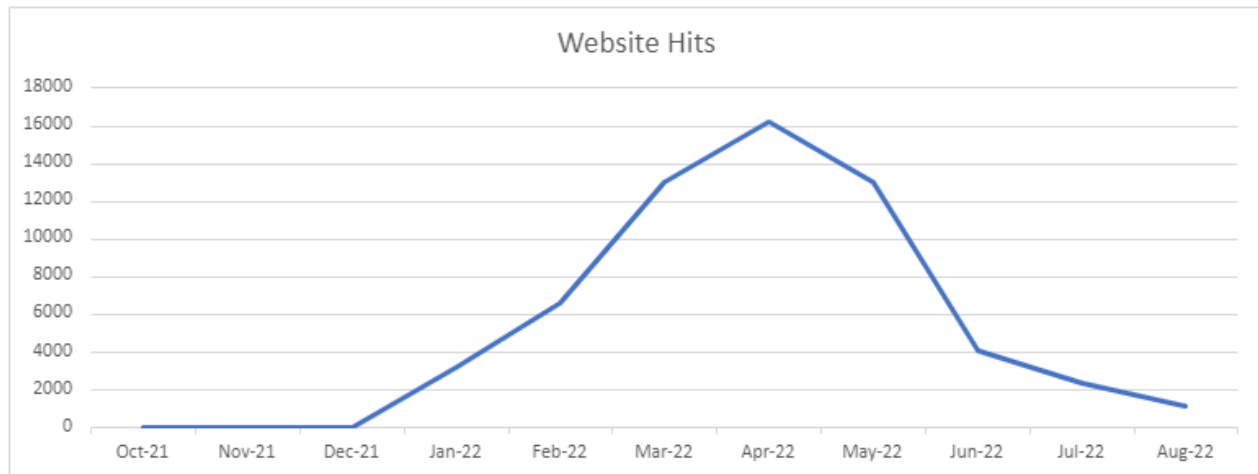


New Jersey Business Action Center: Plastic Ban Resources

The New Jersey Business Action Center is a business advocacy team within the Department of State that assists business owners with solving problems and growing their businesses in New Jersey. The New Jersey Business Action Center, as an affiliate of the Department of State, was required by Chapter 117 to establish a program to assist businesses in complying with the law. This program was required to develop and publish guidance and compliance information on their website and establish an online clearinghouse of vendors who provide environmentally sound alternatives to single-use plastic carryout bags, single-use paper carryout bags, polystyrene foam food service products, and single-use plastic straws. The New Jersey Business Action Center website <https://business.nj.gov/bags/plastic-ban-law?locale=en>, includes all the required educational information as well as the vendor clearing house.

The New Jersey Business Action Center's website traffic grew in the months leading up to the effective date of Chapter 117. The uptick in traffic was due, in part, to the large number of education programs, mainly webinars, which were held in partnership with DEP and the New Jersey Clean Communities Council.

Hits



Months: October 2021 – August 2022

In addition to creating website content, New Jersey Business Action Center outreach included social media presence and a multimedia campaign with educational events held for business owners from early 2021 through the middle of 2022. The events were offered to all who wished to learn more about Chapter 117 and included multicultural business associations, downtown associations, Business Improvement Districts, and Special Improvement Districts. Overall, the New Jersey Business Action Center outreach resulted in:

- Average of 2,470 monthly views of webpage, with jumps in April and May 2022
 - Total of 59,612 views between 2021-2022
- 6 public service announcements
- 17 press releases
- 39 Facebook posts gaining 4,943 total views and 107 likes
- 57 education programs
- 125 vendors registered on the vendor clearinghouse
- Monthly postings about the law to raise awareness of single-use plastic alternatives

Since the Business Action Center focused on businesses, this outreach effort combined with those of the NJCC and DEP allowed for an even broader outreach of the Bag Up NJ campaign, enabling businesses to fully prepare for the changes brought on by Chapter 117 and further assisting in implementation of the law.

Recycle Coach Metrics

Recycle Coach is an online and mobile resource that provides recycling information to New Jersey residents, and which is made available for use by all municipalities and residents through a grant from the DEP.

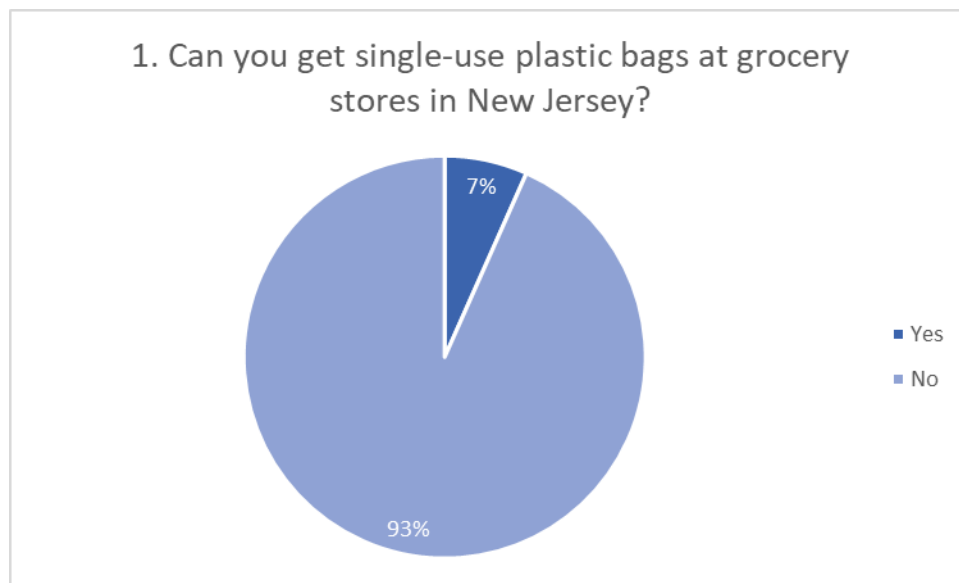
Recycle Coach supported the DEP's Get Past Plastic and the Bag Up NJ campaigns with a four-month educational campaign on their mobile app in partnership with NJCC and the DEP. This

educational campaign included infographics, linking informational videos, survey questions, and blog posts. Since Recycle Coach is available in most New Jersey counties, participants using the app are generally more familiar with recycling practices and are familiar with Recycle Coach's features and educational survey questions.

During this campaign, Recycle Coach reported that approximately 13,000 participants watched provided videos and approximately 14,000 participants viewed Get Past Plastic infographics. Additionally, approximately 6,000 participants using the Recycle Coach app were offered the opportunity to participate in survey questions, which tested their knowledge of recycling and provided the participants in the survey with the answer to the survey question after each question. While a small percentage of the number of New Jersey residents responded to the survey, the results presented below indicate the 6,000 respondents did have an understanding of the provisions of Chapter 117. This survey was available from July 1 through July 31, 2022. The details are as follows:

Question 1: Can you get single-use plastic bags at grocery stores in New Jersey?

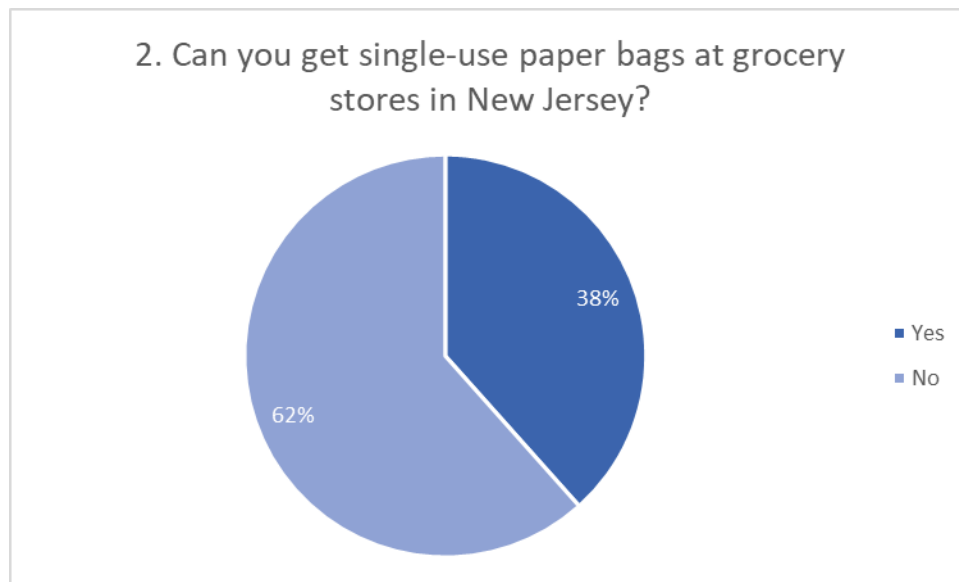
The first question of the survey evaluated participants' knowledge regarding the availability of single-use plastic bags in grocery stores. 389 (7%) participants responded 'Yes', but 5,440 (93%), an overwhelming majority, responded 'No', which demonstrates that by July 2022, most respondents were aware of the law, indicating success of the DEP's Get Past Plastic campaign. The message displayed after participants answered this question stated "New Jersey grocery stores will no longer provide plastic bags. Please bring reusable bags when you go shopping."



Question 2: Can you get single-use paper bags at grocery stores in New Jersey?

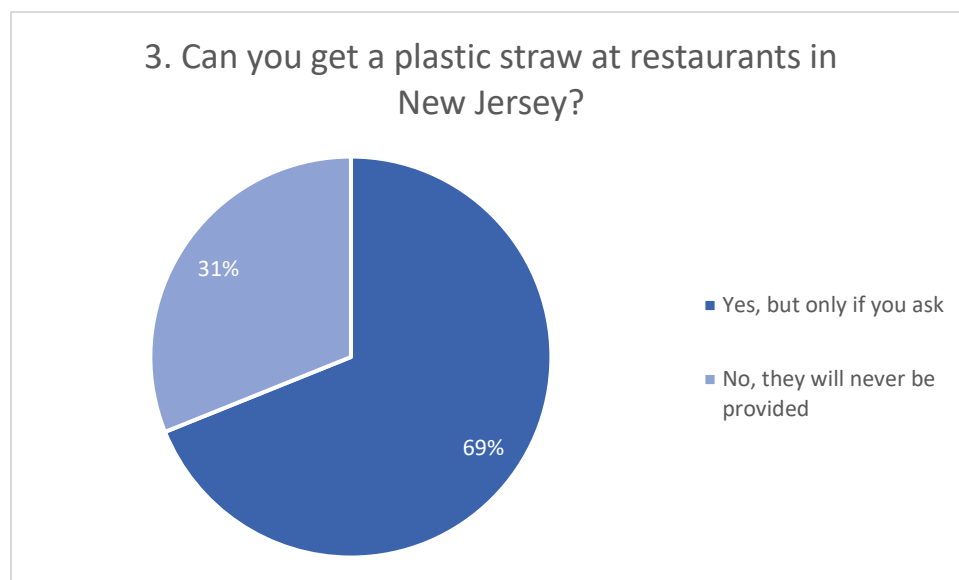
This question evaluated participants' knowledge regarding the availability of single-use paper bags in grocery stores. When asked if paper bags were available, 2,201 (38%) responded 'Yes', while 3,532 (62%) responded 'No'. This indicates that respondents were not as aware that single-use paper bags were eliminated in grocery stores or that grocery stores had not fully implemented the law; however, nearly two-thirds of respondents were aware. The elevated percentage of incorrect responses may be due to the DEP's Get Past Plastic campaign focusing on single-use plastics over

paper bags, but it was still effective because most respondents were still aware. The message displayed after respondents answered the survey question stated “New Jersey grocery stores will no longer provide paper bags either. Please bring reusable bags when you go shopping.”



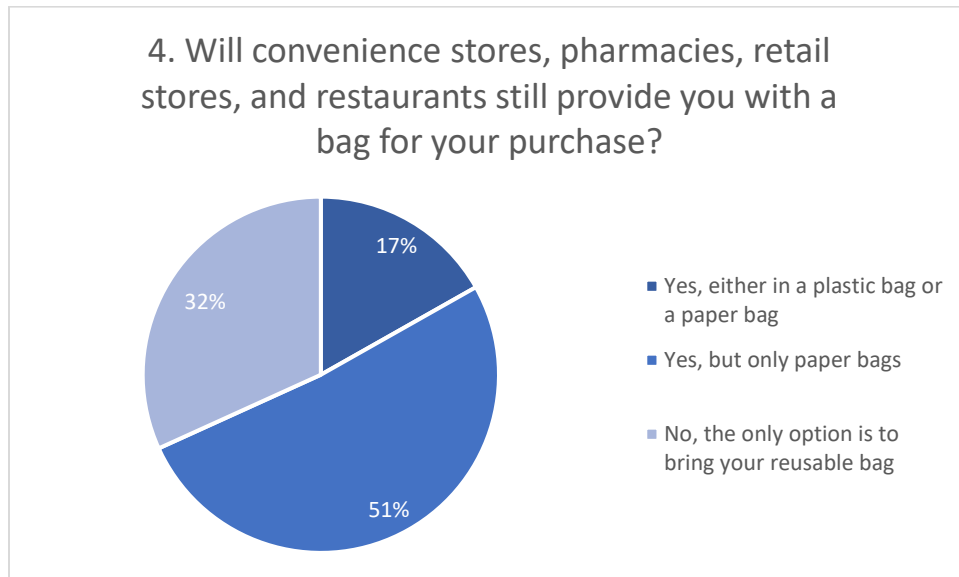
Question 3: Can you get a plastic straw at restaurants in New Jersey?

When surveyed about the straw portion of the law, 3,885 (69%) of the respondents knew that single-use plastic straws would be available by-request only, while 1,753 (31%) of the respondents believed plastic straws were banned entirely. Upon answering the question, the survey provided the following message to the participants to ensure they understood the language of the law. The message stated “New Jersey restaurants will no longer automatically provide plastic straws. You are still able to get a straw if you ask for it. Some restaurants may choose to move to paper straws instead of plastic.”



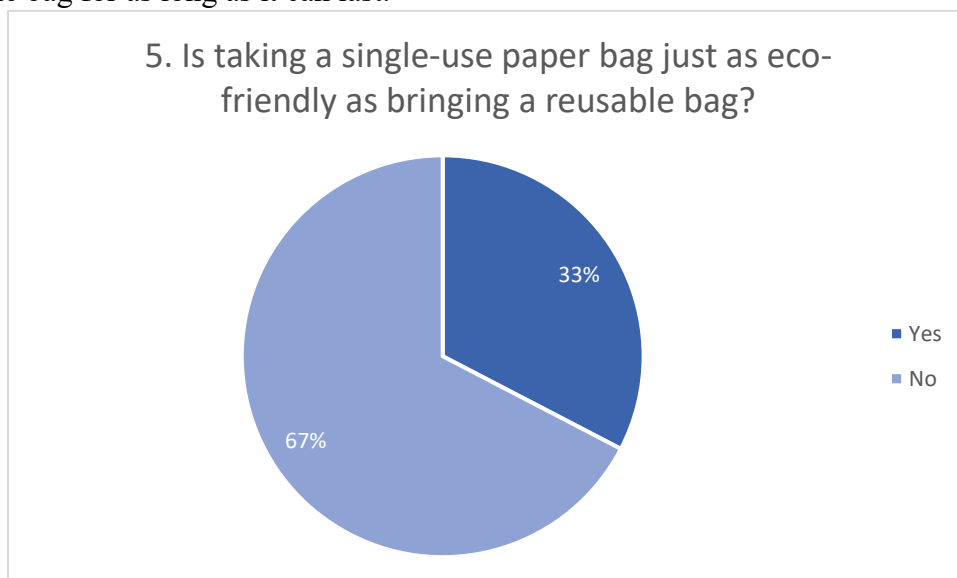
Question 4: Will convenience stores, pharmacies, retail stores, and restaurants still provide you with a bag for your purchase?

This question tested participants' knowledge of the scope of the law outside of grocery stores. A little over half of the respondents totaling 2,809, (51%) answered that retail establishments and restaurants could still provide paper bags. 1,737 participants (32%) believed no bags would be available, and 919 (17%) believed paper or plastic bags would be available. The message after responding stated "Convenience stores will no longer provide plastic bags. They can provide shoppers with paper bags, but it is still a great idea to bring your own bag."



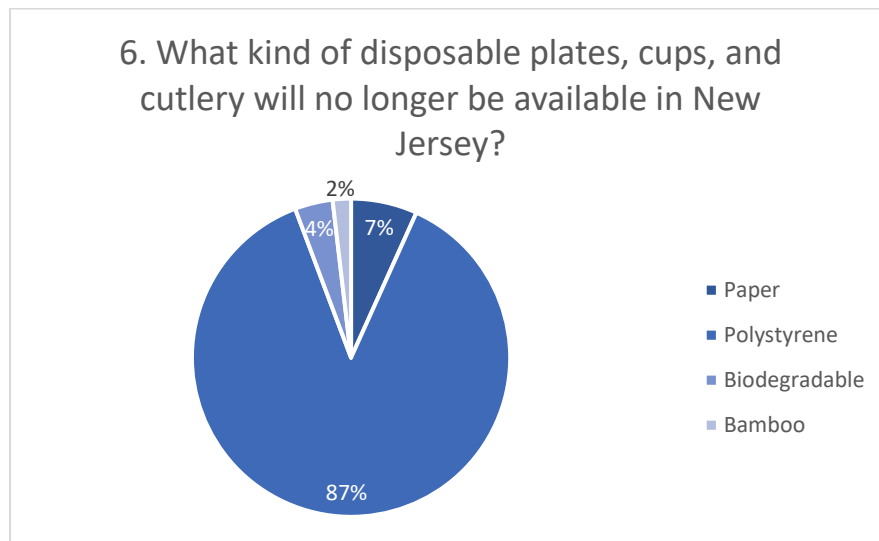
Question 5: Is taking a single-use paper bag just as ecofriendly as bringing a reusable bag?

This question brought awareness to the large ecological footprint that single-use products have. When asked if paper bags are as ecofriendly as reusable bags, 1,734 (33%) of the participants responded 'Yes', while 3,580 (67%) responded 'No'. This question helped clarify why single-use paper bags were also included in this law. The message provided after the question was answered stated "Paper bags are easy to recycle, but papermaking requires large inputs of water, energy, chemicals, and wood to be produced. Therefore, it is still better for the environment to use a sturdy reusable bag for as long as it can last."



Question 6: What kind of disposable plates, cups, and cutlery will no longer be available in New Jersey?

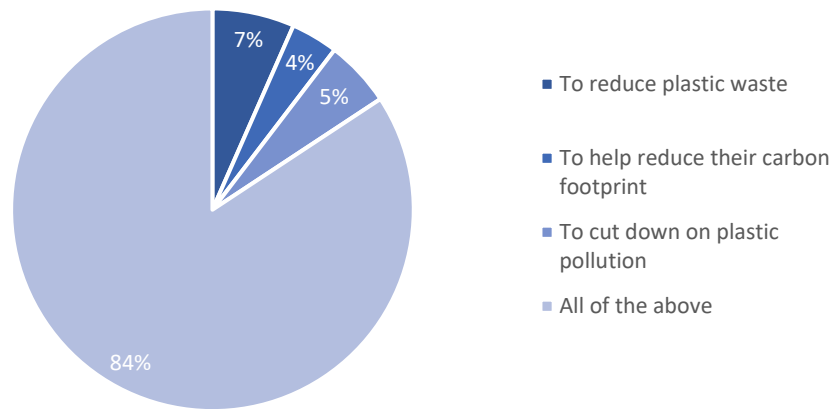
This question about the polystyrene foam food service product provisions in the law evaluated whether participants were aware that polystyrene would no longer be available. 4,519 (87%) of the respondents were aware, indicating success from the educational and promotional campaigns for the law. 348 (7%) of the participants responded for paper, 199 (4%) of the participants responded for biodegradable, and 199 (2%) of the participants responded for bamboo. These incorrect responses were a very small proportion of respondents, further indicating success for the outreach efforts. The message displayed after responding to this question stated, “Whether you are getting take-out, or buying for your home, residents of New Jersey will no longer be able to buy polystyrene plates, cups, or cutlery.”



Question 7: Why has New Jersey decided to make all these changes?

The final question of this survey contextualized the law and its intended effects on the State. Of the participants surveyed, 335 (7%) of the respondents believed the aim of the law was to reduce plastic waste, 192 (4%) to reduce carbon footprint, 271 (5%) to cut down on plastic pollution, and 4,278 (84%) responded ‘all of the above.’ The message displayed after this response stated, “New Jersey is committed to reducing plastic waste, plastic pollution, and lowering their carbon footprint.”

7. Why has New Jersey decided to make all these changes?



The successful rollout of this media campaign allowed the messaging that encouraged the residents of New Jersey to Bag Up reached over 17 million people. This multimedia campaign helped ensure a smooth transition upon its effective date. Residents and businesses were well prepared on May 4, when single-use plastic bags and polystyrene foam were no longer available.

EFFECTIVENESS METRICS

The PAC considered many different types of measures and determined that elimination of bags from businesses impacted by the law was an important indicator of effectiveness and success of Chapter 117.

NJ Food Council: Industry Impact Survey

In 1969, the New Jersey Food Council (NJFC) was formed at a time when grocers and small business owners joined together in hopes of unifying all members of the supermarket industry. Today, the New Jersey Food Council “continues to lead its members toward innovative solutions to industry issues.” To assist DEP and the PAC in evaluating the effectiveness of the law, the NJFC surveyed their members, which include grocery stores, convenience stores and other sectors of the hospitality industry, to see how Chapter 117 has impacted these sectors of the industry.

With implementation of the law, certain uses of single-use plastic and paper bags were prohibited effective May 4, 2022, thus removing them from the waste stream and reducing a major cause of litter. In addition to the environmental benefits associated with dramatically reducing these items from the waste stream, energy savings and greenhouse gas emission reductions were achieved from not manufacturing these single-use bags and business owners reduced their costs.

While the results of the survey represent a small portion of the NJFC membership, the data indicates that the elimination of single-use plastics bags from the environment is significant. The table below shows the number of single-use plastic bags eliminated per month between May through September 2022, as reported to NJFC.

Single-Use Plastic Bags Eliminated per Month by Survey Participants		
Business Type	Number of Stores Surveyed	Number of Bags Eliminated/Month
Grocery Stores	160	55 million
Convenience Stores	275	33 million

Based on the reported data, 160 grocery stores eliminated approximately 55 million single-use plastics bags per month in 2022 and 275 convenience stores eliminated approximately 33 million single-use plastic bags per month. Considering there are approximately 2,000 grocery stores in the NJFC membership, the table below depicts an estimate of the total number of single-use plastic bags that have been eliminated by NJFC membership per month since the law went into effect on May 4, 2022.

Estimated Single-Use Plastic Bags Eliminated per Month by NJFC Members		
Business Type	Number of Stores in NJFC Membership	Number of Bags Eliminated/Month
Grocery Stores	~2,000	~ 688 million

Together, grocery stores included in the NJFC membership eliminated an estimated 688 million single-use plastic bags per month. This means that in the eight months that the law was in effect for 2022 (May-December 2022), an **estimated 5.5 billion plastic bags were eliminated** from the waste stream in New Jersey by grocery stores. Since the numbers above are for NJFC member grocery stores only, it can be assumed that the total number of eliminated single-use plastic bags is significantly higher for the same time period. There are an estimated 6,000 grocery stores in New Jersey, and assuming they experience the same number of plastic bags eliminated, Chapter 117 could result in the elimination of an **estimated 16.5 billion plastic bags** in the state from May through December 2022. Furthermore, this number does not include all the other types of stores in New Jersey subject to the law, and if this data were considered, estimates for the numbers of bags eliminated would certainly be even higher.

Under Chapter 117, grocery stores may no longer provide single-use paper bags. As shown in the table below, an estimated 160 grocery stores eliminated 1.1 million single-use paper bags per month between May through September 2022.

Single-use Paper Bags Eliminated per Month by Survey Participants		
Business Type	Number of Stores Surveyed	Number of Bags Eliminated/Month
Grocery Stores	160	1.1 million

Extrapolating the reported data to the approximate total of grocery stores in the NJFC membership, the table below shows the total estimated number of single-use paper bags eliminated per month as

well as the estimated number of single-use paper bags eliminated between May through December of 2022.

Estimated Total Single-use Paper Bags Eliminated by NJFC Members			
Business Type	Number of Stores	Number of Bags Eliminated Per Month	Total Number of Bags Eliminated in NJ
Grocery Stores	~2,000	~13.7 million	~110 million

The tables above for both single-use plastic and single-use paper bags show the extraordinary impact of Chapter 117 on the environment through the direct elimination of these items from the market and the waste stream. This data does not reflect the big box stores or other stores that did not provide single-use plastic bags to their customers prior to the implementation of Chapter 117.

Chapter 117 also required that plastic straws only be available upon request. As shown in the table below, convenience stores in New Jersey reported a drop in plastic straw purchasing from 17 million plastic straws a month to approximately 2 million per month since the implementation date of Chapter 117.

Single-use Plastic Straws Reduction per Month by Survey Participants		
Business Type	Number of Stores Surveyed	Number of Straws Reduced
Convenience Stores	275	~15 million

The reduction of single-use plastic straws, as opposed to the complete elimination of single-use plastic straws, is due to the fact that these straws are still allowed by consumer request, but solely for the purpose of compliance with the Americans with Disabilities Act of 1990. The data collected on straws is for the time period between May and September 2022.

Clean Ocean Action (COA): Beach Sweeps

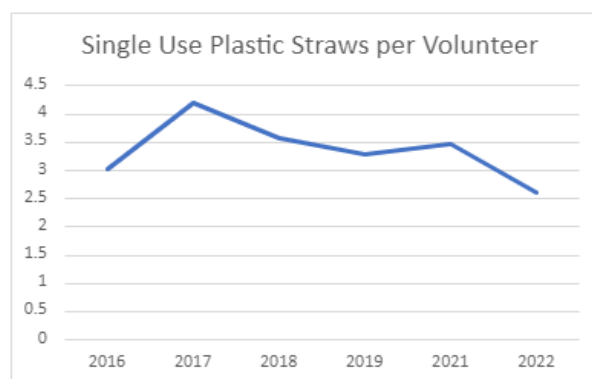
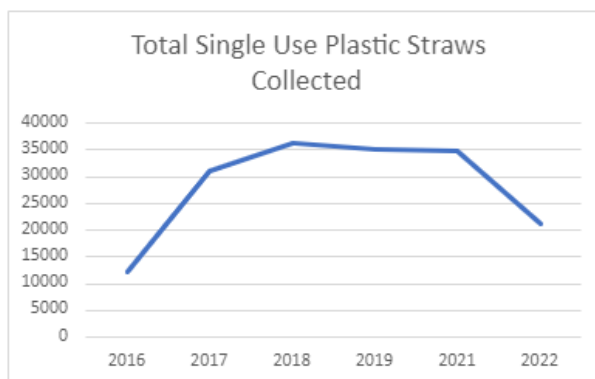
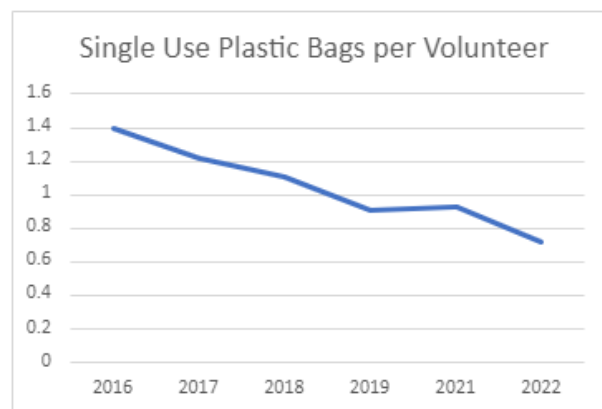
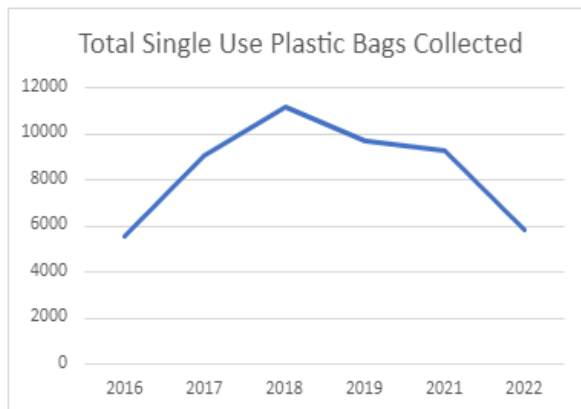
COA is a non-profit organization founded in 1984 whose mission is to improve the water quality of the marine waters surrounding New York and New Jersey. COA has organized a biannual “Beach Sweeps” Program across New Jersey’s beaches in the spring and fall every year since 1985. COA’s Beach Sweeps is one of the longest running cleanups of its kind in the world. Participants collect debris from cleanup sites and record the data, which is then compiled and published annually. Additionally, COA hosts smaller more frequent beach cleanups in a program called Corporate Beach Sweeps, which runs from June-September. Volunteers at Beach Sweeps collect, sort, and identify dozens of different items and materials.

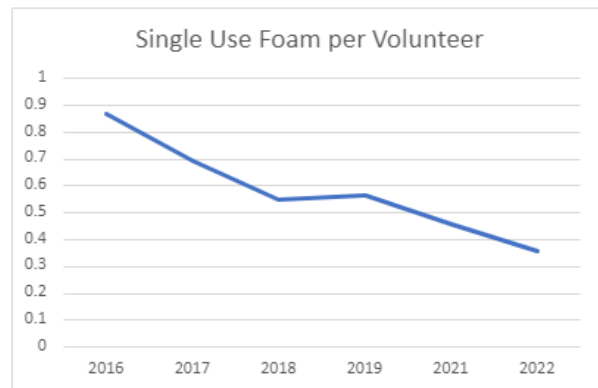
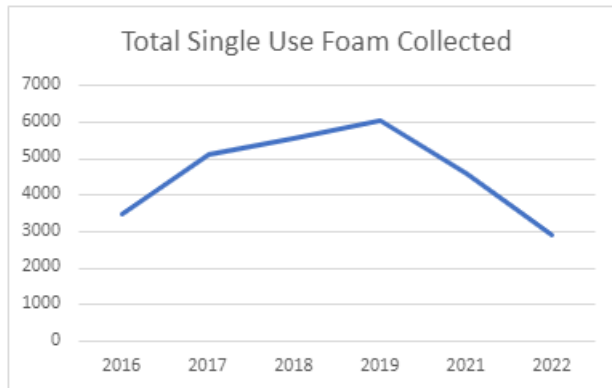
There is much work that is done to ensure that the data reflecting the debris collected during each cleanup is accurately recorded and that the materials are collected responsibly and safely. While this information is very useful to the DEP and cleanups are beneficial to the environment, these

activities understate the amount of litter that accumulates on New Jersey's shorelines. It is also important to note that the shoreline litter may have been generated in other states but washed into New Jersey. As previously mentioned, the Beach Sweeps are only done twice a year, once in the fall and once in the spring, and only along portions of New Jersey's coastal beaches. As such, the data does not represent or describe litter generation across the State's 564 municipalities. However, this data does provide a good snapshot over time of the types of litter found along the Jersey Shore that pose a threat to the waters of New Jersey.

COA calculates materials collected per volunteer based on the data reported. The DEP analyzed the collection of plastic bags per person, plastic straws per person. Foam consists of foam restaurant takeout containers, plates, and cups as they are the materials covered under the law. Additionally, the DEP chose to analyze data reported from the years 2016 through 2022 omitting the year 2020 due to data collection complications from the COVID-19 pandemic. The purpose of using this data set dating back to 2016 was to exemplify how much litter was collected during Beach Sweeps of New Jersey's coastline in the five years prior to the implementation of Chapter 117.

The data collected and reported from the COA Beach Sweeps and Corporate Beach Sweeps demonstrates that while the results of collected materials vary from year to year, the collection of materials as a whole and items collected per person typically declined or plateaued over the selected timeframe.





In reviewing the previous years of data, it is evident in the tables above that the total number of single-use plastic bags, plastic straws, and polystyrene foam had been steadily increasing since 2016. However, a significant decrease in the total number of these items collected can be observed in the past year. Clean Ocean Action's 2022 Beach Sweeps report compared data from 2021 to 2022 and showed a significant decrease in litter collected from items targeted by the Get Past Plastic Law, with **37.31% fewer single-use plastic bags, 39.04% fewer plastic straws, and 37.84% less foam waste** found along the Jersey Shore.

The PAC is hopeful that the total amount of single-use plastic bags, plastic, straws and polystyrene foam will continue to decrease over time keeping in mind that when reviewing data from waterways in New Jersey, weather events in other states could bring litter from outside of New Jersey that could adversely impact New Jersey beaches and affect New Jersey data collection efforts.

New Jersey Restaurant & Hospitality Association

The New Jersey Restaurant & Hospitality Association's mission is to support, educate and advocate for the needs of the hospitality industry throughout the State. Since the organization was founded in 1942, the New Jersey Restaurant & Hospitality Association has collaborated with many partners to achieve their goals and make operating a business within the restaurant and hospitality industry less difficult. The New Jersey Restaurant & Hospitality Association assisted DEP in publishing a poll to measure the effectiveness and feasibility of implementation of Chapter 117.

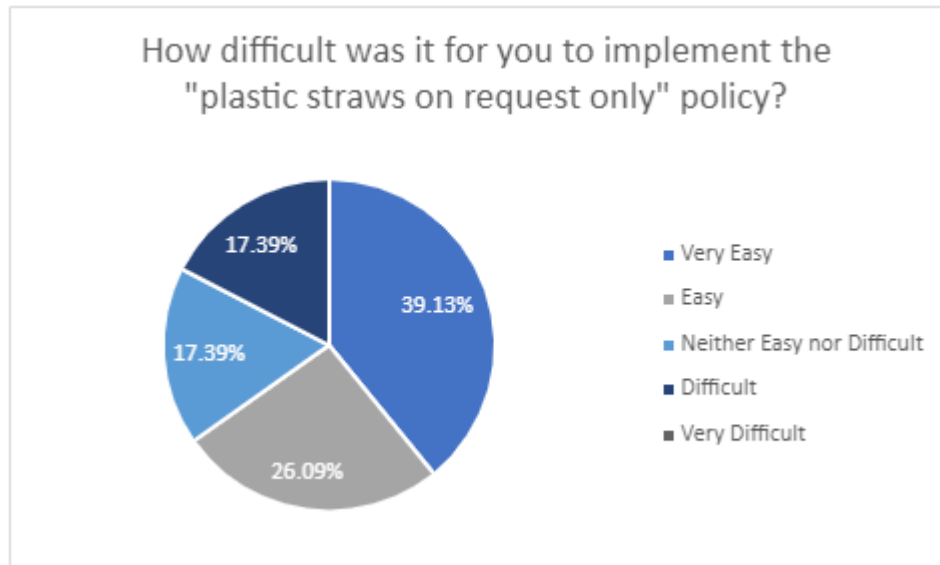
Today, the New Jersey Restaurant & Hospitality Association has several hundred active members, and there are an estimated 18,000 restaurants in New Jersey. A small number of the membership consisting of 23 restaurants participated in an industry impact survey at the start of May 2022 that was intended to provide feedback on how Chapter 117 has affected businesses and their day-to-day operations. While the sample size of the membership is limited, the data does provide a snapshot of impacts to the New Jersey Restaurant & Hospitality Association.

A summary of the results of the New Jersey Restaurant & Hospitality Association survey are outlined below:

Question 1: How difficult was it for you to implement the plastic straws on request only policy?

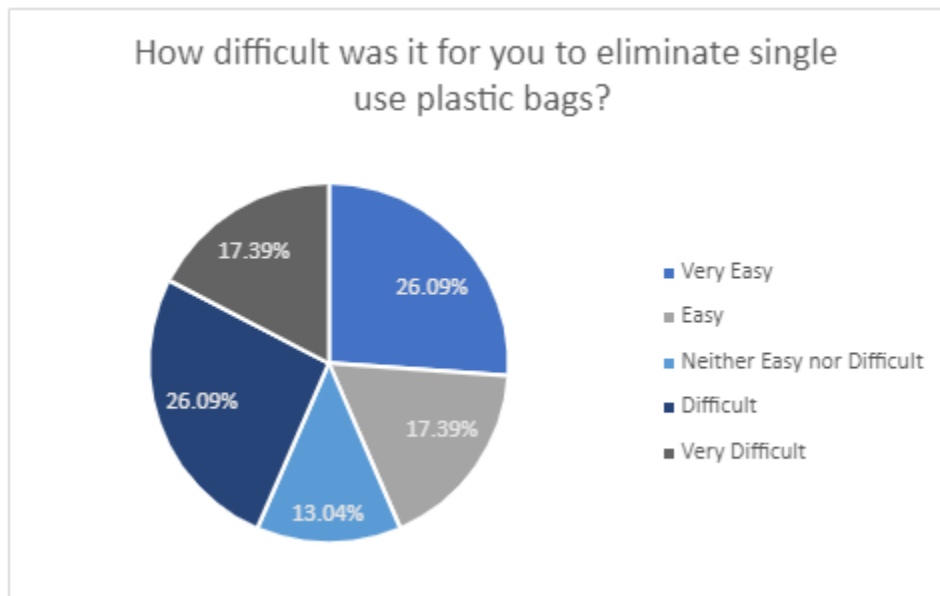
Roughly 40% of the participants claimed it was very easy to make this change. 26% indicated making the change was easy, whereas 17.39% claimed it was neither easy nor difficult. Lastly, 17.39% revealed it was difficult to implement this policy. Because Chapter 117 does not eliminate

plastic straws from being offered, over 65% of the participants claimed it was easy to implement this change.



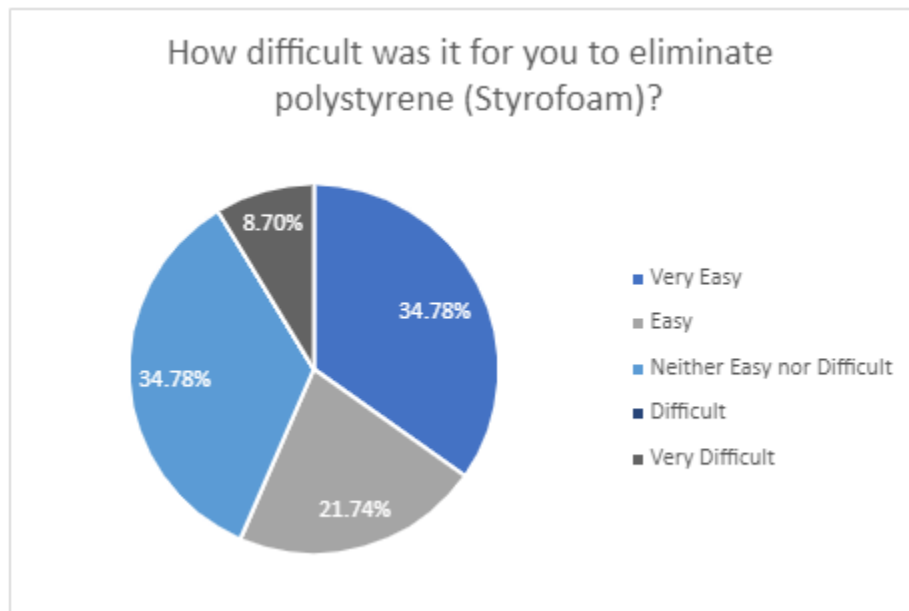
Question 2: How difficult was it for you to eliminate single-use plastic bags?

The results of this question were surprising. It was anticipated that a higher percentage of respondents would indicate that eliminating single-use plastic bags would be difficult because restaurants and entities required to eliminate single-use plastic carryout bags were heavily reliant on them for completing take-out orders and other sales and operations. However, the responses demonstrate that over 40% of participants claim that making this change was relatively easy. The same percentage of participants claimed that this change was difficult. 13% indicated it was neither easy nor difficult to implement this change.

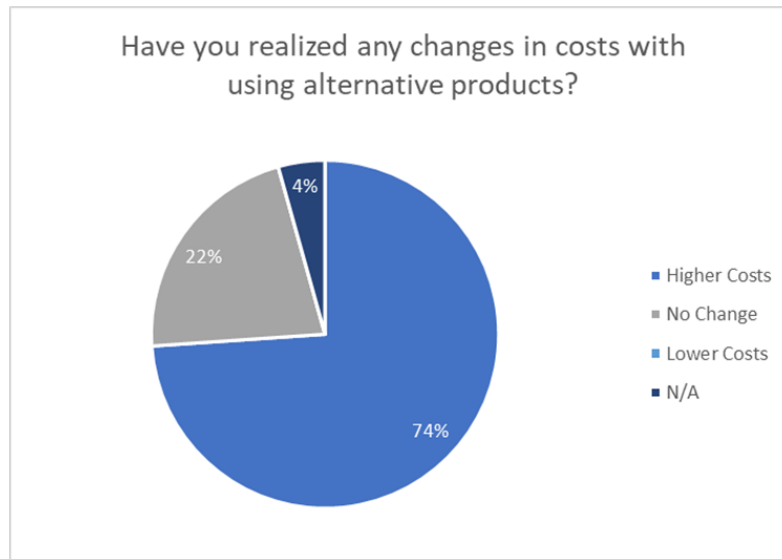


Question 3: How difficult was it for you to eliminate polystyrene?

Restaurants rely on using single-use polystyrene food containers for completing take-out orders or to package leftover food that guests may wish to take home. While many restaurants have made the switch to using aluminum foil containers, paper containers, or other alternative products, some restaurants still struggled to meet the requirements brought on by Chapter 117. Over 50% of participants claimed it was quite simple to make this change in eliminating offering polystyrene packaging (35% very easy; 21% easy). About 35% indicated it was neither easy nor difficult to implement. Zero participants felt it was difficult make this change while only 2 participants (9%) felt it was very difficult.

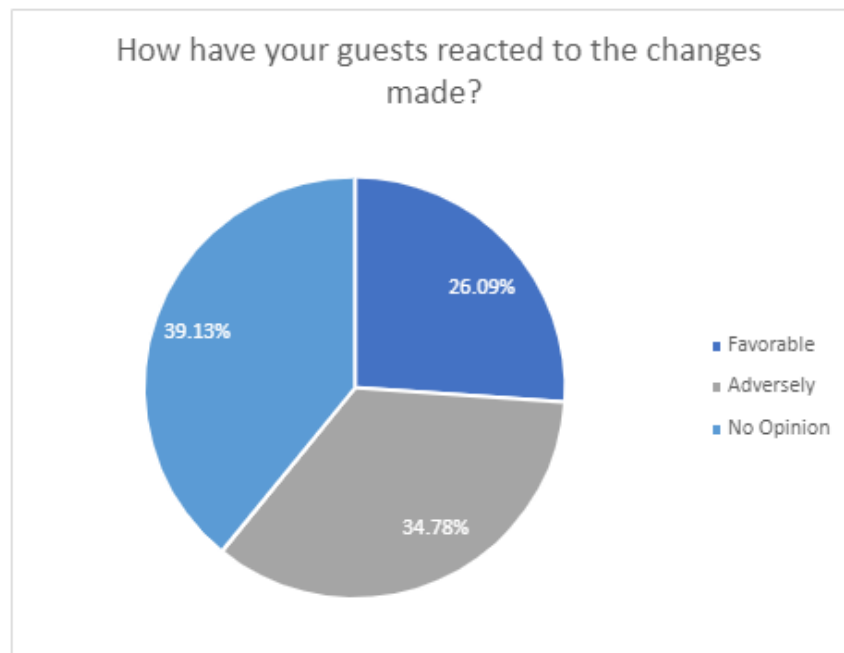
**Question 4:** Have you realized any changes in costs with using alternative products?

Participants of this survey were asked if they had noticed any change in cost when ordering alternative supplies to adhere to the restrictions Chapter 117 introduced. About 74% of the respondents indicated that purchasing alternative products in order to comply with the law was more expensive than materials they were already using. About 22% claimed that making this change had no effect on their business operations in terms of cost. This could be due to the fact that they were already in compliance with the regulations or that the alternative products they purchased matched the cost of non-compliant materials.



Question 5: How have your guests reacted to the changes made?

The 23 participating restaurants asked what their guests' overall reactions were to the changes made due to the law. About 26% reacted favorably towards the changes meaning they were in support of the elimination and reduction of plastic and polystyrene materials. About 40% of restaurants claimed their guests had no reaction whatsoever. About 35% had an adverse reaction to the changes made. This indicates that guests were not always supportive of the changes made to ensure the restaurant was in compliance with Chapter 117.



COMPLIANCE METRICS

DEP Compliance and Enforcement Data

The DEP, municipalities and any entity certified by the “County Environmental Health Act” have the authority to enforce the single-use plastic and paper carryout bag and polystyrene foam food service product provisions of the law.

The mission of the DEP Solid Waste Compliance and Enforcement program (SWC&E) is to ensure that the environment is clean, safe, and protected for future generations to come. Some of the responsibilities of SWC&E include conducting site inspections and enforcing hundreds of environmental laws. SWC&E partners with and is supported by the county health agencies through legislation called the County Environmental Health Act (CEHA).

Each CEHA agency is available to conduct site-specific inspections related to Chapter 117 based upon one of three factors:

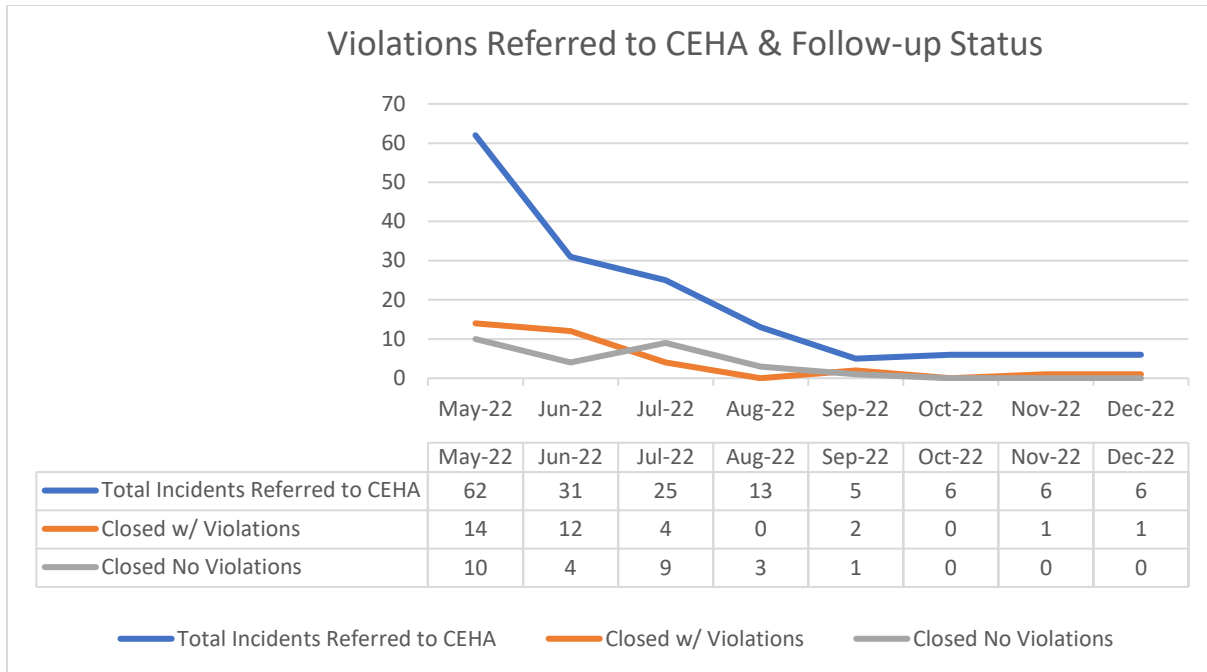
- A referral through the DEP Hotline
- A direct call to the CEHA agency from the public reporting a violation
- A site visit conducted by a CEHA agency at random times and locations

When an inspection results in no violation of the law, no additional action is required by the subject person, entity, or CEHA agency. A person or entity that violates the law will be warned for a first offense, may be fined up to \$1,000 per day for the second offense, and may be fined up to \$5,000 per day for the third and subsequent violations. Violations of a continuing nature constitute an additional, separate, and distinct offense for each day that is deemed a violation. For these types of recurring violations or for any other reason, the CEHA agency can request assistance from SWC&E, or SWC&E can choose to undertake the enforcement of Chapter 117 at any time.

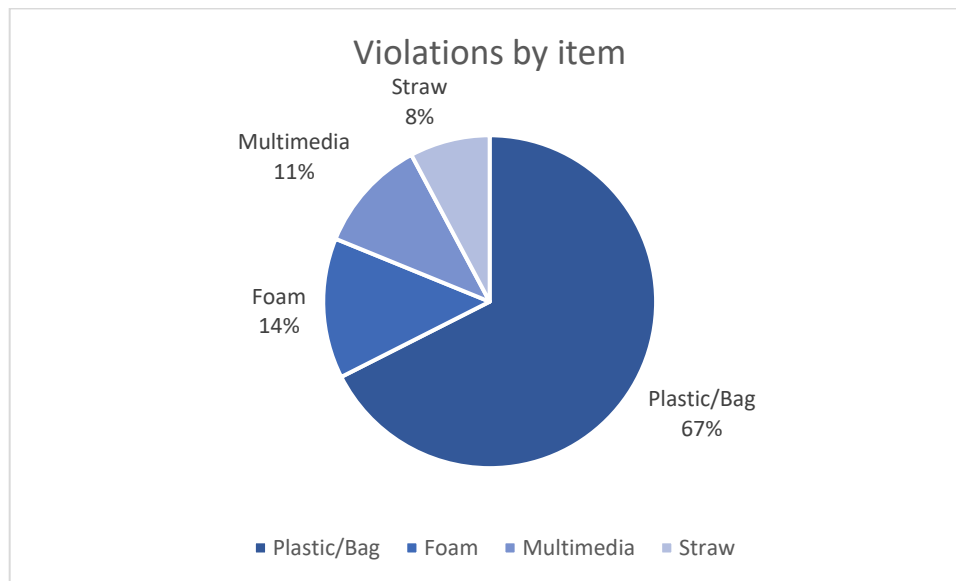
If a member of the public identifies that a person or entity is violating Chapter 117, the violation can be reported in one of two ways:

- to the CEHA Agency (the directory of CEHA contacts is available on the DEP Get Past Plastic website), or
- to the DEP Hotline (1-877-WARN -DEP), which is also made available on the DEP Get Past Plastic website.

The graph below depicts the results of the violations referred to the CEHA agencies through calls to the DEP Hotline and shows a high volume of reported incidents in May of 2022, when the law first went into effect. Soon after, the calls to the DEP Hotline declined from 62 incidents in the first month to six incidents seven months after the law went into effect. It is clear that people have stopped or slowed in reporting incidents to the DEP Hotline, and it can be inferred that compliance in eliminating prohibited items is high.



The next graph depicts the total number of violations reported to the DEP Hotline by type for the period of May 4, 2022, through December 31, 2022. The violations are broken down by type to include single-use plastic bags, polystyrene foam food service containers, single-use plastic straws or “multimedia,” meaning there was a violation involving two or more of the single-use items.



During the second and third quarters of 2022, 14 of the 21 CEHA agencies conducted 897 inspections and issued 129 warnings to a person or entity violating Chapter 117. No fines were issued during this time, indicating that all businesses identified within the 129 warnings issued were now in compliance with Chapter 117.

New Jersey’s 564 municipalities also have the authority to issue violations of Chapter 117. During the second and third quarters of 2022, seven municipalities conducted 97 inspections and issued one warning to a person or entity violating Chapter 117. No fines were issued during this time,

indicating that the business found to be out of compliance was now in compliance with Chapter 117.

Conclusion

Through the implementation of Chapter 117, residents of New Jersey are already seeing positive effects. With approximately 88 million single-use plastic bags per month no longer used in stores across the State, there are dramatically fewer single-use plastic bags available to litter waterways, roads, highways, and neighborhoods, and compliance with the law appears to be high. The elimination of single-use plastic products in New Jersey is a very large step to reducing the number of plastics that are introduced into New Jersey's ecosystems. The data provided by a small sample size of NJFC show a demonstrable effect in New Jersey. This data also indicates a reduction in the amount of single-use plastic straws being purchased within the state.

It is evident that overall, the implementation of Chapter 117 has been very successful. The DEP, New Jersey Clean Communities, New Jersey Business Action Center, Clean Ocean Action, New Jersey Restaurant and Hospitality Association, and the New Jersey Food Council successfully established and implemented a successful campaign to educate the residents of New Jersey prior to the May 4, 2022, implementation date of the law. This campaign saw over 50 educational trainings, three educational websites, effective social media messaging and multiple mass media events in multiple languages. These efforts led to the successful implementation of the law, which has seen the reduction of single-use paper bags at grocery stores decrease from 1.1 million/month to zero; the reduction of single-use plastic bags at grocery stores decreased from 13.7 million/month to zero; the reduction of single-use plastic bags at convenience stores decreased from 33 million/month to zero. Surveys of representatives from the hospitality industry have indicated that due to the educational campaign, coming into compliance with the law was not difficult for them. Despite the success of the law, some of the restaurants that responded reported that they did have difficulty coming into compliance with the law and saw increased costs in order to be in compliance. While this is specific to the polystyrene foam portion of the law, it shows that not every sector was able to meet the requirements of the law seamlessly or without additional costs.

Enforcement data shows a high level of compliance with the law. While incident report rates were highest in May, the incidents reported were low, and incidents maintained a steady decline for the remainder of 2022. In addition, because the incidents reported resulted in a warning, businesses were able to come into compliance and no penalties were assessed during 2022.

Based on the results of the educational campaigns and the significantly high rate of single-use plastic and paper bag reduction that were eliminated from the environment and the lack of penalties levied, the Single-Use Plastics Law has been a great overall success.

Recommendations

Despite the success of the implementation of Chapter 117, there are ways to improve data collection that will enable the DEP, the PAC, and legislators to more efficiently and effectively identify trends, troubleshoot issues, and evaluate success. At this time, the DEP does not recommend the development of any new metrics related to single-use plastic bags and polystyrene food service products. The law prohibits these items so their use would be a violation of Chapter

117. The DEP does recommend identifying potential data sources that may need to be modified to provide better estimates of plastics management in the environment. The DEP and the PAC should then work with these agencies to increase the visibility of plastic reduction and recycling.

For example, approximately every 18 months, NJCCC gathers data from the clean community coordinator, which is reported either by total number of bags collected or the total pounds of litter collected. There may be other agencies that also collect this type of data, however, if the DEP and the PAC can work with these agencies, data can be obtained in a manner that would allow the PAC to further evaluate the effectiveness of Chapter 117.

The DEP and the PAC should continue to work with organizations such as the NJ Food Council and the Restaurant and Hospitality Industry to increase the number of respondents to the individual survey questions, so that more specific information can be obtained. The DEP and the PAC can further work with these groups to identify the total number of restaurants, grocery stores, convenience centers and other businesses that can report on the total number of single-use plastic bags are no longer being purchased by the business. Finally, it is recommended that the PAC collaborate with its partners and DEP to consider the metrics that can be obtained from other generators of single-use plastics and paper bags.

Additional data may also be obtained through working with COA to determine a way to better assess the data that is collected during the beach clean-ups and to identify a way to obtain more inland clean-up data to supplement the beach clean-up data collected by COA. The DEP should review the REA grant program to determine if it is possible to identify places where more detailed data can be collected or obtained. Should the Legislature pass proposed bills related to microplastics in drinking water, development of sampling and analytic protocols and freshwater monitoring locations will be required.

Also, it is recommended that additional surveys be sent to the businesses represented by both the NJFC and the Restaurant and Hospitality Industry to obtain more comprehensive data from these industries. It is recommended that the PAC collaborate with its partners and DEP to consider the metrics that can be obtained from other generators of single-use plastics and paper bags.

Finally, the DEP recommends better reporting and tracking of inspections and issuance of warnings and fines reported through the DEP Hotline, CEHA agencies or individual municipalities. As discussed in Opportunity for Action #4 below, it is recommended that the DEP establish uniform enforcement procedures, standards and reporting for application by State, county, and local environmental and public health inspectors. The DEP SWC&E program has already begun to identify and implement changes to ensure that better metrics are collected which will lead to better tracking of compliance with Chapter 117.

Section 2: First-Year Report Opportunities For Action

Section 7.e. of Chapter 117 provides that: *“No later than one year after the effective date, and each year thereafter, the council shall prepare and submit a written report to the Governor, the Legislatureand the respective chairpersons of the Senate Environment and Energy Committee and the Assembly Environment and Solid Waste Committee, or their successors, evaluating the implementation and effectiveness of P.L.2020, c.117, and making any recommendations for legislative or administrative action to improve the implementation or effectiveness of P.L.2020, c.117.”*

Section 7 f. further provides that: *“The council shall also study the environmental and public health impacts of single-use plastics and micro-plastics; healthy and environmentally-friendly alternatives to single-use plastics; strategies and policies to increase the recyclability of plastics and reduce the amount of plastic entering the environment; the technological feasibility of increasing recycled content of consumer plastics and expanding the types of plastics that may be manufactured from recycled material; and ways to enhance the development and expansion of markets of post-consumer recycled plastic, including State and local purchasing and procurement practices.”* The PAC was directed to summarize its analysis of the above referenced issues within two years and *“recommend ways to reduce the use of plastics and the amount of plastic entering the environment and increase the rate of recycling of plastics”* in a second-year report to the Governor and Legislators.

The following represent the “Opportunities for Action” or recommendations of the PAC in its first-year report. Early in its deliberations, the PAC decided to address both statutory directives regarding an evaluation of the implementation and effectiveness of Chapter 117, as well as its progress to date in studying the environmental and public health impacts of single-use plastics and plastics reduction and recycling strategies and policies. As such, the PAC first-year recommendations are provided in two distinct lists, as follows:

Recommendations to Improve the Effectiveness of Chapter 117

OPPORTUNITY FOR ACTION #1:

REUSABLE BAG COLLECTION & SANITATION PILOT PROGRAM

Background: With the sizable growth in home and curbside delivery of groceries since passage of the Single-Use Plastics Law, a notable and unanticipated consequence has been the accumulation of reusable carryout bags by residents over time. Nationally, the July 2022 edition of the publication PYMNTS’ ConnectedEconomy found that 15.8% of the 2,600 families surveyed order groceries online for home delivery every week. In New Jersey, supermarket curbside pickup or delivery services, as well as third party shopper organizations, such as Instacart and DoorDash and Supermarket chain services, have followed the requirements of Chapter 117 to deliver groceries in reusable bags. However, no return program was developed to recover and sanitize reusable bags delivered to consumers. This issue took on significant public discussion during the course of 2022 resulting in the introduction of S3114. Paper bags would once again be allowed for use in supermarkets/grocery stores for three years under the bill. Testimony regarding this

proposal was held during 2022 in the Senate Environment & Energy Committee. The Bill's primary sponsor, Senator Bob Smith, coordinated with the DEP in late 2022 and decided to hold the measure, at least temporarily, to allow time for solutions to be found before amending Chapter 117. In January 2023, the New Jersey Food Council launched a pilot project in an attempt to find a workable solution to the reusable bag build-up issue. The stakeholders invited to participate included DEP, the New Jersey Business Action Center, county and municipal governments, Statewide associations, non-profit organizations, food banks, private-sector companies, delivery service providers (Instacart and Door-Dash) and private for-profit companies in the business of recovering and sanitizing reusable bags, namely "GOATOTE." During discussions, it was learned that GOATOTE had reusable bag return kiosk stations already operating in 12 New Jersey Municipalities and a pilot program under development in Secaucus. In addition to this pilot, DEP is convening a broader committee to identify the scope of the problems surrounding the buildup of reusable bags and will explore solutions involving possible takeback programs to minimize the impact to consumers.

Opportunity For Action: The PAC notes that the clear intent of Chapter 117 is to reduce single-use plastics and promote reusable products. As such, it is incumbent on all involved parties, particularly those engaged as delivery service providers, to ensure that a workable and economic solution to the build-up of reusable carryout bags is identified and implemented as quickly as possible. As an initial effort, the PAC supports the pilot project advanced by the New Jersey Food Council which has the following component parts:

- Expanding the Secaucus pilot, where possible, to the 11 other locations where GOATOTE already has a reusable bag return kiosk established;
- Working with the municipal recycling coordinator in each participating municipality to assess the feasibility of utilizing the existing recycling drop-off center to allow residents to drop off reusable bags;
- Identifying workable transportation to get collected bags from municipal drop-off locations to GOATOTE for sanitation and reentry into the marketplace for reuse;
- Engaging County Recycling Coordinators of participating municipalities to identify systems already in place, and to expand the collection pilots regionally within other towns (this is already occurring in Hudson County in support of the Secaucus pilot noted above);
- Engaging Sustainable Jersey "Green Teams" to assist in the promotion of pilot collection programs and in assessing their effectiveness;
- Working with grocery stores' curbside pickup and delivery services and third-party delivery service providers (Instacart and DoorDash) to gain metrics regarding the areas within municipalities where their employees work and deliver groceries in order to promote and assist in development of reusable bag collection programs;
- Ensuring as an integral part of each municipal drop-off pilot that local food banks and pantries are actively engaged to assess ways of assisting them in their critical mission of food recovery and distribution.
- Consider the use of Clean Communities and Recycling Enhancement Act funding towards reusable bag takeback programs at county and/or municipal recycling depots or at collection events.
- Utilize existing resources such as the Recycle Coach app to promote and locate reusable bag takeback options for residents.

Beyond the New Jersey Food Council pilot program proposal, the PAC suggested and the DEP is convening a committee to explore other food delivery reusable bag collection solutions, including analysis of the root cause and scope of the problem. Specific issues the committee plans to explore include:

- The feasibility of implementing pilot reusable bag takeback programs at supermarkets/grocery stores;
- Methodologies to consider for the reduction of providing reusable carryout bags in in-store shopping, delivery and curbside pickup services;
- The economics of designing and implementing bag takeback programs to ensure minimum impact to consumers and, in particular, customers in disadvantaged communities;
- Whether there is a need for statutory or regulatory changes to implement a cost-effective reusable bag collection program;
- Analysis, in conjunction with Class A recycling facilities and material markets, of the end-of-useful-life recyclability of reusable plastic bags currently in the marketplace;
- Whether interim measures, such as those outlined in S3114, are needed.

The PAC will assess progress made in the New Jersey Food Council Pilot program and through the DEP committee within the first six months of 2023 and provide its findings to the DEP and Legislative leaders for consideration. The PAC feels strongly that the grocery stores, third-party delivery services, government and the public must all recognize their responsibility in implementing this law and making it as impactful and successful as possible. An important aspect under consideration by the DEP committee is overall reduction in bag use. It should be noted that grocery stores in other countries, as well as some in the United States are offering “bagless” options for all or some grocery pick-up services. The PAC believes that these options should be more prominent at grocery stores and for curbside pickup or delivery services in New Jersey.

OPPORTUNITY FOR ACTION #2

CLARIFY DEFINITION OF REUSABLE BAGS

Background: During the first year of implementation of Chapter 117, the statutory definition of reusable carryout bag has raised questions about the proper interpretation of certain aspects of that definition. According to DEP’s Frequently Asked Questions document, “For a bag to be considered reusable according to this Law, it must meet three requirements: it must be made from a washable fabric, have stitched handles, and it must be manufactured for multiple reuses” (<https://dep.nj.gov/get-past-plastic/>). A related issue is whether bioplastic bags, and other bags that are being used to replace single-use plastic bags, are an acceptable alternative and permitted under the law. Finally, concerns have been raised regarding the end-of-life management of reusable plastic bags. Can they be recycled, or must they be disposed of as waste?

Opportunity for Action: The PAC recommends that DEP (“The Department”) clarify Chapter 117 as part of rulemaking already underway to support implementation of the law. At a minimum, two new definitions should be considered:

- *Washable* – able to be cleaned by submersion in water and agitation.
- *Stitched Handles* – indicating what a stitched bag includes/excludes. Ultrasonic stitching should be rejected for a reusable carryout bag.

During the course of the first year of Chapter 117 implementation, the Department, Clean Communities Program and New Jersey Business Action Center have responded to extensive questions related to interpretation of the law and definitions of the terms therein that were raised

by the regulated community and public. These engaged organizations should collaborate toward identifying other definitional ambiguities that could be clarified in the planned DEP rulemaking. The PAC further recommends that the “125 use” reusable bag language included as part of earlier draft versions of Chapter 117 prior to passage should be reconsidered since it has been a widely accepted standard elsewhere in the country.

OPPORTUNITY FOR ACTION #3 **VERIFICATION OF CLAIMS OF REUSABLE BAG COMPLIANCE**

Background: During the course of the first year of implementation, numerous reusable bag manufacturers have sought approval or verification from the Department that their bags meet the definition of “reusable bag” under Chapter 117 to better market their products. Conversely, complaints were registered challenging compliance of certain bags under active use in New Jersey. In particular, questions about bags manufactured via ultrasonic stitching, plant-based bags or bags containing a material commonly known as “bioplastics” raise concerns. While the statutory definition of plastic indicates that most plant-based bags or bioplastics do indeed meet the definition of a plastic bag and therefore not permissible for use under the Law, further research should be undertaken to determine if some plant-based bags and bioplastics could be permissible. This research should include studies into the biodegradability of such products and whether specific environments are necessary for such bags to be biodegradable within a reasonable amount of time.

Opportunity For Action: The PAC recommends that the DEP research and identify procedures to test and verify reusable bag compliance with Chapter 117. The PAC recommends that the DEP perform a literature search to find out if bag testing and verification procedures have been developed and deployed elsewhere in other states or countries. The PAC further recommends that the DEP evaluate the need for third party contracting assistance from academic institutions or third-party testing laboratories (e.g., Underwriters Laboratories used nationally to certify electrical products) to put timely and equitable bag evaluation procedures in place. As one example, in California the Reusable Grocery Bag Reporting System (RGBRS) was developed to facilitate online submission of reusable grocery bag proof of certification documents and the submittal of administrative certification fees to the State agency recycling organization, CalRecycle. A reusable grocery bag producer is required to submit proof of certification to the RGBRS for each type of reusable grocery bag that it distributes to California stores, as defined in their statute. In addition, a reusable grocery bag producer must pay the administrative certification fee as specified in the law. DEP and the PAC should evaluate systems like this to determine their efficacy and consider if this form of a verification and certification process may be replicable to serve as a model in New Jersey.

OPPORTUNITY FOR ACTION #4 **UNIFORM ENFORCEMENT STANDARDS**

Background: During the first year of implementation of Chapter 117, which has involved changes in the daily business practices of some 2,000 supermarkets covered under the law, some 18,000 restaurants dispensing straws and polystyrene take-out food containers and numerous other businesses serving the 9.3 million residents of the State, public education has been the primary focus. Websites and education campaigns were deployed under the DEP’s Get Past Plastic

program, the New Jersey Clean Communities Program’s Bag Up NJ initiative and the NJ Business Action Center’s Plastic Ban Resource Center. As further articulated in detail in Section 1 of this Report, these efforts have proven highly successful. For the second year of the program, education will continue to be the primary focus toward gaining compliance with Chapter 117. However, planning efforts should also be advanced to establish uniform procedures for enforcement, when needed. Enforcement data gathered to date does not fully identify trends, or contain the information needed to assess compliance with the Law from different perspectives (locations, industries, repeat offenders, type and size of business, root cause of non-compliance). It would be helpful to have more comprehensive, standardized, granular enforcement data, and to coordinate the response to complaints through use of the DEP’s Hotline at “WARN-DEP.”

Opportunity for Action: The PAC recommends that the DEP seek to establish uniform procedures for enforcing Chapter 117 across all levels of government before the end of 2023. More specifically, the DEP Division of Sustainable Waste Management, Office of Enforcement Policy and Bureau of Solid Waste Compliance and Enforcement should coordinate directly with County Environmental Health Act Agencies (CEHA) and municipal enforcement officials to develop a shared set of standards by which all enforcement agencies could inspect establishments, report their findings, and assist the regulated community in achieving compliance with the law. Beyond coordinated inspection and enforcement procedures developed by DEP and deployed through their annual workplans with CEHA agencies, the Department of Health is also developing uniform questions to be included in inspection checklists used by local health inspectors when inspecting locations engaged in food services and dispensing straws.

OPPORTUNITY FOR ACTION #5

CLARIFICATIONS ON DISPENSING OF STRAWS

Background: Chapter 117 requires food service businesses to provide single-use plastic straws to customers only upon their request. The Law also requires that a food service business maintain an adequate supply of plastic straws to provide to customers. Banning plastic straws altogether was considered during the crafting of this law, however, it was determined that plastic straws are necessary and should be kept available for individuals with disabilities, as common alternatives to plastic straws may not meet the needs of certain individuals. During the first year after the May 2022 effective date of the law, questions arose regarding the provision of straws by food service businesses which have now been clarified and which should be the focus of additional education, outreach and compliance in 2023.

Opportunity For Action: The PAC recommends that the DEP, DOH, Clean Communities Program and Business Action Center continue their efforts to educate food-service businesses on the requirements of the law particularly regarding single-use plastic straws, including such items as customer signage, specific instructions for food-service employees and the use of alternative products. Efforts should be made to promote alternative products in instances where self-service stations are used. The additional outreach is intended to compel food service businesses to consider using alternatives to plastic straws and realize cost savings, while still complying with the law. This outreach should be undertaken with the recognition that alternatives may be more expensive, and businesses would also need to continue to purchase a reserve of plastic straws to remain in compliance with the law.

The PAC bases this recommendation on a determination by DOH, supported by a related opinion from the Office of the Attorney General, regarding two prominent issues pertaining to compliance with the intent of the law, which are:

- The practice of restaurant servers placing plastic straws on tables independent of a customer request for a straw.
- The practice of self-service businesses leaving out a supply of plastic straws for customer use, along with napkins and condiments, etc.

Pursuant to the Office of the Attorney General’s opinion, both of these practices have been determined to be contrary to the intent of the law and not permissible. There is no restriction, however, on the types of alternative straws, such as paper or metal, that may be provided to customers in these situations.

OPPORTUNITY FOR ACTION #6 **PLASTICS EDUCATION CAMPAIGN**

Background: No material within the recycling stream causes more confusion than plastic in at least three areas. The first relates to curbside recycling. An International Resin Identification Coding System was created in the U.S. in 1988 and products made of plastic show a number from #1 – #7 which indicates what resin it is made from. These numbers have also come to represent how “recyclable” a container or package is, with #1 and #2 plastics required for recycling in every New Jersey County Recycling Plan, while some plans also include #5, and other processing facilities welcome all #1 – #7 to be included for curbside collection. The variation among municipalities and processing facilities, coupled with a recycling logo on the vast majority of plastic products, causes great public confusion as to what plastic containers are or are not recyclable. This results in “wishful recycling” and unprecedented levels of contamination in the plastic recycling stream. Secondly, there is great confusion regarding claims that products and packaging are “compostable and/or biodegradable.” These terms have very different meanings, where compostable is linked to well-established scientific analytical standards and biodegradable is a more general marketing term. Third, there are many misconceptions regarding environmental and human health implications associated with plastics and the distinction between macro-plastic litter versus hard to see or invisible micro- and nano-plastic particles and fibers.

Opportunity For Action: In April, 2022, the State Recycling Market Development Council (RMDC) released its report to the Governor and Legislature. Recommendation 2 included: “*a statewide public education campaign be initiated by the DEP and funded through the Recycling Enhancement Act. More specifically, the Recycling Enhancement Act of 2008 (P.L. 2008, c6) allocates 5% of the annual Recycling Fund, which is generated by a \$3.00 per ton recycling tax on waste sent for disposal, for grants to institutions of higher education to conduct research in recycling. The Council recommends that the Recycling Enhancement Act be revised such that \$250,000 of this allocation is set aside each year for an annual statewide public education campaign to be overseen by the DEP. The campaign will educate the public about the recycling contamination issue and recycling, in general.*” Recommendation 3 included the expanded use of the “Recycle Coach” app to advance recycling education. The PAC supports the above referenced RMDC recommendation. Building on the work of the RMDC, the PAC further recommends

particular focus within a statewide education campaign on plastics, developed in collaboration and consultation with academia and others, to highlight:

- Opportunities to reduce plastics through consumer purchasing choices;
- How to find out what products, containers and packaging are recyclable in each community;
- Guidance to assist consumer evaluation of claims that products or packaging are recyclable, compostable and/or biodegradable;
- The distinction between macro-plastic litter versus hard to see or invisible micro- and nano-plastic particles and fibers;
- The current state of knowledge regarding environmental and public health impacts of plastics in plain talk terms.

Procedurally, the PAC supports DEP in an overall oversight capacity in developing the campaign with leadership from the Division of Sustainable Waste Management and support from the Office of Sustainability and Small Business Assistance Program. However, the PAC recommends the formation of a 12 – 15 member Steering Committee to assist the DEP in developing the overall statewide public education campaign with potential representation from the following organizations: Association of New Jersey Recyclers (ANJR), Clean Communities Program, Association of New Jersey Environmental Commissions (ANJEC), Sustainable Jersey, New Jersey Science Advisory Board, New Jersey Environmental Justice Council, a County Recycling Coordinator, a Municipal Recycling Coordinator, two New Jersey colleges or universities, the New Jersey School Boards Association and the Alliance for New Jersey Environmental Education (ANJEE). In addition to the proposed Steering Committee, the PAC feels it is essential to name a private sector advisory body to assist in the development and deployment of the Statewide plastics education campaign. PAC members representing stores and food service businesses should be invited to participate along with other manufacturers with a significant presence in New Jersey. Taken together, the goal of the Steering Committee and private sector advisory body will be to develop an expanded and multi-faceted education campaign that has input from government bodies, academia, associations, and private businesses. The PAC does not recommend Legislation to create these bodies or to name members. Coordination should be handled at the discretion of the Department.

OPPORTUNITY FOR ACTION #7

GET PAST PLASTIC PROMOTIONAL CAMPAIGN

Background: Prior to the effective date of Chapter 117 in May of 2022, significant public education and outreach programs were launched and carried out by key partner organizations, including the DEP, New Jersey Business Action Center (NJBAC) and Clean Communities Council (CCC). In terms of the reach of these campaigns, one measure is the “hits” recorded as metrics on each website. Here are some relevant statistics as reported in Section 1 of this report:

- CCC = approximately 3.1 million hits from January 2022 through May 2022
- DEP = approximately 205,000 hits from January 1, 2022, through September 6, 2022
- NJBAC = approximately 60,000 hits from October 2021 to August 2022
- Total = Over 3.2 million website hits

While these numbers are impressive and display the breadth of the implementation steps taken by the DEP and partner agencies, it remains unclear how widely compliance with the law has been achieved. The full scope of Chapter 117 is enormous and affects not only the 9.3 million members of the New Jersey general public, but also some 18,000 restaurants, 6,000 supermarkets and smaller grocery stores, 1,600 hotels, 1,000 event venues and many other entities. It is important in the early years of Chapter 117 implementation to make every effort to “get the word out” on both the provisions of the law and the need for plastics reduction and recycling in general.

Opportunity For Action: Opportunity for Action #6 discussed prior recommendations for the development of a Statewide education campaign, to be developed through a Steering Committee of the PAC, reporting to the DEP, as well as a private sector advisory body to ensure that the knowledge and experience of manufacturers, distributors, wholesalers, and commercial establishments are obtained and considered. The PAC views the education campaign to be inextricably linked to a promotional campaign, but different in terms of focus and marketing expertise. The PAC proposes that a subcommittee of the Steering Committee recommended in Opportunity for Action #6 be convened to simultaneously develop a public relations and marketing campaign. The campaign should develop effective advertising messaging and identify the most widespread use of social media outlets including Facebook, Instagram, Twitter, Recycle Coach and other available and appropriate apps, billboards, television, and radio. The common theme of the messaging should use the slogan Get Past Plastics as a unifying banner. The subcommittee should also seek to identify funding mechanisms for deploying the promotional campaign. The PAC also recommends that the marketing campaign bring in an “all State Agency” approach where each administrative agency is a participant. This type of approach is already in place with the Interagency Council on Climate Resilience created by Governor Murphy through Executive Order 89 and the all-agency approach being advocated by the Environmental Justice Advisory Council. All State agency education and promotional outreach should also be included as part of the new Governor’s Executive Order recommended by the PAC in Opportunity for Action #13. Finally, it is critically important that the messaging developed in the marketing campaign pay particular attention to the needs of traditionally underserved populations such as environmental justice communities and in multiple languages to ensure the broadest possible impact.

Recommendations Regarding Environmental and Public Health Considerations, Plastics Waste Reduction and Recycling

OPPORTUNITY FOR ACTION #8

MAJOR WASTEWATER TREATMENT PLANT (WWTP) OPTIMIZATION STUDIES

Background: Microfibers are the most prevalent form of microplastic found in natural environments (aquatic, atmosphere, soil) and the type of particle seen most often in living organisms sampled predominately from aquatic ecosystems. Point sources for this pollutant are linked to effluents discharged from wastewater treatment plants and sewage sludge disposal. Although treatment plants can have removal efficiencies of 90% of influent microplastics, since microfibers number in the hundreds of thousands per washing, even a 10% discharge into receiving waterbodies results in large quantities. The microplastics retained are concentrated in the sewage sludge, and so sludge disposal can also release microplastics into the environment. New

Jersey has the benefit of having upgraded regional WWTPs where 10 facilities across the state with existing flow of 20,000 million gallons per day or more manage wastewater from over 80% of the State's 9.3 million residents, as well as industrial wastewaters. Current WWTP permit requirements allow a maximum of 30 parts per million (ppm) total suspended solids (TSS) in the treated water discharged to the environment. If WWTPs are able to reduce their volume of TSS further, the number of microfibers discharged into receiving waters will also be reduced.

Opportunity For Action: Because WWTPs are regulated utilities in NJ, there is a pathway for DEP to begin working with plant operators to reduce microplastic releases to the environment. DEP also assists the New Jersey Infrastructure Bank with the technical review of loan applications submitted on behalf of municipal and regional wastewater system purveyors for infrastructure upgrades. As a first step it is recommended that DEP convene discussions with the utility authorities operating the 10 largest WWTP systems in the State to review opportunities to conduct optimization studies during 2023. It is further recommended that representatives of the New Jersey Infrastructure Bank participate in these discussions to evaluate economical ways to fund optimization studies. Each of the large regional WWTP facilities have detailed New Jersey Pollutant Discharge Elimination System (NJPDES) permits which require particle removal not to exceed 30 PPM. This concentration, however, should not be viewed as limiting voluntary measures identified through optimization studies to further improve particle removal efficiencies. The Camden County Municipal Utilities Authority (CCMUA) achieved actual removal efficiency of 5 PPM following an optimization study and deployment of implementation measures. In their effort to improve water quality, the utility achieved this result voluntarily and with minimal cost implications to ratepayers. It should also be stressed that increased TSS removal efficiencies will have collateral environmental benefits in reducing other contaminants, such as PCB and PFAS, discharges. In 2017 the American Water Works Association, through its Partnership for Clean Water Program, published an excellent guidance document - "Self-Assessment For Wastewater Treatment Plant Optimization" - which can serve as a valuable tool for New Jersey Authorities. Finally, the State should also consider the efficacy of engaging third-party environmental consulting services to perform a single optimization study on behalf of these major utilities.

After the initial focus on the 10 largest regional WWTP's performing optimization studies, the PAC recommends that the DEP evaluate opportunities for expanding this program, where possible, to the numerous smaller wastewater plants operating in the State. It is further recommended that the Department work with WWTP's to evaluate and develop Best Management Practices for the disposal of microfibers concentrated in biosolids after treatment. Improper final disposition of biosolids runs the risk of negative environmental impacts from leaching microfibers removed during wastewater treatment into surface waters. Finally, significant funding for infrastructure improvement projects is available or becoming available from Congress in programs administered by the USEPA. DEP should critically evaluate opportunities to apply for dedicated federal funding for wastewater treatment upgrades to specifically address microplastics. Such projects are clearly within the scope of the Federal Clean Water Act "fishable/swimmable" goal toward protection and propagation of fish, shellfish, and wildlife and recreation in and on the water.

OPPORTUNITY FOR ACTION #9

SUPPORT FOR PENDING MICRO-PLASTICS RELATED LEGISLATION

Background: In October 2022, three bills were introduced in the New Jersey Assembly which pertain to microplastics entering the environment, A4821, A4822 and A4823:

A4821 requires the Drinking Water Quality Institute (DWQI) to study the issue of microplastics in drinking water and to recommend a definition of microplastics in drinking water within two years. Further, DEP is required to adopt within three years regulations which include a methodology for the sampling, testing and reporting of the presence of microplastics in public drinking water systems.

A4822 requires DEP, within one year, to establish and implement a program to provide rebates to State residents to encourage the purchase of microfiber washing machine filters and replacement filters and to reduce the amount of microfiber pollution in the State.

A4823 requires the DEP and BPU to commence a comprehensive, collaborative study evaluating the feasibility and benefits of using filtering systems and technologies to remove microplastics from drinking water and wastewater in the State and to report their findings to the Governor and Legislature. After report submission, the agencies are also required to engage in an ongoing, cooperative public education and awareness campaign, consistent with the findings in the report, and take other appropriate action to inform system owners or operators and members of the public about the threats to human health and the environment that are posed by microplastics and importance of microplastic filtering systems.

Opportunity For Action: The PAC supports the need for all three bills to progressively address the issue of micro-plastic fibers entering the New Jersey environment, although not all members of the PAC are in agreement with all details of the current drafts. It is recommended that DEP and BPU actively participate in the public process associated with the movement of these bills through the New Jersey Legislature. The PAC further recommends that the DEP consider asking the Legislature within the context of the comprehensive study discussed in A4823, to include the contribution of bottled water in human microplastic exposure and the release of microplastics into the environment when plastic bottles breakdown. Currently proposed timeframes within A4822 and A4823 appear unrealistically ambitious and would benefit from critical feasibility evaluation and comment from the Department and Board as well. However, definitive action to address microfibers in drinking water, incentives to reduce homeowner induced microfiber pollution, study of the effectiveness of filtering systems and technologies and microplastic education are all endorsed by the PAC. Further, there should be careful evaluation of the resources needed to implement each bill, such as funding for studies and an evaluation of staff and other resources needed. (The education component is further addressed in Opportunity for Action #6. Funding for implementation of various bills is discussed further in Opportunity for Action #20.)

In the coming year, the PAC intends to meet with manufacturers of washing machines to discuss what they can do to address the problem of microplastics from clothes washing.

OPPORTUNITY FOR ACTION #10

EVALUATING THE NEED FOR NEW MICRO-PLASTICS RELATED LEGISLATION

Background: Some national and state government bodies have begun to take steps to manage and reduce microfiber pollution through legislation, planning, and research. The European Union has taken significant steps to reduce plastic pollution broadly. There are very few international or national policies that specifically address microfiber pollution. However, France is the first and only country to pass legislation related to microfibers, in 2020, mandating that all new washing machines have in-wash filters by 2025. In addition, as of this report release, the provincial government of Ontario, Canada put forward a microfiber bill requiring in-wash filters that is in its third reading and anticipated to pass into law in 2023. Ontario's Bill 279 amends Canada's *Environmental Protection Act* to prohibit the sale or offering for sale a washing machine that is not equipped with a filter for removing microplastics that has a maximum mesh size of 100 microns or such smaller mesh size as may be prescribed by regulation.

California has also introduced multiple proposed bills that address microfiber pollution, including two recent bills: Assembly Bill 1628 that requires filtration on all new washing machines sold in the state, and Assembly Bill 802 that mandates the California Regional Water Control Board to identify the best available control technology for filtering microfibers from an industrial, institutional, or commercial laundry facility. Although neither bill was passed into law, similar legislation may be introduced in future sessions of the California State Legislature. Finally, Oregon recently introduced Senate Bill [405](#) which similarly would prohibit the sale of new clothes washers unless washers are equipped with built-in or in-line microfiber filtration systems.

Opportunity For Action: As part of its second-year workplan, the PAC will more thoroughly review and consider the above referenced French and Canadian legislation as well as monitor proposed legislation in California and Oregon. Following review, the PAC will coordinate with the DEP Division of Sustainable Waste Management to assess the need and potential framework for New Jersey legislation for consideration by DEP senior management. If acceptable to the DEP, the PAC hopes to work with leadership within the Senate Environment & Energy Committee and Assembly Environment and Solid Waste Committee toward the introduction of a measure requiring microfiber filtration on all new washing machines offered for sale in New Jersey. Another key focus area will be commercial laundry facilities.

OPPORTUNITY FOR ACTION #11

NEW JERSEY ACADEMIC INSTITUTION COLLABORATION TO CLOSE RESEARCH GAPS & PUBLIC OUTREACH

Background: With the founding of Queens College (now Rutgers) and the College of New Jersey (now Princeton), only in the colony of New Jersey were institutions of higher education established before the writing of the Declaration of Independence. Today New Jersey is home to Rutgers, a nationally recognized research university and medical school, prestigious Princeton University, numerous public and private colleges and universities, and an extensive network of community colleges. These educational resources offer a tremendous opportunity for New Jersey to lead the country in the research needed to manage and minimize global plastic use.

“Research with New Jersey,” is led by the State to increase innovation exchange, establish greater collaboration between academia and industry, aid universities in managing research enterprise, and help to market New Jersey as a center of innovation. A search of the Research with New Jersey website ([New Jersey Research Community \(researchwithnj.com\)](http://researchwithnj.com)) shows 5 universities in the State (Rutgers University, Princeton University, New Jersey Institute of Technology, Rowan University, and Montclair State University) have 76 researchers, in 30 research units and 4 core facilities, working on 24 grants or projects related to plastics; 9 of these researchers are focused on microplastics. Research output already exceeds 2,800 articles, papers, and conference presentations.

Five urgent areas of research that require academic collaborations to support new material development and the reduction of human and environmental risks caused by increasing levels of plastic pollution include:

- Improving effectiveness of plastic waste management and reduction processes and public policies that clarify plastic degradation (including composability) and increased recycling;
- Development of new materials to replace plastics that meet current and future needs;
- Research to quantify the fate and transport of plastic in the environment and plastic’s impacts on aquatic and soil organisms, especially those that are the base of food chains;
- Research to quantify the fate and transport of plastic in the environment to determine human exposure and human health risks associated with micro- and nano-plastics;
- Research to understand movement and effects of micro- and nano-plastics within the human body.

To address these research issues collaborations between environmental, material, and civic engineers, toxicologists, medical researchers, biochemists, environmental scientists, human ecologists and public policy experts are critical. As knowledge related to plastics increases, a holistic public outreach campaign is needed to educate the general public about new products, processes, consumer decisions, and potentially regulations that can reduce reliance on plastics. New Jersey’s public educational institutions are uniquely positioned to deliver public service outreach.

Opportunity For Action: To maximize the expertise of New Jersey’s talent pool, the Research with New Jersey model should be explored to initiate collaboration among plastic experts to increase New Jersey’s focus on issues related to plastics and conduct the research needed to address these critical plastic issues. The Office of the Secretary of Higher Education makes recommendations to the Governor and Legislature on higher education initiatives and incentive programs of statewide significance. The New Jersey Presidents’ Council represents New Jersey’s public, private, and community colleges and universities and is responsible for reviewing and recommending proposals for new academic programs. The PAC recommends that the DEP Commissioner’s Office coordinate with the Governor’s office to reach out to these parties and encourage their support and collaboration in focusing on plastic related research. A working group of the Council, to include representation of the DEP’s Science Advisory Board, should be considered to explore federal and industry funding support for this research.

OPPORTUNITY FOR ACTION #12

CAPITALIZING ON MICROPLASTIC RESEARCH AND REGULATION OUTSIDE NEW JERSEY

Background: Reducing and regulating release of plastic in the environment is complicated, needing cooperation from multiple public entities. Like New Jersey, a number of other states, countries, public agencies, and non-profit organizations are engaged in initiatives to understand the impacts of both human and environmental exposure to microplastics, as well as regulating environmental release of plastic pollution. Examples of some recent actions being taken outside of New Jersey include the following:

- In September 2022, California released a Statewide Microplastic Strategy and became the first government in the world to require microplastics testing for drinking water.
- Five years ago (2018) the Government of Canada developed a Strategy on Zero Plastic Waste, which contains ten areas that span the lifecycle of plastics, from product design to collection and recycling to clean-up. The strategy also includes a research focus and monitoring systems to inform decision making and measure performance. In 2022 Canada passed a law similar to New Jersey's that bans single-use plastic bags and straws.
- France has passed a law requiring all washing machines sold from 2025 onward contain a filter capable of capturing microfibers, removing them from the washing machine wastewater.
- The USEPA is working to establish reliable and reproducible sampling and analytic methods capable of characterizing and quantifying microplastics in water and sediment samples.
- The Interstate Technology Regulatory Council (ITRC) has produced a microplastic toolkit for environmental professionals and now offers online training.

Opportunity For Action: New Jersey has an opportunity to capitalize on the expertise and regulatory experiences available through these diverse public and private sources. This will require outreach, collaboration, and strengthening existing connections with Federal agencies, other States, and non-profit organizations. A model for this collaboration is the collaboration between the DOH and the DEP. The DOH sits on committees such as the Toxic and Biota (TBC) and the Shellfish Resource Recovery Steering committee (SRRSC). The State would also benefit from capitalizing on the collaboration between DEP and the DOH to coordinate research and data collection related to microplastic environmental and potential human health impacts in New Jersey. The TBC includes regulatory staff and scientists from DOH and DEP. This committee reviews known and possible toxic elements in the environment affecting sea animals which are consumed by humans. The committee provides an annual guidance document which is publicized for the consumption of seafood. The latter group, SRRSC, is an unofficial committee developed by the DOH and DEP to review issues that arise in the growing, harvesting, and distribution of shellfish in New Jersey. This committee includes members from DEP, DOH, NJDA, and the FDA. The New Jersey Department of Environmental Protection would be the appropriate agency to lead this collaborative effort.

OPPORTUNITY FOR ACTION #13

PROMOTING WASTE REDUCTION AT ALL PUBLIC FACILITIES AND CONSIDERATION OF EXECUTIVE ACTION

Background: Before becoming mandatory in 1987, recycling was a voluntary activity spread irregularly across New Jersey. After mandatory recycling was introduced, it took many years to develop this fledgling industry into the robust business sector it represents today, employing some 27,000 workers and adding almost \$6 billion annually to the New Jersey state economy. After some years of developing this program, it was realized that government is a key player in driving the success of recycling both in “practicing what we preach” by implementing aggressive state agency recycling programs and through procurement of products manufactured or produced from recycled materials. In the aggregate, purchases by federal, state, and local governments account for roughly 20 percent of the Gross Domestic Product of the United States. In this regard, sweeping Executive Orders were adopted by Governor Jim Florio and later by Governor Jon Corzine which stimulated markets for recycled material. More specifically:

- Executive Order #34 addressed state agency and instrumentality recycling in 1991 (Governor Florio): <https://www.state.nj.us/infobank/circular/eof34.htm>
- Executive Order #91 established sweeping purchasing goals by all state agencies and instrumentalities, with price preferences, in 1993 (Governor Florio): <https://www.state.nj.us/infobank/circular/eof91.htm>
- Executive Order #11 reinvigorated the Governor Florio Executive Orders and included an extraordinary scope of recycled products in an Addendum with a 15% price preference in 2006 (Governor Corzine): <https://www.state.nj.us/infobank/circular/eojsc11.htm>

Opportunity for Action: In April 2022, the State Recycling Market Development Council (RMDC) released its report to the Governor and Legislature. Recommendation 11 included: *Enactment of an Executive Order and state law on state agency “green” purchasing. The Council recommends that an Executive Order on state agency “green” purchasing be adopted as a short-term measure. The recommended Executive Order could simply be a re-issuance of Executive Order #11 (Corzine) or an entirely new order and should focus on the purchase of post-consumer recycled content products by state agencies. In addition, the Council recommends that a new comprehensive state law on state agency “green” procurement be enacted as a long-term measure. The Council further recommends that both measures include a 15 percent price preference for the purchase of post-consumer recycled content products. The Council also recommends that such a law include a requirement that an annual report on state agency purchasing of recycled products be prepared by the New Jersey Department of Treasury, Division of Purchase and Property at the conclusion of each calendar year, sent to the Legislature annually and posted on the DPP website.* The PAC strongly endorses this RMDC recommendation to address state agency recycling, “green procurement” and in addition, recommends inclusion of waste reduction measures. The PAC is willing and able to prepare draft language for DEP and Governor’s Office consideration as part of its second-year workplan. Elements should consider:

- State agency plastic waste reduction procurement strategies to limit the purchase of materials and supplies made from single-use plastics;
- The provision of water refilling stations at all State facilities to coincide with reductions in the sale of beverages sold in single-use plastic containers. This would include all State parks, forests, recreation areas, historic sites, marinas, sports venues, State colleges and

universities and State office buildings. Single-use container reductions would be phased-in through the use of procurement specifications once existing contracts with vendors have expired;

- Steps needed to implement disposable-free dining of all food consumed within or sold from State-operated facilities through use of reusable, durable tableware;
- Requirements for zero waste events held at or by State agencies and other instrumentalities of the State including all State Authorities and institutions, such as hospitals, prisons, colleges and universities. This would include meetings, conferences, celebrations and other public and recreational events.

Beyond executive action applicable to State entities, the PAC also volunteers to develop recommendations as part of its second-year report on how these measures can be adopted and implemented by county and municipal governments.

Finally, consistent with the RMDC recommendation, the PAC strongly endorses the drafting of comprehensive legislation on government procurement to codify the green procurement practices into State law in the longer term. In this regard the PAC will collaborate with similar efforts by DEP and study federal and state models for green procurement legislation as part of its second-year workplan with focus on plastic waste reduction and recycling.

OPPORTUNITY FOR ACTION #14

EXPANDED WASTE REDUCTION AND RECYCLING IN SCHOOLS

Background: New Jersey has approximately 2,500 K-12 public schools and nearly 600 school districts. This universe is substantially larger when private and charter schools are added in. New Jersey also has nearly 70 institutions of higher learning including public colleges and universities (11), private colleges and universities (14), community colleges (18), for-profit institutions (9) and religious institutions (15). New Jersey has a robust voluntary platform in place to advance sustainability through “Sustainable Jersey for Schools” (SJS) program. Currently, 390 school districts and 1,082 individual schools are registered and participating in this certification program. This represents 64% of the public school systems in the State. Since its inception in 2014, SJS has had alignment and significant support from the New Jersey School Boards Association and New Jersey Education Association (NJEA). A small grants assistance program is also in place and is funded by the PSEG Foundation, Gardinier Environmental Fund and NJEA. SJS currently has 22 “action areas” or activity categories where schools can earn points toward certification. Several provide a platform to advance plastics waste reduction and recycling including: “Green Cleaning Equipment,” “Green Purchasing Policy,” “Access to Healthy Water in Schools,” “Waste Audit,” “Materials Reuse,” and “Recycling Non-Mandated Materials.”

Opportunity For Action: As part of its second-year workplan, the PAC recommends collaboration with Sustainable Jersey, the Association of New Jersey Recyclers, New Jersey Schools Boards Association, NJEA and other partners to review existing actions and help develop new actions to advance plastics waste reduction and recycling in schools. Focus areas will include:

- Plastic waste reduction procurement strategies to limit the purchase of materials and supplies made from single-use plastics;

- The provision of water refilling stations to reduce dependence on single-use water bottles and other plastic beverage containers;
- Installation of dispensing stations for cold beverages in school cafeterias;
- Steps needed to implement disposable-free dining through use of reusable, durable tableware and installation of dishwashing equipment in school cafeterias;
- Developing guidance on how to conduct zero waste events held at schools;
- Low-cost procedures for conducting waste audits toward understanding plastic waste generation and recycling in schools; and
- Methods of funding the above-referenced actions to reduce and recycle plastics.

Toward implementing this recommendation, a PAC workgroup will assist in the review of existing actions and drafting new program actions consistent with the procedures of the Sustainable Jersey for Schools Certification Standards Committee format and in consultation with the existing Waste Management Task Force.

OPPORTUNITY FOR ACTION #15

REDUCE PACKAGING AND INCREASE RECYCLING THROUGH EXTENDED PRODUCER RESPONSIBILITY LEGISLATION

Background: On January 19, 2022, Governor Murphy signed into law the “Recycled Content Act.” This law will require manufacturers to utilize certain percentages of post-consumer recycled content when manufacturing new products, which increases over time on different schedules by material established in the statute. The law was primarily focused on plastic beverage containers, rigid plastics, plastic trash bags and glass, along with an outright ban of the use of polystyrene packaging peanuts. The next “frontier” in materials management public policy is “Extended Producer Responsibility” (EPR) where “producers” (manufacturers) take responsibility for the products and the packaging they produce once those products and packaging enter the waste stream. EPR shifts the economic burden of the cost of materials management from the government to the producer of the product. Introduction of EPR for hard to recycle items throughout New Jersey can increase the effectiveness of existing recycling programs. EPR is expected to support the plastics recycling market and increase the amount of money generated for recycling which could then, in turn, be available to partially substitute and support equipment upgrades at processing facilities. New technologies including robotics and optical sorters increase the amount and variety of material that recycling facilities can take in and improve separation efficiency and marketability.

Opportunity For Action: In 2022, the Legislature introduced the “Product Packaging Stewardship Act” (S426/A1444) which would establish an EPR framework for New Jersey. The states of Maine, Oregon, California and Colorado have adopted EPR laws, none of which have yet reached the full implementation phase. The PAC supports the adoption of strong EPR legislation in New Jersey which addresses a number of key guiding principles and objectives including:

- Support for the environmental justice objectives outlined in the New Jersey Environmental Justice Law and regulations related to recycling and recycling facility siting and the evaluation of environmental and public health impacts upon overburdened communities;

- Development of a system that generates strong environmental, social, and economic outcomes efficiently with minimal impact to consumers and measurable accountability provisions;
- A strong focus on packaging reduction;
- Performance, under a comprehensive bill, of a “needs assessment” to articulate the current status of waste reduction and recycling efforts in the State and which identifies any needs required to achieve established performance goals;
- Analysis of a management and oversight structure to coordinate implementation, such as through a Producer Responsibility Organization(s) or PRO(s);
- The role of government(s), primarily the DEP, in the administration of the program as well as its scope of oversight over stewardship plans, cost principles employed by the PROs, and accountability of participants;
- Establishment of minimum performance goals for plastics use reduction, recycled-content in manufacturing and increased plastics recycling;
- Reduction of potentially toxic chemicals used in the manufacturing of plastic and other forms of packaging;
- Appropriate timeframes for implementation;
- Use of existing recycling collection and processing infrastructure to ensure that the core system developed over the past 35 years continues to be utilized;
- Ensuring the availability of sufficient quantities of recovered plastics through recycling to support a circular economy; and
- Increased public education on the importance of reducing packaging and associated waste.

As of the writing of this report, hearings are ongoing on bill S426 in the Senate Environment and Energy Committee. As part of its second-year Workplan, the PAC will further study the pending legislation, mindful of the above referenced guiding principles and objectives, and provide the DEP with input for consideration as part of their participation in the process. Subject matter experts may be called upon by the PAC to advise the DEP with best available information.

OPPORTUNITY FOR ACTION #16

TRUTH IN LABELING

Background: Related to public education in plastics recycling is the issue of claims made by manufacturers regarding the recyclability of products or packaging which remain an obstacle toward the achievement of our statewide and county recycling goals. As highlighted in Opportunity for Action #6 above, confusion over “what is and isn’t recyclable” is a critical issue that hampers curbside, drop-off and multi-family recycling programs across every municipality in the State. In this regard, Senator Fred Madden sponsored S2145, which was introduced in March of 2022. This type of legislation is commonly referred to as “truth in labeling.” S2145 would prohibit the sale, distribution, and import of certain products marketed as recyclable through display of the chasing arrows symbol surrounding a plastic resin identification code, unless DEP determines that products are widely recycled. Similar legislation was enacted in the State of California in 2021 as Senate Bill 343 to address misleading or confusing claims made on products and packaging. This law does not become effective until 2026, thus providing for approximately a 5-year lead time to implementation. Other states, namely New York and Maryland, have legislative proposals under consideration at this time.

The State of Oregon took a different approach and created a “Truth in Labeling Task Force” to study the concept within the context of Oregon’s existing solid waste and recycling system prior to advancing legislation. The Oregon Task Force report, generating specific recommendations, was recently completed and released in June of 2022 and submitted to the State Legislature for consideration. We believe a similar measured approach is best for New Jersey to take regarding this complex issue.

Opportunity For Action: The PAC believes that “truth in labeling” is an issue warranting further study and that product and packaging claims are a contributing factor to confusion in plastics recycling and in rising contamination levels at Class A recycling facilities operating in the State. Truth in labeling analysis will involve reevaluating the efficacy of using the chasing arrows symbol to guide recycling behavior and to devise a procedure for verifying manufacturer/producer environmental claims. The PAC offers a three-pronged recommendation in this regard. First, should S2145 and/or an Assembly counterpart be posted for hearing in the Senate Environment and Energy Committee or Assembly Environment and Solid Waste Committee, the PAC will provide technical assistance to the DEP to consider in commenting on the proposal. The PAC further recommends that the DEP advise the bill sponsor(s) and committee members that the PAC plans to form a workgroup of internal members and external partners to study truth in labeling legislative models in place or under development in California, New York, Maryland and Oregon as part of its second-year workplan. The PAC does not recommend legislation to create such a task force, as was done in Oregon, and will structure its workgroup under the umbrella of its existing Plastic Reduction and Recycling Committee. Work is anticipated to begin in this regard in April 2023. Finally, the PAC recommends that the DEP participate in the stakeholder process being conducted at this time by the Federal Trade Commission (FTC) toward updating its “Green Guides.” The Green Guides were first issued in 1992 and were revised in 1996, 1998, and 2012. They provide guidance on environmental marketing claims, including how consumers are likely to interpret particular claims and how marketers can substantiate these claims to avoid deceiving consumers. In updating these guides, the FTC is requesting input from State’s on whether the guides are compatible or conflict with existing definitions contained in regulatory codes.

OPPORTUNITY FOR ACTION #17

FOSTERING A REUSE AND REFILL GREEN BUSINESS ECONOMY

Background: Recycling rate statistics are very difficult to compare since programs across the country have historically been delegated to states and localities by the federal government. This being acknowledged, New Jersey’s mandatory recycling program has been successful for the past 35 years. According to the USEPA, the national recycling rate stands at 32%. The latest available New Jersey statistics for municipal solid waste recycling stands at 39% and this figure has stood as high as 44% several years ago. The total waste stream recycling rate in New Jersey, including construction and demolition debris stands at 55%. While recycling rates can be debated, there is no question that very little has been done historically in New Jersey or nationally to effectively “reduce” waste generation. State and national statistics show that we continually generate more waste. At both the national and state level, waste reduction is the highest objective in the waste management hierarchy, yet the focus has predominately been on recycling. Transitioning to a reuse and refill green business model is clearly the direction needed, especially with respect to reducing dependence on plastics.

While waste reduction has largely been ineffective, progressive green business models do exist in the United States and here in New Jersey. Examples of businesses and programs that are currently in the reuse space are GOATOTE, Re:Dish, Rethink Disposal and LOOP. GOATOTE is a reusable bag system that allows consumers to check out clean reusable bags and return them to stores for a nominal cost. The bags are then sanitized and put back into circulation. Re:Dish reusable container and dishware program is available to schools, municipalities, companies, and event menus. Re:Dish delivers and collects containers and cups, cleans and sanitizes them at an industrial washing facility, and then returns them back into service. Both companies measure the environmental impact of their reuse products/service. The ReThink Disposable program from Clean Water Action/Clean Water Fund of California provides data and numerous case studies to demonstrate that reuse saves food business operators money and local governments in waste reduction. Based on data from over 250 businesses, annual waste elimination is over 262,000 pounds with savings of \$656,000. On a larger scale, Giant Foods in Washington DC has partnered with Terracycle's (Trenton, NJ) LOOP platform. Shoppers can choose durable, reusable containers from more than 20 products from global companies such as Kraft-Heinz and Nature's Path that can be returned to the store.

Opportunity for Action: To support NJ's reuse and refill economy, and truly advance waste reduction, comprehensive policies are needed with proper financial and regulatory incentives. Options for consideration include:

- Programs to advance reusable or refillable options to be provided to customers while being mindful of food packaging requirements related to public health and safety;
- Developing public policy targets for waste reduction advanced through a reuse/refill green business economy as exist for recycling with the legislatively established 50% and 60% recycling rate targets for the municipal waste stream and total waste stream respectively. Such targets should be considered for inclusion in any executive action taken as discussed in Opportunity for Action #13 related to the activities of State agencies;
- DEP and DOH to identify and remove, where applicable and appropriate, regulatory barriers to using reusable/refillable products;
- Economic incentives through the Economic Development Authority to support businesses that offer reuse/refill options by providing tax and other financial incentives;
- Developing tools for municipalities and schools to practice reuse/refill options through zero waste events and disposable-free dining ordinances currently being advanced through the Sustainable Jersey Program.

As part of its second-year workplan, the PAC will use its existing committee structure to further evaluate available options to foster a reuse/refill green business economy and report its findings to the DEP.

OPPORTUNITY FOR ACTION #18

STANDARDIZATION OF DESIGNATED RECYCLABLE MATERIALS FOR PLASTICS #1, #2 AND #5

Background: The current level of confusion surrounding curbside recycling in New Jersey was previously addressed under Opportunity for Action #6 related to developing a public education campaign. Another area for attention is the concept of “standardization” of designated recyclable materials across New Jersey’s 21 counties. Since passage of the Mandatory Recycling Act in 1987, each County has been empowered to “designate” what specific materials are required for recycling by every resident, business, institution and industrial facility located in the county (no generator is exempt under the law). While there is significant similarity in the county lists of required materials for recycling, it is accurate to state that there are 21 different lists effective in New Jersey. This has led to confusion, elevated levels of “wishful recycling” and unprecedented contamination in the recycling stream. Without question, plastics recycling creates the most confusion and wishful recycling due, to some extent, the complexities of plastic manufacturing and the International Resin Identification Coding System first established in 1988 with the following number designations:

- #1: polyethylene terephthalate (PET) (beverage bottles, cups, other packaging, etc.)
- #2: high-density polyethylene (HDPE) (bottles, cups, milk jugs, etc.)
- #3: polyvinyl chloride (PVC) (pipes, siding, flooring, etc.)
- #4: low-density polyethylene (LDPE) (plastic bags, six-pack rings, tubing, etc.)
- #5: polypropylene (PP) (auto parts, industrial fibers, food containers, etc.)
- #6: polystyrene (PS) (plastic utensils, Styrofoam, cafeteria trays, etc.)
- #7: (OTHER)/(PLA) other plastics, such as acrylic, nylon, polycarbonate and polylactic acid.

Generally, #1 and #2 plastics are required to be recycled in every New Jersey County Recycling Plan, while some also include #5, and with some processing facilities welcoming all #1 – #7 to be included for curbside collection. Counties and municipalities are challenged with recycling instructions for different kinds of plastics. Some municipalities accept #5 plastics while others discourage it. Some municipalities encourage residents to recycle cartons (aseptic boxes) that have plastic components, while others discourage it. This is because some recycling processing facilities prefer certain types of plastics. Clearing up the confusion by standardizing the plastics that are required to be source separated would bring more credibility and uniformity to our recycling education and information. Some nearby States, most notably Connecticut, have a single statewide list of required materials for recycling which New Jersey should explore.

Opportunity For Action: The PAC proposes to work with the DEP, the Association of New Jersey Recyclers (ANJR), counties, municipalities and the private sector as part of its second-year Workplan to evaluate how other states and localities have addressed uniformity in mandatory recycling programs and which materials have been included/excluded. Specific focus will be on plastics with an initial recommendation to review how best to require the recycling of plastics #1, #2 and #5 across all New Jersey counties and municipalities. In such a review it will be unavoidable to also evaluate a full range of statewide mandatory materials for consideration in

including various grades of paper, cardboard, aluminum, glass, tin and bi-metal cans and other appropriate materials.

OPPORTUNITY FOR ACTION #19

ESTABLISH A PLASTICS REDUCTION AND RECYCLING EQUIPMENT/INFRASTRUCTURE FINANCING PROGRAM

Background: The “New Jersey Mandatory Source Separation Act” was passed in 1987 and, among other landmark provisions, was the establishment of a “Recycling Tax” of \$1.50 per ton on solid waste disposed at landfills and transfer stations statewide. In accordance with the Recycling Act, revenue from this tax was credited to the State Recycling Fund and allocated and used for the following purposes:

- 40% - municipal and county recycling tonnage grants
- 35% - low interest loans or loan guarantees to recycling businesses and industries and recycling market development research;
- 10% - public information and education;
- 8% - county recycling program grants; and
- 7% - state recycling program planning.

The Recycling Tax portion of the Act expired in 1996. In 2008 the “Recycling Enhancement Act” was passed and reestablished a source of funding for recycling in New Jersey through a \$3.00 per ton tax on solid waste accepted for disposal or transfer at in-state solid waste facilities. Solid waste being transported out of state, either directly or by railroad, is also subject to the new recycling tax. The formula for disbursement of these funds was changed, as follows, with the business recycling low interest loan and loan guarantee provisions excluded:

- 60% goes to municipal and county tonnage grants
- 25% to counties for preparing and implementing their solid waste and recycling plans
- 5% to counties for recycling education
- 5% to the DEP for program planning and administrative expenses, and
- 5% to DEP to provide grants to institutions of higher education to conduct recycling research

As such, there has been no source of funding to assist in recycling infrastructure development since the sunset of the original Recycling Tax some 26 years ago. Recycling marketable plastic remains a challenge for recycling “Intermediate Processing Facilities” (IPFs) and sorting plastics properly can help keep costs low for both IPF’s and their customers, which include New Jersey municipalities and ratepayers. Assisting the recycling industry (public and private processing facilities) with low interest loans to help upgrade equipment and purchase new technologies can help improve sorting and therefore reduce contamination and improve the chance that plastics can be sold to end markets.

Opportunity For Action: The PAC believes that some form of financial assistance program should be reestablished and made eligible for both plastics reduction in the public and private sectors as well as for recycling processing facilities in the State. The New Jersey Recycling Market Development Council (RMDC) made this same recommendation regarding recycling in

their final report to the Governor and Legislature dated April 2022. As part of its second-year workplan, the PAC will form a committee and consult with former RMDC members to further evaluate how recycling infrastructure can be funded, especially to address the complexities of plastics recycling. Federal funding is also becoming available for recycling infrastructure development. The DEP has applied for funding to address needed education for general recycling, including plastics, under the Bipartisan Infrastructure Law which provides \$275,000,000 total from Fiscal Year 2022 to Fiscal Year 2026 for grants authorized under the Save Our Seas 2.0 Act. EPA will make available \$30 million in Fiscal Year 2023 for states and territories to improve post-consumer materials management programs through planning, data collection, and the implementation of plans. It does not appear that private entities would be eligible under current available funding. However, Save Our Seas 2.0 did require USEPA to evaluate the feasibility and utility of making recycling infrastructure eligible for funding under the longstanding “State Revolving Fund Program.” Under this program, over \$7 billion in financing has been authorized through the New Jersey Water Bank (formerly Environmental Infrastructure Trust Program) administered through the Municipal Finance and Construction Element of the DEP’s Division of Water Quality. These funds have resulted in significant upgrades to water and wastewater infrastructure development and enhancement across New Jersey for over 30 years. This model is particularly appealing as, in the case of water quality system financing, both public and private entities are eligible for low-interest financing. Beyond the above noted programs, there is unprecedented legislative activity in Congress with respect to recycling and infrastructure development. Just a portion of pending bills include:

- Save Our Seas 3.0
- RECOVER Act
- RECYCLE Act
- Break Free From Plastic Pollution Act
- Plastic Waste Reduction/Recycling Act
- Zero Waste Act

The PAC will review and identify potential funding sources for recycling infrastructure development and enhancement and look to identify effective funding models in other states.

OPPORTUNITY FOR ACTION #20

EFFECTIVE COLLABORATION WITH THE LEGISLATURE AND STATE AGENCY FUNDING

Background: The New Jersey Legislature has a long legacy of enacting among the most progressive environmental statutes in the country. Enacting the United States’ first “Mandatory Recycling Act” in 1987 and comprehensive “Clean Communities” litter abatement program in 1986 are but two examples related to the work of the PAC dating back some 35 years. In recent years sweeping legislation was enacted or proposed which also is highly relevant to the work of the PAC including:

- Single-Use Plastics Law, Chapter 117: S846/A1978 (2020 - 2021 Session)
- Recycled Content Law: S2515/A4676 (2020 – 2021 Session)
- Recycling Market Development Council Law: S3939/A5681 (2018 – 2019 Session)
- Proposed Packaging Product Stewardship Act: S426/A1444 (2021 – 2022 Session)

- Proposed Truth in Labeling Act: S2145/A1554 (2021 – 2022 Session)
- Proposed Microplastics Related Bills referenced in Opportunity for Action #9:
 - S3283/A4821: Microplastics and Drinking Water Quality Institute definitions: (2021 – 2022 Session)
 - S3281/A4822: Rebates for purchasing microfiber washing machine filters (2021 – 2022 Session)
 - S3282/A4823: Comprehensive study of microfiber filtration technology and public education program: (2021 – 2022 Session)

In some cases, these critically important initiatives are passed with limited dialogue between the Legislature and administrative agencies charged with implementation of the law or specifically assigned duties. Opportunities for such dialogue are clearly available, by law, as part of the legislative process with numerous public hearings required in both the Senate and Assembly committee structure. It is also recognized that the Governor is empowered with veto and conditional veto authority by law if deemed necessary or requiring modification. What occurs often is that bills are introduced with limited coordination with administrative agencies which places Departments like the DEP, BPU and DOH at a disadvantage as a result of not having participated in discussions, goal setting or directional meetings from the beginning of the legislative process. Further, it is common for important bills to be passed without legislative appropriation to provide agencies with the resources needed to carry out the legislative program or directive. Authorization for agencies to develop and assess fees to cover administrative costs requires rulemaking which is an extensive process under the provisions of the Administrative Procedures Act where associated timeframes often conflict with statutory deadlines.

Opportunity For Action: The PAC understands the sanctity of the legislative process carried out by our elected officials, as well as the separation of powers between the legislative, executive and judicial branches of government. It is further clearly understood that legislative leaders are fully empowered to propose measures for hearing and consideration under the constitution without first engaging with the Governor’s Office or administrative agencies. Notwithstanding this understanding, the PAC recommends that legislative leaders, where possible, engage in discussion with administrative agencies before plastics and recycling-related bills are introduced to get substantive input and advice on technical issues, feasibility, timeframes and resources needed for implementation prior to posting bills for public comment. Earlier engagement by legislators with administrative agencies will result in more informed bills, which are particularly relevant in the context of an issue with the gravity, complexity, and urgency of plastics in our environment. It is also respectfully recommended that the Governor’s Office support and encourage the active involvement of administrative agencies as early as possible in the legislative process to engage legislative leaders through regular meetings and in both written public comment and oral testimony. Further, where possible, it is recommended that direct appropriations be included in bills to cover the costs of implementation as opposed to authorizations to develop fee-based rules.

Minority Position – Dissenting Views

Throughout the past 12 months, PAC members have worked cooperatively in monthly PAC meetings in an attempt to develop consensus recommendations to present to the Governor and Legislature. By and large, this was achieved as the vast majority of the above listed “Opportunities for Action” reflect consensus positions. However, given the diversity the organizations participating in the PAC, this was not possible in all cases. As a result, an opportunity to express dissent was afforded to all members. The New Jersey Food Council felt compelled to offer a dissenting opinion on a number of the Opportunities for Action, and their responses are included verbatim below:

NJFC has concerns with Opportunity for Action #2 and #5. Opportunity for Action #2 suggests the need for clarifications related to some key definitions provided in Chapter 117 through rulemaking from the DEP anticipated in 2023. This Recommendation specifically mentions creating two new definitions for “washable” and “stitched handles.” We disagree that the definition of “washable” should be limited to “able to be cleaned by submersion in water and agitation,” as this seems to suggest that only machine-washing is the appropriate way to clean a reusable bag. While machine washing may be appropriate for some bags, hand-washing has the benefit of not releasing micro-plastic and micro-fibers at the same rate as machine-washing. Moreover, consumers are more likely to run a separate machine cycle for their reusable bags as they will not want to wash them with their clothing and other personal items. Regarding the definition of “stitched handles,” DEP has already provided guidance as to what constitutes a stitched handle, and it excludes any type of adhesive. It does include sewn-stitch and ultrasonic/mechanical stitching which are both commonly used throughout the industry. Sewn-stitched products generally are imported from countries such as China and other Asian-Pacific countries due to the manual labor involved in hand-stitching. They are more expensive and have larger greenhouse gas emissions due to their production and shipping. Ultrasonic/mechanical stitching is the predominate method of manufacturing reusable bags in the United States and Europe. This process is scientifically proven to be just as strong as sewn-stitched bags and creates a more affordable bag for consumers. Any concerns regarding the durability of a reusable bag and its stitching can be addressed through Opportunity for Action #3.

Opportunity for Action #5 addresses a recent interpretation by the New Jersey Department of Health regarding the inability of a self-service retailer to allow customers to take single-use plastic straws at their discretion. The recent interpretation requires that a customer make a request to an employee of the store to receive a plastic straw in self-serve areas. NJFC disagrees with this interpretation as it does not comport with the legislative history surrounding the inclusion of the phrase “straw upon request” in the Law.

Further, the NJFC cannot support the following. Opportunity for Action #15 - Extended Producer Responsibility (EPR) Legislation: NJFC members are committed to sustainability and working toward a circular economy, which includes increasing recyclable content, minimizing packaging, or reusing material. However, the NJFC finds certain EPR objectives included in this report to be unworkable. Legislation based on these objectives would result in extremely complex new systems which are not feasible to implement. This legislation would include onerous requirements for producers to achieve specific source reduction goals and recycling rates by certain dates. However, to ensure food safety, packaging is designed to ensure the food remains fresh, and to prevent

contaminants from getting into the food. Packaging also protects the food from damage or exposure to elements. Some food and beverage packages must be tested for years to ensure proper performance and prevention of microbial contamination. Additionally, food and beverage manufacturers may be challenged to reach their sustainability goals due to disruptions in the supply of certain materials or technological limitations. Many manufacturers are already struggling with implementation of the new recycled content law due to limited supply of food safe recycled material, and mandating arbitrary packaging reduction targets will not help producers come into compliance.

Opportunity for Action #16 - “Truth in Labeling:” The NJFC is greatly concerned about the impact of a state level recycling labeling bill. It would be extremely difficult for manufacturers operating in national and global markets to create specific products to meet New Jersey standards and requirements. This patchwork would be costly and onerous, and multistate distributors and retailers would be challenged with trying to separate products and slot them for different states. Different recycling labeling and markings, including the absence of the well-known chasing arrows symbols, would confuse consumers and ultimately lead to less recycling. Consumer education and awareness is critical to increasing recycling rates, and this type of legislation undermines those efforts by restricting information that can be provided on packaging about recycling. Products would not carry valuable recycling instructions and uniform national labels under this approach. The Federal Trade Commission (FTC) is currently undertaking a stakeholder process to update its *Green Guides*, which provide guidance on environmental marketing claims, including how consumers are likely to interpret particular claims and how companies can substantiate these claims. FTC is requesting input from states on whether the *Green Guides* are consistent with existing definitions contained in state regulations. We are supportive of this uniform national approach to recycling labeling.

Second-Year Workplan - Bottle Deposit System: The NJFC is strongly opposed to this type of legislation, which would undermine our current comprehensive recycling and litter abatement programs. This recommendation came at the end of the PAC deliberations, and without input from the bottling industry representatives. Therefore, we are adamant this be removed from the First Year Report. The New Jersey Clean Communities program is a successful statewide, comprehensive, litter-abatement program which generates approximately \$20 million a year which is distributed to every municipality in the state. The program is funded through a litter tax paid by grocers, convenience stores, and other businesses in the State. Clean Communities has a significant education component and focuses on the entire litter stream, not just beverage containers. A bottle bill would disrupt New Jersey’s successful curbside recycling program by diverting these recyclables. Additionally, a bottle bill jeopardizes funding for recycling because the Recycling Enhancement Act contains a provision which suspends the \$3 per ton fee on solid waste if a bottle bill were to be enacted. Bottle bills lead to pest and rodent infestation problems. NJFC members go to great lengths to ensure safe and hygienic conditions in their stores, and this mandate would make it harder for store managers to keep their stores clean and sanitary. Bottle bills are extremely onerous for retailers. Retailers would need to implement a system for accepting the containers, train their employees, notify consumers through signage, sanitize the containers, set aside a large storage space, and maintain the collection machines. Retailers would have to increase their prices to cover the initial and ongoing operating costs associated with a bottle bill, resulting in higher costs for consumers during this time of unprecedented inflation.

Section 3: Second -Year Plastics Advisory Council Workplan

Throughout the development of this first-year Report and Opportunities for Action outlined in Section 2, the PAC sought to identify specific actions to be taken as part of its second-year work. Collectively, the tasks identified in each recommendation comprise the “workplan” to be undertaken by the PAC between April 2023 and April 2024. A concise, bullet format listing is provided below in chronological order consistent with Opportunities for Action #1 – #20 outlined above. During its organizational meeting in April 2023, the PAC will develop workload assignments consistent with its committee structure and develop timeframes necessary to complete its second-year work and required report to the Governor and Legislature. Beyond tasks identified to be undertaken by the PAC, several Opportunities for Action require consideration of actions to be undertaken by the DEP consistent with the provisions of Chapter 117. These must be evaluated by the DEP in the context of its broader mission and annual workload planning. However, a summary of recommended actions by the Department has been provided after the summary of second-year tasks to be undertaken by the PAC.

Second-Year PAC Workplan Tasks

- **Effectiveness Assessment:** As throughout year-one, the PAC will continually evaluate the ongoing effectiveness of Chapter 117 during year-two and seek to identify additional recommendations for program improvement for inclusion in its second-year Report to the Governor and Legislature.
- **Reusable Bag Collection and Sanitation:** Sustainable collection and sanitation programs are needed in the State to address the unanticipated build-up of reusable bags brought on by home delivery shopping. The PAC will assess progress made in the New Jersey Food Council pilot program and through the DEP committee within the first six months of 2023 and provide its findings to the DEP and Legislative leaders for consideration consistent with Opportunity for Action #1.
- **Public Education Campaign:** The PAC will assist the Department in the formation of a 12 – 15 member Steering Committee toward developing the overall statewide public education campaign with potential representation from a wide array of external stakeholder organizations identified in Opportunity for Action #6. The PAC will also request direct participation on the Steering Committee.
- **Promotional Campaign:** Coupled with the public education campaign, the PAC will assist the DEP in the development of a promotional or marketing campaign with the banner Get Past Plastic. The PAC will assist the DEP in the formation of a workgroup of the Public Education Steering Committee to advance this task and will directly participate in this effort as outlined in Opportunity for Action #7.
- **Microfiber Filtration Legislation:** The PAC will work with the DEP toward proactively developing a framework for potential legislation to require manufacturers to include microfiber filtration devices on all new washing machines offered for sale in New Jersey

consistent with Opportunity for Action #10. Disposal options available for these filters and the microfibers they collect will also be evaluated.

- **New Executive Action:** Opportunity for Action #13 recommends consideration of a new executive action to promote both waste reduction and expanded recycling at all public facilities. The PAC has identified three tasks to assist the DEP in this regard:
 - Preparing a draft framework and language;
 - Providing recommendations on how such action can be further expanded to be applicable to county and municipal governments; and
 - The study of Federal and other State legislative models to advance “green procurement” toward plastics reduction and recycling goals.
- **Plastic Waste Reduction and Recycling in Schools:** The PAC will form a workgroup to coordinate with the Sustainable Jersey For Schools Program to identify existing and new actions that can advance plastics waste reduction and recycling in schools consistent with Opportunity for Action #14.
- **Extended Producer Responsibility:** Consistent with Opportunity for Action #15, the PAC will form a workgroup to evaluate the guiding principles behind Extended Producer Responsibility laws passed or proposed in other states and countries, in order to develop a consistent and workable framework. Subject matter expert input will also be solicited to provide best available guidance to the DEP in the context of their participation in the discussion of packaging stewardship legislation in the form of S426/A1444.
- **Truth in Labeling:** A PAC workgroup will be formed to study the issue of “Truth in Labeling” on two fronts as outlined in Opportunity for Action #16. First, a review of legislation pending or enacted in sister states as well as an assessment of legislation proposed in New Jersey as S2145, in order to develop a consistent and workable framework. Second, a review of the Federal Trade Commission “Green Guides” to see if they may be applicable for use in New Jersey to assist in dispelling false claims regarding recyclability.
- **Fostering a Reuse/Refill Business Economy:** Opportunity for Action #17 identifies a number of regulatory and financial incentives that could be considered to advance a reuse/refill business economy in New Jersey. The PAC will use its existing committee structure to further evaluate available options and report its findings to the DEP.
- **Standardization of Plastic Materials for Recycling:** Opportunity for Action #18 frames the discussion of considering the standardization of #1, #2 and #5 plastics as materials required to be recycled across all 21 New Jersey Counties. The PAC proposes to work with the DEP, the Association of New Jersey Recyclers (ANJR), counties, municipalities, and the private sector to evaluate how other states and localities have addressed uniformity in mandatory recycling programs and which materials have been included/excluded.
- **Plastics Reduction and Recycling Equipment Infrastructure Financing:** New recycling infrastructure and more advanced technology is needed to recover sufficient

plastics to sustain a vibrant circular economy as outlined in Opportunity for Action #19. The PAC will review potential funding sources for recycling infrastructure development and enhancement and look to identify effective funding models in other states and make recommendations to the DEP.

- Need for a Bottle Bill Study:** While not specifically referenced within any of the 20 Opportunities for Action, the PAC generally discussed the issue of having a New Jersey Bottle Bill. The State legislature did debate a potential bottle bill in the mid-1980s but opted instead for a broader program to address litter abatement. The New Jersey Clean Communities program is a statewide, comprehensive, litter-abatement program created by the passage of the Clean Communities Act in 1986. The Act provides a funding source for the program by placing a tax on fifteen categories of businesses that may produce litter-generating products. Thus, the Clean Communities Act was New Jersey's first "producer responsibility" law where manufacturers pay to support litter abatement. The Clean Communities Program Fund generates about \$20 million each year and is disbursed to combat litter to municipalities (80%), counties (10%), state parks service (10%), and the New Jersey Clean Communities Council, Inc. (\$375,000). Some 36 years have passed since the Clean Communities Act was enacted. The PAC is aware of renewed interest in this issue from some stakeholders, and therefore believes it prudent to study these issues in an effort to assess other state frameworks and associated cost impacts for consumers and consider whether a consistent and workable framework is possible. The PAC agreed to study the 10 states which have historically implemented bottle bills as part of its second-year workplan and consider making recommendations to the DEP and Legislature.
- Chemical Recycling Study:** A second current issue not addressed in the 20 opportunities for action is the efficacy of Chemical Recycling. New Jersey does not currently have any operating Chemical Recycling facilities, but the potential for using this technology has elicited strong and divergent views. Chemical Recycling facilities accept plastics for processing through technologies such as pyrolysis, hydrolysis or gasification to create energy or products such as lower grade fuels, Naphtha (used in chemical solvents) and other products. Some organizations, such as the American Chemistry Council and other business organizations, have asserted that these technologies are a form of recycling and needed to satisfy the feedstock requirements outlined in the Recycled Content Law S2515/A4676. It is particularly challenging for food and beverage companies to procure an adequate supply of recycled material that is appropriate for food contact use. Others, primarily in the environmental community, have great concern that Chemical Recycling is an unproven technology for which a net benefit in terms of carbon footprint is not yet able to be determined, and that this technology represents a true environmental threat, particularly to environmental justice communities, will further plastic pollution and does not represent any form of recycling. In light of the current nature of debate surrounding this technology, the PAC agreed to study Chemical Recycling as part of its second-year workplan toward developing recommendations to the DEP for consideration, particularly the technological feasibility and environmental impacts of plastic-to-plastic recycling.

Year 2 Tasks Recommended for DEP/DOH Consideration

- Convening a Reusable Bag Collection Committee to address the build-up of bags by consumers and to identify sustainable program solutions (Opportunity for Action #1);
- Develop rulemaking to clarify ambiguous terms in Chapter 117, if needed (Opportunity for Action #2);
- Research and identify procedures to test and verify reusable bag compliance with Chapter 117 potentially as implemented through the California Reusable Grocery Bag Reporting System (Opportunity for Action #3);
- Establish uniform procedures for enforcing Chapter 117 across all levels of government before the end of 2023 primarily by DEP in concert with County Environmental Health Act agencies and by DOH through local health departments (Opportunity for Action #4);
- Development of Statewide “Get Past Plastics” public education and promotion campaigns through a Steering Committee(s) of the PAC (Opportunities for Action #6 and #7);
- Convene the leadership of the New Jersey Authorities that operate the 10 largest wastewater treatment plants in the State to assess the possibility of performing optimization studies to advance micro-plastic and nano-plastic removal capabilities; evaluate and develop Best Management Practices for the disposal of microfibers concentrated in biosolids after treatment (Opportunity for Action #8).
- Active participation by the DEP and BPU in the public process associated with three micro-plastic related bills pending in the New Jersey Legislature as A4821, A4822 and A4823, all of which the PAC agrees are needed (Opportunity for Action #9).
- Advocacy with the Governor’s Office to compel the New Jersey Presidents’ Council representing New Jersey’s public, private, and community colleges and universities to coordinate academic research efforts related to microplastics using the “Research With New Jersey Model” (Opportunity for Action #10).
- Advocacy with the Governor’s Office toward development of a new executive action to promote plastics waste reduction and expanded recycling at all public facilities (Opportunity for Action #13).
- Work with the PAC to consider its recommendations related to two significant pieces of proposed legislation for product stewardship through extended producer responsibility (S426) and truth in labeling (S2145) (Opportunities for Action #15 and #16).
- Consider PAC recommendations developed in year-two pertaining to the fostering of a reuse/refill green business economy, standardization of #1, #2 and #5 plastic materials required for recycling and the potential reestablishment of a recycling equipment/infrastructure financing program Opportunities for Action #17 – #19).

Section 4: Appendices

APPENDIX A: LISTING OF SUBJECT MATTER EXPERTS CONSULTED

(Presented in the Order, by Date, of Presentation)

April 4, 2022: JoAnn Gemenden, Executive Director, New Jersey Clean Communities Council: Multiple presentations during full PAC meetings beginning in April, 2022 regarding public education and outreach efforts to implement Chapter 117 on behalf of Clean Communities.

April 4, 2022: Melanie Willoughby, Executive Director, New Jersey Business Action Center: Multiple presentations during full PAC meetings beginning in April, 2022 regarding public education and outreach efforts to implement Chapter 117 on behalf of the Business Action Center.

July 19, 2022: Dr. Judith S. Weis, Professor Emerita of Biological Sciences, Rutgers University Newark: Power Point presentation and discussion with the PAC Environment and Public Health Committee regarding the environmental impact of microplastics.

September 20, 2022: Isaac Bearg, Vice President, New Jersey Composting Council, **Alexander Truelove**, Legislation & Advocacy Manager, Biodegradable Products Institute (BPI): Power Point presentation regarding biodegradable/compostable packaging materials in the marketplace and certification procedures administered by BPI.

October 4, 2022: Panel discussion before the full PAC at their October monthly meeting regarding the topic of reusable bag accumulation at residences as an unintended consequence of Chapter 117. Challenges and potential actions to facilitate reusable bag return and reuse were discussed by:

Special Guests:

- i. **Senator Bob Smith**, Chairman, Senate Environment and Energy Committee, and **Joey Gurrentz**, Committee Aide

Resource Advisors to PAC:

- ii. NJ Business Action Center: **Melanie Willoughby**, Executive Director
- iii. NJ Clean Communities Council: **Joanne Gemenden**, Executive Director

Panelists:

- iv. Community Food Bank of NJ: **Jen Miller**, Director, Network Engagement
- v. GOATOTE: **Renee Lundahl**, Co-Founder
- vi. NJ Food Council: **Linda Doherty**, President and CEO
- vii. REPLENISH: **Jennifer Apostol**, Director
- viii. Wakefern: **Karen Meleta**, Chief Communications Officer

October 26, 2022: Andy Kricun, Managing Director at Moonshot Missions and Senior Fellow at the U.S. Water Alliance. Andy is also the former Executive Director of the Camden County Municipal Utilities Authority (retired): Power Point presentation and discussion regarding the effectiveness of microplastics removal at Wastewater Treatment Plants.

December 6, 2022: Thomas McNeil with Instacart joined the December PAC meeting to discuss how Instacart functions and answer questions from Council members regarding the buildup of reusable bags from delivery service.

January 13, 2023: *Linda Doherty* of the New Jersey Food Council hosted a “Reusable Bag Redistribution Pilot Project” with a wide array of stakeholders to discuss the feasibility and logistics of using municipal and/or county recycling drop-off locations for the collection of excess reusable bags from consumers using home delivery grocery services. Collected bags would then be sent to GOATOTE for sanitation and reentry into the marketplace to foster bag-reuse. The following organizations were represented at this first meeting. Subsequent meetings of this stakeholder working group were held on February 3 and February 24, 2023.

- DEP
- Counties (Atlantic, Morris and Union)
- Towns (Secaucus, Woodbridge, Long Beach Township and Westfield)
- Instacart
- Door-Dash
- GOATOTE
- Community Food Bank of New Jersey
- New Jersey Food Council
- Envoy
- Association of New Jersey Recyclers
- New Jersey Clean Communities
- New Jersey Business Action Center
- Sustainable Jersey
- Republic Services
- New Jersey Plastics Advisory Council

APPENDIX B: REFERENCES CONSULTED

- National Academies of Sciences, Engineering, and Medicine. (2021). Reckoning with the US role in global ocean plastic waste. <https://www.nap.edu/read/26132>
- “Get Past Plastics” website of the New Jersey Department of Environmental Protection: <https://www.nj.gov/dep/get-past-plastic/>
- “Bag Up New Jersey” website of the New Jersey Clean Communities Program: <https://www.njclean.org/>
- “Ban on Plastics Bags and Polystyrene Foam Food Service Projects” website of the New Jersey Business Action Center: <https://business.nj.gov/bags/plastic-ban-law>
- NJDEP Science Advisory Board (SAB) Draft Document: *“Microplastics in the aquatic environment: Sources, occurrences and currently known risks associated with microplastics in the aquatic environment”*. Date and link when released.
- New Jersey Recycling Market Development Council Report to the Governor and Legislature, April 2022: <https://www.nj.gov/dep/dshw/recycling/RMDC.pdf>
- New Jersey Food Council website: [About Us – NJFoodCouncil.com](https://www.njfoodcouncil.com)
[What We Do - New Jersey Restaurant & Hospitality Association \(njrha.org\)](https://www.njfoodcouncil.com/what-we-do)
- [New Jersey Research Community \(researchwithnj.com\)](https://www.researchwithnj.com)
- World Health Organization. 2022. Dietary and inhalation exposure to nano- and microplastic particles and potential implications for human health. Geneva: World Health Organization; 2022. License: CC BYNC-SA 3.0 IGO.
- Interstate Technology Regulatory Council (ITRC): [Microplastics Outreach Toolkit - ITRC \(itrcweb.org\)](https://www.itrcweb.org/microplastics-outreach-toolkit)
- USEPA Trash Free Waters Webinar: [Bioplastics - The Good, The Bad, & The Band-Aids](https://www.epa.gov/trash-free-waters)
- Canada Regulations: [Single-use Plastics Prohibition Regulations: Overview - Canada.ca](https://www23.international.gc.ca/plastics-plastique)
- French Regulations: [What changes from 2023 to 2026 under France’s anti-waste law \(thelocal.fr\)](https://www.thelocal.fr)
- USEPA: [Microplastics Research | US EPA](https://www.epa.gov/microplastics)

- NOAH Marine Debris Program, Report on Microplastics, 2022 Report to Congress: <https://marinedebris.noaa.gov/interagency-marine-debris-coordinating-committee-reports/report-microfiber-pollution>
- Upstream, “A Roadmap to Reuse:” <https://upstreamolutions.org/roadmap-to-reuse>
- Center for Environmental Health, “Ditching Disposables: A Toolkit to Healthier Foodware in K-12 Schools: <https://ceh.foleon.com/ceh/ditching-disposables-toolkit>
- Abbasi, S. 2021. Routes of human exposure to micro(nano)plastics. *Current Opinion in Toxicology* 27:41-46.
- Abarghouei, S.; Hedayati, A.; Raeisi, M.; Hadavand, B.S.; Rezaei, H.; Abed-Elmdoust, A. 2021. Size-dependent effects of microplastic on uptake, immune system, related gene expression and histopathology of goldfish (*Carassius auratus*). *Chemosphere* 276: 129977.
- Allen, S., Allen, D., Karbalaie, S., Maselli, V., Walker, T.R. 2022. Micro(nano) plastics sources, fate, and effects: What we know after ten years of research. *Journal of Hazardous Materials Advances* 6:100057.
- Alnajar, N.; Jha, A.N.; Turner, A. 2021. Impacts of microplastic fibres on the marine mussel, *Mytilus galloprovincialis*. *Chemosphere* 262: 128290.
- Amato-Lourenco, L. F., Carvalho-Oliveira, R., Júnior, G.R., dos Santos Galvão, L., Ando, R.A., Mauad, T. 2021. Presence of airborne microplastics in human lung tissue. *Journal of Hazardous Materials* 416:126124.
- An, D.; Na, J.; Song, J.; Jung, J. 2021. Size-dependent chronic toxicity of fragmented polyethylene microplastics to *Daphnia magna*. *Chemosphere* 271: 129591.
- Baechler, B.R., Granek, E.F., Hunter, M.V., Conn, K.E. 2020. Microplastic concentrations in two Oregon bivalve species: Spatial, temporal, and species variability. *Limnology & Oceanography Letters* 5:54-65.
- Barboza, L.G.A., Vethaak, A.D., Lavorante, B.R.B.O., Lundebye, A-K., Guilhermino, L. 2018. Marine microplastic debris: An emerging issue for food security, food safety and human health. *Marine Pollution Bulletin* 133:336-348.
- Besseling, E.; Wegner, A.; Foekema, E.M.; Van den Heuvel-Greve, M.J.; Koelmans, A.A. 2012. Effects of Microplastic on Fitness and PCB Bioaccumulation by the Lugworm *Arenicola marina* (L.). *Environ. Sci. Technol.* 47:593–600.
- Besseling, E., Wang, B., Lürting, M., Koelmans, A.A. 2014. Nanoplastic affects growth of *S. obliquus* and reproduction of *D. magna*. *Env. Sci. & Tech.* 48:12336 – 12343.

- Besseling, E.; Foekema, E.M.; Van den Heuvel-Greve, M.J.; Koelmans, A.A. 2017. The Effect of Microplastic on the Uptake of Chemicals by the Lugworm *Arenicola marina* (L.) under Environmentally Relevant Exposure Conditions. *Environ. Sci. Technol.* 51:8795–8804.
- Botterell, Z.L.R., Beaumont, N., Dorrington, T., Steinke, M., Thompson, R.C., Lindeque, P.K. 2019. Bioavailability and effects of microplastics on marine zooplankton: A review. *Env. Poll.* 245:98-110.
- Bour, A.; Hamann Sandgaard, M.; Syberg, K.; Palmqvist, A.; Carney Almroth, B. 2021. Comprehending the complexity of microplastic organismal exposures and effects, to improve testing frameworks. *J. Hazard. Mater.* 415: 125652.
- Bouwmeester, H., Hollman, P.C.H., Peters, R.J.B. 2015. Potential health impact of environmentally released micro- and nanoplastics in the human food production chain: Experiences from nanotoxicology. *Environmental Science & Technology* 49:8932-8947.
- Brahney, J., Hallerud, M., Heim, E., Hahnenberger, M., Sukumaran, S. 2020. Plastic rain in protected areas of the United States. *Science* 386(6496):1257-1260.
- Braun, T., Ehrlich, L., Henrich, W., Koeppel, S., Lomako, I., Schwabl, P., Liebmann, B. 2021. Detection of microplastic in human placenta and meconium in a clinical setting. *Pharmaceutics* 13. [Doi.org/10.3390/pharmaceutics13070921](https://doi.org/10.3390/pharmaceutics13070921).
- Bucci, K.; Tulio, M.; Rochman, C.M. 2020. What is known and unknown about the effects of plastic pollution: A meta-analysis and systematic review. *Ecol. Appl.* 30:e02044.
- Bucci, K.; Bikker, J.; Stevack, K.; Watson-Leung, T.; Rochman, C. *Environ. Toxicol. Chem.* 2021. Impacts to Larval Fathead Minnows Vary between Preconsumer and Environmental Microplastics. <https://doi.org/10.1002/etc.5036>.
- Campanale, C., Massarelli, C., Savino, I., Locaputo, V., Uricchio, V.F. 2020. A detailed review study on potential effects of microplastics and additives of concern on human health. *International Journal of Research and Public Health* 17, 1212;doi:10.3390/ijerph17041212.
- Cheng, H.; Feng, Y.; Duan, Z.; Duan, X.; Zhao, S.; Wang, Y.; Gong, Z.; Wang, L. 2021. Toxicities of microplastic fibers and granules on the development of zebrafish embryos and their combined effects with cadmium. *Chemosphere* 269: 128677.
- Cho, Y.M., Choi, K.H. 2021. The current status of studies of human exposure assessment of microplastics and their health effects: a rapid systematic review. *EAHT* 36(1):e2021004.

- Choi, J.; Kim, K.; Hong, S.; Park, K.; Park, J. 2021. Impact of polyethylene terephthalate microfiber length on cellular responses in the Mediterranean mussel *Mytilus galloprovincialis*. *Mar. Environ. Res.* 168: 105320.
- Conti, G.E., Ferrante, M., Banni, M., Favara, C., Nicolosi, I., Cristaldi, A., Fiore, M., Zuccarello, P. 2020. Micro- and nano-plastics in edible fruit and vegetables. The first diet risks assessment for the general population. *Environmental Research* 187:109677.
- Cox, K.D., Covernton, G.A., Davies, H.L., Dower, J.F., Juanes, F., Dudas, S.E. 2019. Human consumption of microplastics. *Environmental Science & Technology* 53:7068-7074.
- Crump, A.; Mullens, C.; Bethell, E.J.; Cunningham, E.M.; Arnott, G. 2020. Microplastics disrupt hermit crab shell selection. *Biol. Lett.* 16:20200030.
- Cunningham, E.M.; Sigwart, J.D. 2019. Environmentally Accurate Microplastic Levels and Their Absence from Exposure Studies. *Integr. Comp. Biol.* 59:1485–1496.
- Desforges, P.-P. W., Galbraith, M., Ross, P.S. 2015. Ingestion of microplastics by zooplankton in the northeast Pacific Ocean. *Arch. Environ. Contam. Toxicology* 69:320-330.
- Dietz, K-J, Herth, S. 2011. Plant nanotoxicology. *Trends in Plant Science* 16(11):582-589.
- Fournier, S.B., D’Errico, J.N., Adler, D.S., Kollontzi, S., Goedken, M.J., Fabris, L., Yurkow, E.J., Stapleton, P.A. Nanopolystyrene translocation and fetal deposition after acute lung exposure during late-stage pregnancy. *Particle & Fibre Toxicology* 17:55.
- Frydkjær, C.; Iversen, N.; Roslev, P. 2017. Ingestion and egestion of microplastics by the cladoceran daphnia magna: Effects of regular and irregular shaped plastic and sorbed phenanthrene. *Bull. Environ. Contam. Toxicol.* 99: 655–661.
- Giannadaki, D., Lelieveld, J., Pozzer, A. 2016. Implementing the US air quality standard for PM_{2.5} worldwide can prevent millions of premature deaths per year. *Environmental Health* 15:88. DOI 10.1186/s12940-016-0170-8.
- Gonçalves, C.; Martins, M.; Sobral, P.; Costa, P.M.; Costa, M.H. 2019. An assessment of the ability to ingest and excrete microplastics by filter-feeders: A case study with the Mediterranean mussel. *Environ. Pollut.* 245:600–606.
- Green, D.S. 2016. Effects of microplastics on European flat oysters, *Ostrea edulis* and their associated benthic communities. *Environ. Pollut.* 216:95–103.
- Guan, Q., Jiang, J., Huang, Y., Wang, Q., Liu, Z., Ma, X., Yang, X., Li, Y., Wang, S., Cui, W., Tang, J., Wan, H., Xu, Q., Tu, Y., Wu, D., Xia, Y. 2023. The landscape of micron-scale

particles including microplastics in human enclosed body fluids. *Journal of Hazardous Materials* 442:130138.

- Horvatits, T., Tamminga, M., Liu, B., Sebode, M., Carambia, A., Fischer, L., Puschel, K., Huber, S., Fischer, E.K. 2022. Microplastics detected in cirrhotic liver tissue. *The Lancet* 82. Doi.org/10.1016/j.ebiom.2022.104147.
- Horn, D.A.; Granek, E.F.; Steele, C.L. 2020. Effects of environmentally relevant concentrations of microplastic fibers on Pacific mole crab (*Emerita analoga*) mortality and reproduction. *Limnol. Oceanogr. Lett.* 5:74–83.
- Hu, L.; Chernick, M.; Lewis, A.M.; Ferguson, P.L.; Hinton, D.E. 2020. Chronic microfiber exposure in adult Japanese medaka (*Oryzias latipes*). *PLoS ONE* 15:e0229962.
- Knutsen, H., Cyvin, J.B., Totland, C., Lilleeng, Ø., Wade, E.J., Castro, V., Pettersen, A., Laugesen, J., Møkeland, T., Arp, H.P.H. 2020. Microplastic accumulation by tube-dwelling, suspension feeding polychaetes from the sediment surface: A case study from the Norwegian Continental Shelf. *Mar. Env. Res.* 161: 105073.
- Koelmans, A.A., Redondo-Hasselerharm, P.E., Noe, N.H.M., de Ryijter, V.N., Mintenig, S.M., Kooi, M. 2022. Risk assessment of microplastic particles. *Nature Reviews Materials* 7:138-152.
- Kögel, T. Refosco, A., Maage, A. 2020. Surveillance of seafood for microplastics. In Rocha-Santos, T., Cosa, M., Mouneyrac, C. (eds) *Handbook of Microplastics in the Environment*. Springer, Cham. https://doi.org/10.1007/978-3-030-10618-8_28-1.
- Le Bihanic, F.; Clérandeau, C.; Cormier, B.; Crebassa, J.-C.; Keiter, S.H.; Beiras, R.; Morin, B.; Bégout, M.-L.; Cousin, X.; Cachot, J. 2020. Organic contaminants sorbed to microplastics affect marine medaka fish early life stages development. *Mar. Pollut. Bull.* 154:111059.
- Lee, K.-W., Shim, W.J., Kwon, O.Y., Kang, J.-H. 2013. Size-dependent effects of micro polystyrene particles in the marine copepod *Tigriopus japonicus*. *Env. Sci. & Tech.* 47:11278-11283.
- Lenz, R.; Enders, K.; Nielsen, T.G. 2016. Microplastic exposure studies should be environmentally realistic. *Proc. Natl. Acad. Sci. USA* 113: E4121–E4122.
- Li, L.; Su, L.; Cai, H.; Rochman, C.M.; Li, Q.; Kolandhasamy, P.; Peng, J.; Shi, H. 2019. The uptake of microfibers by freshwater Asian clams (*Corbicula fluminea*) varies based upon physicochemical properties. *Chemosphere* 221:107–114.

- Leslie, H.A., van Velzen, M.J.M., Brandsma, S.H., Vethaak, A.D., Garcia-Vallejo, J.J., Lamoree, M.H. 2022. Discovery and quantification of plastic pollution in human blood. *Environment International* 163:107199.
- Mao, Y., Ai, H., Chen, Y., Zhang, Z., Zeng, P., Kang, L., Li, W., Gu, W., He, Q., Li., H. 2018. Phytoplankton response to polystyrene microplastics: Perspective from an entire growth period. *Chemosphere* 208: 59-68.
- Mason, S.A., Welch, V.G., Neratko, J. 2018. Synthetic polymer contamination in bottled water. *Frontiers in Chemistry*. Doi: 10.3389/fchem.2018.00407.
- Missawi, O., Bousserhine, N., Belbekhouche, S., Zitouni, N., Alphonse, V., Boughattas, I., Banni, M. 2020. Abundance and distribution of small microplastics ($\leq 3 \mu\text{m}$) in sediments and seaworms from the southern Mediterranean coasts and characterization of their potential harmful effects. *Environmental Pollution* 263A:114634.
- Mohsen, M.; Zhang, L.; Sun, L.; Lin, C.; Wang, Q.; Liu, S.; Sun, J.; Yang, H. 2021. Effect of chronic exposure to microplastic fiber ingestion in the sea cucumber *Apostichopus japonicus*. *Ecotoxicol. Environ. Saf.* 209: 111794.
- Nava, V., Leoni, B. 2021. A critical review of interactions between microplastics, microalgae and aquatic ecosystem function. *Water Research* 188(1):116476.
- Napper, I.E., Parker-Jurd, F.N.F., Wright, S.L., Thompson, R.C. 2023. Examining the release of synthetic microfibers to the environment via two major pathways: Atmospheric deposition and treated wastewater effluent. *Science of the Total Environment* 857:159317.
- Norland, S.; Vorkamp, K.; Borgevik, A.S.; Koelmans, A.A.; Diepens, N.J.; Burgerhout, E.; Hansen, Ø.J.; Puvanendran, V.; Rønnestad, 2021. Assessing microplastic as a vector for chemical entry into fish larvae using a novel tube-feeding approach. *Chemosphere* 265:129144.
- Ong, H-T., Samsudin, H., Soto-Valdez, H. 2022. Migration of endocrine-disrupting chemicals into food from plastic packaging materials: an overview of chemical risk assessment, techniques to monitor migration, and international regulations. *Critical Reviews in Food Science & Nutrition* 62(4):957-979.
- Paul, M.B., Fahrenson, C., Givélet, L., Herrmann, T., Loeschner, K., Böhmert, L., Thünemann, A.F., Braeuning, A., Sieg, H. 2022. Beyond microplastics – investigation on health impacts of submicron and nanoplastic particles after oral uptake *in vitro*. *Microplastics and Nanoplastics* 2:16.

- Pauly, J.L., Stegmeier, S.J., Allaart, H.A., Cheney, R.T., Zhang, P.J., Mayer, A.G., Streck, R.J. 1998. Inhaled cellulosic and plastic fibers found in human lung tissue. *Cancer Epidemiology, Biomarkers & Prevention* 7:419-428.
- Prata, J.C., da Costa, J.P., Lopes, I., Duarte, A.C. Rocha-Santos, T. 2019. Effects of microplastics on microalgae populations: A critical review. *Sci. Tot. Env.* 665:400-405.
- Ragusa, A., Svelato, A., Santacroce, C., Catalano, P., Notarstefano, V., Carnevali, O., Papa, F., Rongioletti, M.C.A., Baiocco, F., Draghi, S., D'Amore, E., Rinaldo, D., Matta, M., Giorgini, E. 2021. Plasticenta: First evidence of microplastics in human placenta. *Environmental International* 146:106274.
- Ragusa, A., Notarstefano, V., Svelato, A., Belloni, A., Gioacchini, G., Blondeel, C., Zucchelli, E., De Luca, C., D'Avino, S., Gulotta, A., Carnevali, O., Giogini, E. 2022. Raman microspectroscopy detection and characterization of microplastics in human breastmilk. *Polymers* 14. Doi.org/103390/polym14132700.
- Rios-Fuster, B.; Arechavala-Lopez, P.; García-Marcos, K.; Alomar, C.; Compa, M.; Álvarez, E.; Julià, M.; Martí, A.; Sureda, A.; Deudero, S. 2021. Experimental evidence of physiological and behavioral effects of microplastic ingestion in *Sparus aurata*. *Aquat. Toxicol.* 231:105737.
- Rochman, C.; Kurobe, T.; Flores, I.; Teh, S. 2014. Early warning signs of endocrine disruption in adult fish from the ingestion of polyethylene with and without sorbed chemical pollutants from the marine environment. *Sci. Total Environ.* 493:656–661.
- Schirizzi, G.F., Pérez-Pomeda, I., Sanchís, J., Rossini, C., Farré, M., Barceló, D. 2017. Cytotoxic effects of commonly used nanomaterials and microplastics on cerebral and epithelial human cells. *Environmental Research* 159:579-587.
- Schwabi, P., Köppel, S., Königshofer, P., Buscics, T., Trauner, M., Reiberger, R., Liebsmann, B. 2019. Detection of various microplastics in human stool. *Annals of Internal Medicine* 171:453-457.
- Setyorini, L.; Michler-Kozma, D.; Sures, B.; Gabel, F. 2021. Transfer and effects of PET microfibers in *Chironomus riparius*. *Sci. Total Environ.* 757: 143735.
- Seuront, L. 2018. Microplastic leachates impair behavioural vigilance and predator avoidance in a temperate intertidal gastropod. *Biol. Lett.* 14: 20180453.
- Sorci, G., Loiseau, C. 2022. Should we worry about the accumulation of microplastics in human organs. www.thelancet.com Vol 82 eBioMedicine 104191.
- Stapleton, P.A. 2021. Microplastic and nanoplastic transfer, accumulation, and toxicity in humans. *Current Opinion in Toxicology* 28:62-69.

- Steer, M., Cole, M., Thompson, R.C., Lindeque, P.K. 2017. Microplastic ingestion in fish larvae in the western English Channel. *Env. Poll.* 226:250-259.
- Stock, V., Bohmert, L., Lisicki, E., Block, R., Cara-Carmona, J., Pack, L.K., Selb, R., Lichtenstein, D., Voss, L., Henderson, C.J., Zabinsky, E., Sieg, H., Braeuning, A., Lampen, A. 2019. Uptake and effects of orally ingested polystyrene microplastic particles in vitro and in vivo. *Archives of Toxicology* 93:1817-1833.
- Sun, X., Li, Q., Zhu, M., Liang, J., Zheng, S., Zhao, Y. 2017. Ingestion of microplastics by natural zooplankton groups in the northern South China Sea. *Mar. Poll. Bull.* 115:217-224.
- Sun, X., Liu, T., Zhu, M., Liang, J., Zhao, Y., Zhang, B. 2018. Retention and characteristics of microplastic in natural zooplankton taxa from the East China Sea. *Sci. Tot Env.* 640-641:232-242.
- Tamargo, A., Molinero, N., Reinosa, J.J., Alcoles-Rodriguez, V., Partela, R., Bañares, M.A., Fernández, J.F., Moreno-Arribas, M.V. 2022. PET microplastics affect human gut microbiota communities during simulated gastrointestinal digestion, first evidence of plausible polymer biodegradation during human digestion. *Nature Scientific Reports* 12:528.
- Udovicki, B., Andjelkovic, M., Cirkovic-Velickovic, T., Rajkovic, A. 2022. Microplastics in food: scoping review on health effects, occurrence, and human exposure. *International Journal of Food Contamination* 9. Doi.org/10.1186/s40550-022-0093-6.
- van Cauwenberghe, L., Janssen. 2014. Microplastics in bivalves cultured for human consumption. *Environmental Pollution* 193:65-70.
- van Cauwenberghe, L., Devriese, L., Galgani, F., Robbens, J., Janssen, C.R. 2015. Microplastics in sediments: A review of techniques, occurrence and effects. *Mar. Env. Res.* 111:5-17.
- van Raamsdonk, L.W.D., van der Zande, M., Koelmans, A.A., Hoogenboom, R.L.A.P., Peters, R.J.B., Groot, M.J., Peijnenburg, A.A.C.M., Weesepeel, Y.J.A. 2020. *Foods* 9,72; doi: 10.3390/foods9010072.
- Woods, M.; Stack, M.; Fields, D.; Shaw, S.; Matrai, P. 2018. Microplastic fiber uptake, ingestion, and egestion rates in the blue mussel (*Mytilus edulis*). *Mar. Pollut. Bull.* 137:638–645.
- Wright, S.L., Kell, F.J. 2017. Plastic and human health: A micro issue? *Environmental Science & Technology* 51:6634-6647.

- Woods, M.N.; Hong, T.J.; Baughman, D.; Andrews, G.; Fields, D.M.; Matrai, P.A. 2020. Accumulation and effects of microplastic fibers in American lobster larvae (*Homarus americanus*). Mar. Pollut. Bull. 157: 111280.
- Zauner, W., Farrow, N.A., Haines, A.M.R. 2001. In vitro uptake of polystyrene microspheres: effect of particle size, cell line and cell density. Journal of Controlled Release 71:39-51.
- Zhang, X.; Wen, K.; Ding, D.; Liu, J.; Lei, Z.; Chen, X.; Ye, G.; Zhang, J.; Shen, H.; Yan, C.; et al. 2021. Size-dependent adverse effects of microplastics on intestinal microbiota and metabolic homeostasis in the marine medaka (*Oryzias melastigma*). Environ. Int. 151: 106452.
- Zhu, M.; Chernick, M.; Rittschof, D.; Hinton, D. 2019. Chronic dietary exposure to polystyrene microplastics in maturing Japanese medaka (*Oryzias latipes*). Aquat. Toxicol. 220:105396.
- Ziajahromi, S., Kumar, A., Neale, P.A., Leusch, F.D.L. 2018. Environmentally relevant concentrations of polyethylene microplastics negatively impact the survival, growth and emergence of sediment-dwelling invertebrates. Env. Poll. 236:425-431.

APPENDIX C: FULL COPY OF P.L. 2020, CHAPTER 117**CHAPTER 117
(CORRECTED COPY)**

AN ACT concerning single-use plastic carryout bags, single-use paper carryout bags, polystyrene foam food service products, and single-use plastic straws, supplementing Title 13 of the Revised Statutes, and amending P.L.2002, c.128.

BE IT ENACTED by the Senate and General Assembly of the State of New Jersey:

C.13:1E-99.126 Findings, declarations relative to certain single-use products.

1. The Legislature finds and declares that, since 1950, global annual production of plastics has increased from two million tons to over 381 million tons; that approximately one third of all plastics produced are single-use plastics, which are plastics designed to be used only once and then thrown away; and that an estimated 100 billion single-use plastic carryout bags and 25 billion styrofoam plastic coffee cups are thrown away in the United States each year.

The Legislature further finds that, in 2017, only 8.4 percent of plastics in the United States were recycled; that most single-use plastics are disposed of in landfills, are incinerated, or become litter in waterways and oceans; that plastics released in the environment do not biodegrade, but instead break down into smaller pieces, known as microplastics, which accumulate in the natural environment and are eaten by fish and other marine life; and that microplastic pollution moves through natural food webs and accumulates in fish and shellfish tissues, which means microplastics and associated pollutants can move into the food chain.

The Legislature further finds that approximately eight million tons of plastic end up in the oceans annually; that, without action, scientists estimate that by 2050 the mass of plastic pollution in the ocean will exceed the mass of fish; that currently, there is a collection of litter in the North Pacific Ocean, known as the Great Pacific Garbage Patch, that is 7.7 million square miles and is composed primarily of plastics; that one study found plastics in the gut of every sea turtle examined and in 90 percent of seabirds examined; and that plastics have been known to cause death or reproductive failure in sea turtles, birds, and other organisms that ingest plastic.

The Legislature further finds that, as plastics break down through photodegradation, they release harmful chemicals such as bisphenol A (BPA) into the environment that have been linked to health problems in humans; that these chemicals enter the food chain when consumed by marine life; and that single-use plastic waste creates visual pollution, degrades water quality, and impacts the tourism, fishing, and shipping industries, all of which are major contributors to the New Jersey economy.

The Legislature therefore determines that it is no longer conscionable to permit the unfettered use and disposal of single-use plastics in the State; that New Jersey must do its part to minimize plastic pollution in the ocean, and to ensure that future generations have a clean and healthy environment to live, work, and recreate in; that banning or limiting the use of single-use plastic carryout bags, polystyrene foam food service products, and single-use plastic straws is a significant step in this effort, as these items are among the most significant sources of beach and ocean pollution; that New Jersey joins several other states and hundreds of municipalities across the country in banning or limiting the use of single-use plastics; and that such bans and limitations have drastically lowered consumer consumption of single-use plastics.

The Legislature further finds that single-use paper carryout bags use as much or more energy and resources to manufacture and transport than single-use plastic carryout bags and

contribute to harmful air emissions. Consequently, the Legislature further determines that it is in the public interest to prohibit grocery stores from providing single-use paper carryout bags.

The Legislature further finds that the State's nascent hemp-growing industry, regulated through the New Jersey Department of Agriculture's Division of Plant Industry, would be a significant force in creating biodegradable raw materials that can be turned into hemp-based biopackaging, which breaks down in approximately 90 days versus the dozens of years it takes petroleum-based plastics to break down into microplastics in the ocean.

C.13:1E-99.127 Definitions relative to certain single-use products.

2. As used in P.L.2020, c.117 (C.13:1E-99.126 et al.):

"Carryout bag" means a bag that is provided by a store or food service business to a customer for the purpose of transporting groceries, prepared foods, or retail goods. "Carryout bag" shall not include:

- (1) a bag used solely to contain or wrap uncooked meat, fish, or poultry;
- (2) a bag used solely to package loose items such as fruits, vegetables, nuts, coffee, grains, baked goods, candy, greeting cards, flowers, or small hardware items;
- (3) a bag used solely to contain live animals, such as fish or insects sold in a pet store;
- (4) a bag used solely to contain food sliced or prepared to order, including soup or hot food;
- (5) a laundry, dry cleaning, or garment bag;
- (6) a bag provided by a pharmacy to carry prescription drugs;
- (7) a newspaper bag; and
- (8) any similar bag, as determined by the department pursuant to rule, regulation, or guidance.

"Department" means the Department of Environmental Protection.

"Food service business" means a business that sells or provides food for consumption on or off the premises, and includes, but is not limited to, any restaurant, café, delicatessen, coffee shop, convenience store, grocery store, vending truck or cart, food truck, movie theater, or business or institutional cafeteria, including those operated by or on behalf of any governmental entity.

"Grocery store" means a self-service retail establishment that occupies at least 2,500 square feet and that sells household foodstuffs for off-site consumption, including, but not limited to, fresh produce, meat, poultry, fish, deli products, dairy products, canned foods, dry foods, beverages, baked foods, or prepared foods. "Grocery store" shall not include an establishment that handles only prepackaged food that does not require time or temperature controls for food safety.

"Hemp product" means a finished product with a delta-9 tetrahydrocannabinol concentration of not more than 0.3 percent that is derived from or made by processing a hemp plant or plant part and prepared in a form available for commercial sale.

"Person" means any individual, corporation, company, association, society, firm, partnership, joint stock company, or governmental entity.

"Plastic" means a synthetic material made from linking monomers through a chemical reaction to create an organic polymer chain that can be molded or extruded at high heat into various solid forms retaining their defined shapes during the life cycle and after disposal.

"Polystyrene foam" means blown polystyrene and expanded and extruded foams that are thermoplastic petrochemical materials utilizing a styrene monomer and processed by a number of techniques, including, but not limited to, fusion of polymer spheres (expandable bead polystyrene), injection molding, foam molding, and extrusion-blow molding (extruded foam polystyrene).

"Polystyrene foam food service product" means a product made, in whole or in part, of polystyrene foam that is used for selling or providing a food or beverage, and includes, but is not

limited to, a food container, plate, hot or cold beverage cup, meat or vegetable tray, cutlery, or egg carton.

“Reusable carryout bag” means a carryout bag that: (1) is made of polypropylene, PET nonwoven fabric, nylon, cloth, hemp product, or other machine washable fabric; (2) has stitched handles; and (3) is designed and manufactured for multiple reuse.

“Single-use paper carryout bag” means a carryout bag made of paper that is not a reusable carryout bag.

“Single-use plastic carryout bag” means a carryout bag made of plastic that is not a reusable carryout bag.

“Store” means any grocery store, convenience store, liquor store, pharmacy, drug store, or other retail establishment.

C.13:1E-99.128 Dispensing of single-use plastic carryout bags prohibited.

3. a. Beginning 18 months after the effective date of P.L.2020, c.117 (C.13:1E-99.126 et al.):

(1) no store or food service business shall provide or sell a single-use plastic carryout bag to a customer; and

(2) no grocery store shall provide or sell a single-use paper carryout bag to a customer.

b. A municipality or county shall not adopt any rule, regulation, code, or ordinance concerning the regulation or prohibition of single-use plastic carryout bags or single-use paper carryout bags after the effective date of P.L.2020, c.117 (C.13:1E-99.126 et al.).

c. Beginning 18 months after the effective date of P.L.2020, c.117 (C.13:1E-99.126 et al.), this section shall supersede and preempt any municipal or county rule, regulation, code, or ordinance concerning the regulation or prohibition of single-use plastic carryout bags or single-use paper carryout bags that was enacted prior to the effective date of P.L.2020, c.117 (C.13:1E-99.126 et al.).

C.13:1E-99.129 Dispensing of polystyrene foam food service products prohibited.

4. a. Beginning 18 months after the effective date of P.L.2020, c.117 (C.13:1E-99.126 et al.), no person shall sell or offer for sale in the State any polystyrene foam food service product.

b. Beginning 18 months after the effective date of P.L.2020, c.117 (C.13:1E-99.126 et al.), no food service business shall provide or sell any food in a polystyrene foam food service product.

c. The following products shall be exempt from the provisions of subsections a. and b. of this section for a period of two years beginning 18 months after the effective date of P.L.2020, c.117 (C.13:1E-99.126 et al.):

(1) disposable, long-handled polystyrene foam soda spoons when required and used for thick drinks;

(2) portion cups of two ounces or less, if used for hot foods or foods requiring lids;

(3) meat and fish trays for raw or butchered meat, including poultry, or fish that is sold from a refrigerator or similar retail appliance;

(4) any food product pre-packaged by the manufacturer with a polystyrene foam food service product; and

(5) any other polystyrene foam food service product as determined necessary by the department.

d. The department may extend any exemption provided for in subsection c. of this section for additional periods not to exceed one year upon a written determination that there is no cost-effective and readily available alternative for the item. An exemption shall expire after one year unless the department extends the exemption pursuant to this subsection.

e. The department may, upon written application by a person or food service business, waive the provisions of subsection a. or b. of this section for the person or food service business for a period not to exceed one year, if:

(1) there is no feasible and commercially available alternative for a specific polystyrene foam food service product; or

(2) the person or food service business has less than \$500,000 in gross annual income and there is no reasonably affordable, commercially-available alternative to the polystyrene foam food service product.

The department shall prescribe the form and manner of the application for a waiver pursuant to this subsection. The department may, upon written application, extend any waiver granted pursuant to this section for additional periods not to exceed one year.

f. A municipality or county shall not adopt any rule, regulation, code, or ordinance concerning the regulation or prohibition of polystyrene foam food service products after the effective date of P.L.2020, c.117 (C.13:1E-99.126 et al.).

g. Beginning 18 months after the effective date of P.L.2020, c.117 (C.13:1E-99.126 et al.), this section shall supersede and preempt any municipal or county rule, regulation, code, or ordinance concerning the regulation or prohibition of polystyrene foam food service products that was enacted prior to the effective date of P.L.2020, c.117 (C.13:1E-99.126 et al.).

C.13:1E-99.130 Dispensing of single-use plastic straws.

5. a. Beginning one year after the effective date of P.L.2020, c.117 (C.13:1E-99.126 et al.), a food service business shall only provide a single-use plastic straw to a customer upon the request of the customer.

b. A food service business shall maintain an adequate supply of single-use plastic straws to provide at the request of customers pursuant to subsection a. of this section.

c. Nothing in this section shall be construed to prohibit a store from selling packages of single-use plastic straws to customers, or from providing or selling a beverage pre-packaged by the manufacturer with a single-use plastic straw, including, but not limited to, a juice box.

d. Notwithstanding the provisions of subsection c. of section 6 of P.L.2020, c.117 (C.13:1E-99.131), the Department of Health shall enforce the provisions of this section. The Department of Health may adopt, pursuant to the “Administrative Procedure Act,” P.L.1968, c.410 (C.52:14B-1 et seq.), any rules and regulations necessary to effectuate the provisions of this section.

e. No later than four years after the effective date of P.L.2020, c.117 (C.13:1E-99.126 et al.), the Department of Health shall prepare and submit to the Plastics Advisory Council a written report evaluating the compliance of food service businesses with the requirements of this section.

f. A municipality or county shall not adopt any rule, regulation, code, or ordinance concerning the regulation or prohibition of single-use plastic straws after the effective date of P.L.2020, c.117 (C.13:1E-99.126 et al.).

g. Beginning one year after the effective date of P.L.2020, c.117 (C.13:1E-99.126 et al.), this section shall supersede and preempt any municipal or county rule, regulation, code, or ordinance concerning the regulation or prohibition of single-use plastic straws that was enacted prior to the effective date of P.L.2020, c.117 (C.13:1E-99.126 et al.).

C.13:1E-99.131 Violations, penalties.

6. a. Any person or entity that violates a provision of P.L.2020, c.117 (C.13:1E-99.126 et al.), or any rule or regulation adopted pursuant thereto, shall be subject to a warning for a first offense, up to \$1,000 for a second offense, and up to \$5,000 for a third or subsequent offense, to be

collected in a civil action by a summary proceeding under the “Penalty Enforcement Law of 1999,” P.L.1999, c.274 (C.2A:58-10 et seq.), or in any case before a court of competent jurisdiction wherein injunctive relief has been requested. If the violation is of a continuing nature, each day during which it continues shall constitute an additional, separate, and distinct offense. The Superior Court and the municipal court shall have jurisdiction to enforce the provisions of the “Penalty Enforcement Law of 1999” in connection with P.L.2020, c.117 (C.13:1E-99.126 et al.).

b. Any penalty collected pursuant to this section shall be remitted to the State Treasurer for deposit in the Clean Communities Program Fund established pursuant to section 5 of P.L.2002, c.128 (C.13:1E-217), except that a municipality or entity certified pursuant to the “County Environmental Health Act,” P.L.1977, c.443 (C.26:3a2-21 et seq.) may retain 30 percent of any penalty it collects pursuant to subsection a. of this section.

c. The Department of Environmental Protection, a municipality, and any entity certified pursuant to the “County Environmental Health Act,” P.L.1977, c.443 (C.26:3a2-21 et seq.) shall have the authority to enforce the provisions of P.L.2020, c.117 (C.13:1E-99.126 et al.). Those entities may institute a civil action for injunctive relief to enforce P.L.2020, c.117 (C.13:1E-99.126 et al.) and to prohibit and prevent a violation thereof, and the court may proceed in the action in a summary manner.

C.13:1E-99.132 Plastics Advisory Council.

7. a. There is established in the Department of Environmental Protection the Plastics Advisory Council. The council shall monitor the implementation of P.L.2020, c.117 (C.13:1E99.126 et al.), and evaluate its effectiveness in reducing single-use plastics and plastic waste in the State.

b. The council shall consist of 16 members as follows:

(1) the Commissioner of Environmental Protection, who shall serve ex officio, or the commissioner’s designee;

(2) the Commissioner of Health, who shall serve ex officio, or the commissioner’s designee;

(3) the Secretary of Agriculture, who shall serve ex officio, or the secretary’s designee; and

(4) the following members appointed by the Governor:

(a) two members of the academic community with expertise on the issues of single-use plastics and plastic waste;

(b) four members representing the environmental community;

(c) four members representing stores and food service businesses in the State;

(d) one member representing the polystyrene foam industry;

(e) one member representing the recycling industry; and

(f) one member representing local governments.

c. All appointments to the council shall be made no later than 90 days after the effective date of P.L.2020, c.117 (C.13:1E-99.126 et al.). The term of office of each public member shall be three years. Each member shall serve until a successor has been appointed and qualified, and vacancies shall be filled in the same manner as the original appointments for the remainder of the unexpired term. A member is eligible for reappointment to the council. The members of the council shall serve without compensation, but shall be eligible for necessary and reasonable expenses incurred in the performance of their official duties within the limits of funds appropriated or otherwise made available for the council’s purposes.

d. The council shall organize as soon as practicable following the appointment of its members and shall select a chairperson and a vice-chairperson from among its members, as well as a secretary who need not be a member of the council. A majority of the membership of the council

shall constitute a quorum for the transaction of council business. The council may meet and hold hearings at the place or places it designates.

e. No later than one year after the effective date of P.L.2020, c.117 (C.13:1E-99.126 et al.), and each year thereafter, the council shall prepare and submit a written report to the Governor, the Legislature pursuant to section 2 of P.L.1991, c.164 (C.52:14-19.1), and the respective chairpersons of the Senate Environment and Energy Committee and the Assembly Environment and Solid Waste Committee, or their successors, evaluating the implementation and effectiveness of P.L.2020, c.117 (C.13:1E-99.126 et al.), and making any recommendations for legislative or administrative action to improve the implementation or effectiveness of P.L.2020, c.117 (C.13:1E-99.126 et al.).

f. (1) The council shall also study the environmental and public health impacts of single-use plastics and micro-plastics; healthy and environmentally-friendly alternatives to single-use plastics; strategies and policies to increase the recyclability of plastics and reduce the amount of plastic entering the environment; the technological feasibility of increasing recycled content of consumer plastics and expanding the types of plastics that may be manufactured from recycled material; and ways to enhance the development and expansion of markets of post-consumer recycled plastic, including State and local purchasing and procurement practices.

(2) No later than two years after the effective date of P.L.2020, c.117 (C.13:1E-99.126 et al.), the council shall submit a written report to the Governor, the Legislature pursuant to section 2 of P.L.1991, c.164 (C.52:14-19.1), and the respective chairpersons of the Senate Environment and Energy Committee and the Assembly Environment and Solid Waste Committee, or their successors. The written report shall summarize the analysis conducted pursuant to paragraph (1) of this subsection and recommend ways to reduce the use of plastics and the amount of plastic entering the environment, and increase the rate of recycling of plastics.

C.13:1E-99.133 Program to assist businesses with compliance.

8. No later than six months after the effective date of P.L.2020, c.117 (C.13:1E-99.126 et al.):

a. the Department of State, in consultation with the Department of Environmental Protection, shall establish a program to assist businesses in complying with the provisions of P.L.2020, c.117 (C.13:1E-99.126 et al.), including, but not limited to, developing and publishing on its Internet website guidance on compliance with the act, and establishing an online clearinghouse of vendors who provide environmentally sound alternatives to single-use plastic carryout bags, single-use paper carryout bags, polystyrene foam food service products, and single-use plastic straws; and

b. the organization under contract with the Department of Environmental Protection pursuant to section 6 of P.L.2002, c.128 (C.13:1E-218) shall, in cooperation with local governments and the business community, develop and implement a Statewide public information and education program concerning the provisions of P.L.2020, c.117 (C.13:1E99.126 et al.). The program shall include, but need not be limited to, educational programs, public service announcements, and the distribution of free reusable carryout bags throughout the State.

C.13:1E-99.134 Rules, regulations.

9. The department shall adopt, pursuant to the "Administrative Procedure Act," P.L.1968, c.410 (C.52:14B-1 et seq.), any rules and regulations necessary to effectuate the provisions of P.L.2020, c.117 (C.13:1E-99.126 et al.).

10. Section 5 of P.L.2002, c.128 (C.13:1E-217) is amended to read as follows:

C.13:1E-217 Clean Communities Program Fund.

5. The Clean Communities Program Fund is established as a nonlapsing, revolving fund in the Department of the Treasury. The Clean Communities Program Fund shall be administered by the Department of Environmental Protection and credited, in addition to any appropriations made thereto, with all user fees imposed pursuant to section 4 of P.L.2002, c.128 (C.13:1E-216) or penalties imposed pursuant to section 10 of P.L.2002, c.128 (C.13:1E-222), and any sums received as voluntary contributions from private sources. Interest received on moneys in the Clean Communities Program Fund shall be credited to the fund. Unless otherwise expressly provided by the specific appropriation thereof by the Legislature, which shall take the form of a discrete legislative appropriations act and shall not be included within the annual appropriations act, all available moneys in the Clean Communities Program Fund shall be appropriated annually solely for the following purposes and no others:

a. 10 percent of the estimated annual balance of the Clean Communities Program Fund shall be used for a State program of litter pickup and removal and of enforcement of litter-related laws and ordinances in State owned places and areas that are accessible to the public. Moneys in the fund may also be used by the State to abate graffiti;

b. 50 percent of the estimated annual balance of the Clean Communities Program Fund shall be distributed as State aid to eligible municipalities with total housing units of 200 or more for programs of litter pickup and removal, including establishing an "Adopt-A-Highway" program, of public education and information relating to litter abatement and of enforcement of litter-related laws and ordinances. The amount of State aid due each municipality shall be solely calculated based on the proportion which the housing units of a qualifying municipality bear to the total housing units in the State. Total housing units shall be determined using the most recent federal decennial population estimates for New Jersey and its municipalities, filed in the office of the Secretary of State. Moneys in the fund may also be used by an eligible municipality to abate graffiti;

c. 30 percent of the estimated annual balance of the Clean Communities Program Fund shall be distributed as State aid to eligible municipalities with total housing units of 200 or more for programs of litter pickup and removal, including establishing an "Adopt-A-Highway" program, of public education and information relating to litter abatement and of enforcement of litter-related laws and ordinances. The amount of State aid due each municipality shall be solely calculated based on the proportion which the municipal road mileage of a qualifying municipality bears to the total municipal road mileage within the State. For the purposes of this subsection, "municipal road mileage" means that road mileage under the jurisdiction of municipalities, as determined by the Department of Transportation. Moneys in the fund may also be used by an eligible municipality to abate graffiti;

d. 10 percent of the estimated annual balance of the Clean Communities Program Fund shall be distributed as State aid to eligible counties for programs of litter pickup and removal, including establishing an "Adopt-A-Highway" program, of public education and information relating to litter abatement and of enforcement of litter-related laws and ordinances. The amount of State aid due each county shall be solely calculated based on the proportion which the county road mileage of an eligible county bears to the total county road mileage within the State. For the purposes of this subsection, "county road mileage" means that road mileage under the jurisdiction of counties, as determined by the Department of Transportation. Moneys in the fund may also be used by an eligible county to abate graffiti;

e. No eligible municipality shall receive less than \$4,000 in State aid as apportioned pursuant to subsections b. and c. of this section. A municipality or county may use up to five percent of its State aid for administrative expenses;

f. Prior to the distribution of funds pursuant to subsections a. through d. of this section:

(1) \$375,000 of the estimated annual balance of the Clean Communities Program Fund shall be annually appropriated to the department and made available on July 1 of every year to the organization under contract with the department pursuant to section 6 of P.L.2002, c.128 (C.13:1E-218) for a Statewide public information and education program concerning antilittering activities and other aspects of responsible solid waste handling behavior, of which up to \$75,000 shall be used exclusively to finance an annual Statewide television, radio, newspaper and other media advertising campaign to promote antilittering and responsible solid waste handling behavior.

(2) in each of the first three years after the effective date of P.L.2020, c.117 (C.13:1E99.126 et al.), \$500,000 of the estimated annual balance of the Clean Communities Program Fund shall be appropriated to the department and made available on July 1 of each year to the organization under contract with the department pursuant to section 6 of P.L.2002, c.128 (C.13:1E-218) for the Statewide public information and education program developed pursuant to subsection b. of section of section 8 of P.L.2020, c.117 (C.13:1E-99.133).

The organization under contract with the department pursuant to section 6 of P.L.2002, c.128 (C.13:1E-218) shall, no later than the date on which the contract period concludes, submit a report to the Governor and the Legislature concerning its activities during the contract period and any recommendations concerning improving the program. Every eligible municipality and county shall cooperate with the organization under contract with the department pursuant to section 6 of P.L.2002, c.128 (C.13:1E-218) in providing information concerning its program of litter pickup and removal.

No later than May 31, 2008, 25 percent of the estimated annual balance of the Clean Communities Program Fund shall be appropriated to the State Recycling Fund established pursuant to section 5 of P.L.1981, c.278 (C.13:1E-96). These moneys shall be used by the Department of Environmental Protection for direct recycling grants to counties and municipalities, up to a maximum appropriation of \$4,000,000.

g. As used in this section, "graffiti" means any inscription drawn, painted or otherwise made on a bridge, building, public transportation vehicle, rock, wall, sidewalk, street or other exposed surface on public property.

The department may carry forward any unexpended balances in the Clean Communities Program Fund as of June 30 of each year.

11. This act shall take effect immediately.

Approved November 4, 2020