



ENVIRONMENTAL SUSTAINABILITY

DOD Should Take Actions to Reduce Single-Use Plastics

Report to Congressional Committees

September 2024

GAO-24-106823

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Accessible Version

GAO Highlights

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Why GAO Did This Study

Plastic products account for approximately 70 to 80 percent of all waste that ends up in the environment, according to a National Academies of Sciences, Engineering, and Medicine report. In August 2022, the White House issued executive order implementing instructions that directed agencies to reduce single-use plastic products to the maximum extent practicable.

The Joint Explanatory Statement accompanying the National Defense Authorization Act for Fiscal Year 2023 includes a provision for GAO to study DOD's efforts to reduce its reliance on single-use plastics. This report assesses the extent to which DOD (1) has taken actions in response to the implementing instructions to reduce single-use plastics, and (2) has visibility into ongoing sustainability efforts by its components involving the reduction of single-use plastics.

GAO selected for review a sample of DOD components with efforts involving single-use plastics. GAO analyzed documents, interviewed officials, and collected and assessed information related to components' ongoing sustainability efforts. GAO visited two DOD installations to observe how sustainability efforts involve single-use plastic reductions.

What GAO Recommends

GAO is making four recommendations, including that DOD issue department-wide guidance for reducing single-use plastics; that the guidance specify goals, roles, and responsibilities; and that DOD review and evaluate components' ongoing efforts. DOD concurred with the recommendations.

What GAO Found

The Department of Defense (DOD) has not taken actions directly in response to Executive Order 14057's implementing instructions to reduce single-use plastics. For the purposes of GAO's report, such plastics are defined as those intended to be used once and then discarded regardless of whether they are recycled or disposed of in a landfill.

Examples of Department of Defense (DOD) Activities Involving Single-Use Plastics

DOD activity	Types of single-use plastics
Commissaries	Plastic bags, grocery product packaging
Exchanges and lodging	Plastic bags, product packaging, health and beauty products
Dining facilities	Cutlery, plastic plates, to-go containers
General acquisition and procurement	Bubble wrap, plastic shrink wrap
Logistics	Oil/lubricant bottles, packaging of parts and supplies

DOD activity	Types of single-use plastics
Hospitals	Masks; disposable containers, gowns, and curtains; single-use medical devices with plastic components

Source: GAO analysis of DOD information. | GAO-24-106823

Officials from the military departments, the exchanges, the Defense Commissary Agency, and the Defense Logistics Agency said they were unsure how to identify single-use plastics within DOD, measure any reductions, and establish roles and responsibilities for responding to the implementing instructions. These officials stated that they typically wait for department-wide guidance before acting in response to executive orders and any instructions to ensure that their actions align with department-wide goals. Issuing department-wide guidance on which plastics to reduce—including associated goals, roles, and responsibilities for components—would better position DOD to reduce its single-use plastic waste, as envisioned by the executive order’s implementing instructions.

For at least a decade, selected DOD components have had sustainability efforts that involved the reduction of single-use plastics. These ongoing efforts include

- use of reusable dishware and cutlery at some military dining facilities,
- a program to refurbish and reuse some single-use medical devices, and
- educational initiatives.

However, GAO found that DOD has limited visibility into the results and challenges of component-level efforts. DOD officials stated that they have not comprehensively reviewed these efforts because the issue of single-use plastics is new, based on the August 2022 executive order implementing instructions. However, many of the component-level efforts GAO examined predate the executive order and its implementing instructions and could inform any future DOD efforts in response to them. By collecting information about components’ ongoing efforts and evaluating their results and challenges, DOD can leverage components’ existing knowledge and experiences as it establishes future department-wide guidance for reducing single-use plastics.

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Abbreviations

AAFES	Army Air Force Exchange Service
DeCA	Defense Commissary Agency
DHA	Defense Health Agency
DLA	Defense Logistics Agency
DOD	Department of Defense
EPA	Environmental Protection Agency
GSA	General Services Administration
MCX	Marine Corps Exchange
NEXCOM	Navy Exchange Service Command
USD(A&S)	Under Secretary of Defense for Acquisition and Sustainment
USDA	U.S. Department of Agriculture

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September 10, 2024

Congressional Committees

Plastic products account for approximately 70 to 80 percent of all waste that ends up in the environment, according to a report from the National Academies of Sciences, Engineering, and Medicine. The report also stated that plastic waste is present in almost every marine habitat, from the ocean surface to deep sea sediments and the ocean’s vast mid-water region.¹ Due to the increasing visibility and scale of harmful effects of plastic pollution in freshwater and marine systems, along with related social and economic impacts, the need for solutions is at the forefront of public opinion and government concern.²

In December 2021, the President issued Executive Order 14057, *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability*.³ The executive order directed each federal agency to minimize waste, advance pollution prevention, and support markets for recycled products, among other things. In August 2022, the White House Council on Environmental Quality published implementing instructions for the executive order.⁴ These instructions directed agencies to take actions to reduce and phase out procurement of single-use plastic products to the maximum extent practicable.⁵

In May 2023, we reported on the Department of Defense’s (DOD) efforts to achieve Executive Order 14057 sustainability goals associated with greenhouse gas emissions reductions, energy and water efficiencies, and waste reduction. We recommended that DOD conduct an assessment to identify the staffing resources it needs to achieve the sustainability goals for Executive Order 14057.⁶

The Joint Explanatory Statement accompanying the James M. Inhofe National Defense Authorization Act for Fiscal Year 2023 includes a provision for us to conduct a study on DOD’s efforts to reduce its reliance on

¹National Academies of Sciences, Engineering, and Medicine, *Reckoning with the U.S. Role in Global Ocean Plastic Waste* (Washington, D.C.: The National Academies Press, 2022).

²In September 2019, we reported that plastic is a particularly pervasive and persistent form of marine debris and that an interagency committee on marine debris, which includes the Navy as a committee member, could take additional steps to enhance the federal response. The Interagency Marine Debris Coordinating Committee coordinated a comprehensive program of marine debris research and activities among federal agencies. GAO, *Marine Debris: Interagency Committee Members Are Taking Action, but Additional Steps Could Enhance the Federal Response*, [GAO-19-653](#) (Washington, D.C.: Sept. 25, 2019). We made four recommendations, three of which have been implemented.

³Exec. Order No. 14,057, *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability*, 86 Fed. Reg. 70,935 (Dec. 8, 2021).

⁴White House Council on Environmental Quality, *Implementing Instructions for Executive Order 14057: Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability* (August 2022). For the purposes of this report, we refer to this document as the executive order implementing instructions.

⁵For the purposes of this report, single-use plastics are defined as plastic products that are intended to be used once and then discarded, regardless of whether they are recycled or disposed of in a landfill.

⁶GAO, *Environmental Sustainability: DOD Should Identify Workforce Capacity Needed to Achieve Goals*, [GAO-23-105239](#) (Washington, D.C.: May 31, 2023). As of May 2024, DOD had not addressed our recommendation.

single-use plastics.⁷ This report evaluates the extent to which DOD (1) has taken actions in response to the Executive Order 14057 implementing instructions to reduce single-use plastics, and (2) has visibility into ongoing sustainability efforts by its components involving the reduction of single-use plastics.

To address both of our objectives, we selected a nonprobability sample of DOD components that are engaged in activities involving numerous single-use plastics or efforts that might reduce single-use plastics.⁸ The selected DOD components were the military departments, the Defense Logistics Agency (DLA), the Defense Health Agency (DHA), and the Defense Commissary Agency (DeCA). Within each selected component, we collected information from the component's headquarters-level as well as sub-headquarters-level organizations, such as four selected military installations and the military exchanges (the Army and Air Force Exchange Service (AAFES), Navy Exchange Service Command (NEXCOM), and Marine Corps Exchange Service (MCX)). Further, within each component we interviewed officials who provided information on activities involving single-use plastics—such as logistics, dining facilities, stores, lodging, and restaurants—as well as officials from environmental, solid waste, and recycling programs.

To address our first objective, we reviewed documents on DOD-wide environmental management and sustainability to identify any guidance on the reduction of single-use plastics in response to the Executive Order 14057 implementing instructions. We interviewed officials from the Offices of the Under Secretary of Defense for Acquisition and Sustainment (USD(A&S)) and the Under Secretary of Defense for Personnel and Readiness about department-wide implementation of the executive order implementing instructions.⁹ We interviewed headquarters-level and installation-level officials at the selected components about any actions they have taken in response to the executive order implementing instructions, and perspectives that they had about any potential future response.

To address our second objective, we searched multidisciplinary databases and reviewed DOD reports and articles to identify and review a nonprobability sample of ongoing efforts by DOD components involving the reduction of single-use plastics.¹⁰ We also interviewed the above-described officials to identify any other efforts that might be reducing single-use plastics. For the identified efforts, we reviewed related documentation and interviewed relevant officials to discuss DOD's visibility into the efforts' results and challenges. We also collected information from officials at four installations (two in-person and two virtually) on their efforts to

⁷168 Cong. Rec. H9484 (daily ed. Dec. 8, 2022).

⁸We identified these components by interviewing officials from the Offices of the Under Secretary of Defense for Acquisition and Sustainment (USD(A&S)) and the Under Secretary of Defense for Personnel and Readiness about where single-use plastics are most prevalent in DOD. Specifically, we asked officials from the Under Secretary offices to identify components that had large quantities of single-use plastics or efforts to reduce single-use plastics. The officials said that they do not track information on either of these variables, but identified components that they believed might meet these criteria. In initial meetings, several components also self-identified as likely having large quantities of single-use plastics as well as efforts to reduce them. Our selected DOD components are not generalizable to all of DOD but provide important insights into DOD's efforts.

⁹Within the Office of the USD(A&S), we spoke with officials from the Offices of the Assistant Secretary of Defense for Energy, Installations, and Environment and the Assistant Secretary of Defense for Acquisition, Defense Pricing and Contracting. Within the Office of the Under Secretary of Defense for Personnel and Readiness, we spoke with officials from the Assistant Secretary of Defense for Manpower and Reserve Affairs.

¹⁰Specifically, we conducted searches of publicly available government information. We searched multidisciplinary databases of academic research, trade publications, and news. We also searched government reports related to the environment and sustainability. Our selection of efforts is not generalizable to all of DOD.

reduce single-use plastics.¹¹ We selected installations by choosing at least one installation from each of the military departments. We focused on installations that (1) were located in the continental United States, (2) had efforts to reduce single-use plastics, and (3) were geographically dispersed. Our selection is a nonprobability sample that is not generalizable to our selected components.

For both objectives, we also collected information from the White House Council on Environmental Quality, the Environmental Protection Agency (EPA), the General Services Administration (GSA), the Department of the Interior, and the U.S. Department of Agriculture (USDA) about their efforts to reduce single-use plastics and how those efforts could potentially be adopted by DOD. GSA, Interior, and USDA have efforts that are directly related to the executive order implementing instructions to reduce single-use plastics. We also collected data from DeCA, AAFES, NEXCOM, and MCX on quantities of water bottles and reusable plastic bags. We found the data to be sufficiently reliable to serve as illustrative examples of the issues we present. The presented data are not generalizable to other, similar activities within DOD. We compared all the information collected for both objectives to the executive order implementing instructions, key practices for evidence-based policymaking, and key practices for enhancing collaboration.¹²

We conducted this performance audit from May 2023 to September 2024 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

According to the Organisation for Economic Co-operation and Development, the global annual production of plastic products doubled from 2000 to 2019, and global plastic waste also doubled over the same time period.¹³ According to a report from the National Academies of Sciences, Engineering, and Medicine recycling processes and infrastructure are grossly insufficient to manage the diversity, complexity, and quantity of plastic waste in the United States.¹⁴ Single-use plastic goods and packaging have been a primary focus of waste prevention policy because of their importance in terms of volume of waste generated. Plastic products tend to break down into increasingly smaller pieces, but do not degrade easily. As such, they are potentially harmful to both wildlife and humans. Figure 1 shows various types of common plastic products.

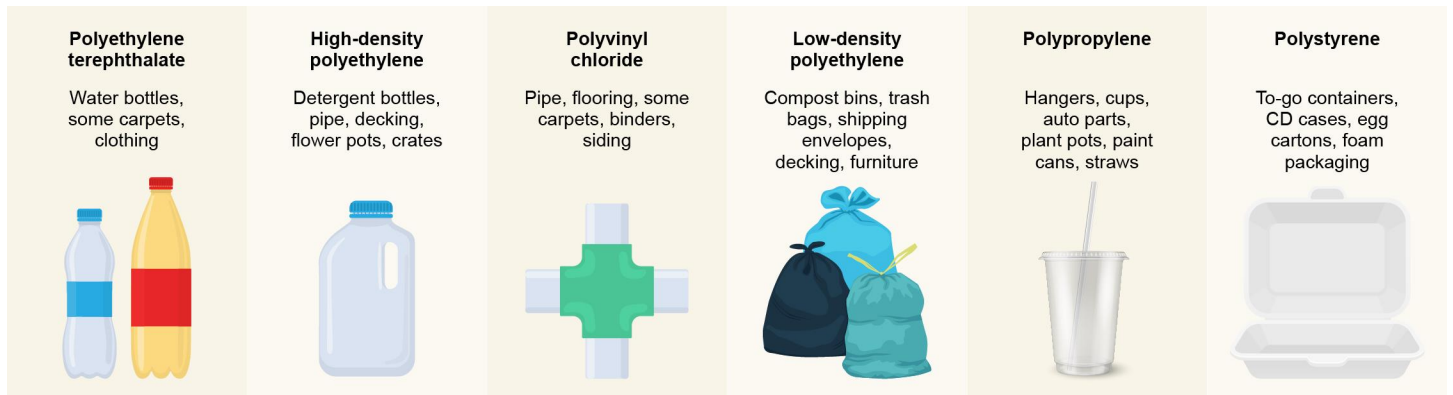
¹¹We collected information from Patuxent River Naval Air Station, Tinker Air Force Base, Fort Cavazos, and Naval Base San Diego. We visited Patuxent River Naval Air Station and Fort Cavazos to observe their efforts to reduce single-use plastics.

¹²In July 2023 we published a guide that identified key practices for evidence-based policymaking. GAO, *Evidence-Based Policymaking: Practices to Help Manage and Assess the Results of Federal Efforts*, [GAO-23-105460](#) (Washington D.C.: July 12, 2023). In May 2023 we published a guide that identified key practices for collaboration. GAO, *Government Performance Management: Leading Practices to Enhance Interagency Collaboration and Address Crosscutting Challenges*, [GAO-23-105520](#) (Washington, D.C.: May 24, 2023).

¹³Organisation for Economic Co-operation and Development, *Global Plastics Outlook: Economic Drivers, Environmental Impacts and Policy Options* (OECD Publishing, Paris: 2022).

¹⁴National Academies of Sciences, Engineering, and Medicine, *Reckoning with the U.S. Role in Global Ocean Plastic Waste* (Washington, D.C.: The National Academies Press, 2022). Appendix I contains more details about recycling.

Figure 1: Common Types of Plastics and Associated Products



Source: GAO analysis of Environmental Protection Agency data and stakeholder views and documents; voinsveta/stock.adobe.com (bottles and pipe illustrations); truefiesta/stock.adobe.com (trash bags); gomolach/stock.adobe.com (to-go cup); sudowoodo/stock.adobe.com (take-out container). | GAO-24-106823

Executive Order 14057 and Other Initiatives on Plastic Waste

Executive Order 14057 sets government-wide goals for environmental sustainability and directs federal agencies to take actions to support the achievement of these goals. Section 207 of the order outlines goals specific to reducing waste and pollution.¹⁵ It directs agencies to (1) minimize waste, including the generation of wastes requiring treatment and disposal; (2) advance pollution prevention; (3) support markets for recycled products; and (4) promote a transition to a circular economy, as defined by the Save Our Seas 2.0 Act.¹⁶ Specifically, section 207 of the order establishes a goal for each federal agency to annually divert from landfills at least 50 percent of non-hazardous solid waste (including food and compostable material) and construction and demolition waste and debris by fiscal year 2025. The section increases this goal to 75 percent of such waste by fiscal year 2030.

The executive order implementing instructions, issued in August 2022, provide federal agencies with direction for implementing the order’s overarching policy and goals.¹⁷ The instructions direct agencies to issue or revise existing agency policies, directives, and guidance, as appropriate, to ensure alignment with the goals and requirements of Executive Order 14057, the implementing instructions, and any further related guidance.

With respect to plastic waste, the instructions state that consistent with section 207 of Executive Order 14057—and to minimize waste, advance pollution prevention, and promote a transition to circular economy approaches—agencies should take actions to reduce and phase out procurement of single-use plastic products, to the maximum extent practicable. Further, the instructions state that agencies also may establish

¹⁵Exec. Order No. 14,057.

¹⁶The Save Our Seas 2.0 Act defined a circular economy as an economy that uses a systems-focused approach and involves industrial processes and economic activities that are restorative or regenerative by design; enables resources used in such processes and activities to maintain their highest value for as long as possible; and aims for the elimination of waste through the superior design of materials, products, and systems (including business models). Pub. L. No. 116-224, § 2 (2020).

¹⁷White House Council on Environmental Quality, *Implementing Instructions for Executive Order 14057: Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability* (Aug. 2022).

agency-specific guidance to reduce or otherwise address single-use plastics in acquisition plans, including use of alternatives identified by the USDA BioPreferred Program.¹⁸

In July 2024, the White House released a government-wide strategy to target plastic pollution. The strategy outlined existing and new federal actions to reduce the impact of plastic pollution.¹⁹ In releasing the strategy, the White House also announced a new goal to phase out federal procurement of single-use plastics from food service operations, events, and packaging by 2027, and from all federal operations by 2035.

Some federal agencies have started to take actions in response to Executive Order 14057 and its implementing instructions on single-use plastics. On June 8, 2022, the Secretary of the Interior issued an order directing, among other things, Department of the Interior's bureaus and offices to work toward a goal of phasing out single-use plastic products by 2032.²⁰ In June 2023, the National Park Service, an agency within the Department of the Interior, issued a plan to completely phase out single-use plastics from its parks by 2032.²¹ And the GSA's Acquisition Policy Federal Advisory Committee issued a report in spring 2023 recommending, among other things, a series of proposed actions GSA could take to reduce single-use plastics.²² In June 2024, GSA issued a final rule pertaining to single-use plastic packaging of products in its catalogs.²³

The U.S. government has also engaged in other initiatives for plastics. For example:

Circular economy. In its 2022 report *Building a Circular Economy for All: Progress Toward Transformative Change*, the EPA described progress it had made toward building a circular economy, including issuance of strategies and engagement with stakeholders.²⁴ A circular economy keeps materials and products in circulation for as long as possible. It is a change to the model in which resources are mined, made into products, and then become waste.²⁵ According to the EPA, shifting to a circular approach for plastics management in the U.S. involves many actions, including

¹⁸According to the USDA, its BioPreferred Program for federal agencies includes two major parts: mandatory purchasing requirements for agencies and their contractors for biobased products, and a voluntary labeling initiative for biobased products. The USDA describes biobased products as being, among other things, derived from raw materials such as plants and other renewable agricultural, marine, and forestry materials and generally providing an alternative to conventional petroleum-derived products.

¹⁹The Interagency Policy Committee on Plastic Pollution and A Circular Economy, *Mobilizing Federal Action On Plastic Pollution: Progress, Principles, And Priorities* (July 2024). The White House released this strategy during final processing of our report. Consequently, we did not discuss its potential impact with DOD or other agencies.

²⁰Specifically, the order directed the Department of the Interior's Chief Sustainability Officer to issue guidance for bureaus and offices to, among other things, develop sustainable procurement plans that include specific approaches to phasing out single-use plastic products by the end of 2032. Secretary of the Interior Order No. 3407, *Department-Wide Approach to Reducing Plastic Pollution* (June 8, 2022).

²¹National Park Service, *NPS Plastics Elimination and Reduction Plan* (June 2023).

²²General Services Administration (GSA) Acquisition Policy Federal Advisory Committee, *Recommendations 2023-1* (May 19, 2023).

²³89 Fed. Reg. 48,330 (Jun. 6, 2024) (taking effect July 8, 2024).

²⁴Environmental Protection Agency (EPA), Office of Resource Conservation and Recovery, *Building a Circular Economy for All: Progress Toward Transformative Change* (September 2022).

²⁵See, e.g., EPA, *National Recycling Strategy: Part One of a Series on Building a Circular Economy for All* (Nov. 15, 2021).

- understanding the effectiveness of programs and policies, and preventing plastic pollution through reducing, reusing, collecting, and capturing plastics;
- improving the U.S. capacity to reuse and refill products;²⁶ and
- addressing and improving consumer outreach and understanding of the proper management of plastic and other material in the environment.²⁷

U.N. resolution. In March 2022 heads of state, ministers of environment, and other representatives from United Nations member states, including the United States, adopted by consensus a resolution at the United Nations Environment Assembly to end plastic pollution and develop an international agreement by 2024.²⁸ Specifically, the resolution decided that an intergovernmental negotiating committee would develop an internationally binding instrument on plastic pollution based on a comprehensive approach that addresses the full life cycle of plastic, including its production, design, and disposal. Since then, the intergovernmental negotiating committee, which includes the United States, held four sessions to develop an instrument. A fifth session is scheduled for November 2024.

EPA strategy. In April 2023, the EPA released its *Draft National Strategy to Prevent Plastic Pollution*.²⁹ The draft strategy states that while regulation and solid waste management programs have shown success in reducing waste, a collaborative effort by all stakeholders across the plastic life cycle will be needed to build a more circular plastics economy and reduce plastic pollution.

DOD Activities Involving Single-Use Plastics

DOD is the largest federal agency of the U.S. government, with nearly 3 million military and civilian personnel. It is also the single largest buyer of supplies and services throughout the government. Much of DOD's acquisition, sale, and use of single-use plastics is similar to that of civilian society. Products that DOD purchases from commercial vendors can come in single-use plastic packaging. DOD installations have department stores and convenience stores, known as exchanges, and grocery stores, known as commissaries, that sell many types of products that are single-use plastics or that are packaged in single-use plastics. In many respects, DOD's exchanges operate like their private sector counterparts.³⁰ As of 2022, DOD operated approximately 240 commissaries and 2,500 exchange facilities worldwide.

²⁶According to the EPA, many communities lack an approach to facilitating reuse and refill. As a result, many consumers use single-use plastic products that are often thrown away.

²⁷EPA, *Draft National Strategy to Prevent Plastic Pollution* (last updated Aug. 5, 2023), accessed May 13, 2024, <https://www.epa.gov/circulareconomy/draft-national-strategy-prevent-plastic-pollution>.

²⁸United Nations Environment Assembly of the United Nations Environment Program Resolution 5/14, *End Plastic Pollution: Towards an International Legally Binding Instrument* (Mar. 2, 2022).

²⁹From May 2, 2023, through July 31, 2023, the EPA held a public comment period on the *Draft National Strategy to Prevent Plastic Pollution*. The EPA received thousands of comments which, as of March 2024, it was reviewing as part of its process to finalize the strategy.

³⁰Specifically, according to DOD guidance, exchange programs shall use good business management practices to fulfill customer needs, while maintaining a readiness capability to support wartime missions and to meet quality, fiscal, health, and safety standards. Each military department shall organize and operate its exchange system in the most efficient and cost-effective way to meet service-unique needs, maintain good customer service, ensure competitive pricing, and continue support for military morale, welfare, and recreation programs, unless prohibited by DOD policy. DOD Instruction 1330.09, *Armed Services Exchange Policy* (Dec. 7, 2005).

DOD health care activities also use single-use plastics like their civilian counterparts, such as blue sterilization wrap made of plastic. DHA operates approximately 700 medical treatment facilities such as hospitals and clinics. Table 1 depicts some, but not all, of the DOD activities that involve single-use plastics.

Table 1: Examples of Department of Defense (DOD) Activities Involving Single-Use Plastics

DOD activity	Types of single-use plastics
Commissaries	Plastic bags and grocery products packaging.
Exchanges and lodging	Plastic bags, product packaging, and health and beauty products.
Dining facilities	Cutlery, plastic plates, and to-go containers.
General acquisition and procurement	Bubble wrap and plastic shrink wrap.
Logistics	Oil/lubricant bottles and packaging of parts and supplies.
Hospitals	Masks; disposable containers, gowns, and curtains; and single-use medical devices with plastic components.

Source: GAO analysis of DOD information. | GAO-24-106823

DOD Roles and Responsibilities Related to Single-Use Plastics

The Assistant Secretary of Defense for Energy, Installations, and Environment, under the authority, direction, and control of the USD(A&S), develops environmental guidance for DOD. The Assistant Secretary of Defense for Sustainment, who oversees DLA, also reports to the USD(A&S). The selected DOD components we reviewed also have headquarters-level environmental offices that also issue environmental guidance.

The military exchanges, DeCA, and DHA are overseen by Assistant Secretaries who report to the Under Secretary of Defense for Personnel and Readiness.³¹ The USD(A&S) and the Under Secretary of Defense for Personnel and Readiness both report directly to the Secretary of the Defense.

DOD Has Not Taken Action in Response to the Executive Order Instructions on Single-Use Plastics

As of May 2024, DOD had not taken action directly in response to the August 2022 executive order implementing instructions to reduce single-use plastics. Component officials expressed uncertainty about how to identify single-use plastics; measure any reductions; and establish roles and responsibilities for reducing single-use plastics. Further, DOD has not developed department-wide guidance for components on how to implement the relevant portions of the executive order implementing instructions.

³¹Specifically, the military exchanges and DeCA are overseen by the Assistant Secretary of Defense for Manpower and Reserve Affairs. DHA is overseen by the Assistant Secretary of Defense for Health Affairs.

DOD Has Not Taken Action and Component Officials Expressed Uncertainty Regarding the Executive Order Implementing Instructions to Reduce Single-Use Plastics

The selected DOD components we reviewed generally had not taken action in response to relevant portions of the executive order implementing instructions on reducing single-use plastics. Specifically, headquarters environmental officials from the military departments and headquarters officials from the exchanges, DeCA, and DLA said that they had not taken action to reduce single-use plastics in response to the instructions. Further, environmental and headquarters officials from certain DOD components told us that they were unaware of the instructions' direction with respect to single-use plastics.

Headquarters environmental officials from the military departments noted that DOD has a variety of other environmental and sustainability priorities established in existing DOD guidance and strategy documents. For example, Army officials cited ongoing efforts to renovate its infrastructure to reduce energy usage by 40 percent. Army and Navy officials also cited environmental cleanup of per- and polyfluoroalkyl substance chemicals on their installations as a higher environmental priority than the reduction of single-use plastics. Similarly, Air Force officials stated that they are more focused on compliance issues, environmental permits, energy, and climate resiliency.

Identifying Single-Use Plastics

Headquarters environmental officials from the military departments and headquarters operations officials from DeCA, DLA, and the exchanges expressed uncertainty about what constitutes a single-use plastic. These officials said their components use a wide variety of what could be considered single-use plastics. The selected components' headquarters officials generally agreed that plastic bags, packaging, food service items, and bottles constituted the most common types of single-use plastics on DOD installations. However, the officials also noted there was a great deal of variability within these types of products. For example, DLA officials said that in addition to drink bottles, DOD installations use bottles of soap for custodial purposes and bottles of oils and lubricants for maintenance.

In addition, Air Force, Navy, and Marine Corps officials cited numerous other single-use plastics, such as shampoo, conditioner, and lotion bottles at their lodging facilities; plastic cigarette butt filters; hospital gowns; medicine bottles; and certain supplies used in chemical, biological, and radiological training. AAFES officials noted that the ties used to attach price tags to merchandise are also single-use plastics. Given the variety of plastics that are single use, component officials stated that they are not sure which plastics they should reduce without department-wide agreement on the single-use plastics intended for reduction. Figure 2 shows examples of single-use plastics in DOD.

Figure 2: Examples of Single-Use Plastics Used in the Department of Defense (DOD)



1 Prescription pill bottle used by a soldier.



2 Breakfast plate and cutlery at an Army event.



3 Collected shooting targets at a DOD recycling center.



4 Gowns, masks, and blue wrap in a DOD hospital.



5 Drink bottles for sale at an exchange.



7 Plastic heat blanket used during a training exercise.



6 Supplies packaged for shipment.

Source: U.S. Army/Staff Sgt. S. Simmons (1); U.S. Army/Sgt. 1st Class M Sauret (2); GAO (3); U.S. Navy/Petty Officer 2nd Class L. Cunningham (4); GAO (5); U.S. Air Force/Senior Airman T. Karol (6); U.S. Air Force/Staff Sgt. J. Araos (7). | GAO-24-106823

Although officials from the selected DOD components were unsure about what constitutes a single-use plastic, other federal agencies have defined and identified single-use plastics for reduction. For example, the Department of the Interior identified single-use plastics as plastic items intended to be disposed of immediately after use, including plastic and polystyrene food and beverage containers, bottles, straws, cups, cutlery, and disposable plastic bags.³² GSA, in a final rule issued in June 2024, identified single-use plastic packaging as any plastic used for the containment, protection, handling, delivery, or presentation of goods by a producer for a consumer with the intent of being disposed of immediately after use.³³ Further, the EPA stated an intent to

³²Secretary of the Interior Order No. 3407, *Department-Wide Approach to Reducing Plastic Pollution* (June 8, 2022).

³³89 Fed. Reg. 48,330 (Jun. 6, 2024) (taking effect July 8, 2024).

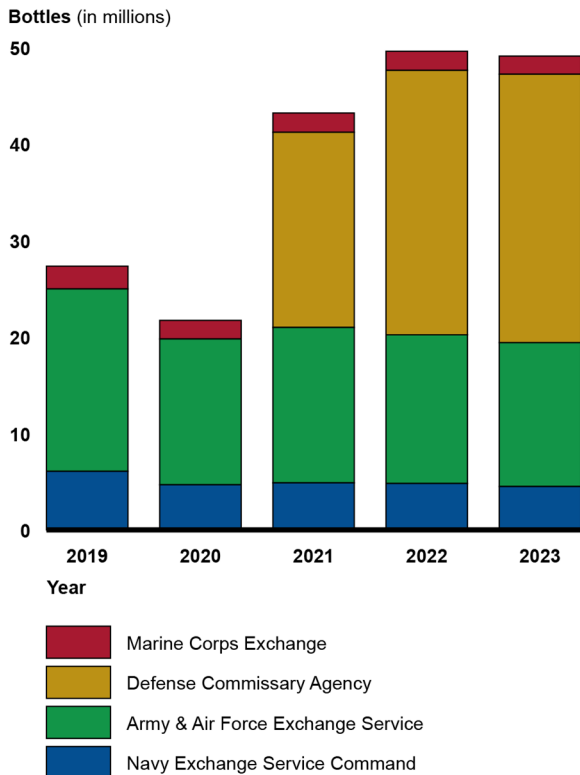
reduce single-use, unrecyclable, or frequently littered plastic products as part of one of its draft objectives in its Draft National Strategy to Prevent Plastic Pollution.³⁴

Measuring Single-Use Plastics

Headquarters environmental officials from the military departments and headquarters operations officials from DeCA, DLA, and the exchanges also stated that they did not routinely track the quantities of single-use plastics used by their organizations, and that accordingly, they could not measure any reductions or establish any goals. Headquarters environmental officials from the military departments said that any goals and measures established in response to the executive order should focus on procurement, sales, and consumption of single-use plastics. However, officials from DeCA and the exchanges noted that their single-use plastic offerings reflect consumer demand, and that any goals targeting their products would need to consider that they do not control consumer demand.

DeCA and the exchanges maintain sales data that could be used to measure single-use plastics purchased by their customers. For example, as shown in figure 3, data provided by DeCA, AAFES, NEXCOM, and MCX show the quantities of single-use plastic water bottles sold.

Figure 3: Water-Based Bottled Drink Sales at Military Exchanges and Commissaries



Source: GAO analysis of Department of Defense data. | GAO-24-106823

³⁴EPA, *Draft National Strategy to Prevent Plastic Pollution* (April 2023).

Accessible Data for Figure 3: Water-Based Bottled Drink Sales at Military Exchanges and Commissaries

Fiscal year	Navy Exchange Service Command	Army & Air Force Exchange Service	Defense Commissary Agency	Marine Corps Exchange
2019	6.087827	18.95899		2.374138
2020	4.689299	15.16151		1.93644
2021	4.893872	16.15168	20.27881	2.011172
2022	4.822762	15.45317	27.48129	1.988122
2023	4.51814	14.95101	27.89765	1.872083

Source: GAO analysis of Department of Defense data. | GAO-24-106823

Note: The above data captures a variety of water-based bottled drinks sold by the exchanges and the Defense Commissary Agency (DeCA), including sparkling water and sports drinks, among others, that were less than 1 gallon in volume. According to DeCA officials, their database only retains information for a rolling 3-year period. Accordingly, data from DeCA for fiscal years 2019 and 2020 were not available. Officials from the Offices of the Under Secretaries of Defense for Acquisition and Sustainment and Personnel and Readiness noted that many other Department of Defense (DOD) components, offices, employees, service members and their on-base families purchase bottled water from various other sources for consumption on DOD installations. These officials also noted that bottled water may be necessary at installations dealing with contamination of local ground water.

Other DOD components also have data that could be used to measure certain single-use plastics. For example, DLA tracks the numbers of ready-to-eat meals it procures for the military services; these meals contain single-use plastic cutlery.

As an example of how another federal agency has begun to develop goals and measures for the reduction of single-use plastics, the Department of the Interior established several requirements related to meeting its goal of reducing the acquisition and sale of single-use plastics.³⁵ For example, the Secretary of the Interior called for the department’s Chief Sustainability Officer to issue guidance for bureaus and offices to develop internal processes to account for single-use plastic products they procure, sell, or distribute. Interior also required its bureaus and offices to develop schedules and targets to make annual progress toward reducing the procurement, sale, and distribution of single-use plastics products from current levels.

Establishing Roles and Responsibilities for Reducing Single-Use Plastics

Headquarters environmental officials from the military departments and headquarters operations officials from DeCA, DLA, and the exchanges were unsure of which entities in DOD could or should reduce single-use plastics, noting there is a wide array of activities that involve single-use plastics. For example, these officials noted DOD activities involving single-use plastics such as the acquisition and use of plastic shooting targets for military training, the sale of consumable liquids in commissaries and exchanges, cutlery in military ready-to-eat meals, and to-go containers at military dining facilities. The officials said that these activities involving single-use plastics occur across the military departments and other DOD components, each of which have different missions and governing policies. Accordingly, the component officials said they were not clear as to which components should be reducing single-use plastics.

Component headquarters environmental officials said they do not have the authority to limit single-use plastics purchased or acquired for resale by DOD. The environmental officials said that the responsibility for reducing single-use plastics should go to the sources of the single-use plastics, such as DeCA, the exchanges, and

³⁵Secretary of the Interior Order No. 3407, *Department-Wide Approach to Reducing Plastic Pollution* (June 8, 2022).

DLA, among others. However, officials from these components expressed concern about their potential roles in reducing single-use plastics.

According to NEXCOM and AAFES officials, any guidance on reducing plastics that exchanges are meant to follow would have to consider that, per their governing policies, they do not receive appropriated funds to cover their costs and instead rely on sales and other revenues to cover their operating expenses.³⁶ According to exchange officials, any changes affecting their revenues, such as having an operating model that differs from local competitors, would affect their own ability to operate, as well as the morale, welfare, and recreation program activities supported by their dividends.³⁷ Officials from the exchanges and DeCA stated that their product offerings reflect consumer demand, and that if they were to reduce their single-use plastic product offerings, customers would instead shop at stores outside the base for those items. Moreover, they also noted that they do not control the manufacturing or packaging of most of the products they sell. The officials were also concerned that changes in product offerings would be more costly to customers who rely on their stores.

In another example, DLA officials said any change to DLA's product offerings—particularly the meals with disposable cutlery provided to the military units—would need to be requested or approved by the military services, which buy their products and services to support their specific missions.

According to officials, DOD food operations are structured in various ways; thus, it was not clear to them which types of food activities could or should reduce single-use plastics. DOD dining facilities, sometimes referred to as galleys or mess halls, are funded through the department's annual appropriations and are operated by either DOD personnel or contracted vendors, according to military department headquarters officials. Conversely, according to exchange officials, food courts and restaurants at exchange locations are part of the exchanges' nonappropriated fund operations as described above. Additionally, the military departments' morale, welfare, and recreation activities operate under a mixture of both nonappropriated and appropriated funds. Morale, welfare, and recreation activities include snack bars and restaurants, according to officials from the Office of the Under Secretary of Defense for Personnel and Readiness.

While DOD, the largest federal agency, faces its own unique circumstances, other federal organizations have taken steps to address similar challenges. The National Park Service is addressing single-use plastics by getting outside vendors and food operators to opt into reducing single-use plastics. According to Park Service officials, they plan on revising the criteria they use to select food vendor contracts to include evaluation of

³⁶Specifically, exchanges are nonappropriated fund instrumentalities. A nonappropriated fund instrumentality is a DOD organizational and fiscal entity supported in whole or in part by nonappropriated funds. It is DOD policy that nonappropriated funds are government monies and assets from sources other than monies appropriated by Congress, and shall be administered only through the auspices of a nonappropriated fund instrumentality. A nonappropriated fund instrumentality acts in its own name to provide or assist the secretaries of the military departments in providing programs for DOD personnel and has the inherent authority to enter into contracts and leases using nonappropriated funds. DOD Instruction 1015.15, *Establishment, Management, and Control of Nonappropriated Fund Instrumentalities and Financial Management of Supporting Resources* (Oct. 31, 2007) (incorporating change 1, effective Mar. 20, 2008); DOD Instruction 4105.67, *Non-appropriated Fund (NAF) Procurement Policy and Procedure* (Feb. 26, 2014) (incorporating change 2, effective Dec. 1, 2017). For example, exchanges rely on nonappropriated funding, including sales and other revenue, to cover operating expenses.

³⁷Military morale, welfare, and recreation programs, among other things, promote esprit de corps and provide for the physical, cultural, and social needs; general well-being; quality of life; and hometown community support of service members and their families. DOD Instruction 1015.10, *Military Morale, Welfare, and Recreation (MWR) Programs* (July 6, 2009) (incorporating change 1, effective May 6, 2011). In 2016, we reported that in fiscal year 2015, the exchanges generated about \$259 million in dividends that supplemented funding used to support the military community. See GAO, *DOD Commissaries and Exchanges: Plan and Additional Information Needed on Cost Savings and Metrics for DOD Efforts to Achieve Budget Neutrality*, [GAO-17-38](#) (Washington, D.C.: Nov. 9, 2016).

sustainability practices such as the reduction of single-use plastics. The officials noted that this is occurring on a rolling basis as existing contracts end. Similarly, the U.S. Fish and Wildlife Service is revising its food concessions policy with the intent of removing single-use plastics from all concession operations, according to its plan for reducing single-use plastics.³⁸

DOD Components Do Not Have Department-Wide Guidance for the Executive Order Implementing Instructions

The selected DOD components we reviewed had not taken action in response to the executive order implementing instructions, according to component officials, because DOD has not issued department-wide implementing guidance. The executive order implementing instructions directed agencies to take actions to reduce and phase out procurement of single-use plastic products to the maximum extent practicable.³⁹ The executive order states that, to ensure successful implementation of the policies and goals of the order, the head of each agency shall, among other things, issue or revise existing agency policies, directives, and guidance, as appropriate.⁴⁰

Further, our work on evidence-based policymaking highlights the importance of defining goals. Specifically, agencies can take key actions including defining goals for all activities, identifying both long-term outcomes and near-term measurable results, and aligning goals across all organizational levels.⁴¹ After a federal organization has identified its goals, its plan to achieve them can include identifying the various organizations, programs, and activities that contribute to its goals. Similarly, our leading practices for collaboration include the clarification of roles and responsibilities to help agencies achieve goals.⁴²

However, DOD has not (1) identified the single-use plastics that it plans to reduce; (2) established associated goals and performance measures for reduction efforts; or (3) established roles and responsibilities for those involved in reducing the identified plastics, such as components with different missions and governing policies. DOD component officials noted that they typically do not act on executive orders and related White House instructions until an office within the Office of the Secretary of Defense provides department-wide guidance on how to do so. Component officials were reluctant to take any actions before any department-wide guidance is issued because that action might not align with any goals or metrics in the guidance once issued.

Officials from the Office of the USD(A&S) stated that their office is responsible for providing overarching guidance and that their office performs a coordinating role in implementing the response to the executive order and its accompanying implementing instructions. The officials noted that they are participating in working

³⁸U.S. Fish and Wildlife Service, *Sustainable Procurement Plan* (June 2023). According to several DOD officials, efforts undertaken by other agencies might not be easily adopted by DOD given its size.

³⁹White House Council on Environmental Quality, *Implementing Instructions for Executive Order 14057 Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability* (August 2022).

⁴⁰ Exec. Order No. 14,057, § 507.

⁴¹GAO, *Evidence-Based Policymaking: Practices to Help Manage and Assess the Results of Federal Efforts*, [GAO-23-105460](#) (Washington, D.C.: July 12, 2023).

⁴²GAO, *Government Performance Management: Leading Practices to Enhance Interagency Collaboration and Address Crosscutting Challenges*, [GAO-23-105520](#) (Washington, D.C.: May 24, 2023).

groups within and across DOD that relate to reducing single-use plastics. But they acknowledged that they had not issued any guidance on how to reduce single-use plastics in response to the implementing instructions.

The officials from the Office of the USD(A&S) said they had not issued guidance or taken any other action because they did not receive enough guidance from the White House Council on Environmental Quality. However, other federal agencies were able to take action on single-use plastics based on the council's existing guidance. As of April 2024, these officials said they plan on issuing guidance, but do not yet know what that guidance should include.

By issuing department-wide guidance on which plastics to reduce, associated goals, and roles and responsibilities for components, DOD would be better positioned to reduce its single-use plastic waste, as directed, to the maximum extent practicable, by the executive order implementing instructions. Specifically, by identifying single-use plastics to reduce, DOD would enable components to begin making decisions about which single-use plastics to target and how to begin reducing use of such plastics. Moreover, by developing goals and performance measures to track reductions, DOD would provide components the information needed to determine whether their future efforts yield positive results. And by including roles and responsibilities of all relevant components and activities and addressing their differing missions and governing policies, DOD can help ensure that its efforts cover all components using single-use plastics. DOD could also consult with other federal agencies to leverage their knowledge as it develops guidance.

DOD Leadership Has Limited Visibility into Components' Ongoing Efforts Involving Plastics Reduction

For at least a decade, selected DOD components have had ongoing sustainability efforts that involved the reduction of single-use plastics. To varying degrees, these efforts have had promising results as well as challenges. However, DOD leadership has limited visibility into the results and challenges of its components' efforts.

Selected Components Have Ongoing Sustainability Efforts Involving the Reduction of Single-Use Plastics

DOD officials from the selected components we reviewed identified ongoing sustainability efforts that involved the reduction of single-use plastics. These efforts, which predate Executive Order 14057, include reusable food service items, plastic bag reduction, adoption of private industry practices, community education, recycling, water bottle refilling stations, and plastic alternatives. However, some of these efforts also face challenges.

- **Reusable food service items.** The Army, Navy, Marine Corps, and Air Force use reusable cutlery and dishware in their dining facilities instead of single-use plastics, according to officials from these components. However, officials from the military exchanges—which operate hundreds of food courts separate from the military dining facilities—said that switching to reusable dishware and cutlery would be a challenge because of the outside vendors who operate in their food courts and the limited infrastructure of their food courts.
- **Plastic bag reduction.** A few DOD installations have attempted to reduce plastic bags. For example, in September 2022 a Navy installation commander, having observed plastic waste scattered around the

installation (which is adjacent to major bodies of water, which the commander noted could be home to at-risk aquatic life), asked the installation's activities to begin efforts to stop procuring or distributing single-use plastic bags and straws. The managers of the installation's exchange and commissary responded that it would be difficult to stop. Citing challenges similar to those identified by the exchanges in response to the executive order implementing instructions, the managers said that such a change would lead to customer dissatisfaction and that customers would then opt to shop at outside stores. Additionally, the managers of the exchange and commissary said that because their operations are managed at regional and national levels, banning plastic bags should be done with department-wide policy issued at higher levels of DOD.

- **Adoption of private industry practices.** According to DHA headquarters sustainability officials, they partner with an industry organization that provides them with guidance, practices, goals, and metrics to operate sustainably, including through the reduction of single-use medical devices. In its 2023 Sustainability Report, DHA reported that it had diverted 38 tons of single-use devices from the waste stream through its single-use device collection and processing program in 2022. One DHA hospital that we visited reported a cost reduction of \$545,000 in fiscal year 2023 through its single-use device reprocessing program. According to DHA, another hospital saved approximately \$1.2 million in 2021 by buying reprocessed medical devices such as pulse oximeters.

- **Community education.** Certain selected DOD components had efforts under way to educate their organizations about environmental sustainability, including the reduction of single-use plastics. However, Army, Navy, and Air Force headquarters officials also noted the difficulty in measuring the results of such educational initiatives. For example, one Army installation's environmental office won several awards for its educational initiatives but did not have quantitative data to measure the results of these initiatives. Similarly, another Army installation holds an annual plastic-free month to educate its community. Officials from this installation were certain that this initiative had a positive impact but also noted the difficulty in measuring results of such initiatives.

Further details on DOD components' efforts are contained in appendix I.

DOD Leadership Has Limited Visibility into Components' Efforts to Reduce Plastics

DOD has limited visibility into the results and challenges of the components' efforts we reviewed. According to officials from the Office of the USD(A&S), they become aware of components' efforts through working groups related to solid waste management and sustainability. However, the officials told us that these groups cover a variety of issues beyond single-use plastics and accordingly, the officials were not aware of most of DOD's ongoing efforts. For example, officials from the Office of the USD(A&S) said that in 2023 they were asked by the White House Council on Environmental Quality to compile and submit a list of existing DOD actions to prevent plastic pollution, including the reduction of single-use plastics. DOD's list of actions, produced by the officials from the Office of the USD(A&S), included efforts from the Navy and DLA, but not other components. For example, DOD's list did not include

- DHA efforts to reuse single-use medical devices that include plastic components, an effort that DHA said has been successful and a source of cost savings;
- Army efforts to educate installation communities;

- the Army’s net-zero waste pilot program that officials said may have reduced single-use plastics;⁴³ or
- the use of reusable dishware and cutlery in some dining facilities.

Military department headquarters officials also have limited visibility into which installations are challenged in recycling plastics and which installations are succeeding. Officials stated that demand for recyclable plastic waste varies based on multiple factors, such as proximity to recycling facilities, but is generally lower in the East and Southeast and higher on the West Coast of the continental United States. However, component headquarters officials said that they have limited visibility into specific trends for plastic recycling, and recycling managers at each installation must manage challenges with their local recycling market.

The executive order implementing instructions directed agencies to take actions to reduce and phase out procurement of single-use plastics to the maximum extent practicable. Our work on evidence-based policymaking highlights the importance of identifying strategies for achieving goals; coordinating within and outside the agency; identifying resources; assessing and building evidence; and using that evidence to inform decision-making.⁴⁴

DOD has limited visibility into the results and challenges of its components’ existing efforts involving the reduction of single-use plastics because it has neither comprehensively collected information on these efforts nor evaluated them. According to officials from the Office of the USD(A&S), they have not conducted such an evaluation because the issue of single-use plastics is new, and the executive order implementing instructions to reduce single-use plastics were only issued in August 2022. However, many of the efforts we found predate the executive order and its implementing instructions and could inform future DOD efforts to respond to the executive order. The officials agreed that they would benefit from collecting more information about existing efforts in the department, their effectiveness, and any challenges, to address the executive order implementing instructions on a department-wide scale.

By collecting information on components’ ongoing efforts and evaluating the efforts’ effectiveness and challenges in reducing single-use plastics, DOD will be better positioned to respond to the executive order implementing instructions. An evaluation can help ensure that DOD’s response builds upon past successes and that DOD develops flexible and responsive methods of overcoming previously encountered challenges.

⁴³In a 2023 progress report on its net-zero initiatives, the Army stated that one installation had achieved net-zero waste and also highlighted a key success of plastic material collection from residential housing areas at certain Army installations. Assistant Secretary of the Army (Installations, Energy, and Environment), *2021 Progress Report: Army Net Zero Initiative* (July 2023). According to the Army, a net-zero waste installation implements net-zero by reducing, reusing, recycling/composting, and recovering solid waste streams and converting them to resource values, resulting in zero landfill disposal.

⁴⁴See [GAO-23-105460](#).

Conclusions

The increasing visibility and scale of plastic pollution, along with related social and economic impacts, has brought the problem and the need for solutions to the forefront of public opinion and government concern. Within the federal government, Executive Order 14057 emphasizes the importance of reducing plastic waste. Single-use plastic goods and packaging are a primary focus of waste prevention policy because of their importance in terms of volume of waste generated. Traditional approaches, like recycling, have been insufficient to fully address the problem of plastic pollution in the United States.

As the single largest buyer of supplies and services throughout the government, DOD plays an important role in any federal effort to reduce single-use plastics. However, DOD cannot take effective action to reduce single-use plastics without department-wide guidance that (1) identifies the types of single-use plastics to reduce; (2) establishes goals and measures for any potential reductions; and (3) establishes roles and responsibilities to address its wide variety of component and subcomponent activities. In developing such guidance, DOD could also consult with other federal agencies to leverage their knowledge.

Some DOD components have a variety of ongoing sustainability efforts that directly or indirectly address single-use plastics. However, some of these efforts have also faced challenges. DOD leaders have incomplete information on the existing efforts. As a result, DOD does not have full visibility into components' challenges or successes with implementing their efforts. Without a comprehensive review and evaluation of these efforts, DOD will miss opportunities to leverage its components' existing knowledge and experiences as it establishes guidance on reducing single-use plastics.

Recommendations for Executive Action

We are making the following four recommendations to DOD:

The Secretary of Defense should ensure that the Under Secretary of Defense for Acquisition and Sustainment, in coordination with the Under Secretary of Defense for Personnel and Readiness and the military departments, issues department-wide guidance for reducing single-use plastics in response to the Executive Order 14057 implementing instructions. The guidance should identify the specific types of single-use plastics that DOD plans to reduce. In developing the guidance, DOD may consider consulting with other federal agencies for additional considerations of what to include in the guidance. (Recommendation 1)

The Secretary of Defense should ensure that the Under Secretary of Defense for Acquisition and Sustainment, in coordination with the Under Secretary of Defense for Personnel and Readiness and the military departments, establishes goals and associated performance measures for the reduction and phasing out of single-use plastics, and includes these in department-wide guidance developed in response to the Executive Order 14057 implementing instructions. (Recommendation 2)

The Secretary of Defense should ensure that the Under Secretary of Defense for Acquisition and Sustainment, in coordination with the Under Secretary of Defense for Personnel and Readiness and the military departments, establishes roles and responsibilities for DOD components and entities involved in reducing single-use plastics, taking into account the varying circumstances for activities with different missions and

governing policies, and includes these roles and responsibilities in the department-wide guidance developed in response to the Executive Order 14057 implementing instructions. (Recommendation 3)

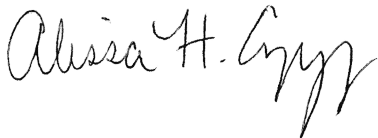
The Secretary of Defense should ensure that the Under Secretary of Defense for Acquisition and Sustainment collects information on components' sustainability efforts involving the reduction of single-use plastics, evaluates the effectiveness and challenges of such efforts, and uses the results of that evaluation to inform and carry out DOD's future response to the Executive Order 14057 implementing instructions. (Recommendation 4)

Agency Comments and Our Evaluation

We provided a draft of this report to DOD, EPA, GSA, USDA, the Department of the Interior, and the White House Council on Environmental Quality for comment. DOD provided comments, which are reproduced in Appendix II. In its comments, DOD concurred with our recommendations. DOD provided technical comments on the report which we incorporated as appropriate. EPA, GSA, and the White House Council on Environmental Quality also provided technical comments, which we incorporated in the report where appropriate.

We are sending copies of this report to the appropriate congressional committees and the Secretary of Defense. In addition, this report will be available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-3058 or czyza@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found at the end of this report. GAO staff who made key contributions to this report are listed in appendix III.



Alissa H. Czyz
Director, Defense Capabilities and Management

List of Committees

The Honorable Jack Reed
Chairman
The Honorable Roger Wicker
Ranking Member
Committee on Armed Services
United States Senate

The Honorable Jon Tester
Chair
The Honorable Susan Collins
Ranking Member
Subcommittee on Defense
Committee on Appropriations
United States Senate

The Honorable Mike Rogers
Chairman
The Honorable Adam Smith
Ranking Member
Committee on Armed Services
House of Representatives

The Honorable Ken Calvert
Chairman
The Honorable Betty McCollum
Ranking Member
Subcommittee on Defense
Committee on Appropriations
House of Representatives

Appendix I: Details on Certain Department of Defense Sustainability Efforts

Selected Components Have Ongoing Efforts Involving the Reduction of Single-Use Plastics

Department of Defense (DOD) officials from selected components we reviewed identified ongoing sustainability efforts that involved the reduction of single-use plastics. We reviewed and summarized these efforts, which include reusable food service items, plastic bag reduction, recycling, water bottle refilling stations, plastic alternatives, adoption of private industry practices, and community education.

Reusable Food Service Items

The Army, Navy, Marine Corps, and Air Force use reusable dishware and cutlery in their dining facilities instead of single-use plastics.¹ Replacing one-time-use cutlery and food containers with reusable products reduces waste and environmental impacts while saving money, according to the Environmental Protection Agency (EPA).² Additionally, a report produced for the EPA on plastic source reduction highlighted the importance of replacing disposable single-use plastic cutlery with reusable alternatives, and highlighted successful initiatives at various college campuses.³ Further, according to the EPA's Aquatic Trash Prevention Great Practices Compendium, a program to reduce disposable product usage in small food businesses in the San Francisco Bay Area succeeded in reducing the usage of disposable products and saved participating businesses an average of around \$3,000 a year.⁴

However, headquarters and installation-level officials from the Army and Navy said that they faced challenges with this practice. For example, the officials cited difficulties with hiring dishwashers and the resources needed to repair dishwashing machines when they break down. These officials stated that using reusable dishware and cutlery is probably cost-effective in the long run, but in the short term, single-use plastics often seem to be a more efficient solution. For example, Army dining facilities have been using reusable dishware and cutlery for decades but switch to single-use plastics for extended periods of time when dishwasher machinery breaks, because of the difficulty in repairing dishwashers. These dining facilities also provide single-use plastics for take-out diners, although Army officials stated that they try to provide recovered content, compostable, or biodegradable plastics in these instances.

¹According to Army and Navy officials, during the COVID-19 pandemic they used disposable plates, cups, and cutlery in their appropriated fund dining facilities. The officials said that prior to the pandemic they used reusable items in these dining facilities.

²Environmental Protection Agency (EPA), *Reducing Wasted Food & Packaging: A Guide for Food Services and Restaurants* (2014).

³Product Stewardship Institute, *Marine Debris and Plastic Source Reduction Toolkit for Colleges and University* (February 2015). The report stated that the Product Stewardship Institute prepared it for EPA's Region 9 Marine Debris Team through an EPA grant.

⁴EPA, *Aquatic Trash Prevention Great Practices Compendium* (December 2016).

In a pilot program, one Defense Health Agency (DHA) hospital replaced single-use plastic to-go containers with a reusable alternative that is returned to its dining facility for washing and reuse by other customers. Hospital officials noted that this pilot program requires personnel to wash dishes, and they said that those personnel are difficult to hire. It also requires a vending machine to issue and collect the containers. When we visited the hospital, we observed that one of the vending machines was broken. The officials said this could be a significant problem because of limited staff available to troubleshoot the machine and the inability of the program to function without it.

Moreover, officials from the Army and Air Force Exchange Service (AAFES) and Navy Exchange Command (NEXCOM), which operate hundreds of food courts across DOD installations, said that switching to reusable dishware and cutlery would be a challenge because food court operators are outside vendors whose existing contracts do not require reusable dishware or cutlery. Officials also noted that many of their food courts may not have enough sinks, dishwashing machines, and other infrastructure needed to enable the use of reusable items. They said that adding the necessary infrastructure to support reusable dishware or cutlery would require capital expenditures, which would reduce the dividends they provide to military morale, welfare, and recreation activities.

Plastic Bag Reduction

At least three DOD installations have attempted to reduce or ban plastic bags. Restricting plastic bags can be an effective approach to preventing pollution, according to the EPA. Specifically, in its Aquatic Trash Prevention National Great Practices Compendium, the EPA cites the District of Columbia Bag Bill's 5-cent tax on plastic bags.⁵ According to a study cited by the EPA compendium, 80 percent of District residents reduced their use of disposable bags since the law took effect and businesses reported providing 50 percent fewer bags. In 2021, the City of Philadelphia, Pennsylvania banned retail establishments from distributing single-use plastic bags. A city government study on the effectiveness of the ban found a significant decrease in plastic bag usage in Philadelphia after the ban was implemented.⁶

Military exchange officials involved in attempts to reduce plastic bag usage noted challenges such as cost and consumer satisfaction. For example, in September 2022 the installation commander of a Navy installation attempted to ban plastic bags and straws. The commander sent a memorandum to the installation's activities asking them to begin efforts to stop procuring or distributing single-use plastic bags and straws in an effort to prevent further environmental impacts and endeavoring to fully implement this action by April 2023.

The managers of the installation's exchange and commissary said it would be difficult for them to comply with the memorandum for several reasons. They said that such a change would lead to customer dissatisfaction and that customers would then opt to shop at outside stores. The manager of the installation exchange also said that the exchange service had a multi-year contract with a plastic bag vendor that could not be canceled without financial repercussions. And the managers of the exchange and commissary said that because their

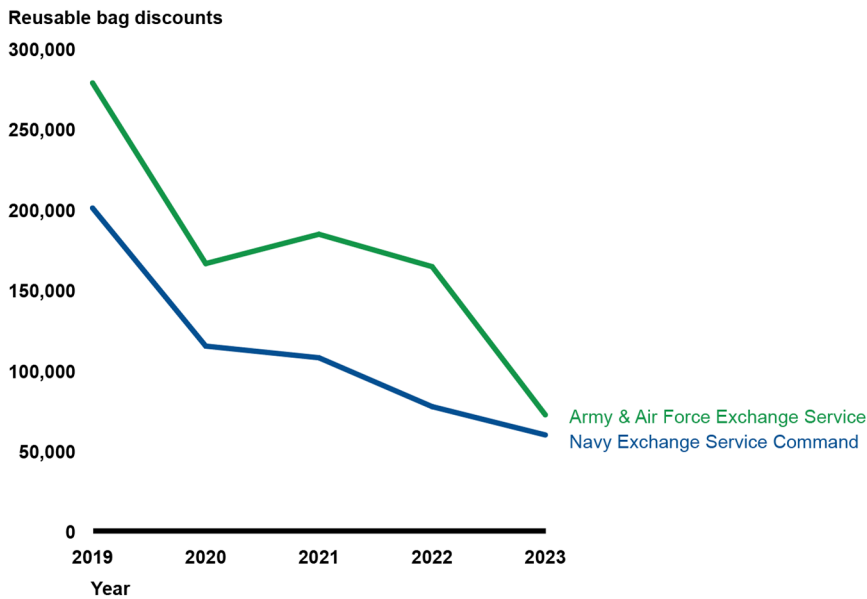
⁵EPA, *Aquatic Trash Prevention Great Practices Compendium* (December 2016).

⁶For example, the percentage of shoppers who used paper bags nearly tripled from 17.7 percent to 45.5 percent, and the usage of reusable bags almost doubled from 21.8 percent to 41.7 percent. City of Philadelphia, *Evaluating the Ban: Philadelphia's Plastic Bag Ban and Changes in Bag Usage in the City* (April 2023).

operations are managed at regional and national levels, banning plastic bags should be done with department-wide policy issued at higher levels of DOD.

NEXCOM and AAFES offer a discount of 5 cents per reusable bag used by customers to discourage the use of disposable plastic bags. However, NEXCOM and AAFES data, presented in figure 4, show declining customer usage of the 5-cent discount program in fiscal years 2019 through 2023.

Figure 4: Military Exchange Numbers of Reusable Bag Discounts Used by Customers for Fiscal Years 2019–2023



Source: GAO analysis of Department of Defense data. | GAO-24-106823

Accessible Data for Figure 4: Military Exchange Numbers of Reusable Bag Discounts Used by Customers for Fiscal Years 2019–2023

Fiscal year	Navy Exchange Service Command	Army & Air Force Exchange Service
2019	201360	279362
2020	115280	166723
2021	108020	185004
2022	77560	164824
2023	59900	72443

Source: GAO analysis of Department of Defense data. | GAO-24-106823

We asked the three exchange services and the Defense Commissary Agency (DeCA) about potential plastic bag bans.⁷ Officials from the exchanges were concerned about potential negative customer reactions if the shopping experiences the exchanges offered differed significantly from local competition. They said that a plastic bag ban might increase their operational cost and lead to a loss of customers. DeCA officials also shared these same concerns. However, DeCA officials also said they plan to phase out plastic bags through a staggered effort that would mitigate customer concerns and logistical limitations, as well as various contractual, fiscal, statutory, and operational requirements. AAFES officials also suggested that plastic bags could be reduced, especially in locations with existing local plastic bag bans. Figure 5 shows the plastic bags used at a DeCA store location.

Figure 5: Commissary Checkouts with Plastic Bags



Source: GAO. | GAO-24-106823

Recycling

DOD policy is to maximize the recovery and recycling of useful materials.⁸ While recycling plastics does not reduce procurement or sales of single-use plastics, EPA officials said that it is still a necessary practice to mitigate plastic waste. According to headquarters-level recycling officials from the military services, plastic recycling is difficult because of challenges such as limited market demand for plastic recyclables in certain

⁷According to officials from AAFES, NEXCOM, and DeCA, these organizations generally do not restrict plastic bags at their locations in the continental United States. Officials from AAFES and NEXCOM said local laws in the United States generally do not apply to exchange locations because they are federal government entities. However, in some instances, these organizations do voluntarily change their operations to reflect local laws. For example, NEXCOM officials said their restaurant vendors in Washington, D.C. comply with a local ban on plastic straws. MCX officials also said that two of its locations comply with local plastic restrictions by offering paper or reusable bag alternatives.

⁸DOD Instruction 4715.23, *Integrated Recycling and Solid Waste Management* (Oct. 24, 2016) (incorporating change 1, effective Aug. 31, 2018). Specifically, this instruction states that DOD will, among other things, implement installation reuse, recycling, and integrated solid waste management programs that properly and cost-effectively manage materials in accordance with a hierarchy outlined in the instruction and reduce the generation of solid waste and its disposal in accordance with the instruction.

parts of the country and the need to educate employees and tenants on installations about correct recycling procedures.

According to headquarters recycling officials from the military departments, some of these challenges are the result of national recycling issues. According to a 2022 report from the National Academies of Science, recycling processes and infrastructure are grossly insufficient to manage the diversity, complexity, and quantity of plastic waste in the United States.⁹ Furthermore, during reprocessing, recycled materials are frequently used in “downcycling” applications—where the recycled material is of lower quality than the original item. According to the United Nations Development Programme, most plastics are only recycled once or twice before being disposed of in landfills or incinerators; thus, much of today’s recycling is postponing final disposal, not preventing waste.¹⁰

For decades, the U.S. recycling industry relied on selling recyclables in international markets to help manage the nation’s municipal waste. However, in 2018 the Chinese government banned imports of various plastics and set a standard for contamination levels that most U.S. exporters of recyclables could not meet, thus reducing an important source of international demand for U.S. recyclables.¹¹ Subsequently, several Southeast Asian countries created similar restrictions, which further reduced international demand for U.S. recyclables. As a result, global recycling of plastic significantly decreased, and more plastic ended up in landfills, according to DOD officials.

In 2020, we reported a U.S. recycling rate of approximately 9 percent for commonly recyclable plastic items, as compared to 34 percent for commonly recyclable metals and 68 percent for paper.¹² Our report identified five cross-cutting challenges that affect the efficiency and effectiveness of recycling in the United States: (1) contamination of recyclables, (2) low collection of recyclables, (3) limited market demand for recyclables, (4) low profitability for operating recycling programs, and (5) limited information to support decision-making about recycling.¹³

According to Army, Air Force, Navy, and Marine Corps headquarters environmental officials, another challenge for recycling is that formal component recycling programs—known as qualified recycling programs—operate as

⁹National Academies of Sciences, Engineering, and Medicine, *Reckoning with the U.S. Role in Global Ocean Plastic Waste* (Washington, D.C.: The National Academies Press, 2022).

¹⁰United Nations Development Programme, “*Why aren’t we recycling more plastics?*” (last updated Nov. 28, 2023).

¹¹Chinese Government Network, *Notice of the General Office of the State Council on Issuance of Reform and Implementation Plan to Enhance Solid Waste Import Management System by Prohibiting the Entry of Foreign Waste* (July 27, 2017). The Chinese government stated that it enacted a policy to prohibit the entry of foreign waste, in part, to improve solid waste import management policies, crack down on smuggling of foreign waste, and enhance the level of domestic solid waste recycling.

¹²GAO, *Recycling: Building on Existing Federal Efforts Could Help Address Cross-Cutting Challenges*, [GAO-21-87](#) (Washington D.C.: Dec. 18, 2020). These percentages are based on EPA estimates of the municipal waste generated in the United States that was recycled in 2018.

¹³[GAO-21-87](#). We made three recommendations to the EPA and raised a matter for congressional consideration. As of May 2024, the EPA had partially addressed our recommendations. For example, in November 2021, the EPA released a national recycling strategy, *The National Recycling Strategy: Part One of a Series on Building a Circular Economy*, which focused on enhancing and advancing the national municipal solid waste recycling system. It identified strategic objectives and stakeholder-led actions to create a stronger recycling system.

nonappropriated fund instrumentalities, which generally must generate their own revenue.¹⁴ Navy and Air Force environmental officials noted that because plastic recycling is not as profitable as other types of recycling, some qualified recycling programs choose to not recycle plastic. According to headquarters Air Force officials, to mitigate this challenge, they have begun working with private waste management companies to collect plastic recycling on their installations. Figure 6 shows bales of recyclable mixed plastics and shooting targets at a DOD installation.

Figure 6: Bales of Recyclable Mixed Plastics and Shooting Targets



Source: GAO. | GAO-24-106823

Water Bottle Refilling Stations

According to headquarters environmental officials from the Army, Air Force, Navy, and Marine Corps, many installations have installed water bottle refilling stations, although they do not track the numbers of such stations. According to the EPA, water bottle refilling stations can be an effective tool to reducing sources of plastic waste; it cites them as a best management practice to achieve this goal. In addition, the International Green Construction Code—a public-private collaboration that provides green model code requirements for

¹⁴A qualified recycling program is an organized operation that requires concerted efforts to divert or recover eligible scrap materials and waste, such as paper, cardboard, plastics, glass, scrap metal, and brass. It also requires efforts to identify, segregate, and maintain the integrity of the recyclable materials to maintain or enhance their marketability. Qualified recycling program sale proceeds are first used to cover the costs directly attributable to operating expenses of the program. After the costs are recovered, up to 50 percent of the remaining proceeds can be used for pollution abatement or prevention and similar projects at the installation, and any remaining proceeds can be transferred to the installation's nonappropriated morale, welfare, and recreation account. DOD Instruction 4715.23, *Integrated Recycling and Waste Management* (Oct. 24, 2016) (incorporating change 1, effective Aug. 31, 2018).

jurisdictions to adopt and implement—recommends the installation of water bottle refilling stations.¹⁵ This water refill station installation provision is encouraged, but not mandatory, in DOD’s Unified Facilities Criteria for high performance and sustainable building requirements.¹⁶ In a 2017 update to its sustainable design and development policy, the Army added a requirement for water bottle refilling stations.¹⁷ The Marine Corps Exchange’s (MCX) brand standards for its stores also state that all drinking fountains will have bottle filling stations.¹⁸

Military service environmental officials told us that water bottle refilling stations can easily and effectively reduce the demand for single-use plastic water bottles. However, officials from two installations and one headquarters Air Force official said that the initial cost of installing water bottle filling stations usually comes from their existing public works budgets, and as such, water bottle refilling stations compete with other public works priorities.

Further, officials said they also need to consider the cost of ongoing maintenance of the stations, including regular changing of filters. In one location, the installation officials expressed frustration with an existing contract for water fountain installation and maintenance—a contract that they said needed to end before they would be able to retrofit the fountains to become refilling stations. In our visits to DOD installations, we observed many water bottle refilling stations, some of which were out of order. A few stations had a display noting the number of water bottles saved; one such station that claimed to have saved 5,786 water bottles is shown in figure 7.

¹⁵Specifically, the International Green Construction Code recommends that water bottle refilling stations be an integral part of, or be installed adjacent to, not less than 50 percent of all drinking fountains installed indoors on the premises. International Code Council, the American Institute of Architects, American Society of Heating, Refrigerating and Air-Conditioning Engineers, U.S. Green Building Council, and Illuminating Engineering Society, *International Green Construction Code: A Comprehensive Solution for High-Performance Buildings*, § 601.3.2.1.j (2021).

¹⁶Unified Facilities Criteria (UFC) 1-200-02, *High Performance and Sustainable Building Requirements* (Dec. 1, 2020) (incorporating change 2, effective June 1, 2022). The UFC are applicable to all DOD-led construction projects. UFC 1-200-02 states that it incorporates certain sections of the International Green Construction Code when appropriate and determined to be life cycle cost effective, and encourages, but does not require, DOD buildings to meet the provisions of the International Green Construction Code related to water bottle refilling stations.

¹⁷ Assistant Secretary of the Army (Installations, Energy, and Environment) Memorandum, *Sustainable Design and Development Policy Update* (Jan. 17, 2017). Specifically, the memorandum stated, in regard to indoor water use projects, that all projects will meet the federal requirements for water efficiency in UFC 1-200-02 and that drinking fountains will include water bottle filling stations.

¹⁸Marine Corps Community Services/Marine Corps Exchange, *Architecture Manual for the MCX Stores* (Jan. 2018) (revised 2024).

Figure 7: Water Bottler Refilling Station at a Department of Defense Installation and Total Plastic Bottles Avoided



Source: GAO. | GAO-24-106823

Compostable, Biodegradable, and Recovered-Content Alternatives

Officials from the military departments and DLA headquarters said they encourage their respective organizations to purchase alternatives to traditional plastic products, such as compostable or biodegradable materials.¹⁹ According to a report produced for the EPA, when source reduction actions cannot be immediately implemented, substitution with compostable or recyclable materials is the next best option—but only if the appropriate infrastructure to recover those materials exists.²⁰ The EPA also promotes the use of recovered-content items, which are produced with recovered materials like recycled plastic. According to the EPA, buying products made with recovered materials ensures that the materials collected in recycling programs will be used again in the manufacture of new products.

According to Army, Marine Corps, and DLA logistics officials at certain selected subcomponents, they purchase biodegradable, compostable, or recovered-content products instead of regular plastics. For example, according to Marine Corps data, four of their installations have some type of biodegradable food service item in their dining facilities for take-out customers. We observed supplies of biodegradable cutlery at an Army installation (see fig. 8 below). The installation's purchasing officials said that they always strive to purchase either biodegradable or compostable products. DLA officials noted that in some instances compostable or biodegradable products have not met their performance requirements, and they opted for regular plastic products instead. For example, DLA officials said that in 2015 they tested biodegradable and compostable

¹⁹According to the EPA, most petroleum-based plastic is not readily biodegradable, meaning that it is not consumed by microorganisms and returned to compounds found in nature. Plastic that is compostable is biodegradable, but not every plastic that is biodegradable is compostable. Whereas biodegradable plastic may be engineered to biodegrade in soil or water, compostable plastic refers to biodegradation into soil conditioning material (i.e., compost) under a certain set of conditions. EPA, "Frequently Asked Questions about Plastic Recycling and Composting," (last updated Aug. 9, 2023), accessed Apr. 22, 2024, <https://www.epa.gov/trash-free-waters/frequently-asked-questions-about-plastic-recycling-and-composting>.

²⁰The report noted that some compostable plastics may not be compatible with a local composting system even though the product is labeled compostable or biodegradable. Further, compostable plastics are not recyclable. Product Stewardship Institute, *Marine Debris and Plastic Source Reduction Toolkit for Colleges and University* (February 2015). The report states that the Product Stewardship Institute prepared it for EPA's Region 9 Marine Debris Team through an EPA grant.

alternatives for the cutlery in their meals ready-to-eat, which are often used by deployed military forces during operations. Officials said the cutlery was too fragile. Current DLA unitized group rations contain biobased cutlery, which is plastic cutlery made from renewable raw materials such as plants.²¹

Figure 8: Biodegradable and Compostable Cutlery Products



Source: GAO. | GAO-24-106823

Some DOD component officials expressed confusion about the difference between biobased, biodegradable, and compostable products. Officials from the U.S. Department of Agriculture (USDA) BioPreferred program, which promotes biobased products, acknowledged that the terminology can be confusing and is often erroneously used interchangeably. USDA biobased products are derived from raw materials such as plants and other renewable agricultural, marine, and forestry materials. These biobased products generally provide an alternative to conventional petroleum-derived products. However, USDA officials noted that biobased products are not necessarily biodegradable or compostable and that their labeling only certifies whether a product is biobased. Nevertheless, the executive order implementing instructions noted that agencies may

²¹The U.S. Department of Agriculture (USDA) defines biobased products as those derived from raw materials such as plants and other renewable agricultural, marine, and forestry materials. Biobased products generally provide an alternative to conventional petroleum-derived products and include a diverse range of offerings such as lubricants, detergents, inks, fertilizers, and bioplastics. USDA Press Release No. 0047.16, "Fact Sheet: Overview of USDA's BioPreferred Program" (Feb. 18, 2016), accessed Apr. 22, 2024, <https://www.usda.gov/media/press-releases/2016/02/18/fact-sheet-overview-usdas-biopREFERRED-program>. However, according to the EPA, biobased plastics can be designed to be structurally identical to petroleum-based plastics, and if designed in this way, they can last in the environment for the same period of time as petroleum-based plastic. EPA, "Frequently Asked Questions about Plastic Recycling and Composting," (last updated Aug. 9, 2023), accessed Apr. 22, 2024, <https://www.epa.gov/trash-free-waters/frequently-asked-questions-about-plastic-recycling-and-composting>.

establish agency-specific guidance to reduce or otherwise address single-use plastics in acquisition plans, including the use of alternatives identified by the USDA BioPreferred program.²²

According to officials from Office of the Assistant Secretary of Defense for Energy, Installations, and Environment, they promote biodegradable items through their Sustainable Technology Evaluation and Demonstration Program. This program promotes a variety of sustainable technologies, such as biobased lubricants and cleaners for weapon systems. The officials said they also purchased a variety of biodegradable cutlery that they showcased and distributed to various military installations to encourage adoption of alternatives to single-use plastics. However, the officials said that the program is not funded to permanently supply such items to DOD.

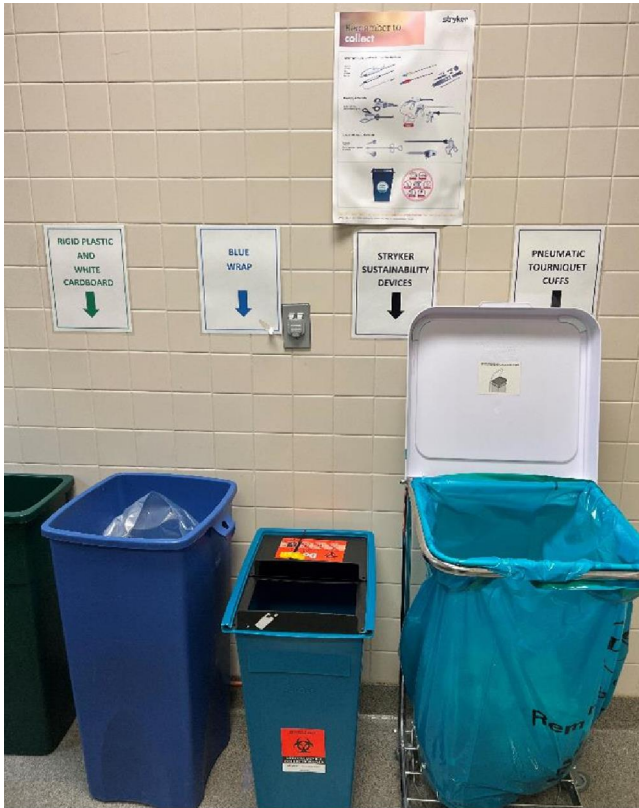
DHA's Adoption of Industry Sustainability Principles and Practices

DHA partners with an industry organization offering sustainability principles and solutions to the health care sector. DHA officials told us that this partnership has resulted in the implementation of several practices to reduce single-use plastics and reuse single-use medical devices with plastic components.²³ Figure 9 shows the collection bins DOD hospitals have for different types of plastics and single-use devices.

²²White House Council on Environmental Quality, *Implementing Instructions for Executive Order 14057: Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability* (August 2022).

²³Specifically, these items were pulse oximeters, which are electronic devices that measure the oxygen levels in patients.

Figure 9: A Department of Defense Hospital's Collection of Plastic Waste and Single-Use Devices



Source: GAO. | GAO-24-106823

DHA headquarters sustainability officials said the industry organization provides them guidance, practices, goals, and metrics to operate sustainably, which includes the reduction of single-use plastics. In its 2023 Sustainability Report, DHA reported that it had diverted 38 tons of single-use devices from the waste stream through its single-use device collection and processing program in 2022. One DHA hospital that we visited reported a cost reduction of \$545,000 in fiscal year 2023 through its single-use device reprocessing program. According to DHA, another hospital saved approximately \$1.2 million in 2021 by buying reprocessed medical devices such as pulse oximeters. According to DHA officials, other efforts include hospitals switching from disposable plastic “blue wrap” to reusable hardshell containers and the use of reusable disposal containers for hazardous items like needles.

Officials from one hospital said they consider the single-use reprocessing program to be a success, but also cited challenges. They said that the annual savings of thousands of dollars through the single-use device program is the result of individual hospital staff who are working on sustainability efforts in addition to their normal duties. Moreover, the savings are usually deducted from subsequent budgets, according to the hospital officials. These officials explained that DHA does not have a financial accounting mechanism to give credit to the hospital for single-use devices they reprocess and buy from the manufacturers at a lower price. This may be a disincentive for expansion of this program, according to the hospital officials.

Education and Community Engagement

Certain selected DOD components had efforts under way to educate their personnel about environmental sustainability, which includes the reduction of single-use plastics. The EPA's *Draft National Strategy to Prevent Plastic Pollution* describes how the act of increasing public outreach and education can play a pivotal role in determining how plastic products are used and disposed of.²⁴ The EPA emphasizes in the draft strategy that clear and persuasive public communication can help modify behavior and result in increased waste reduction, reuse, and composting.

Army, Navy, and DHA officials provided examples of their educational initiatives. Headquarters Navy officials said that they educate their sailors about plastic reduction and proper disposal of plastics to avoid discharging plastics into the oceans.²⁵ DHA officials said that they have training and education initiatives to promote their usage of industry sustainability principles and practices. One Army installation's environmental awareness training highlighted actions that could reduce single-use plastics, such as purchasing products with little or no packaging, purchasing durable products with extended life spans, and reusing materials when feasible.

However, Army, Navy, and Air Force headquarters environmental officials noted the difficulty in measuring the results of educational initiatives. For example, one Army installation's environmental office has dedicated staff leading community engagement to encourage awareness of recycling, composting, and other practices that reduce single-use plastic waste. The installation staff do not have quantitative data showing the results of this engagement, but the installation won several Army environmental and sustainability awards. Moreover, the installation's environmental office said their student programs led to a "trickle-up" effect of parents making better decisions about single-use plastics, such as recycling more or using reusable water bottles. Similarly, another Army installation holds an annual plastic-free month to educate its community on reduction and reuse of single-use plastics. Officials from this installation also acknowledged the difficulty of measuring results of their initiatives but had anecdotal examples of positive results.

Headquarters officials from the Army and Air Force said that education of DOD communities is one of the biggest challenges to reducing single-use plastics. For example, they said that their employees and service members need more education about the harm caused by single-use plastics and how to properly dispose of them. They said that recycling programs across DOD are hindered by installation residents and employees not knowing which plastic items are recyclable. They also said that more ambitious practices, such as the implementation of compostable plates and cutlery, would require detailed education on proper disposal.

²⁴EPA, *Draft National Strategy to Prevent Plastic Pollution* (April 2023).

²⁵The Navy has two programs focused on reducing plastic and waste. The Plastics Removal in the Marine Environment program focuses on reducing consumable plastic materials aboard Navy ships to decrease plastic waste handling and processing. The program promotes ordering of non-plastic substitute products for ship operations and strives to minimize plastic used in packaging and packing material, among other things. Similarly, the Navy Waste Reduction Afloat Protects the Seas program promotes the use of non-polluting technologies and elevates awareness for waste reduction in the Navy and its suppliers, vendors, and contractors.

Appendix II: Comments from the Department of Defense



ENERGY, INSTALLATIONS,
AND ENVIRONMENT

ASSISTANT SECRETARY OF DEFENSE
3400 DEFENSE PENTAGON
WASHINGTON, DC 20301-300

August 7, 2024

Ms. Alissa Czyz
Director
Defense Capabilities and Management
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Ms. Czyz:

This is the Department of Defense response to the GAO Draft Report, GAO-24-106832, 'ENVIRONMENTAL SUSTAINABILITY: DOD Should Take Actions to Reduce Single-Use Plastics,' dated June 12, 2024 (GAO Code 106832). GAO provided four recommendations in the report. DoD concurs with all four recommendations.

The Department appreciates the opportunity to review and comment on the draft report. If you have any questions, please contact the primary action officer, Mr. Reginald Mack at 703-508-3677 or via email at Reginald.m.mack.civ@mail.mil."

Sincerely,

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For Brendan M. Owens

Enclosure:
As stated

**GAO DRAFT REPORT DATED JUNE 12, 2024
GAO-24-106823 (GAO CODE 106823)**

**“ENVIRONMENTAL SUSTAINABILITY: DOD Should Take Actions to Reduce Single-
Use Plastics”**

**DEPARTMENT OF DEFENSE COMMENTS
TO THE GAO RECOMMENDATION**

RECOMMENDATION 1: The GAO recommends that the Secretary of Defense should ensure that the Under Secretary of Defense for Acquisition and Sustainment, in coordination with the Under Secretary of Defense for Personnel and Readiness and the military departments, issues department-wide guidance for reducing single-use plastics in response to the Executive Order 14057 implementing instructions. The guidance should identify the specific types of single-use plastics that DOD plans to reduce. In developing the guidance, DOD may consider consulting other federal agencies about additional considerations of what to include in the guidance. (Recommendation 1)

DoD RESPONSE: Concur

RECOMMENDATION 2: The GAO recommends that the Secretary of Defense should ensure that the Under Secretary of Defense for Acquisition and Sustainment, in coordination with the Under Secretary of Defense for Personnel and Readiness and the military departments, establishes goals and associated performance measures for the reduction and phasing out of single-use plastics, and includes these in department-wide guidance developed in response to the executive order implementing instructions. (Recommendation 2)

DoD RESPONSE: Concur

RECOMMENDATION 3: The GAO recommends that the Secretary of Defense should ensure that the Under Secretary of Defense for Acquisition and Sustainment, in coordination with the Under Secretary of Defense for Personnel and Readiness and the military departments, establishes roles and responsibilities for DOD components and entities involved in reducing single-use plastics, taking into account the varying circumstances for activities with different mission and governing policies, and includes these roles and responsibilities in the department-wide guidance developed in response to the executive order implementing instructions. (Recommendation 3)

DoD RESPONSE: Concur

RECOMMENDATION 4: The GAO recommends that the Secretary of Defense should ensure that the Under Secretary of Defense for Acquisition and Sustainment collects information on components' efforts to reduce single-use plastics, evaluates the effectiveness and challenges of DOD's efforts, and uses the results of that evaluation to inform and carry out DOD's future response to the executive order implementing instructions. (Recommendation 4)

DoD RESPONSE: Concur

Accessible Text for Appendix II: Comments from the Department of Defense

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DoD RESPONSE: Concur

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

Alissa H. Czyz, (202) 512-3058, czyza@gao.gov

Staff Acknowledgments

In addition to the contact named above, Simon Hirschfeld (Assistant Director), Usman Ahmad (Analyst-in-Charge), Jacqueline McColl, Mariela Martinez, Elizabeth Field, David Jones, Ron La Due Lake, Carter Stevens, and Anne Thomas made key contributions to this report.

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