

# A Model for Healthy and Sustainable Dietary Guidelines for Americans



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# Key Terms

- **Animal-based:** Refers to foods or beverages derived from animals, such as “meat, poultry, seafood, eggs, and milk and milk products.”<sup>1</sup>
- **Dietary pattern / Eating pattern:** “The combination of foods and beverages that constitute an individual’s complete dietary intake over time.”<sup>2</sup>
- **Nutrient-dense foods:** Items that “provide vitamins, minerals, and other health promoting components and have no or little added sugars, saturated fat, and sodium. Vegetables, fruits, whole grains, seafood, eggs, beans, peas, and lentils, unsalted nuts and seeds, fat-free and low-fat dairy products, and lean meats and poultry — when prepared with no or little added sugars, saturated fat, and sodium — are nutrient-dense foods.”<sup>3</sup>
- **Plant-based:** Refers to foods or beverages derived from plants, including “dry beans, whole grains, fruit, nuts, and seeds.”<sup>4</sup>
- **Plant-forward diet:** “A style of cooking and eating that emphasizes and celebrates, but is not limited to, foods from plant sources — fruits and vegetables (produce), whole grains, legumes (pulses), nuts and seeds, plant oils, and herbs and spices — and reflects evidence-based principles of health and sustainability.”<sup>5</sup>

# How to Use These Guidelines

This document builds on the supplemental guideline for healthy *and* sustainable diets in the [Uncompromised DGA](#), released by the Center for Biological Diversity and the Center for Science in the Public Interest in response to the release of the 2025-2030 DGA. The purpose of this document is to model how the Departments could address sustainability considerations in the DGA. Please see our accompanying [Implementation and Policy Recommendation Guide](#), which includes advice and strategies for various stakeholders to use these model guidelines in practice.





# Background on Healthy and Sustainable Dietary Guidelines

The *Dietary Guidelines for Americans* (DGA) are the authoritative source on population-level food and nutrition guidance published every five years by the U.S. Departments of Agriculture (USDA) and Health and Human Services (HHS) since 1980.<sup>6</sup> The DGA provide science-based advice on what to eat and drink to meet nutrient needs, promote health, and reduce the risk of chronic disease.<sup>7</sup> By law the DGA are mandated to be “based on the preponderance of the scientific and medical knowledge which is current at the time the report is prepared.”<sup>8</sup> While the DGA are written primarily for a professional audience, including healthcare professionals, nutrition educators, and policymakers, they are also adapted for consumer-friendly messaging and educational resources to help promote healthy dietary patterns aligned with the DGA.<sup>9</sup> All federal nutrition programs are required to promote the DGA, meaning at least 1 in 4 Americans is directly affected by the recommendations.<sup>10</sup> The DGA also have diffuse effects on state and local government and private sector nutrition policies and programs throughout the United States. Thus the DGA are the single-most influential lever to shift U.S. food procurement and systems.

The previous edition of the DGA ([2020-2025](#)) recommended a healthy dietary pattern that included:

- Vegetables of all types
- Fruits, especially whole fruits

- Grains, at least half of which are whole grains
- Dairy, including fat-free or low-fat milk, yogurt, and cheese, and/or lactose-free versions and fortified soy alternatives
- Protein foods, including lean meats, poultry, and eggs; seafood; beans, peas, and lentils; and nuts, seeds, and soy products
- Oils, including vegetable oils and oils in foods such as seafood and nuts.<sup>11</sup>

The 2020-2025 edition, like past editions, also recommended limiting alcohol and foods and beverages higher in added sugars, saturated fat, and sodium. This is largely similar to international dietary guidance, such as the World Health Organization (WHO)'s [recommendations](#) for a healthy diet.<sup>12</sup>

**Despite alignment with international health authorities on the principles of a healthy diet for chronic disease risk reduction, the U.S. lacks authoritative, tailored guidance on diets that consider environmental sustainability, disregarding the interconnectedness of human health and environmental health.**

In the U.S. and abroad, many prominent health and science organizations have strongly endorsed addressing sustainability in national dietary guidance. These include professional health organizations like the Society for Nutrition Education and Behavior,<sup>13</sup> science-based organizations like the Union of Concerned Scientists<sup>14</sup> and the EAT-Lancet Commission,<sup>15</sup> and think tanks like the International Institute for Sustainable Development.<sup>16</sup>

However, previous efforts to address sustainability in the DGA have failed to lead to substantive change.<sup>17</sup> In 2015, the Dietary Guidelines Advisory Committee (DGAC) analyzed the relationship between dietary patterns and sustainability, concluding that health-related and sustainability-related nutrition recommendations are fundamentally aligned: "...a dietary pattern that is higher in plant-based foods, such as vegetables, fruits, whole grains, legumes, nuts, and seeds, and lower in animal-based foods is more health promoting and is associated with lesser environmental impact ([greenhouse gas] emissions and energy, land, and water use) than is the current average U.S. diet."<sup>18</sup> USDA and HHS rejected the 2015 DGAC recommendation to include sustainability after food industry groups, including those representing the meat and dairy industries, spent more than \$77 million in 2014 and 2015 on lobbying related to the DGA.<sup>19, 20</sup> Thus recommendations related to sustainability were left out of the 2015-2020 DGA because they were deemed out of scope.

The National Nutrition Monitoring and Related Research Act of 1990, which codified the DGA, broadly states that at least every five years, the Department secretaries must publish the DGA, a report that "shall contain nutritional and dietary information and guidelines for the general public."<sup>21</sup> Nothing in the words "nutritional and dietary" suggests that the DGA are prevented from addressing sustainability or how food is produced; in fact there is growing consensus that we cannot address nutritional and dietary information without addressing the broader food system.

Partially due to this controversy, sustainability was not formally addressed during the development of the 2020-2025 DGA. However, the 2020 DGAC expressed support for future efforts to consider sustainability in relation to the DGA, encouraging the Departments to "examine the connections between the recommendations in the [DGA] and these aspects of the food system and food environment," citing public comments on sustainability.<sup>22</sup> Early in the cycle to update the 2025-2030 DGA, USDA and HHS decided to consider sustainability separately from the 2025 DGAC's review of the evidence on diet and health.<sup>23</sup> This effort was to be informed by two projects: 1) the National Institutes of Health (NIH) commissioned a study called Agriculture & Diet: Value Added for Nutrition, Translation, & Adaptation in a Global Ecology (ADVANTAGE) to examine intersections between agriculture, food systems, health, disease, and a changing environment;<sup>24</sup> and 2) USDA and HHS convened a federal interagency workgroup to make recommendations on integrating sustainability into future editions

of the DGA.<sup>25</sup> While both groups began their work during the Biden administration, there have been no public updates on their progress since the change of administration. In early 2025, the projects were removed from the “Related Projects” section of the DGA website.

The 2025 DGAC Scientific Report, intended to inform USDA and HHS as they develop the 2025-2030 edition of the DGA, was published in December 2024.<sup>26</sup> Since the 2025 DGAC did not consider sustainability in their review, their recommendations are only driven by the DGA’s stated goals of meeting nutrient needs, promoting health, and preventing chronic disease in the U.S. population. That said, many of the recommendations in the 2025 DGAC Scientific Report do promote health for both people and planet. For example, the DGAC recommended reducing red meat consumption and including more nutrient-dense plant-based protein options, citing reduced cardiovascular disease risk: “substituting processed or unprocessed red meat with plant sources of protein (such as beans, peas, lentils, nuts, seeds, or soy) by adults and older adults is associated with lower risk of cardiovascular disease morbidity.”<sup>27</sup> However, once again, these recommended updates were not included in the final 2025-2030 DGA written by USDA and HHS.

The rest of the world is not waiting on us. Various organizations of the United Nations have highlighted the importance of sustainable, healthy diets to protect and promote human health, food security, the environment, and food system security. WHO, for example, has said “considering the detrimental environmental impact of current food systems, and the concerns raised about their sustainability, there is an urgent need to promote diets that are healthy and have low environmental impacts.”<sup>28</sup>

The UN Food and Agriculture Organization (FAO) actively encourages countries to implement sustainable dietary guidelines, stating: “There is increasingly robust evidence to suggest that dietary patterns that have low environmental impacts can also be consistent with good health,” and “countries that already have dietary guidelines should begin to consider a process of incorporating sustainability into them.”<sup>29</sup>

The FAO is therefore currently facilitating an ongoing project to help countries implement “food systems-based dietary guidelines,” which it defines as:

*[C]ontext-specific multilevel recommendations that enable governments to outline what constitutes a healthy diet from sustainable food systems, align food-related policies and programmes and support the population to adopt healthier and more sustainable dietary patterns and practices that favour, among other outcomes, environmental sustainability and socio-economic equity.*<sup>30</sup>

Following such advice, many other countries have indeed integrated sustainability into their dietary guidelines, including [Belgium](#), [Canada](#), [Denmark](#), [England](#), [Germany](#), [the Netherlands](#), [Sweden](#), and the [Nordic Council of Ministries](#). In fact a 2023 analysis found that nearly 80% of G20 countries discuss the impacts of diet on sustainability or the environment in their dietary guidelines, with over 70% calling for reduced meat consumption, but the United States is not yet one of them.<sup>31</sup>

The U.S. food and agriculture system must prioritize environmental sustainability on both the production and consumption sides to safeguard our future at this critical intersection of human health and planetary health. The DGA are a pivotal tool to facilitate this transition.





# Defining a Healthy and Sustainable Diet

Sustainable, healthy diets are critical to protecting and promoting human health, food security, the environment, and our global food system. The FAO and WHO define sustainable healthy diets as:

*“...dietary patterns that promote all dimensions of individuals’ health and wellbeing; have low environmental pressure and impact; are accessible, affordable, safe and equitable; and are culturally acceptable.”<sup>32</sup>*

The FAO and WHO’s 16 *Guiding Principles for Sustainable Healthy Diets* highlight aspects of a healthy dietary pattern that have been included in multiple versions of the DGA (“include wholegrains, legumes, nuts and an abundance and variety of fruits and vegetables” to “ensure health and wellbeing for the general population”), but also include recommendations that go beyond what has historically been included in our national nutrition guidance (e.g., “maintain greenhouse gas emissions, water and land use, nitrogen and phosphorous application and chemical pollution within set targets,” “minimize the use of plastics and derivatives in food packaging,” and “reduce food loss and waste”).<sup>33</sup>

Given that the DGA are intended to provide science-based advice on dietary patterns for health promotion, and health and climate are intertwined, **we recommend that the DGA incorporate guiding principles of both healthy and sustainable diets**, as outlined by the FAO and WHO.





# The Need for a Healthy and Sustainable Food System

**Human health and planetary health are interrelated.** The healthy dietary pattern recommended by the 2025 DGAC — “higher in vegetables, fruits, legumes, nuts, whole grains, fish/seafood, and vegetable oils higher in unsaturated fat, and lower in red and processed meats, sugar-sweetened foods and beverages, refined grains, and saturated fat”— is associated with a lower risk of cardiovascular disease, obesity, type 2 diabetes, and cancers.<sup>34</sup> The American Cancer Society and American Heart Association (AHA) concur that dietary patterns based on plant foods have many health benefits, with AHA stating that consuming less meat decreases the risk of heart disease, stroke, obesity, high blood pressure, high cholesterol, and type 2 diabetes.<sup>35, 36</sup> Following this diet also reduces environmental impact, as livestock and dairy production are among the largest contributors to greenhouse gas emissions driving climate change.<sup>37</sup> Eating a diet higher in plant-based proteins and lower in red and processed meats is not only better for our health, but better for the planet.



**TABLE D.2.2**  
SUMMARY OF SYSTEMATIC REVIEW CONCLUSION STATEMENTS THAT DESCRIBE DIETARY PATTERNS ASSOCIATED WITH FAVORABLE HEALTH OUTCOMES BY LIFE STAGE

Life Stage	Adults and Older Adults						Children and Adolescents		Pregnancy		
Outcome	Lower risk of cardiovascular disease (CVD)	Lower risk of type 2 diabetes	Lower risk of age-related cognitive decline, dementia, Alzheimer's disease	Lower risk of colorectal cancer	Lower risk of breast cancer	Lower adiposity and risk of obesity	Lower CVD risk factors	Favorable growth patterns, lower body composition, and lower risk of obesity	Lower risk of gestational diabetes	Lower risk of excess gestational weight gain	Lower risk of small-for-gestational-age
Grade	Strong	Strong	Moderate	Moderate	Moderate	Moderate	Moderate	Limited	Limited	Limited	Limited
Vegetables	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Fruit	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Legumes	▲	▲	▲ or Beans	▲	▲	▲	▲	▲	▲	▲	▲
Nuts	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲
Whole Grains	▲	▲		▲	▲	▲	▲	▲	▲	▲	▲ 'Grains'
Fish or Seafood	▲	▲	▲	▲		▲	▲	▲	▲	▲	▲
Unsaturated Fats	▲		▲			▲	▲		▲		▲
Tea, Coffee				▲							
Dairy	▲ Low-fat, Non-fat	▼ Whole fat		▲ Low-fat, Non-fat				▲ Unsweetened, Low-fat, Non-fat		▲	▲
Meats	▼ Red and Processed	▼ Red and Processed	▼ Red and Processed	▼ Red and Processed	▼ Red and Processed	▼	▼ Red and Processed	▼ Red and Processed	▼ Red and Processed		▼ Red and Processed
Refined Grains	▼	▼		▼	▼	▼					▲ 'Grains'
Sugar-Sweetened Foods	▼	▼		▼	▼	▼	▼	▼	▼ Added Sugars	▼ Added Sugars	▼ Added Sugars
Sugar-Sweetened Beverages	▼	▼	▼	▼	▼	▼	▼	▼	▼ Added Sugars	▼ Added Sugars	▼ Added Sugars
Saturated Fats	▼			▼		▼			▼		▼
Sodium	▼					▼					
Sweetened and Savory/Salty Snack Foods								▼			
Fried Potatoes				▼							

No entry in a cell means that the foods, food group, or component was not included in the conclusion statement for that health outcome.

▲ Higher intake of this component as part of the pattern are related to health favorably  
▼ Lower intake of this component as part of the pattern are related to health favorably

This shift is increasingly necessary because food production is a major contributor to the climate crisis. The global food system is responsible for about one-third of greenhouse gas emissions,<sup>38</sup> and animal products account for the majority of food-related emissions.<sup>39</sup> In the United States, the agriculture sector alone accounts for at least 10% of GHG emissions,<sup>40</sup> excluding indirect emissions from the food supply chain and 170 million metric tons per year of CO<sub>2</sub>-equivalent emissions from food loss and waste.<sup>41</sup> Our current food production methods are also a threat to biodiversity, a huge issue when our interconnected global food systems are reliant on intact ecosystems for pollination, pest control, soil health, carbon sequestration, nutrient diversity, and more.<sup>42</sup> Food systems account for 60% of terrestrial biodiversity loss,<sup>43</sup> including threats to many key pollinators, which 87 of the leading agricultural crops need to grow.<sup>44</sup> Our current production methods and dietary patterns are creating a vicious cycle that will further reduce biodiversity, impact crop yields, and threaten food security in the absence of concerted action.<sup>45</sup>

Our diets are contributing to chronic disease and climate change, and **climate change itself poses growing risks to human health**. Rising global temperatures contribute to more heat-related illnesses and deaths, as well as increased impacts of both chronic and infectious disease.<sup>46, 47</sup> Warmer temperatures expand the range and season of disease vectors, increasing the spread of Lyme disease and mosquito-borne illnesses like dengue and West Nile virus.<sup>48, 49</sup>

Beyond heat, **climate-related events such as severe storms, wildfires, and drought** threaten human and economic health.<sup>50</sup> Hurricanes and floods can uproot communities and compromise access to clean water and adequate food. Wildfires worsen air quality, displace people from their homes, and increase hospitalizations and deaths.<sup>51</sup> Droughts reduce water availability and quality, affecting individuals and agricultural yields.<sup>52</sup>

All these events can disrupt food and medicine supply chains and strain healthcare systems — further compounding their health impacts.<sup>53, 54</sup>

In this interconnected system, climate change also threatens the **stability and nutritional quality of our food supply**.<sup>55</sup> Rising temperatures, shifting precipitation patterns, and extreme weather events are already affecting food security, and nutritional quality, food prices, and food system disruption will be increasingly affected by climate change.<sup>56</sup> These disruptions undermine food security at a time when global demand is projected by FAO and the World Resources Institute to increase by more than 50% by 2050.<sup>57, 58</sup>

These impacts are not borne equally. The 2025 DGAC noted disparities in nutrition-related chronic diseases, such as higher prevalences of hypertension among non-Hispanic Black adults and low-income families, and there are also race- and income-related disparities in U.S. household food security.<sup>59, 60</sup> According to a 2021 EPA report, *Climate Change and Social Vulnerability in the United States*, the same socially disadvantaged groups are also more exposed to the highest impacts of climate change.<sup>61</sup> For example, Black and African American individuals are more likely to live in areas with the highest projected increases in asthma diagnoses stemming from global warming, and Hispanic and Latino populations are more likely to participate in industries, such as construction and agriculture, where they are exposed to extreme weather.<sup>62</sup>

**A more sustainable food system would also be a more abundant, equitable, and resilient one.** By shifting toward dietary patterns and agricultural practices that are less resource-intensive and more climate-friendly, we can reduce greenhouse gas emissions, preserve ecosystems, and protect human health. Sustainable diets not only promote well-being but also help ensure the reliability, safety, and equity of the food systems that nourish us all.

**In summary, healthy and sustainable diets, as reflected in the dietary pattern recommended by the 2025 DGAC, can combat environmental and chronic disease crises simultaneously.**

## Potential Health and Environmental Impacts of a Healthy and Sustainable DGA

The U.S. government spends billions of dollars on food procurement each year. In 2019, federal agencies' (including USDA and the Department of Defense) direct food purchases were responsible for 14.7 billion kilograms of CO<sub>2</sub>-equivalent greenhouse gas emissions (kgCO<sub>2</sub>e) and created 64 billion kgCO<sub>2</sub>e in total carbon-related food costs.<sup>63</sup> Research shows that the vast majority of these emissions are due to animal products, with beef alone accounting for just 3% of total purchasing weight but 37% of direct GHG emissions, 51% of food-related carbon costs, and 74% of methane emissions.<sup>64</sup> Because federal agencies are required to promote the DGA, a DGA that recommends prioritizing plant-based proteins and reducing red and processed meat consumption could catalyze meaningful reductions in the environmental footprint of federal food purchasing.

For example, the DGA influences the food offered through the National School Lunch Program (NSLP) and School Breakfast Program (SBP).<sup>65</sup> The NSLP serves over 29 million students each day at almost 100,000 schools, and SBP serves over 15 million children, so nutrition standards for these meals have a huge impact on child nutrition and the food system.<sup>66</sup> USDA establishes nutrition standards based on the latest DGA for meals served through NSLP (among other federal nutrition assistance programs) and could make adjustments to reduce the environmental impact of the program.<sup>67</sup> A 2022 study assessed the environmental impact of NSLP meals: The study found that higher climate impact meals had greater volumes of meat (including beef,



pork, and poultry), while lower-climate-impact meals had more whole grains, seafood, nuts, and seeds.<sup>68</sup> If just half of the meals served through federal child nutrition programs annually substituted beans for beef as the primary protein source, food-related GHG emissions from those meals would be reduced by 49% or 13 billion kilograms of carbon dioxide-equivalent emissions,<sup>69</sup> the equivalent of taking over 3 million cars off the road for a year.<sup>70</sup>

Without making these changes, the United States will continue to fall behind other countries. A recent study compared the carbon footprint of recommended diets based on dietary guidance from seven countries, including the U.S., and found that U.S. recommendations currently have the highest carbon footprint, even when controlling for country-level consumption patterns.<sup>71</sup> The U.S. guidelines produced a carbon footprint that is 19% higher than the Netherlands' and 47% higher than Germany's,<sup>72</sup> two countries that have incorporated sustainability into their guidelines.<sup>73</sup>

## Healthy and Sustainable Dietary Guidance in the DGA

The purpose of this guide is to model how the DGA could address sustainability considerations while integrating the recommendations made by the 2025 DGAC that would support both health and sustainability. It is intended to complement the [Uncompromised Dietary Guidelines for Americans, 2025-2030](#), which was cocreated by the Center for Biological Diversity and Center for Science in the Public Interest (CSPI) in response to the DGA released by the Trump administration. Guidelines 1-4 of the Uncompromised DGA show proposed modifications to the 2020-2025 DGA based on the 2025 DGAC's recommendations, which were developed based on evidence related to diet and human health. However, the 2025 DGAC's recommendations are also consistent with some of the principles of sustainable diets. **Guideline 5**, below, outlines additional steps consumers can take to eat a sustainable diet.

The 2025 DGAC found that a “healthy dietary pattern for individuals ages 2 years and older is higher in vegetables, fruits, legumes (i.e., beans, peas, lentils), nuts, whole grains, fish/seafood, and vegetable oils higher in unsaturated fat, and lower in red and processed meats, sugar-sweetened foods and beverages, refined grains, and saturated fat. Some of these healthy dietary patterns also include consumption of fat-free or low-fat dairy and foods lower in sodium, and/or may include plant-based dietary options.”<sup>74</sup>

The 2025 DGAC also recommended: emphasizing beans, peas, and lentils and plant-based sources of protein in the proposed healthy dietary pattern and reorganizing the order of the protein foods subgroup to list plant-based proteins (beans, peas, and lentils and nuts, seeds, and soy products) first.

### Guideline 5: Prioritize foods and healthy habits that support sustainable diets.

An environmentally sustainable dietary pattern is consistent with and supports the goals of the other guidelines listed in the [Uncompromised DGA](#): healthy diets can support planetary health; plant-based proteins and dishes are often part of traditional diets in many cultures and are preferred by many people for religious, ethical, or other reasons; and many nutrient-dense foods have a lower environmental impact compared to energy-dense, nutrient-poor foods.<sup>75, 76</sup> Sustainable, healthy diets are critical to protecting and promoting human health, food security, the environment, and our global food system.<sup>77, 78</sup> As part of a healthy and sustainable diet, and in addition to the 2025 DGAC updates, **CSPI and the Center recommend incorporating the following practices to whatever extent possible in your everyday diet:**

- **Prioritize plant-based proteins.** Protein intake should come from predominantly plant-based foods, including beans, peas, and lentils, nuts, seeds, and soy products.
- **If you eat meat, limit intake of red and processed meat.** Meat, particularly beef, production has a large environmental impact.<sup>79, 80</sup> Limiting red meat consumption can reduce greenhouse gas emissions, land use, and water consumption.
- **Make tap water your primary beverage** if safe and appealing tap water is available. Drinking tap water rather than bottled water and other beverages bottled in plastic decreases the production and need for disposal of plastic bottles.<sup>81</sup>
- **Minimize food waste.** Follow [USDA's steps to prevent food waste](#) at home: Plan your meals before shopping so you buy only what you need, serve reasonable portions to cut down on plate waste, save and enjoy leftovers, and compost what's left instead of throwing it away.<sup>82</sup> Learn more about food loss and waste prevention at [www.usda.gov/foodlossandwaste](http://www.usda.gov/foodlossandwaste).
- **Choose unpackaged, whole foods whenever possible** to reduce buying [single-use plastics](#).<sup>83</sup> Single-use plastics from disposable packaging contribute to plastic pollution and exposure to potentially harmful chemicals found in plastics.<sup>84</sup>

A rationale for each of these recommendations is below.

**Prioritize plant-based protein foods and limit intake of red and processed meat.** In addition to providing major health benefits<sup>85</sup>, diets higher in plants and lower in animal products are also generally the most sustainable, generating fewer GHG emissions<sup>86</sup> and requiring less land and water use.<sup>87, 88</sup> Researchers who conducted a systematic review of dietary patterns and sustainability in the U.S. found that the “Healthy Vegetarian” dietary pattern outlined in the 2015 DGA resulted in lower GHGs and land use compared to the current average U.S. diet.<sup>89</sup> They concluded with strong confidence that “among healthy dietary patterns, those higher in plant-based foods and lower in animal-based foods benefit environmental sustainability.”

**Make tap water your primary beverage** if safe and appealing tap water is available. The 2025 DGAC recommended plain drinking water as a primary beverage, particularly in comparison to sugar-sweetened beverages, which were associated with unfavorable health outcomes in children and adults.<sup>90</sup> Choosing *tap* water, specifically, over *bottled* water has additional human and environmental health benefits. Limiting your consumption of bottled water significantly reduces the production, transportation, and disposal of single-use plastic bottles, which carry a large environmental burden.<sup>91</sup> Plastics are typically made from fossil fuels, so creating plastic bottles generates greenhouse gases.<sup>92</sup> Furthermore, plastics often end up in landfills and contaminate natural environments.<sup>93</sup> Moreover, micro- and nanoplastic particles have been frequently detected in bottled water, and at higher levels than in tap water.<sup>94, 95</sup> Reducing reliance on bottled water not only mitigates plastic waste but also lowers human exposure to these particles and their potentially harmful contaminants.<sup>96</sup>

By selecting tap water as the primary beverage, individuals help reduce plastic waste, minimize exposure to plastic contaminants, and align with evidence-based nutrition recommendations to limit sugar-sweetened beverages.

**Minimize food waste.** About one-third of food in the U.S. is never eaten,<sup>97</sup> wasting all the land, water, energy, and other environmental costs that went into producing it. According to the EPA, this lost and wasted food accounts for 140 million acres of land, 5.9 trillion gallons of blue water, 14 billion pounds of fertilizer, 778 million pounds of pesticides, 664 billion kilowatts of energy, and 170 million metric tons of carbon dioxide-equivalent emissions, excluding landfills.<sup>98</sup> A disproportionate number of environmental impacts are attributable to the waste of animal products in particular; for instance, as much as 73% of GHG emissions from retail and consumer food waste come from animal products, despite animal products representing about one third of total food lost and wasted along the supply chain by weight.<sup>99</sup> The U.S. wastes 7.5 times more dairy and 3.5 times more meat than the global average,<sup>100</sup> contributing to the country producing over twice as many total



GHG emissions from food loss and waste as the global average.<sup>101</sup> Of the 74 million tons of surplus food generated in the U.S. in 2023, 24% was generated at the farm level, 18% at the manufacturing level, 23% at the foodservice and retail level, and 35% at the residential (consumer) level.<sup>102</sup> This broad distribution points to the importance of combining a number of different strategies — choosing foods that have less waste impact, changing the food environment, and government and retail policies — as critical solutions to tackling food waste.

**Choose unpackaged, whole foods whenever possible.** By prioritizing whole foods with minimal packaging, consumers can help reduce plastic waste and their exposure to potentially toxic plastic-derived chemicals. Chemicals are frequently used to make food packaging (like plastic bags, films, and wrappers, paper cartons, and cans) and can then leach into the food or beverage itself.<sup>103</sup> Some of those chemicals, like Bisphenol A (BPA), per- and polyfluoroalkyl substances (PFAS), and phthalates, are hormone disruptors,<sup>104, 105</sup> which can have negative effects on human health. These chemicals and the packaging they are used in also have an environmental impact: Plastics end up in landfills or break down into microplastics that contaminate the environment or our food, paper cartons are often made by cutting down trees and are not recycled in many areas, and manufacturing new tin or aluminum cans requires metal to be extracted from the earth, requiring a lot of energy.<sup>106</sup>

## **A Note on Seafood**

The 2025 DGAC included seafood as part of their recommended healthy dietary pattern, building on the 2020 DGA, which recommends seafood — especially for infants and people who are pregnant or lactating — as a source of important fatty acids and other key nutrients during critical stages of development.

However, the 2020 and 2025 DGACs did not consider sustainability as a factor in their reviews. If they had, they might have addressed the environmental impact of certain forms of fishing and seafood production, as the 2015 DGAC did in its Scientific Report. While seafood has nutritional benefits, fishing can harm ocean biodiversity and ecosystem functioning, affecting the ocean's ability to support food security, coastal communities, and play its critical role in protecting the Earth from climate change.

The National Marine Fisheries Service (NOAA Fisheries) defines sustainable seafood as “wild-caught or farmed seafood that is harvested or produced in ways that protect the long-term health of species populations and ecosystems.” For wild-caught seafood, this can mean sourcing from populations that are carefully managed to prevent overfishing, while using fishing methods that minimize damage to marine habitats and reduce harm to other wildlife. One choice that consumers can make to prioritize sustainability is to purchase seafood sourced from U.S. fisheries, which abide by strict laws to address overfishing and species protections. Meanwhile, for farmed seafood, sustainable aquaculture is defined by the UN FAO as the “practice of producing safe aquatic foods and associated products in a manner that is environmentally and socially responsible, economically viable, and able to meet the needs of present and future generations.” For those who consume farmed seafood, one way to minimize climate impact and feed requirements is to choose farmed seafood that is lower on the food chain, such as oysters and clams.

It is the duty of the federal government to improve and maintain systems that provide an accurate, reliable, transparent, unbiased, and accessible guide for consumers who want to eat sustainable seafood as a part of a healthy diet. NOAA Fisheries currently maintains a directory of seafood from U.S. federal fisheries that abide by environmental regulations. We call on USDA and HHS, as part of their mandate to produce dietary guidance for Americans, to work with NOAA Fisheries to build upon their Sustainable Seafood Profiles, expanding the scope of this consumer-friendly resource to evaluate seafood from outside the U.S. so that consumers have access to information about the sustainability of seafood across every species, world region, and type of fishing practice.

We also highlight the need for more research on alternative ways, including plant-based sources, to meet the nutritional benefits provided by seafood, particularly for those whose religious, medical, or ethical needs prevent them from eating seafood.





## Conclusion

We urge the federal government to consider this model as it develops future editions of the DGA. This guide may also be used by state and local governments to direct food policy, health and nutrition organizations and professionals to improve nutrition education and access to sustainable diets, and individual U.S. residents to make healthy and sustainable dietary decisions that will promote both their wellbeing and the wellbeing of the planet.

As the UN has repeatedly affirmed, a global transition to more healthy and sustainable diets is critical to ensuring human health, planetary health, and an abundant and resilient food system. One of the best leverage points countries can use to encourage this shift is to integrate sustainability recommendations into their national dietary guidelines. This model demonstrates how this could be done within the scope of the DGA and how the recommendations for a plant-forward, sustainable diet can be implemented across all sectors of American society.

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