

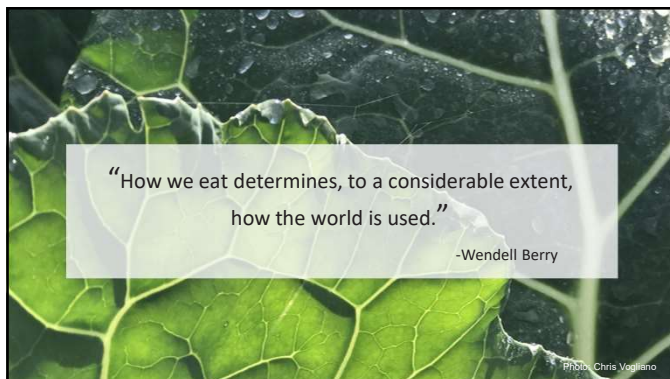


1

Learning objectives

- 1 Identify two planetary boundaries, and how our current food system is impacting those boundaries.
- 2 Describe how the "Planetary Health" framework can be applied to recommendations dietetic practitioners make.
- 3 List two characteristics of Sustainable Seafood, and 2 tradeoffs that stakeholders and policy makers may need to consider when setting dietary recommendations.

2



3

Food, Wellness & Sustainability Are Merging



Mintel, 2019

Top Trend: Evergreen Consumption
"A circular view of sustainability that spans the entire product lifecycle requires action from suppliers to consumers."



SPINS, 2019

Top Trend: Seeing Seafood Differently
"A renewed interest in foods from the sea and their sustainability, both in familiar products and new."



NRA, 2020

Top Trend: Packaging
#1. Eco Friendly Packaging
#2. Plant based proteins
#3. Delivery-friendly
#4 Healthy Bowls



IFIC, 2020

Top Trends in Food and Nutrition in 2020
#1 Sustainability: From Buzzwords to specifics
#2 A New Climate for What We Eat

4

Widening the Lens: Planetary Health



"Planetary health refers to the health of human civilization, and the state of natural systems on which it depends."

The Lancet, 2015

5

Safeguarding the Integrity of Earth's Life Support Systems



The 9 Planetary Boundaries

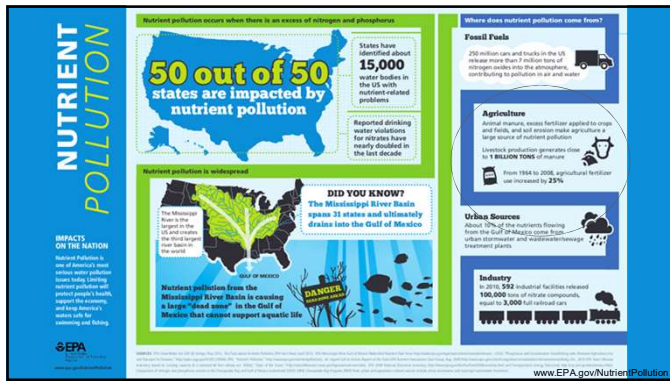
Concept first introduced in 2009

"We propose a new approach to sustainability, in which we define planetary boundaries within which we expect humanity can safely operate."

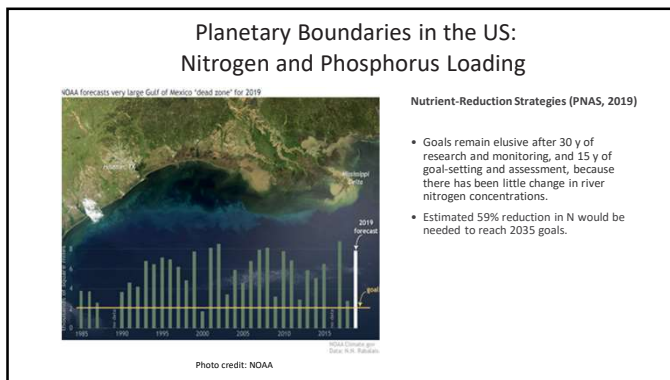
(Ecology and Society, 2009).

Non-linear.

6



10

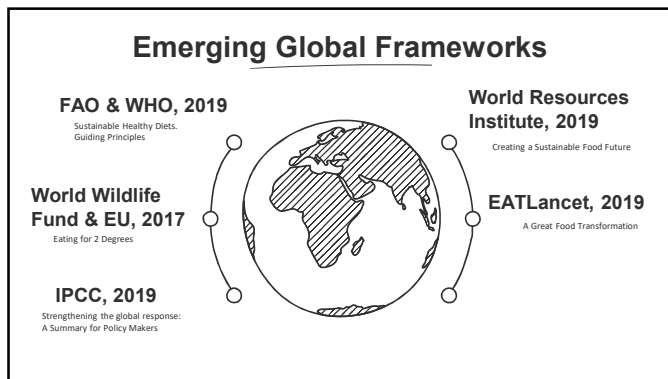


11

There is complexity and trade offs when evaluating sustainability and diets that must be understood and navigated.

Is there a consensus on the means to achieve?

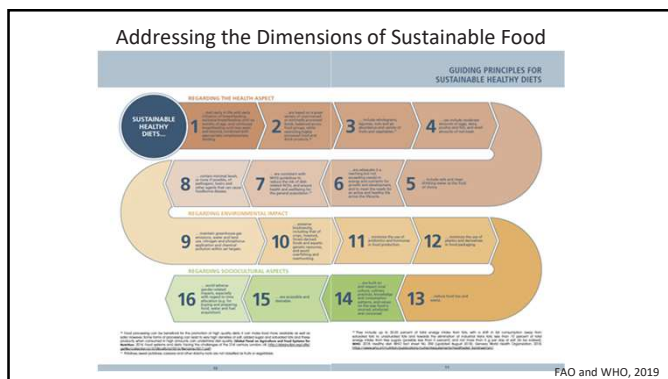
12



13



14



15

16

EAT Lancet: Solving for a World of 10 Billion in 2050

37 experts from 16 countries

Science Based Targets that consider 3 elements:

- Health and Nutrition Goals of SDGs
- Climate Targets of Paris Climate Accord
- 6 Planetary Boundaries:

- climate, biodiversity, land, freshwater, nitrogen and phosphorus



[illegible]

EAT Lancet Recommendations

The Planetary Health Diet

	Macro nutrient intake grams per day (provide range)	Caloric intake kcal per day
Whole grains	232	811
Rice, wheat, corn and other		
Tubers or starchy vegetables	100-105	40
Protein-rich vegetables		
Vegetables	580-700-900	178
Legumes		
Fruits	290-700-3000	130
Low-fat dairy		
Meat, fish or eggs	200-3-500	153
Pulses, nuts and seeds		
Protein sources	14-20-280	50
Low-fat milk and dairy	10-20-200	62
Eggs	10-20-100	40
Fish	20-100	24
Meat	20-100	24
Nuts	10-20	24
Added fats	40-60-80	24
Non-saturated oils	15.0-11.0	40
Added sugars		
Alcohols	0-10-20	130

PHOTO CREDITS: EAT Foundation, 2019

CREATING WIN-WINS:

2 U.S. Blueprints for Healthy, Sustainable Food in Foodservice & Healthcare



The cover of the Menu of Change 2019 Annual Report features a close-up photograph of three purple and white turnips with green stems. The title 'MENUS OF CHANGE' is at the top in white, with '2019 ANNUAL REPORT' below it. Logos for the University of California and the Center for Public Health and the Environment are also present.

Menu of Change, 2019



The cover of 'Redefining Protein' features a vibrant, colorful assortment of vegetables including carrots, bell peppers, and mushrooms. The title 'Redefining Protein' is in a light blue font, with the subtitle 'GUIDANCE AND TIPS TO PROTECT PUBLIC HEALTH AND CONSERVE RESOURCES' below it. A small logo is in the top right corner.

Health Care without Harm, 2017

Key Trends:

- “Less Meat / Better Meat”
- “Protein Flip” to emphasize plant proteins (i.e. Med Diet)
- “Burger Blends” (i.e. mushroom)

18

Is there Consensus in Food Based Dietary Guidelines ? (FBDG)

Global Frameworks	Year	Promotes dietary biodiversity	Promotes plant-based diets	Moderate red meat consumption	Limit processed meat	Moderate dairy consumption	Encourages sustainable seafood consumption	Limit ultra-processed foods	Promotes local or seasonal foods	Food and packaging waste reduction	Animal welfare	Directly links diets to sustainability
Australia	2013				X	X		X				
Brazil	2014	X	X	X	X	X		X	X			X
China	2016							X		X		
Estonia	2006		X	X	X			X	X	X	X	X
France	2011							X	X			
Germany	2013		X	X			X				X	X
Netherlands	2015		X	X	X	X	X	X	X	X		X
Qatar	2015		X	X	X		X	X	X	X		X
Sierra Leone	2016				X			X	X			
Sweden	2016		X	X	X	X	X	X	X		X	X
UK	2016			X	X	X	X	X				X
USA	2016											
Percentage mentioned		7.7%	46.2%	53.8%	61.5%	38.5%	38.5%	76.9%	53.8%	30.8%	23.1%	53.8%

Cabi, 2010 [Full list of global FBDG \(EAT\)](#)

19



Is there Consensus in Global Dietary Frameworks?

Global Frameworks	Year	Promotes dietary biodiversity	Promotes plant-based diets	Moderate red meat consumption	Limit processed meat	Moderate dairy consumption	Encourages sustainable seafood consumption	Limit ultra-processed foods	Promotes local or seasonal foods	Food and packaging waste reduction	Animal welfare	Directly links diets to sustainability	Link
Menu for Change (CIA)	2019	X	X	X	X	X	X	X	X	X	X	X	Menu of Change
WWF	2011	X	X	X	X	X	X	X	X	X	X	X	WWF Lancelot
EAT Lancet	2018	X	X	X	X	X	X	X		X	X	X	EAT Lancet
Harvard Plate	2011	X	X	X	X	X	X	X		X		X	Harvard Healthy Diet
EU Live Well	2013	X	X	X	X	X				X		X	Lancet for Life
WRI Shifting Diets	2016	X	X	X	X	X		X		X	X	X	Shifting Diets
British Dietetic Association (BDA)	2019	X	X	X	X	X	X	X	X	X	X	X	One Blue Diet Guide
Percentage mentioned		100.0%	100.0%	100.0%	100.0%	100.0%	71.4%	85.7%	42.9%	100.0%	71.4%	100.0%	

Chart courtesy of Chris Vogliano


20

A Sustainable Diet Framework for Advanced Economies

BDA  ONE BLUE DOT 

Eating patterns for health and environmental sustainability

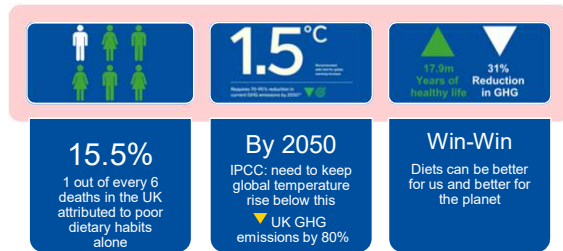
A Reference Guide for Dietitians



British Dietetic Association, 2018

21

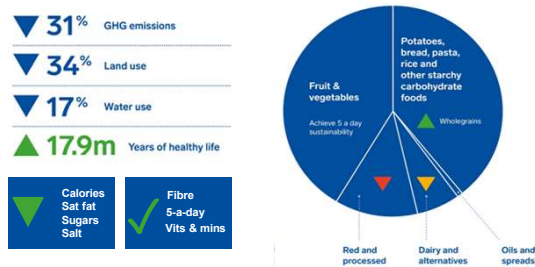
Why collective action is needed



One Blue Dot Toolkit, accessed April 21, 2020
www.bda.uk.com/onebluedot

22

Can a UK sustainable diet be a healthy diet?



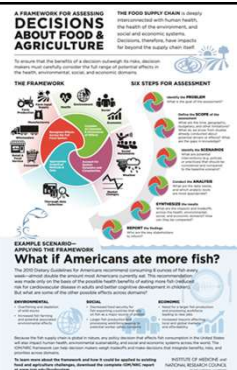
One Blue Dot Toolkit, accessed April 21, 2020
www.bda.uk.com/onebluedot

23

Case Study: FISH

How can RDs make Better Recommendations?

- USDA Seafood Recommendations:
- At least 8 oz./week
- Pregnant and breastfeeding: up to 12 oz./week



National Academy of
 Sciences, 2015

24

Changing the world has
never just been about
policies.

It's about people.

The Shift Wheel: Changing Consumer Purchasing



WRI, 2016

28

3 Ways to Take Action

- 1 Incorporate a framework into your work that meets your clients' needs and goals, but provides clear, actionable guidance (i.e. USDA Med Diet, BDA One Blue Dot, Brazil Dietary Guidelines).
- 2 Emphasize and learn more about sustainable seafood choices (i.e. Monterey Bay Aquarium SeafoodWatch, Eco-Certifications).
- 3 Frame specific actions that can have a tangible impact in ways that are accessible, relevant, and create meaningful benefits for your audience.

29

References

- 2019 Global Food and Drink Trends. Mintel. <https://www.mintel.com/press-centre/food-and-drink/mintel-announces-three-global-food-and-drink-trends-for-2019>. Accessed April 20, 2020.
- 2019 Trend Predictions. SPINS. <https://www.spins.com/2019-trend-predictions/>. Accessed April 20, 2020.
- 2019 Survey of Consumer Attitudes and Perceptions of Environmentally Sustainable and Healthy Diets. (2019) International Food Information Council Foundation. <https://foodinsight.org/wp-content/uploads/2019/09/EnvSoc-HealthyResearch.pdf>. Accessed April 20, 2020.
- Committee on a Framework for Assessing the Health, Environmental, and Social Effects of the Food System. Food and Nutrition Board, Board on Agriculture and Natural Resources, Institute of Medicine, National Research Council, National Academies Press. A Framework for Assessing Effects of the Food System. Washington (DC): National Academies Press (US); 2013 Jan 17. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK305181/doi/10.17226/18846>.
- The Guttmacher Institute of America, and Harvard T.H. Chan School of Public Health. Menus of Change 2019 Annual Report. <https://www.chenoweth.com/wp-content/uploads/2019/05/Menus-of-Change-2019.pdf>. Accessed 4/1/20.
- Eating Patterns for Health and Environmental Sustainability: A Reference Guide for Dietitians. British Dietetic Association. <https://forwaredating.org/wp-content/uploads/2019/05/One-Blue-Dot.pdf>. Published November 2018. Accessed April 23, 2020.
- FAO. (2018). State of the world fisheries and Aquaculture. FAO. <http://www.fao.org/state-of-fisheries-aquaculture>. Accessed 5/2/20.
- FAO and WHO. (2019). Sustainable healthy diets: guiding principles. Rome. <http://www.fao.org/documents/card/en/c/16690en/>.
- IPCC. (2019). Special Report: Global Warming About 1.5°C. <https://www.ipcc.ch/sr15/>. Accessed 4/1/20.
- Jones, R., Vagstad, C., & Burlingame, B. (2018). 16 Sustainable Diets and Food-based Dietary Guidelines. Sustainable Diets: Linking Nutrition and Food Systems, 158.
- Lindsey, R. Wet spring linked to forecast for big Gulf of Mexico 'dead zone' this summer. NOAA. June 18, 2019. <https://www.epa.gov/nutrientpollution/sources-and-solutions>. Accessed 4/25/20.
- NOAA forecasts very large 'dead zone' for Gulf of Mexico. National Oceanic and Atmospheric Administration. June 10, 2019. <https://www.noaa.gov/media-release/noaa-forecasts-very-large-dead-zone-for-gulf-of-mexico>. Accessed 4/25/20.
- Nutrient Pollution Infographic: What's Nutrient Pollution? EPA. <https://www.epa.gov/nutrientpollution/infographic-what-nutrient-pollution>. Accessed 5/2/20.
- Nutrient Pollution, Sources and Solutions. Environmental Protection Agency. <https://www.epa.gov/nutrientpollution/sources-and-solutions>. Accessed 4/25/20.

30

References (cont'd)

- Ranganathan, J. et al. 2016. Shifting Diets for a Sustainable Food Future. Working Paper, installment 11 of Creating a Sustainable Food Future. Washington, DC: World Resources Institute. <https://www.ers.usda.gov/web-public/shifting-diets-for-a-sustainable-food-future-1.pdf>. Accessed 5/5/20.
- Richie H, Roser M. Environmental impacts of food production. Our World in Data. Published January 2020; online at <https://ourworldindata.org/environmental-impacts-of-food>. Accessed 4/28/20
- Rockstrom J, Steffen W, Noone K et al. Planetary boundaries: Exploring the Safe Operating Space for Humanity. *Ecology and Society*. 2009; 14(2), 32. <https://www.ecologysociety.org/doi/full/10.5934/ecos/132/>.
- Senti, Raychal & Clinton, Stacia. (2017). Redefining protein: Adjusting diets to protect public health and conserve resources. 10.13140/RG.2.2.35350.24664.
- Savila D, Bértán L, Obenour D et al. Ensemble modeling informs hypoxia management in the northern Gulf of Mexico. *Proceedings of the National Academy of Sciences of the United States of America*. 2017; 114 (3), 8823-8828. <https://www.pnas.org/content/114/3/8823>.
- Sush, Monterey Bay Aquarium Seafood Watch. <https://www.seafoodwatch.org/seafood-recommendations/sushi>. Accessed 5/1/20.
- Tagbow A, Robson K, Bergquist E et al. Academy of Nutrition and Dietetics: Standards of Professional Performance for Registered Dietitian Nutritionists (Competent, Proficient, and Expert) in Sustainable, Resilient and Healthy Food and Water Systems. *Journal of the Academy of Nutrition and Dietetics*. 2014;114(3), 475-488.e34. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC404371/>.
- What's Hot 2020 Culinary Forecast. National Restaurant Association https://restaurant.org/Downloads/PDFs/research/Whats_hot_2020.pdf. Accessed April 20, 2020.
- Willett W, Rockstrom L, Loken B et al. Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. *The Lancet*. 2019; 393 (10007), 447-492.
- World Wildlife Fund. (2017). Eating for 2 Degrees: How and Updated Eat Well Live Well Plate. https://www.wwf.org.uk/press/default/1166/2017-09/WWF_LiveWell_Plates_Full_Report_Sep2017_Web.pdf. Accessed 4/10/20.
- WRI. (2019). Creating a Sustainable Food Future. https://www.food.wri.org/sites/default/files/2019-01/WRI_Food_Full_Report_0.pdf Accessed 4/1/20.