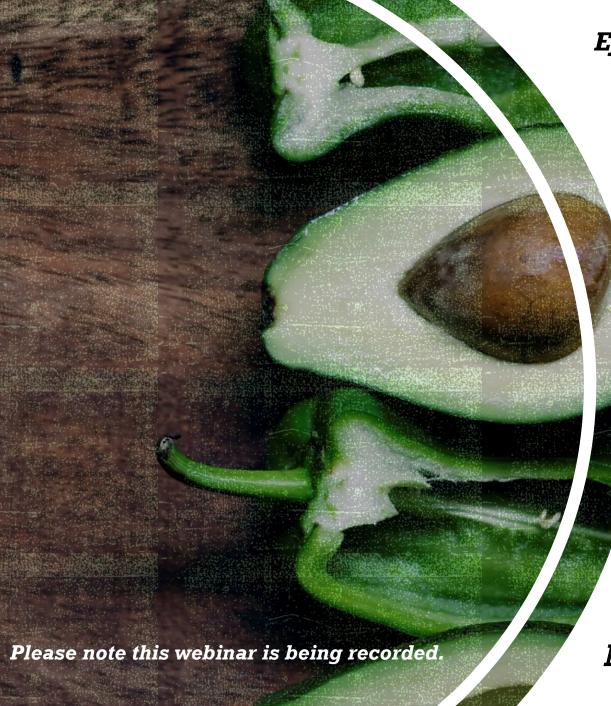


ADDRESSING FOOD WASTE:

HOW FAITHS/FAITH
ORGANIZATIONS CAN
CONNECT GARDENING
ABUNDANCE WITH
VULNERABLE
COMMUNITY
FOOD NEEDS

March 21, 2023





Reverend Zach Hopple, Pastor, Christ United Methodist Church, Lansdale, PA (Welcome & Introductions)

Jenny Stephenson, Land, Chemicals and Redevelopment Div., Region 9, US EPA

Gary Oppenheimer, Founder/Executive Director, AmpleHarvest.org

Dr. Lauren Speeth, *President, Elfenworks Productions*

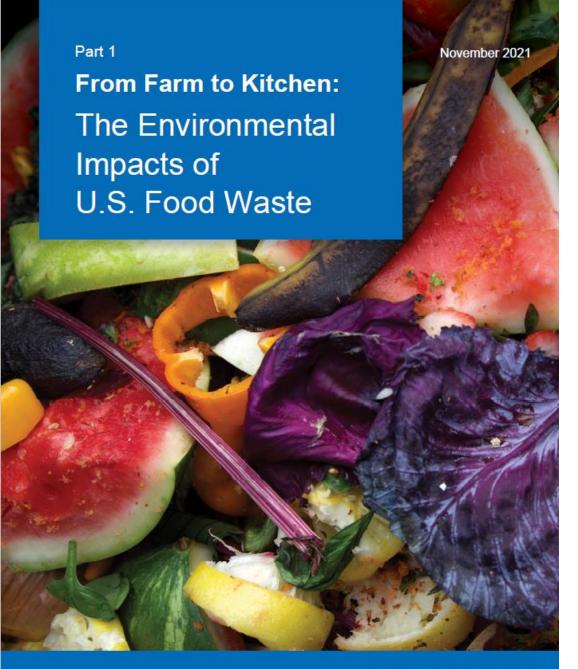
Jean Siers, Regional Director, Society of Saint Andrew, Delmarva

Danny Gogal and **Ericka Farrell**, Office of Environmental Justice and External Civil Rights, U.S. EPA (Facilitators)









Study Methods

Purpose

To inform domestic policymakers, researchers, and the public about the:

- 1. Environmental footprint of food loss and waste in the U.S. and
- Environmental benefits that can be achieved by reducing U.S. food loss and waste

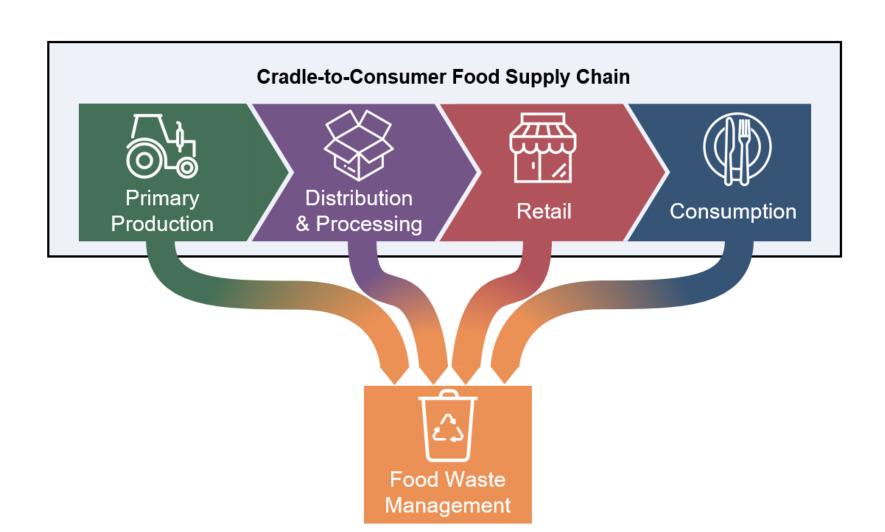
Method

Synthesis of literature identified through systematic search of information published between 2010 and 2021. Most sources cited are peer-reviewed publications; some commonly cited grey literature (e.g., data from ReFED, NRDC, WRI, or WRAP) is referenced to provide context.

Scope

- Food loss and waste is defined as food intended for human consumption but not ultimately consumed by humans.
- Estimates presented include resource use and environmental impacts from cradle-to-consumer food supply chain; implications of food waste management (such as landfill methane emissions) are not included.

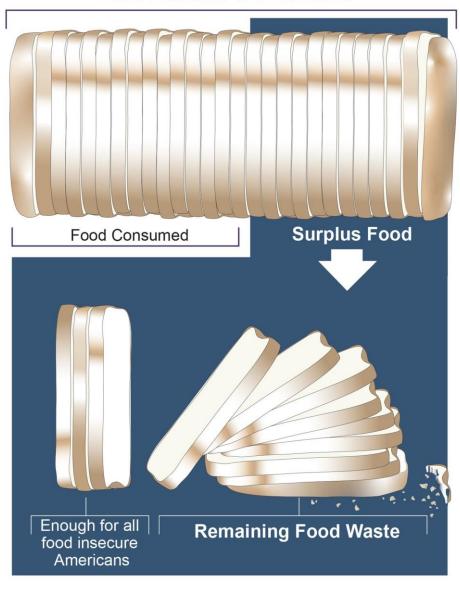
Environmental Impacts of U.S. Food Loss and Waste



The U.S. loses or wastes more than 1/3 of its food supply

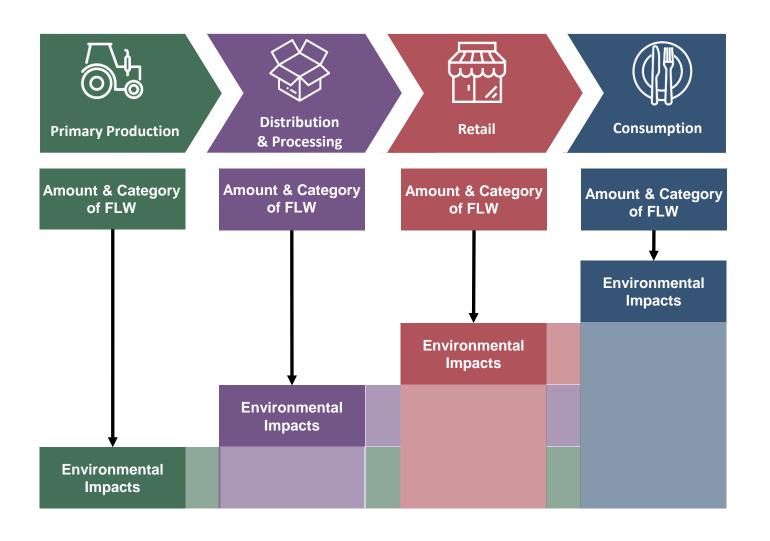
Estimates of U.S. food loss and waste range from 73 to 152 million metric tons (161 to 335 billion pounds) per year, or 223 to 468 kg (492 to 1,032 pounds) per person per year, in studies that include loss and waste during all stages of the food supply chain.

Food Available to Americans

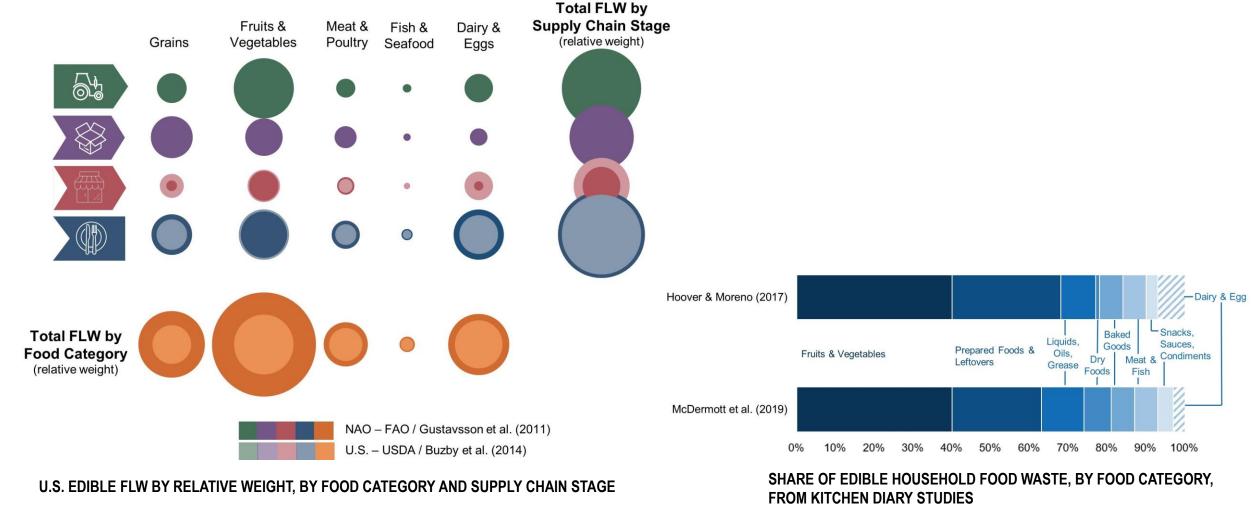


The amount of food available to Americans (in calories) exceeds the number of calories consumed plus the number of calories required to eliminate food insecurity. The figure depicts only edible food (i.e., inedible parts such as bones and shells are excluded from estimates). Data year 2010. Data Source: Buzby et al. (2014); USDA (2012); Hall et al. (2009); Hiç et al. (2016)

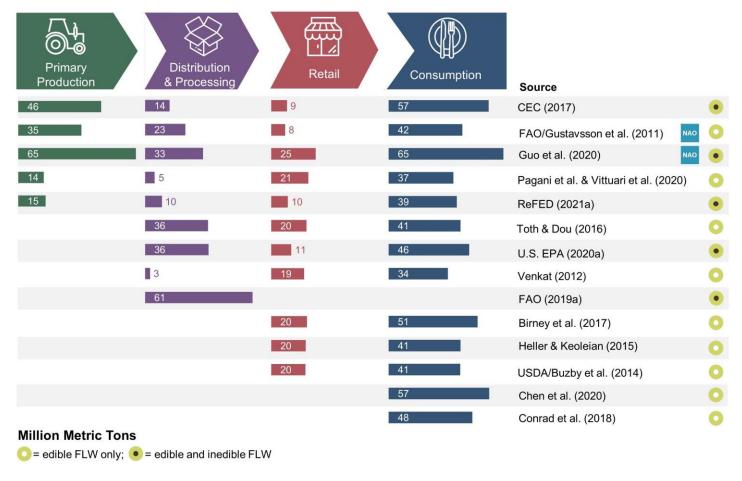
Estimating the Cradle-to-Consumer Environmental Footprint of U.S. Food Loss and Waste



Fruits and vegetables is the food category most commonly wasted in the U.S.



The consumption supply chain stage (households and food service) is the greatest contributor to U.S. food loss and waste – although upstream decisions can drive consumer waste



Cradle-to-Consumer Environmental Footprint of U.S. Food Loss and Waste

Environmental Impact		Environmental Footprint				
		Total (Standard Units)	Per Person	Percentage of U.S. Cradle-to-Consumer Food System Footprint	Percentage of U.S. Footprint	Source Scope of FLW
<i>?</i> ////	Land Use	560,000 km ² • (140 million acres)	1,800 m ² (19,000 sq ft)	16% of agricultural land •	-	Read et al. (2020)
### A	Water Use ^a	22 trillion L • (5.9 trillion gallons)	71,000 L (19,000 gallons)	17% of freshwater used •	5%	Read et al. (2020)
	Pesticide Application	350 million kg ^b (780 million pounds)	1 kg • (2.5 pounds)	-	-	Conrad et al. (2018)
4	Fertilizer Application	6,350 million kg • (14 billion pounds)	20.2 kg •, b (44.5 pounds)	42% of total fertilizers used	-	Toth and Dou (2016)
F	Energy Use	2,400 million GJ (664 billion kWh)	7.7 GJ • (2,140 kWh)	20% of energy used	2%	Pagani et al. (2020); Vittuari et al. (2020)
GHG GHG	GHG Emissions	170 million MTCO₂e •	540 kg CO₂e	16% of GHG emissions •	2%	Read et al. (2020)

⁼ calculated

personal communication with author

Rlue water use

b Accounts for only consumer FLW

Environmental Impacts of U.S. Food Waste: SEPA



What resources go into a year of food loss and waste in the U.S.?

*excluding impacts of waste management, such as landfill methane emissions



Greenhouse gas emissions of more than 42 coal-fired power plants

Enough water and energy to supply more than 50 million homes





The **amount of fertilizer** used in the U.S. to grow all plantbased foods for U.S. human consumption

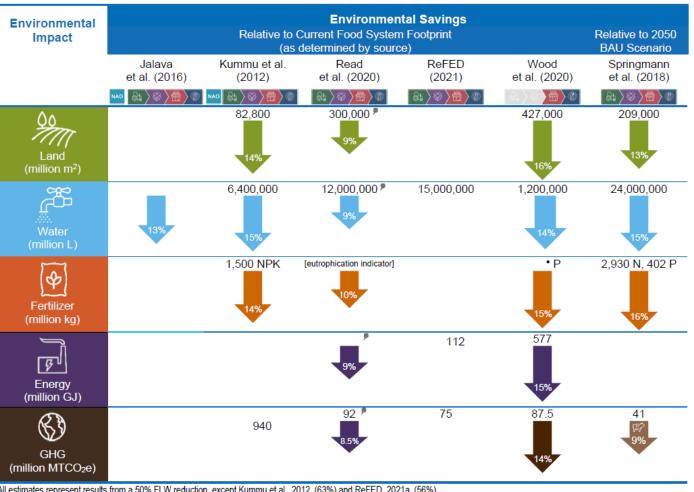
An **area of** agricultural land equal to California and New York



Learn more: www.epa.gov/land-research/farm-kitchen-environmental-impacts-us-food-waste

Cradle-to-Consumer Environmental Benefits of Halving U.S. Food Loss and Waste

These are the benefits of food waste prevention; recycling does not confer cradle-to-consumer benefits



"Savings" from Halving U.S. Food Loss and Waste

GHG Emissions

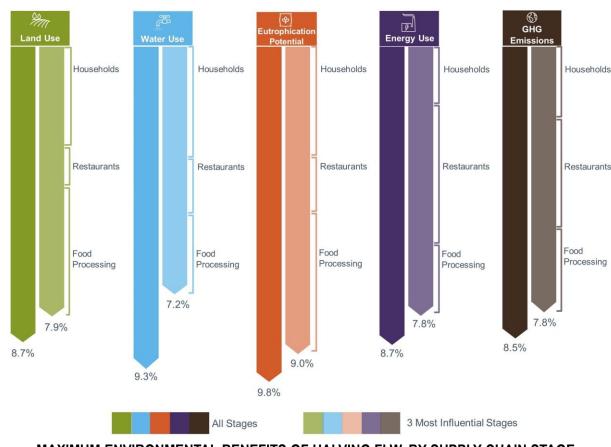
(excluding impacts of waste management, such as landfill methane emissions)





Maximizing Environmental Benefits of Halving U.S. Food Loss and Waste

- Halving food loss and waste in three sectors—food processing, restaurants, and households—provides the majority of the environmental benefits of halving food waste
- Halving food loss and waste of three food categories — meat, cereals, and fruits and vegetables — will achieve greatest environmental benefits



MAXIMUM ENVIRONMENTAL BENEFITS OF HALVING FLW, BY SUPPLY CHAIN STAGE

Data Source: Read et al., 2020







Key Take-aways

- Prevention of food waste achieves far more environmental benefit than composting or anaerobic digestion
- The largest energy and greenhouse gas emissions benefits can be realized by reducing food waste from households and restaurants
- Focusing on reducing the waste of the most resourceintensive foods – such as animal products and fruits and vegetables – can yield the greatest environmental benefits





Engaging Faith Community To Help End The Waste of Food



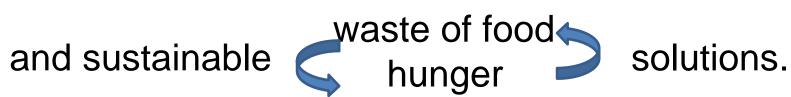
www.FaithFightsFoodWaste.org





AmpleHarvest.org is an award winning nationwide

nonprofit that creates information based, scalable





Our Theory of Sustainability

We Create Solutions:

- 1. That Are **Simple**
- 2. That **Scale**
- 3. With Lasting Impact



Our Theory of Change

- 1. Reach People Wanting To Solve A Problem
- 2. Educate Them About The Problem
- 3. Enable Them To Solve The Problem
- 4. Get Out Of Their Way



The average person pays no attention to food waste experts or programs.









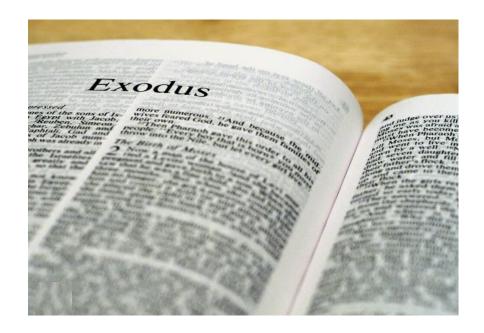




Problem to be solved:



Existing scriptural guidance on ending food waste is overlooked in all faiths





solution

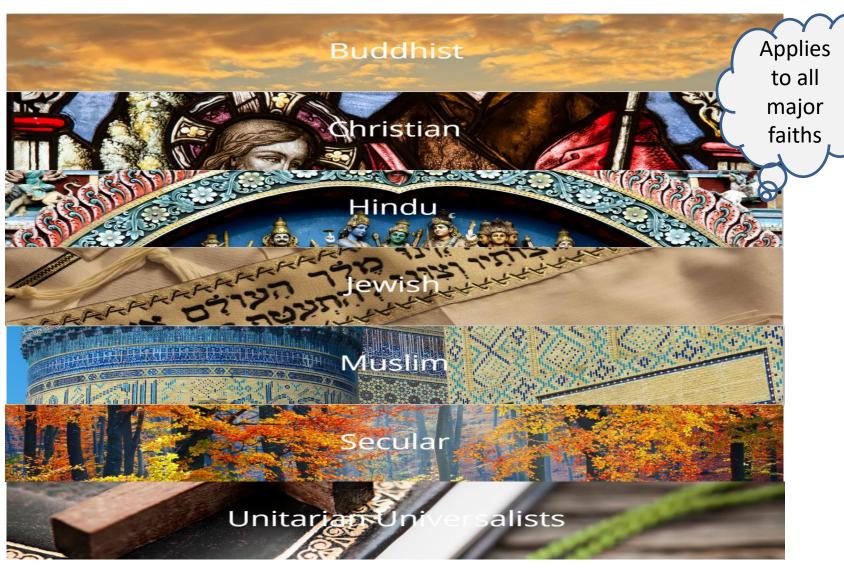
Approach:

Enable clergy to talk about food waste from a faith perspective

Solution:

- Educate clergy about the issue of food waste.
- Provide faith specific boilerplate sermons on food waste
- Provide "calls to action" for them to share with their congregation







We started with a standard secular food waste sermon







Acting on Faith to

End Food Waste And Therefore Hunger

Secular

Sample Sermon

Hunger and climate change.

Morality dictates that no one should be hungry and that we are supposed to help those who are. At the same time, we want to leave this planet in the best condition possible for future generations.

This weekend, these two concerns come together.

We know that people in our country, and around the world, go hungry. That there are hungry families in our country, in our community, and quite possibly, even at this meeting. Around the world, over 800 million people suffer from hunger each day and 21,000 people die daily from hunger (one person every four seconds) - despite the fact that it is well documented that there is more than enough food produced - healthy food, mind you - to feed everyone in the world.

How is it that, in a world so blessed with abundant food, so many can't count on this most basic

I call it food waste, although a better term would be wasted food. I'm not talking about rotting tomatoes or moldy bread - food that has to be thrown out because it's not fit to eat.

I'm talking about food that you and I would be delighted to eat, but for some reason, never gets to us ...

- . Fruits and vegetables that are shaped in a way that grocery stores think are ugly.
- · Food that goes bad because it doesn't get refrigerated quickly enough.
- . Leftovers that are perfectly good to eat but that get thrown out.
- . Food from restaurants with servings that are huge, and we forget to take what's left home.

Think about the times that you have seen the clerk at the store throwing away perfectly good food because the next shipment just arrived. Think about the farmer who grew carrots that were as not perfectly straight as the store wanted them so they were left on the ground. Think about the restaurant that serves you portions so huge that you could never finish them. Think about the gardener who grew so many tomatoes that they wanted to give some away... but no one wanted them and the food pantry



...and "translated" it into different faiths

Food Waste





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The faith leader gets everything they need to learn about and then preach ending food waste

- 1. Learn more about food waste.
 Includes background info, links to helpful sites and videos.
- 2. **Download your sermon** yours to revise as needed.
- 3. Select your calls to action choose what will work in your community.
- Download material for your religious school and your newsletter (optional)
- 5. Give your sermon.
- 6. If you have a food pantry, make sure that it is signed up at <u>AmpleHarvest.org</u> to be able to receive surplus garden harvest. It's free, and the food pantry does not need additional refrigeration or storage. It's an excellent way to reduce food waste and help feed the hungry in your community.
- 7. Follow-up. Please take a moment to let us know tell us how it went.





A First Look at Food Waste

Food Waste in America—A Current Conundrum

If you want to learn more...

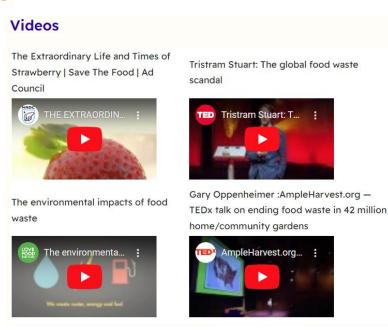
- EPA's Sustainable Management of Food Learn about the issue along with what businesses, institutions, organizations and individuals can do to reduce food waste
- EPA's Food Stewards Toolkit This toolkit includes printable resources for starting a food stewards team at your house of worship. In the toolkit, you can learn more about how to modify food purchases, donate, compost, get others involved and share your story.
- Further with Food: Center for Food Loss and Waste Solutions Find and share information on this website about proven solutions and innovative new approaches to reducing food loss and waste
- ReFed.com A data driven guide to business, government, funders and nonprofits to reduce food waste
- NRDC White Paper How America is losing up to 40% of its food from farm to fork to landfill

- WastedFood.com Why we waste food, why it matters and what we can do about it
- USDA Report Why We Should Care About Food Loss
- USDA Report Food Loss Information for Consumers
- USDA Report The Estimated Amount, Value, and Calories of Postharvest Food Losses in the US (Business Oriented)
- Garden Food Waste Recent report on the extent of food lost in America's home and community gardens
- National Geographic One-Third of Food Is Lost or Wasted: What Can Be Done
- United Nations Report Global Food Losses and Food Waste (Gustavsson, et al.)
- World Food Clock See how much food the world wastes every second.
- American Wasteland Best book available on the topic. By Jonathan Bloom.





A First Look at Food Waste







2. Download your sermon – yours to revise as needed.

Sample Sermon

Hunger and the environment.

Our faith teaches us that no one should be hungry and that we are supposed to help those who are. Jesus taught us that when we feed a hungry person, we are feeding him. (Matthew 25:35-40)

waste. Help your congregation learn what their faith says about food waste with the resources on this page, which include faith

Our faith teaches us that we are stewards of God's good creation, responsible for caring for this remarkable gift. The book of Genesis – the very first book of the Bible – teaches that God put us in the Garden to work it, watch over it and protect it. (Gen. 2:15)

This weekend, these two concerns come together.

specific calls to action, videos, and a Christian sermon.

Read more.... (o en Español)



Download

Sermon



Food Waste Weekend provides free resources to learn, and then speak about the staggering amount of food that goes waste. Help your congregation learn what their faith says about food waste with the resources on this page, which include faith specific calls to action, videos, and a Christian sermon.

Sample Sermon

Christian

Hunger and the environment. Creation Care

Our faith The Bible teaches us that no one should be hungry and that we are supposed to help those who are. Jesus taught us that when we feed a hungry person, we are feeding him. (Matthew 25:35-40)

Our faith The Bible teaches us that we are stewards of God's good creation, responsible for caring for this remarkable gift. The book of Genesis – the very first book of the Bible – teaches that God put us in the Garden to work it, watch over it and protect it. (Gen. 2:15)

Now, these two concerns come together.

We know that people in our country, and around the world, go hungry. That there are hungry families in





Food Waste Weekend provides free resources to learn, and then speak about the staggering amount of food that go waste. Help your congregation learn what their faith says about food waste with the resources on this page, which include faith specific calls to action, videos, and a Muslim sermon.

3. Calls to Action

Calls To Action

There are 9 Calls to Action from which we suggest that you pick 2 or 3 to challenge your congregants to take. There is also a bonus Call to Action for your house of worship too! You will also find them at the Calls to Action page.

If you are in a community where people have home or community gardens, we strongly urge you to also include Call to Action #1 – donating excess garden produce.

If you want to print out the Calls to Action, we've included the links at the bottom of each one.



1. Donate Home Garden Produce (USA only)

2. Fruit and Veggie Storage

- 3. Wasted Food Log
- 4. Learn and Get Involved
- 5. Expiration Date Deep Dive
- 6. Share About Food Waste
- 7. Smaller Plates and Portion Sizes
- 8. Smart Shopping:
 - Shop Only From a Grocery List
 - Shop with Meals in Mind
- 9. Starting At Home

Nine Calls to
Action. Select
those best fit
for your
congregation





Call to Action #1

Donate Home Garden Produce (USA only)

What: Donate your surplus garden produce (or even the surplus food from fruit trees around your home) to a nearby food pantry.

How: Go to AmpleHarvest.org to find your nearest food pantry (it just might actually be in your own house of worship!) and find out when to deliver your surplus garden bounty! If you do not have a garden, but know someone who does, you can really help by telling them about AmpleHarvest.org

You can also help other gardeners in your community learn about donating food by





Call to Action #1

Why: Because two problems – food waste and hunger – coexist in every community. Gardeners in America grow 11 billion more pounds of food than they can use, while nearby food pantries almost never have healthy fresh food. You can help fix that. Once you find a pantry at AmpleHarvest.org, you will see which days and times they prefer to receive produce donations. Harvest your excess food just before you take to the food pantry so that it will be super fresh and will benefit everyone as much as possible!

Time: Just the short drive to a nearby food pantry. If you choose to print and post some of the fliers, add another 20 or 30 minutes.





Call to Action #7

Smaller Plates and Portion Sizes

What: Serve smaller portion sizes for dinner. Make the same amount of food, of course, but give out smaller portion sizes, and tell your family that everyone should get seconds or thirds if they are still hungry.

Or, try just one meal on smaller plates - you'll be amazed at how much food is saved! If the plate is smaller, less food fits on it, so again, if your family is still hungry after the first serving, they should get seconds and thirds.





Call to Action #7

Why: Sometimes our eyes are bigger than our stomachs, right? And when that happens, we either eat too much, or throw away food for no good reason. These two strategies address that issue, and result in our families eating less food and being healthier. This also means that if less food is put onto plates, more food can go in the fridge for leftovers.

How: This sounds easy, but it may be one of the hardest actions to take on. It's difficult to change when our behaviors are so ingrained. Don't stop trying if you forget once or twice or three times!





Call to Action #7

Time: Will definitely take a moment when preparing a meal to remember smaller portion sizes or to grab those smaller plates. But once it becomes habit, you'll see what a huge difference it makes!





4. Optional Material

Sample Newsletter Articles

Infographics and posters

Religious School Materials-Food Waste Weekend Game Show











Food Waste Weekend provides free resources to learn, and then speak about the staggering amount of food that goes to waste. Help your congregation learn what their faith says about food waste with the resources on this page, which includes specific calls to action, videos, and a Buddhist sermon.

4. Optional Material

Sample Newsletter Articles

Infographics and posters

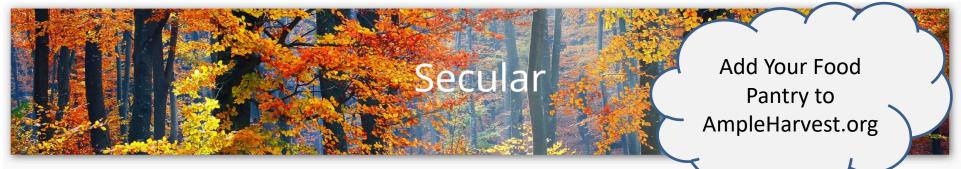


Religious School Materials-Food Waste Weekend Game Show









Food Waste Weekend provides free resources to learn, and then speak about the staggering amount of the staggering amount food waste with the resources on this page, which include per pal caus to action, videos, and a nonsectarian sermon.

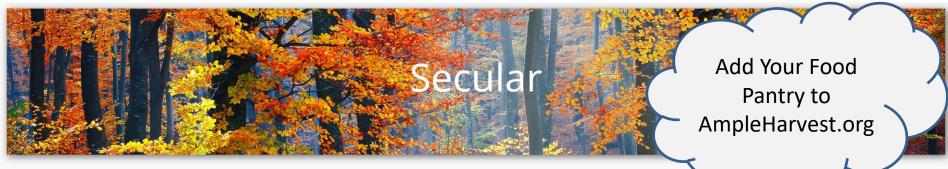
6. Your community

If Your Community Has a Food Pantry....

... it should be signed up (totally free!) on AmpleHarvest.org to help local home and community gardeners donate excess fresh food from their garden – an easy first step towards helping to end food waste! Ideally, your pantry should sign up before Food Waste Weekend.

- 1. Click here to see if your food pantry has already signed up with AmpleHarvest.org. If it has, great!
- 2. If it has not yet signed up, then we suggest that you print out this flier and ask your food pantry manager to register ASAP. You can assure them that its free, they won't need extra storage and they wont need more refrigeration.
- 3. Lastly, print this flier and encourage your congregants to post it around the community.





Food Waste Weekend provides free resources to learn, and then speak about the staggering amo waste. Help your followers learn about food waste with the resources on this page, which include pe

to action, videos,

Register a Food Pantry

Before submitting your pantry information, please ensure that:

- You are an authorized representative of the pantry you are registering in the United States
- You are (or are affiliated with) a nonprofit organization
- You distribute the food for free
- You are not attempting to register to receive food as an individual

62M home growers







42 M Hungry People



203 Food Banks Nationwide























For Faith Leaders

Christian

For People of Faith



I Am Buddhist

I Am Christian

I Am Hindu

I Am Jewish

I Am Muslim

I Am Spiritual - Secular

I Am Unitarian-Universalist

We also help people of faith who do not go to a house of worship









Important notes:

 AmpleHarvest.org is not a faith based nor faith focused organization.





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- This program is designed to leverage people's already existing passion in their own faith or spirituality and to help them end the waste of food as guided by their already existing beliefs.
- The ultimate goals of Faith Fights Food Waste are a nourished community and a healthy planet.



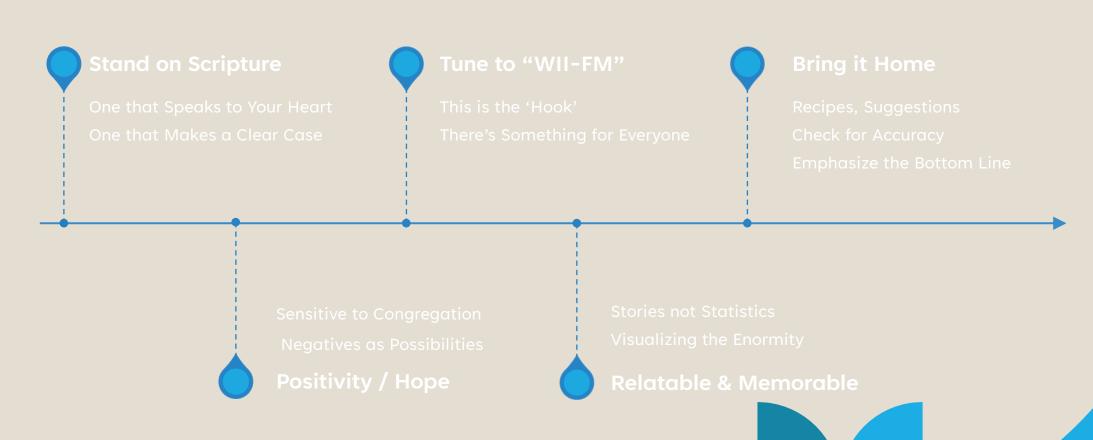
Our Theory of Impact:



Lauren Speeth, PhD



Moving Hearts & Minds



Stand on Scripture

For Example...

- Some are superior to others.
- All Four Gospels Jesus feeds the 5000 (5 loaves, 2 fishes)
 - o Matt.14 specifies 5000 males, plus women/children.
 - John 6 shows Jesus as the one asking the disciples to collect the scraps.
 - Perhaps supplement with the feeding of the 4000 (Matt 15, Mark 8)
- Matt. 25:31-46 Whatever you did for the least of these...
- ∘ Isaiah 58 Share your bread with the hungry.
- ∘ John 21:16-17 Feed my sheep. "Feed" can be spiritual.
- Another direction: John 9:1 victim blaming (blind from birth)
- Etc.

Positivity. Reframing.

Harsh Facts as Opportunities

- o"If we did what Jesus did, then..."
 - ...X tons of wasted food would feed the hungry.
 - ...Y million who are hungry daily might be fed.
 - ...Z amount of water and energy could be saved.
 - Etc.

WII-FM

"...what's in it for me...



Something for everyone...

- Live YourEnvironmentalism
- Draw Nearer God / Answer God's Call
- HealthierCommunities
- Compassion is Healthy
- Less Despair
- Etc.



RELATABLE & MEMORABLE

- Stories not Statistics.
 - Personal stories move hearts.
 - Experience with hunger?
 - Personal failings in food husbandry?
 - One can embed a suggestion within such a story.
- Visualizing the Enormity
 - E.g., We throw enough food out daily to fill the Rose Bowl.

Pantry hours / policies change.
Check before the sermon. Give congregants the freshest advice.

- Word to the wise.



BRING IT HOME

SUGGESTIONS

- People are busy. Help them succeed. Not a "thought experiment."
- If key takeaway is "share the harvest," double-check current pantry hours and policies.
- Option: Printed Top-10 list, e.g., check fridge before hitting the store...
- Option: Printed delicious recipes for leftovers.

• BOTTOM LINE

- God needs us and we need each other.
- We and our congregations hold an important key to hope.



In Sum

1

Scripture

Close to your Heart Makes Point Clearly 2

Positivity

Negatives as Positives

3

WII-FM

This is the 'Hook' Good for Us All 4

Relatable & Memorable

Personal Stories Visualizing 5

Bring it Home

Suggestions Takeaways Bottom Line

Society of St. Andrew (SoSA)

Building connections at the hyper-local level





Farmers & Growers

- Commercial Sized
- Family Farms
- Distribution Centers





Backyard Growers

- Fruit Trees
- Edible Landscaping
- Gardeners





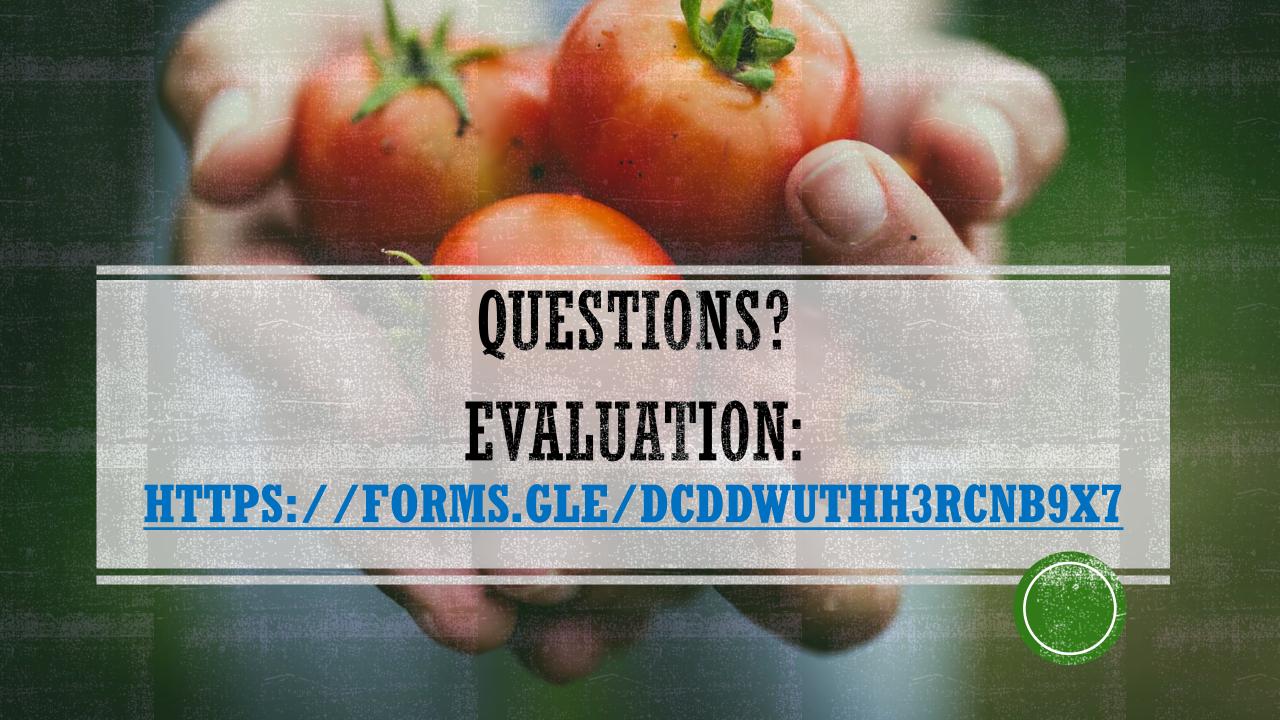
Share Our Surplus

- Register Fruit Trees
- Glean Your Garden
- Grow A Row

Endhunger.org/homegrown







CONTACTS

- > Jenny Stephenson, US EPA, stephenson.jenny@epa.gov
- ► Gary Oppenheimer, AmpleHarvest.org, gary@AmpleHarvest.org
- Dr. Lauren Speeth, Elfenworks Productions, lauren.speeth@elfenworksproductions.com
- Andy Lemmon, Society of Saint Andrew, sosapr@endhunger.org
- Rev. Zachary Hopple, Christ United Methodist Church, zach.hopple@cumclansdale.org
- Danny Gogal, US EPA, gogal.danny@epa.gov
- Ericka Farrell, US EPA, farrell.ericka@epa.gov

