

Let's Do This!



# Greening Fire Recycling on Incidents



# Outline

- ▶ National Greening Fire Team
- ▶ Incidents and Waste at Fire Camps
- ▶ EERA Incident Recycling Highlights
- ▶ How Can we Improve?
- ▶ Benefits of Contracting Recycling Services
- ▶ Overview of Multi-GACC Incident Recycling BPA
- ▶ Recycle Revenue Management
- ▶ Waste Diversion Reporting
- ▶ Leadership Support
- ▶ FAM Support Needed
- ▶ Incident Recycling Communication
- ▶ What's Next?

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# National Greening Fire Team



# National Greening Fire Team (GFT)

Established in 2011

Comprised of seasonal and permanent employees from across the nation.

Mission: Integrate sustainable operations best management practices into the fire community

Focus: To research, recommend, and assist with implementation of sustainable practices at fire incidents with a focus on camps.

Priority areas include: 1) waste reduction, 2) renewable energy, and 3) outreach and education.

March 2017 = Partnership between the GFT, previously aligned with the Office of Sustainability and Climate, and the U.S. Forest Service (USFS) Fire Aviation and Management organization was developed.



# FY19 Greening Fire Team (GFT) Priorities



Finalizing the “Opportunities for Energy, Water, and Waste Reduction at U.S. Forest Service Fire Camps” Report in partnership with the Department of Energy National Renewable Energy Laboratory

Continuing to build-out the USFS Greening Fire Team Website to transition it into a “one-stop shop” resource for the interagency fire community

Building on USFS Regions 3, 5, and 6 contracted incident recycling pilots by developing/implementing a Blanket Purchase Agreement for contracted incident recycling

Leveraging networks of the DOE NREL and other state/federal agencies that comprise the NWCG to advance greening fire goals.

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# Incidents and Waste at Fire Camps

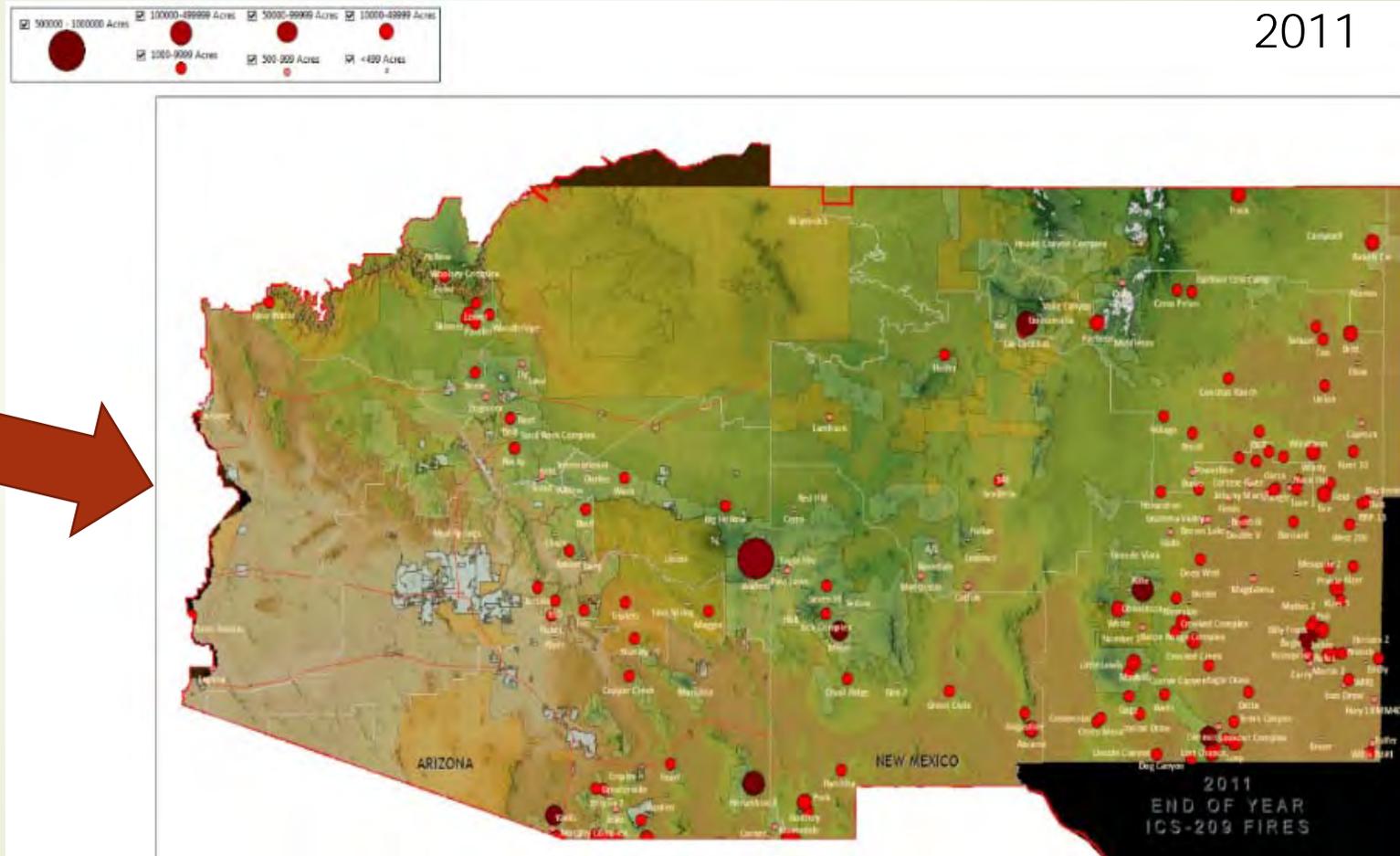


# Incidents and Waste – R3 Example

2011

Based on the duration and # of personnel on fires in 2011, SWCC interagency fire fighting teams are estimated to have generated between **6.7 and 9 million pounds of trash** in AZ and NM.

NOTE: It is estimated that **40-70% of the waste from fire camps is recyclable and/or compostable.**





# EERA Incident Recycling Highlights



## R5 (ONCC & OSCC) and R6 (NWCC) 2017 & 2018

- In 2017, on-site incident recycling in R6 involved 41 days (total) and 48% of the waste was diverted from the landfill.
- **\$8,000 in recycle revenue** was generated for the host unit to use for SusOps investments.
- The contracted recycling team diverted:
  - 220 cubic yards of cardboard
  - 105,000 beverage bottles/cans
  - 30 cubic yards of office paper
  - 200 gallons of used cooking oil



- In 2018, on-site incident recycling in R5 and R6 involved 116 days (total) and an average of 44% of the waste was diverted from the landfill.
- **\$15,000 in recycle revenue** was generated for the host unit to use for SusOps investments.
- The contracted recycling team diverted:
  - 700 cubic yards of cardboard
  - 187,000 beverage bottles/cans
  - 230 cubic yards of office paper
  - 900 gallons of used cooking oil
  - 105 used tires

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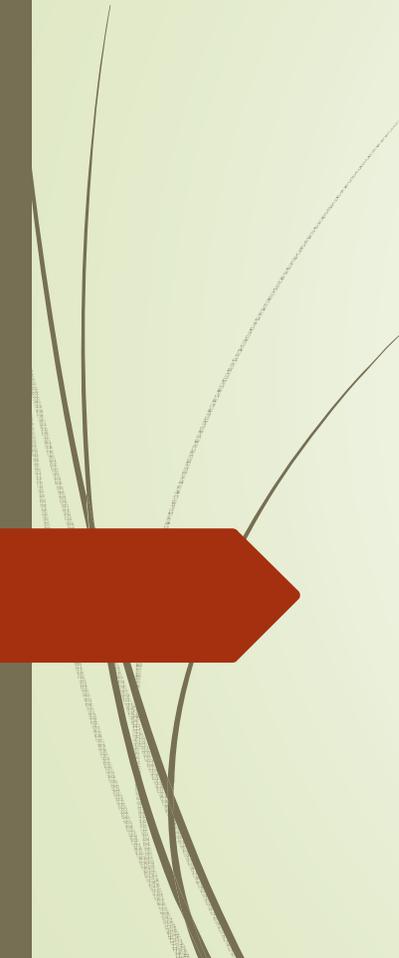
How Can We  
Improve?





## Limitations of EERA

- No standardization of recycling equipment, signs, processes, expectations means that our rotating fire camp personnel have a very different recycling experience on each camp (or possibly none at all), which can increase confusion and frustration
- Lack of qualifications requirements for services means there is no assurance that best-value, qualified vendors are providing waste diversion services at larger fire camps
- Submitting and processing EERA requests on a case-by-case basis consumes many man-hours of repetitive orders across all four GACCs
- Non-standardized waste diversion reporting means that it is hard to compile agency-level results related to our efforts to achieve compliance with USDA Directive 5600-005 to divert 55% of our agency's waste from the landfill.



# Benefits of Contracted Recycling Services



# Camp Crews

- No comparison with using a recycle contractor
- Different expectations
- Different incentives
- Often struggle with duty changes

Input from  
Nick Swagger, Logistics  
Section Chief, Pacific  
Northwest Team 2





## Cost Containment

- Pre-negotiated daily rate based off camp size (no surprises!)
- Frees up Logistics, Facilities, and Camp Crew time
- Container redemption deposits (OR & CA) back to forest (\$15,000 back to forest in 2018)
- Reduction of dumpsters and servicing by 50%

# In-House versus Contract Incident Recycling Costs

- Assuming a fire camp with 1,000 personnel, the daily cost to provide on-site recycling management (excluding waste hauling costs and recycle revenue) was estimated to be:
  - "In-House" Resources: ~ \$2,400 - \$3,900
  - Contracted Services: ~ \$1,450 - 3,050
- This cost equates to **roughly \$2.50 per person, per day** on the fire camp.
- As a point of comparison to other fire camp operating costs, providing port-a-potties and handwash stations is 3X more expensive than incident recycling when there are 1,000 people at a fire camp.
- On the Whitewater fire, incident recycling was estimated to cost **0.05% of the total daily fire camp operating costs**.

Recycling by contract is close to and sometimes cheaper than the cost of using in-house resources.

Item	Daily Costs			
	200 personnel	200-499 personnel	500-999 personnel	1,000 personnel
Port-a-potties and hand wash stations	\$1,760	\$4,328	\$8,791	\$8,800
Contracted Incident Recycling	\$1,400	\$2,000	\$2,400	\$3,000



# Advantages of a Multi-GACC BPA

- Standardized recycling equipment, signs, processes, expectations means that our rotating fire camp personnel have a similar recycling experience on each camp, which increases efficacy and engagement
- Highly qualified vendors can provide IMTs assurance that waste diversion services at fire camps will improve waste management practices with reduced strain on our “in-house” personnel
- Reduced man-hours tied to submitting and processing EERA requests on a case-by-case basis across all four GACCs
- Standardized waste diversion reporting that enables the agency to easily capture and communicate our efforts to achieve compliance with USDA Directive 5600-005 to divert 55% of our agency’s waste from the landfill.

# Overview of Incident Recycling Blanket Purchase Agreement (BPA)





# Scope of on-site incident recycling services

## 1) On-site set-up/maintenance/tear-down of incident recycling equipment

- Equipment includes trash/recycling/compost receptacles, trash/recycling/compost stations, bags for lining trash and recycle receptacles, materials for creating cardboard "corrals," sorting tables, signage, personal protective equipment, etc.

## 2) Standardized collection and sorting of waste and recyclables

## 3) Processing back-hauled waste and recyclables from spike camps

## 4) Transporting recyclables to the nearest drop-off or processing center

## 5) Waste diversion tracking and reporting

## 6) Recycle revenue management (if applicable)

# What will be recycled?

## MINIMUM REQUIREMENT: Primary Recycling

- Cardboard
- Plastic #1 and #2
- Paper
- Aluminum/Tin Containers
- Glass
- Wood Pallets

## OPTIONAL Line Items:

- Cooking Oil
- Tires
- Batteries (All Types)
- Scrap Metal
- Compost



# How does the pricing work?

## FY19 Incident Recycling

Item	Description	Total Personnel Assigned to Incident (Based on ICS-209)	Northwest Coordination Center (WA, OR) Daily Rate	Northern California Coordination Center Daily Rate	Southern California Coordination Center Daily Rate	Southwest Coordination Center (AZ, NM) Daily Rate
	<u>BASE PRICING ITEM</u> : 40% waste diversion, per Performance Work Statement (includes cardboard, paper, plastic #1, #2, and aluminum/tin cans, glass, wood pallets and any other recyclables required to reach the minimum diversion rate)	-	-	-	-	-
1	Service Level 1	up to 500				
2	Service Level 2	500 - 1,500				
3	Service Level 3	1,501 - 3,000				
4	Service Level 4	3,001 - 4,500				
5	<u>MILEAGE RATE</u> if providing full, on-site waste diversion services at a remote camp that is not co-located with the incident base.					
	<u>ADDITIONAL SERVICES</u> : These optional Pricing items can be selected in any combination by the Ordering Official.	Unit of Measure	Northwest Coordination Center (WA, OR)	Northern California Coordination Center	Southern California Coordination Center	Southwest Coordination Center (AZ, NM)
6	Cooking Oil**	gallon				
7	Tires**	each				
8	Batteries, all types**	pound				
9	Scrap Metal**	pound				
10	Compost**	daily rate multiplier*				

\* Example: A daily rate multiplier of "1.2" for compost management services would signify that the applicable daily rate (from the base Pricing) would be increased by 20% to manage all compostable material at the fire camp.

\*\* Shall be verified with approved shift ticket and disposal invoice. Shall be signed off by Logistics Section Chief or Facilities Unit Leader.

# Participating GACCs

- ▶ Geographic Area Coordination Centers (GACCs)

- ▶ Northwest (NWCC)

- ▶ Program Lead: Katie Mergel

- ▶ Contracting Lead: Kirsten Donelson

- ▶ Northern California (ONCC)

- ▶ Program Lead: Lara Buluc

- ▶ Contracting Lead: Matt Gagnon & Lydia Moore-Ward

- ▶ Southern California (OSCC)

- ▶ Program Lead: Lara Buluc

- ▶ Contracting Lead: Matt Gagnon & Lydia Moore-Ward

- ▶ Southwest (SWCC)

- ▶ Program Lead: Kelly Jaramillo

- ▶ Contracting Lead: Stephanie Archuleta





# Vendor Qualifications

- Direct field experience managing waste and diverting recyclable material for public events lasting multiple days with attendance over 500 people per day
- Documentation of experience achieving a minimum of 40% waste diversion at these large-scale events
- Seasoned Operations Managers with a minimum of 2 years experience implementing event waste diversion systems
- Documentation of satisfactory past performance by at least 2 past clients



# Timeframe

- ▶ Blanket Purchase Agreement will be:
  - ▶ Awarded late April/early May 2019, with [contractors available to provide incident recycling by mid-May](#) timeframe
  - ▶ Three year contract: [Fire Seasons 2019-2020-2021](#)
- ▶ Why a 3-year contract?
  - ▶ Due to the manpower invested in building this multi-GACC BPA, having a 3-year contract provides an opportunity to continue building on the results of the pilot year (without having to re-write the entire contract afterward if it is successful).
  - ▶ However, if we need to substantially revise the scope after the pilot effort in 2019 or 2020, we will have a 30-day cancellation notice clause included in the BPA.



# Expectations



- ▶ The intent of this BPA is for the contractor to provide **on-site, day-to-day camp waste management** that can reduce the labor burden on camp crews and logistics/facility personnel, as well as reduce the frequency (and cost) of trash service.
- ▶ When is it **best to order** recycling on the BPA?
  - ▶ When there are **more than 200 personnel** on the fire (and the fire is expected to last more than a few days)
- ▶ When should the vendor **mobilize and de-mobilize**?
  - ▶ As **early as possible** to catch the heavy generation of recyclables during camp set-up (and tear-down)
  - ▶ Vendors will be able to **mobilize within 24 hours** of notice.



# Expectations

- ▶ At **Type 1 and 2 incidents**, leverage the On-site Incident Recycling BPA referenced above to order a recycling contractor to streamline and increase the efficacy of waste diversion efforts.
- ▶ At **Type 2 and 3 incidents**, identify local recycling opportunities/partnerships at fire camps (e.g., a Civilian Conservation Corps crew, a 4H Club, a Boy/Girl Scout troop, etc) based on sustainability input received from the hosting unit.



## Things that will NOT Change

- ▶ What has not changed about managing trash?
  - ▶ The Government retains the responsibility for providing dumpsters/roll-off service for trash at the fire camp.
  - ▶ Spike camp personnel that currently back-haul trash will continue back-hauling their trash (however, the recycling vendor will now provide them two separately colored bags, one for trash and one for recyclables). The recycling vendor is responsible for any post-sorting that is required.
  - ▶ So long as the optional bid item to manage compost is \*not\* selected, the food caterer will remain responsible for providing/servicing trash cans inside the dining tents.
    - ▶ NOTE: At this time, the optional compost management line item may not be selected when the national food caterer is providing services to the fire camp.



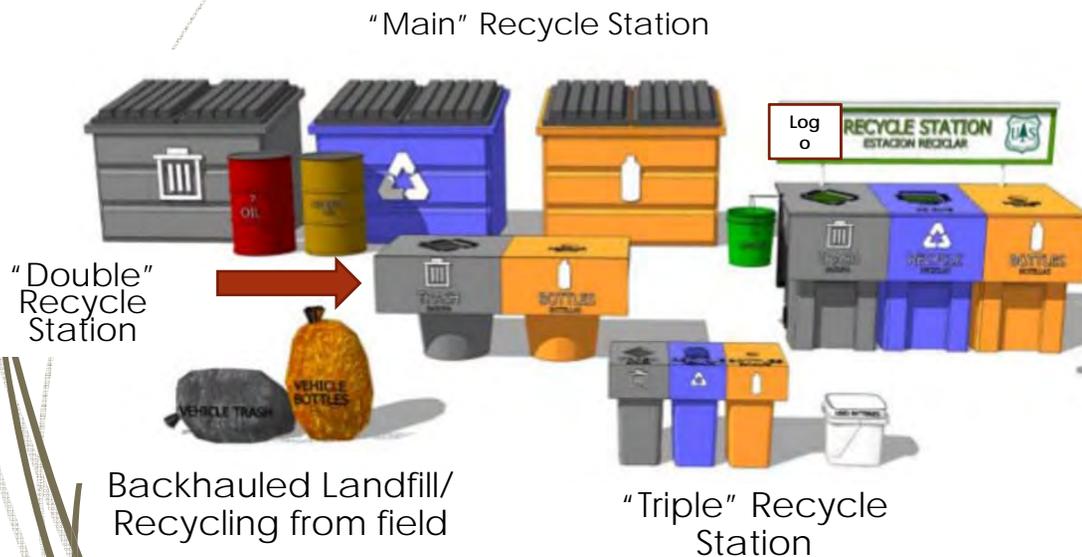
# Things that WILL Change

- ▶ What has changed about managing trash?
  - ▶ The recycling vendor will provide all trash and recycle stations throughout the camp (see next slide).
  - ▶ If the optional compost management is selected:
    - ▶ It is understood that a commercial compost facility is within 100 miles of the fire camp and compost management is feasible (the recycling vendor is required to confirm this).
    - ▶ The food caterer will be asked to not place any trash cans inside the dining tents.
    - ▶ Instead, the fire camp personnel will be directed to sorting tables \*outside the dining tents\* where the recycling vendor personnel will help sort the compostables in an expedient manner.
    - ▶ See next slide for more information on compost management.
- ▶ NOTE: The vendor should not utilize Government labor (e.g., camp crews) to assist in collecting/sorting trash and recyclables from the contractor-provided receptacles.

## SAMPLE Incident Recycle Stations

### NOTE:

- The Government retains the responsibility for providing dumpsters/roll-off service for trash at the fire camp.
- However, the vendor is responsible for all trash and recycling receptacles (known as "recycle stations") within the fire camp.
- The contractor may elect to deploy and manage cardboard or other recycling dumpsters (in addition to the main/double/triple recycle stations, as appropriate).
- The vendor determines the most appropriate means to transport \*ALL\* recyclables to an appropriate recycle center (e.g., by trailer or other means).



Cardboard "Corral"



NOTE: The contractor is responsible for providing appropriately color-coordinated bags for managing backhauled trash and recyclables from spike camps (e.g., clear bags for trash and blue bags for recyclables). These waste/recycle streams require post-sorting for optimum waste diversion.



# Recycle Revenue Management





# In “Bottle Bill” states, recycle revenue may be generated

- ▶ **Host Unit**

- ▶ Can receive revenue from recyclables, however it must be managed in accordance with rules and regulations

- ▶ **Per the BPA:**

- ▶ The contractor shall coordinate with the host unit for the incident and confirm their preferred approach for managing any recycle revenue generated from the incident.

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# Waste Diversion Reporting



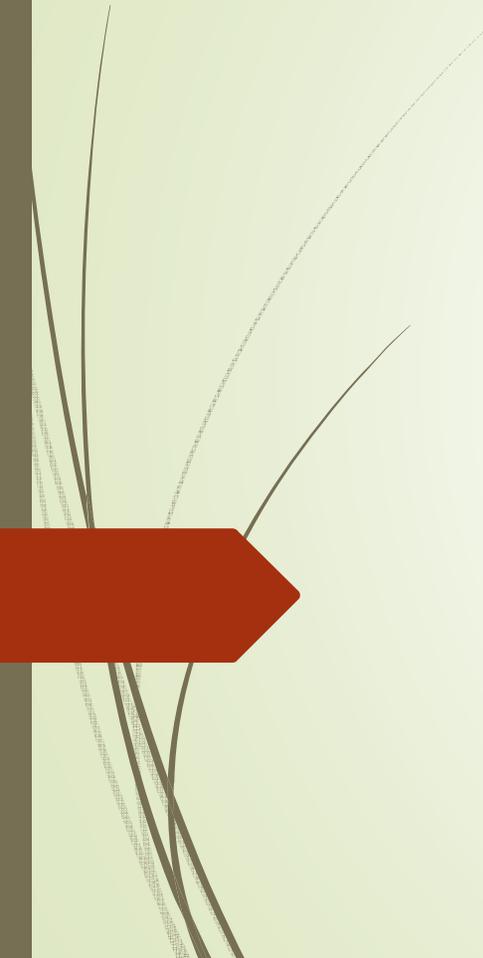
# Use of Survey123 for ArcGIS to Track Waste and Recycling

- ▶ **Per the BPA:**
  - ▶ The contractor shall use ArcGIS Survey123 to document waste and recycling quantities, locations, etc.
- ▶ **Breaking New Ground:**
  - ▶ Using GIS to directly map contract performance on fires (and also provide multi-GACC feedback on a near real-time basis).
- ▶ Survey123 data will be complemented by a Waste Diversion Report narrative.

The screenshot displays the Survey123 mobile application interface. At the top, the status bar shows 'Verizon LTE', '12:41 PM', and '85%' battery. The app header is green with a white 'x' icon on the left, the title 'My Survey', and a white hamburger menu icon on the right. The form contains several fields:

- Geographic Area Coordination Center \***: A dropdown menu with the text 'Select your Geographic Area Coordination Center (GACC)' and a downward arrow.
- Name of Incident or Id**: A text input field with the text 'Reported as "INC\_NAME" on SWCC, "Incident Name" on OSCC or "Id" on ONCC fire activity map'.
- Host Unit**: A text input field with the text 'Reported as "INC\_UNIT" on SWCC fire activity map'.
- Today's Reported Incident Size (Number of People)**: A text input field with the text 'Reported as "INC\_SIZE" on SWCC or "Total Personnel" on OSCC fire activity map'.
- Name of Incident Recycling Company \***: A dropdown menu.
- Today's Date \***: A date selection field.

At the bottom right of the form, there is a green checkmark icon inside a white circle, indicating that the survey is complete or saved.



# Leadership Support



## Waste Reduction: Federal and Department Directives

Goal	Policy Driver	Annual Target
Implement <b>waste prevention and recycling measures</b> and comply with all Federal requirements; track and report performance measures	EO 13834, Efficient Federal Operations, Sec 2.f (17 May 2018)	
Divert 50% of non-hazardous solid waste by FY 2013, <b>divert 55% of non-hazardous solid waste by FY 2014</b> , and divert 50% of construction and demolition waste by FY 2015.	USDA Environmental DR 5600-005	55%
Promote <b>innovative ideas that expand the Department's sustainability</b> mission.	USDA Environmental DR 5600-005	

# Congressional Findings (as of 2019)

## 42 USC 6901: Congressional findings

Text contains those laws in effect on April 4, 2019

**From Title 42-THE PUBLIC HEALTH AND WELFARE**  
CHAPTER 82-SOLID WASTE DISPOSAL  
SUBCHAPTER I-GENERAL PROVISIONS

### §6901. Congressional findings

#### (a) Solid waste

The Congress finds with respect to solid waste-

- (1) that the continuing technological progress and improvement in methods of manufacture, packaging, and marketing of consumer products has resulted in an ever-mounting increase, and in a change in the characteristics, of the mass material discarded by the purchaser of such products;
- (2) that the economic and population growth of our Nation, and the improvements in the standard of living enjoyed by our population, have required increased industrial production to meet our needs, and have made necessary the demolition of old buildings, the construction of new buildings, and the provision of highways and other avenues of transportation, which, together with related industrial, commercial, and agricultural operations, have resulted in a rising tide of scrap, discarded, and waste materials;
- (3) that the continuing concentration of our population in expanding metropolitan and other urban areas has presented these communities with serious financial, management, intergovernmental, and technical problems in the disposal of solid wastes resulting from the industrial, commercial, domestic, and other activities carried on in such areas;
- (4) that while the collection and disposal of solid wastes should continue to be primarily the function of State, regional, and local agencies, the problems of waste disposal as set forth above have become a matter national in scope and in concern and necessitate Federal action through financial and technical assistance and leadership in the development, demonstration, and application of new and improved methods and processes to reduce the amount of waste and unsalvageable materials and to provide for proper and economical solid waste disposal practices.

Source: <http://uscode.house.gov/>

# Congressional Findings (as of 2019)

## (b) Environment and health

The Congress finds with respect to the environment and health, that-

- (1) although land is too valuable a national resource to be needlessly polluted by discarded materials, most solid waste is disposed of on land in open dumps and sanitary landfills;
- (2) disposal of solid waste and hazardous waste in or on the land without careful planning and management can present a danger to human health and the environment;
- (3) as a result of the Clean Air Act [42 U.S.C. 7401 et seq.], the Water Pollution Control Act [33 U.S.C. 1251 et seq.], and other Federal and State laws respecting public health and the environment, greater amounts of solid waste (in the form of sludge and other pollution treatment residues) have been created. Similarly, inadequate and environmentally unsound practices for the disposal or use of solid waste have created greater amounts of air and water pollution and other problems for the environment and for health;
- (4) open dumping is particularly harmful to health, contaminates drinking water from underground and surface supplies, and pollutes the air and the land;
- (5) the placement of inadequate controls on hazardous waste management will result in substantial risks to human health and the environment;
- (6) if hazardous waste management is improperly performed in the first instance, corrective action is likely to be expensive, complex, and time consuming;
- (7) certain classes of land disposal facilities are not capable of assuring long-term containment of certain hazardous wastes, and to avoid substantial risk to human health and the environment, reliance on land disposal should be minimized or eliminated, and land disposal, particularly landfill and surface impoundment, should be the least favored method for managing hazardous wastes; and
- (8) alternatives to existing methods of land disposal must be developed since many of the cities in the United States will be running out of suitable solid waste disposal sites within five years unless immediate action is taken.

## (c) Materials

The Congress finds with respect to materials, that-

- (1) millions of tons of recoverable material which could be used are needlessly buried each year;
- (2) methods are available to separate usable materials from solid waste; and
- (3) the recovery and conservation of such materials can reduce the dependence of the United States on foreign resources and reduce the deficit in its balance of payments.

# Leadership and Policy Drive Change

 Forest Service Washington Office 1400 Independence Avenue, SW Washington, D.C. 20250

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File Code: 5100 Date: MAR 28 2018  
Route To:  
Subject: Sustainable Operations in Incident Management  
To: Regional Fire Directors

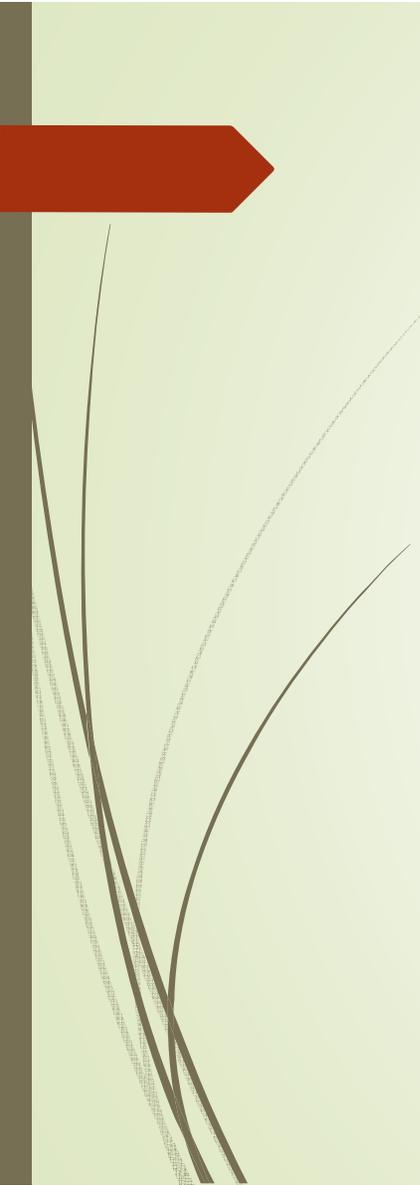
In the Washington Office Fire and Aviation Management program, we recognize and value all of the accomplishments made towards implementing sustainability efforts at incidents and fire caches across the nation. We have the opportunity to learn from each other and do even more to help reduce

## Incident Leadership and Sustainability Presence

- Within the Delegation of Authority, include expectations for sustainable operations (refer to Appendix B for sample language). The hosting unit should provide local expertise on recycling capabilities and other opportunities for sustainable operations. Consult local Green Team Chair, Dispatch Centers, or applicable staff member.
- Divert waste generated at camps from the landfill by recycling or other appropriate processes (e.g., reduce, re-use). A 2017 trial (Whitewater Fire) demonstrated that diversion rates of 50% are achievable.

Our National Fire Director published a memo last year related to increasing waste diversion at fire camps.

Similar correspondence is planned for release in late April 2019.



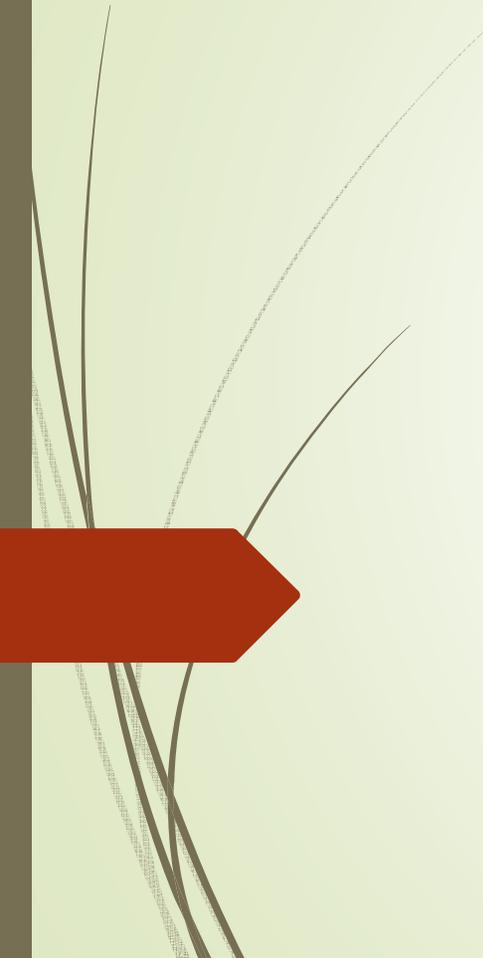
# Sample Language for Delegation of Authority

## ► Broad Statement

- Incorporate sustainable operations in all incident management activities to minimize environmental, social, and fiscal impacts without compromising firefighter and public safety or impeding incident operations.

## ► Specific Action

- Utilize **on-site recycle services to collect, sort, transport, and report on waste diversion rates** (from pre-order until demobilization is complete)



# FAM Support Needed





## Challenges

- Low camp participation
- Orders by EERA are extremely difficult
- Spike Camps
- Mis-information and the assumption contracted recycling costs more



# Key Players

- Incident Leadership
  - Incident leadership plays a key role in setting expectations for sustainable operations at fire camps.
- Logistics and Facilities Unit Leaders
  - Logistics community participation is integral to the success of this initiative. These individuals will initiate requests for recycling and serve as the main POC on the ground providing oversight for the recycling vendor.
- Ordering Officials
  - A GACC-wide Dispatch Priority List (DPL) will be created for NWCC, OSCC, ONCC, and SWCC by the Greening Fire SusOps and Contracting team representatives. This DPL should be used when placing orders in each GACC.
- Regional Greening Fire SusOps and Contracting
  - Each GACC has at least one National Greening Fire SusOps technical expert and contracting member participating in the 4-GACC incident recycling initiative.



# Incident Recycling Communication



# Incident Recycling in the News!

*Hotspot for*  
**WASTE DIVERSION**

Recycling isn't usually a focus for the crews that work to put out major forest fires on public lands in the U.S. But a pilot project involving one U.S. Forest Service camp shows the possibilities of recovering material in even this stress-filled setting.

*By Phil Torchio and Editorial Staff*

See article at: <https://resource-recycling.com/recycling/2018/06/04/hotspot-for-waste-diversion/>

# Daily Courier

WEEKEND  
AUGUST 12, 2018



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PARK, Page 5A

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## Klondike adds nearly 9,000 acres in 24 hours



Flames from the Klondike Fire light up the night in the Snailback Creek and Kerby Flat area north of the Illinois River.



Phil Torchio (left) and Jason Schurmer of Triple Flare Recycling stand in front of a mountain of cans and plastic bottles gathered from the Taylor Creek firefighting effort.

### At fire camp, recycling gurus wrangle 30,000 containers

By Jeff Duessel  
of the Daily Courier

ainers will bring in about \$3,000 in deposit money, to be put back

### All containment lines held and Selma not in danger, officials say

By Jeff Duessel  
of the Daily Courier

The Klondike Fire west of Selma put on a good show Friday afternoon and into the night, as strong winds fueled flames that added nearly 9,000 acres to the fire area.

Plumes of smoke were visible from Grants Pass, where the air improved for the first time in days. By Saturday morning, air quality was moderate (yellow), after several days of unhealthy (red).

West of Selma, gusts blow up hillsides, torching trees were visible after dark, and as late as mid-night people were still pulling over on Redwood Highway to watch.

But fire officials are confident that wide firelines west of Selma will keep the fire from getting any closer to the highway.

Chief Dennis Hasko of Illinois Valley Fire District said Saturday that people in Selma were so concerned he met with the fire team late Friday night.

"They are very nervous right now, rightfully so, but I think the team is doing a good job," Hasko said.

**TAYLOR CREEK FIRE**  
**45,055**  
ACRES

PERSONNEL 1,200 CONTAINMENT 45%

**KLONDIKE FIRE**  
**47,030**  
ACRES

PERSONNEL 600 CONTAINMENT 16%

Source: Incident management teams

the communities of Selma, Wonder and Wilkerville."

David Johnson of Selma wasn't so sure this morning at Ray's Food Place.

"It scared the heck out of me — big time. My old lady thinks it's going to burn the town down. We think it's going to go through the

# Greening Fire Team Quarterly Bulletin

Quarterly Newsletter



## National Greening Fire Team Quarterly Bulletin

WINTER 2019 | VOLUME 1

### Message from the Director

As a conservation organization, the U.S. Forest Service (USFS) – together with other fire-related agencies – is well positioned to be on the leading edge of efforts to promote ecological resilience and restoration. These considerations must be accounted for throughout our internal business processes and should be modeled in the communities that we serve. USFS Fire & Aviation Management is committed to integrating such principles. The work of the National Greening Fire Team (GFT) comes at a critical time for fire operations in the agency. As fire intensity increases and the fire season becomes increasingly longer, the value of increasing operational efficiency at incidents and throughout the incident supply chain increases. I encourage each of you to follow the important work of the National GFT and consider how to support their mission.



### SPOTLIGHT



### Statistics

- 36% - 46% The range in waste diversion realized during the 2017-18 contracted incident recycling pilots.
- \$2.25 per person per day. The cost of contracted recycling on medium-large incidents based on a 1,000-person fire (0.05% of daily fire operating costs).
- 10 The number of years the Greening Fire Team has been moving the needle towards more sustainable operations.

### Contact Us

Interested in learning more about

## Winter 2019 Bulletin Topics:

- Message from the Director
- Spotlight: Shelly Pacheco (Regional Safety and Occupational Health Manager, USFS Southwest Region)
- Who is the National Greening Fire Team?
- Contracted On-site Incident Recycling – Making Green Strides!
- Myth Buster #1: Recycling on Fires is Too Expensive...or Is It?
- Recruiting Interagency Greening Fire Team "Ambassadors"

<https://www.fs.fed.us/managing-land/fire/sustainable-ops/bulletin>

A decorative graphic on the left side of the slide. It features several thin, dark, curved lines resembling blades of grass or reeds. A solid red arrow points to the right, overlapping the bottom of these lines.

What's Next?



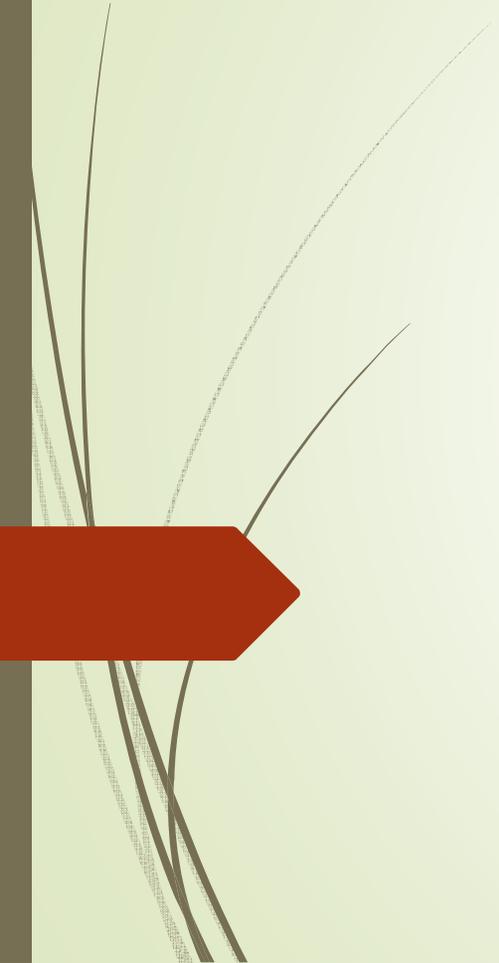


Let's Do This!

## Words from the field, 11 May 18

- ▶ “I actually brought up in our <After Action Report> from the XX Fire that our team needs to consider **being leaders instead of responders** to this **recycling** initiative. I emphasized that in the future recycling will not be something we think about doing half way through the incident, but something that will just be on the pre-order and what we do. I encouraged that we be leaders in this. The **change can be slow** Kelly, as you know, but I think if we **keep pushing** and keep showing how easy it is with these contractors, eventually it WILL take hold. I’ll admit that as I started in facilities it was something “I had to do when they made me”, but I understand and now want to embrace this concept as it is the future of fire, it’s not as tough as people think, it actually saves in some ways and it’s **really just “the right thing to do”.**”

Thank You!



A decorative graphic on the left side of the slide. It features several thin, dark grey lines representing grass or reeds. A solid red arrow points to the right, overlapping the text area.

# Additional Information



# R6 Costs/Benefits Comparison Incident Waste Management

Waste Program Managed by Logistics Team ( <i>Estimated</i> )	Incident Recycling EERA Costs	Reduce/ Reuse/ Recycle Benefits
<ul style="list-style-type: none"> <li><b>Trash hauling</b> costs: \$650 per day (assumes at least one dumpster is hauled each day; this cost will be higher if multiple dumpsters are hauled to the landfill daily)</li> </ul>	<ul style="list-style-type: none"> <li><b>Trash hauling (reduced by at least 50%):</b> \$325 per day</li> </ul>	<ul style="list-style-type: none"> <li><b>Caring for the land</b> (extends the life of our landfills while reducing natural resource consumption)</li> </ul>
<ul style="list-style-type: none"> <li><b>Squad or Camp Crew Labor</b> (assume 4-person AD-C team, plus AD-D Squad Boss, 16 hrs/day): \$1,500 - \$3,000*</li> <li><b>SusOps Tech Management</b> (assume equivalent of AD-K): \$632*</li> <li><b>Logistics/Facility Management</b> man-hours (assume 6 man-hrs/day): \$250*</li> </ul>	<ul style="list-style-type: none"> <li><b>Daily contract rate:</b> \$1,400 - \$3,000 (depends on # of people at the Fire Camp)</li> </ul>	<ul style="list-style-type: none"> <li><b>Generates jobs and promotes partnerships with our local communities and counties</b> (while reducing the negative environmental effects of shortening the lifespan of our local landfills)</li> </ul>
<ul style="list-style-type: none"> <li><b>Recycle revenue:</b> \$85/day** (will vary by state)</li> </ul>	<ul style="list-style-type: none"> <li><b>Recycle revenue:</b> \$85/day** (will vary by state)</li> </ul>	<ul style="list-style-type: none"> <li><b>Recycle proceeds</b> can be deposited and used by FS for FSM 6460 approved activities</li> </ul>
<ul style="list-style-type: none"> <li><b>Total daily cost:</b> <b>\$2,947 - \$4,447</b></li> </ul>	<ul style="list-style-type: none"> <li><b>Total daily costs:</b> <b>\$1,810 - \$3,410</b></li> </ul>	<ul style="list-style-type: none"> <li><b>Reduces fire loss and saves money</b></li> <li>Postures R3 to achieve <b>FS goal of net zero waste by 2030</b></li> </ul>

\*Salaries based on 2017 Interagency Incident Business Management Handbook. Cost of vehicles/fuel, and future cost tied to the need for new community landfills not included.