

# H-GAC 2012 DEBRIS PREPAREDNESS WORKSHOP SERIES

## SAVE THE DATE: AUGUST 2, 2012

### AGENDA:

RECENT DROUGHT AND WILDFIRE INCIDENTS  
THREAT AND VULNERABILITY ANALYSIS  
EXAMINATION OF SPECIAL DEBRIS PROGRAMS  
UNIQUE CONSIDERATIONS  
DEBRIS STREAMS  
ENVIRONMENTAL CONSIDERATIONS

### LOCATION:

H-GAC CONFERENCE ROOM A  
3555 TIMMONS LANE, HOUSTON, TX

### TIME:

8:30 A.M. TO 12:30 P.M.

REFRESHMENTS WILL BE PROVIDED.



Workshop 3: Severe Drought and Wildfire



## Workshop Objectives

The purpose of this workshop is to discuss the impacts of severe drought conditions and wildfires and to examine the unique aspects of debris operations following these events.

## Workshop Agenda

### Part 1 – Introduction

15 Minutes

#### Format: Interactive Lecture

- Recent drought and wildfire conditions
- Disaster declarations for drought and wildfires

### Part 2 – Hazard Analysis

30 Minutes

#### Format: Interactive Lecture & Large Group Discussion

- Drought characteristics and affects
- Wildfire characteristics and effects
- Open discussion: mitigation strategies for drought and wildfire

### Part 3 – Federal Assistance Programs

45 Minutes

#### Format: Interactive Lecture & Large Group Discussion

- FEMA Fire Management Assistance Grant
- FEMA Public Assistance Program
- FEMA Hazard Mitigation Grant Program

#### BREAK

15 Minutes

### Part 4 – Case Study: Bastrop, Texas Wildfires

30 Minutes

#### Format: Interactive Lecture & Large Group Discussion

- Drought Conditions
- Operations and Challenges
- Endangered Species

### Part 5 – Debris Operations for Wildfires

30 Minutes

#### Format: Interactive Lecture

- Debris operation timeline and damage assessment following wildfires
- Special program considerations
- Tree survivability and disposal methods

### Part 6 – Endangered Species and Environmental Considerations

15 Minutes

#### Format: Interactive Lecture

- NEPA review process
- Endangered Species Act Section 7

Part 7 – Health and Safety Considerations

15 Minutes

**Format: Interactive Lecture**

- NEPA review process
- Endangered Species Act Section 7

Part 7 – Next Steps/Questions

15 Minutes

**Format: Interactive Lecture**

- Questions
- Update H-GAC website materials



## Workshop 3: Severe Drought and Wildfire

**Houston-Galveston Area Council**  
Annual Debris Training Workshop Series  
August 2, 2012



# AGENDA

- **Introduction**
- **Hazard Analysis**
- **Federal Assistance Programs**
- **Break**
- **Case Study: Bastrop, Texas Wildfire**
- **Debris Operations for Wildfires**
- **Endangered Species and Environmental Considerations**
- **Health and Safety Information**
- **Next Steps/Adjourn**

# BEFORE WE BEGIN....



## UPDATE

### FHWA-ER Program for Debris

- **“*Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21)*”** passed into law July 6<sup>th</sup>
- States that FHWA-ER program will no longer be responsible for debris management in “stafford act events’
  - FEMA PA engaged
- **Begins October 1, 2012**
  - Prior to new FY, it will be managed under previous system

# INTRODUCTION

## Purpose

- **Identify the impacts of drought on trees**
- **Provide information about defensible space**
- **Discuss differences in the Federal Emergency Management Agency (FEMA) Public Assistance Grant Program and the FEMA Fire Management Assistance Grant (FMAG)**
- **Discuss Wildfire Debris Streams**
- **Discuss volunteer organization roles in wildfire debris operations**



# INTRODUCTION

## Recent Drought and Wildfire Disasters

- **Texas 2011 Drought Conditions**
  - Most severe single-year drought since the 1950's
  - Lowest single-year rainfall since 1895
  - Hottest June-August period of any U.S. state at any point in time on record—exceeding even that of the Dust Bowl of the 1930's.



# INTRODUCTION

## Recent Drought and Wildfire Disasters

- **Texas 2011 FMAG Declarations**
  - **Texas Nolan County Fire Complex**
    - Nolan County, TX
  - **Texas Reimer Fire**
    - Hutchinson County
  - **Texas 148-2332 Fire**
    - Clay County
  - **A record 55 FMAG declarations in Texas in 2011**



# INTRODUCTION

## Recent Drought and Wildfire Disasters

- **Texas Wildfires Fire Major Disaster Declaration – DR-4029**
  - Public Assistance category A in 20 counties
  - Public Assistance category B in 123 counties
  - Public Assistance categories C thru G in 20 counties
  - Hazard Mitigation Grant Program eligibility



# INTRODUCTION

## Recent Drought and Wildfire Disasters

- **FEMA Public Assistance (PA) declaration for drought**
  - Only 2 droughts have received a PA declaration
  - Occurred in Micronesia
  - Received declaration due to a lack of water, not damage



# HAZARD ANALYSIS



# HAZARD ANALYSIS

## Severe Drought

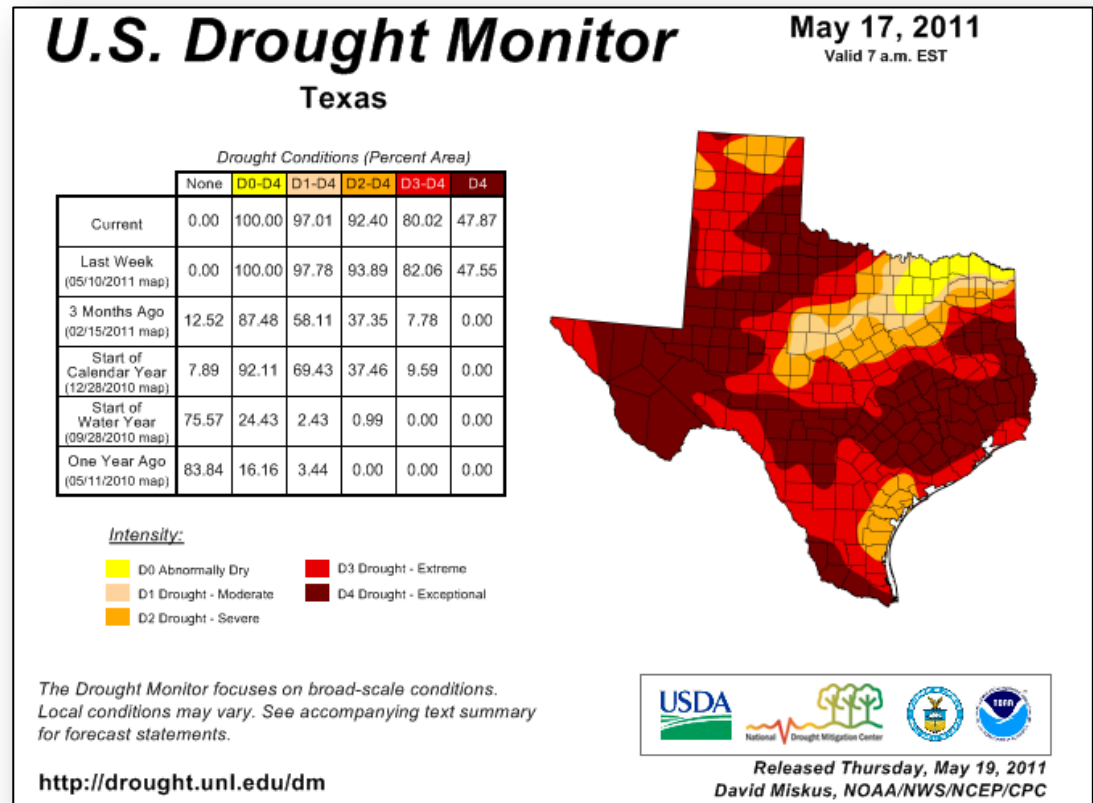
- **Characteristics of drought**
  - Prolonged period of moisture deficiency
  - Affects cultivation of crops
  - Affects water availability and water quality
  - Key factor in wildfire development
  - Conditions make natural fuels
  - High winds and lightening can exacerbate conditions for wildfire



# HAZARD ANALYSIS

## Severe Drought

- Palmer Index
  - Uses temperature and rainfall to determine dryness
  - Semi-official drought index



# HAZARD ANALYSIS

## Severe Drought

### Keetch-Byram Drought Index

| Index   | Potential or Expected Behavior   |
|---------|--|
| 0-200   | Soil and fuel moisture are high. Most fuels will not readily ignite or burn. However, with sufficient sunlight and wind, cured grasses and some light surface fuels will burn in spots and patches.                                  |
| 200-400 | Fires more readily burn and will carry across an area with no gaps. Heavier fuels will still not readily ignite and burn. Also, expect smoldering and the resulting smoke to carry into and possibly through the night.              |
| 400-600 | Fire intensity begins to significantly increase. Fires will readily burn in all directions exposing mineral soils in some locations. Larger fuels may burn or smolder for several days creating possible smoke and control problems. |
| 600-800 | Fires will burn to mineral soil. Stumps will burn to the end of underground roots and spotting will be a major problem. Fires will burn through the night and heavier fuels will actively burn and contribute to fire intensity.     |



# HAZARD ANALYSIS

## Wildfires

- **Characteristics of Wildfires**
  - **Sweeping and destructive conflagration**
  - **Wildfires in Texas can be defined as being a wildland, interface, or intermix fire**



# HAZARD ANALYSIS

## Wildfires

- **Wildland Urban Interface (WUI)**
  - Zone of transition between unoccupied land and human development
  - Communities in this zone are at a higher risk of wildfires

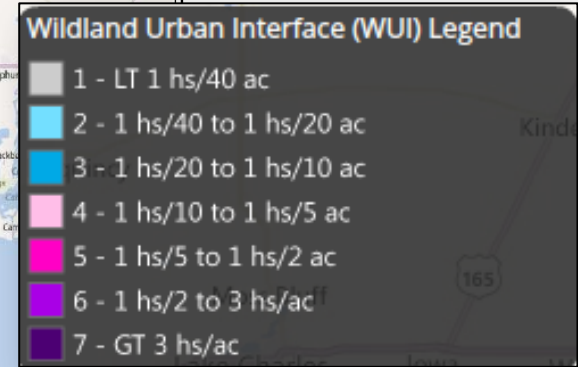
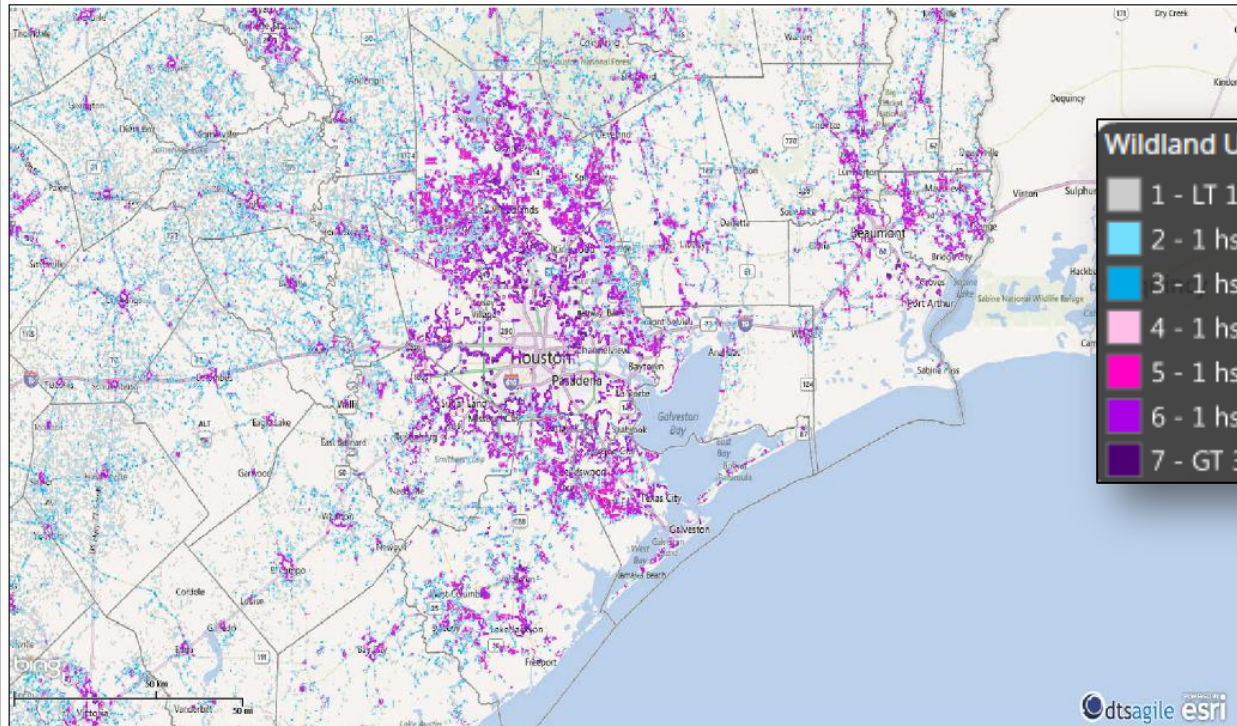


# HAZARD ANALYSIS

## Wildfires

### Wildland Urban Interface (WUI)

Depicts where humans and their structures meet or intermix with wildland fuels



Report Created:  
8-1-2012 0220 UTC

**Texas Wildfire Risk Assessment 2010**  
[www.texaswildfirerisk.com](http://www.texaswildfirerisk.com)

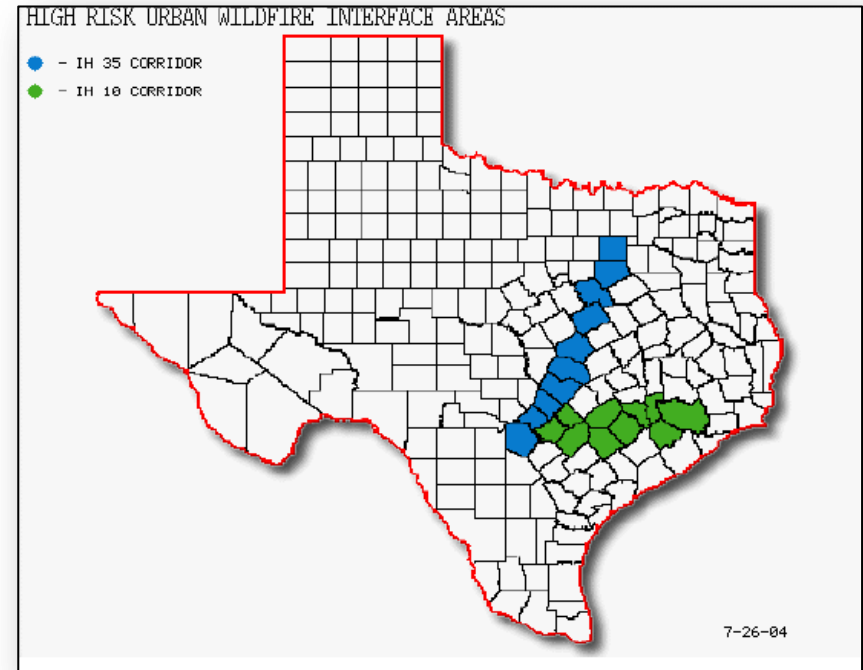
**T E X A S**  
**F O R E S T S E R V I C E**  
The Texas A&M University System

The user assumes the entire risk related to their use of the Texas Wildfire Risk Assessment and either the published or derived products from these data. Texas Forest Service is providing these data "as is" and disclaims any and all warranties, whether expressed or implied, including (without limitation) any implied warranties of merchantability or fitness for a particular purpose. In no event will Texas Forest Service be liable to you or to any third party for any direct, indirect, incidental, consequential, special or exemplary damages or lost profit resulting from any use or misuse of these data.

# HAZARD ANALYSIS

## Wildfires

- High risk areas for WUI
  - Counties along the I-35 corridor
  - Counties along the I-10 corridor from San Antonio to Houston

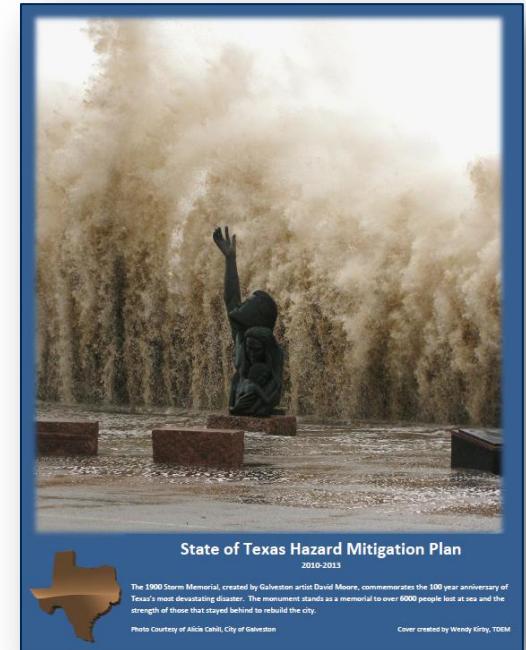


Source: *State of Texas Hazard Mitigation Plan, 2010-2013*

# HAZARD ANALYSIS

## Discussion

- **Discuss strategies for mitigating the impacts of drought and wildfires.**
  - Implement Xeroscape and public education programs to conserve water.
  - Conduct wildfire training for response and recovery staff.
  - Develop a wildland urban interface plan.
  - Educate homeowners on the importance of water conservation and the effects of wildfires.
  - Maintain a current hazard mitigation plan to support justification for future mitigation projects.



# FEDERAL ASSISTANCE PROGRAMS



# GRANT PROGRAMS

## FEMA Fire Management Assistance Grant



# FEMA Fire Management Assistance Grant

# GRANT PROGRAMS

## FEMA Fire Management Assistance Grant

- **FEMA Fire Management Assistance Grant (FMAG)**
  - **Expedited declaration process**
    - **Principal Advisor's Report**
    - **Request for Fire Management Assistance Declaration**

DEPARTMENT OF HOMELAND SECURITY  
FEDERAL EMERGENCY MANAGEMENT AGENCY  
**PRINCIPAL ADVISOR'S REPORT**  
OMB NO. 1680-0058  
Expires September 30, 2014

**Management of Forest and Grassland Fires, Section 420 PL 93-288, as amended**

|  |   |                                      |
|--|---|--------------------------------------|
| 1. NAME OF PRINCIPAL ADVISOR   | 2. DATE AND TIME OF STATE REQUEST   | 3. DATE AND TIME OF ADVISOR'S REPORT |
| 4. I HAVE/HAVE NOT REVIEWED THE OFFICIAL STATE REQUEST FOR FIRE MANAGEMENT ASSISTANCE DECLARATION UNDER SECTION 420, PL 93-288.<br><input type="checkbox"/> I HAVE REVIEWED <input type="checkbox"/> I HAVE NOT REVIEWED |   |                                      |
| (Name of Fire)   |   | (Date Fire started)                  |
| 5. PREVAILING WEATHER CONDITIONS:<br>TEMPERATURE _____ HUMIDITY _____ WIND _____<br>OTHER _____  | 6. FIRE INDEX: (Palmer, KBDI, Haines, etc.)<br>NAME OF INDEX _____<br>NUMBER ON SCALE _____ |                                      |
| 7. PREDICTION OF WEATHER AND FIRE CONDITIONS FOR THE NEXT 24 HOURS: (Fire Behavior)  |   |                                      |
| 8. WILDFIRES:<br>a. EXISTENCE OF OTHER FIRES NEARBY THAT MAY RESULT IN A CONFLAGRATION _____<br>b. NUMBER OF LARGE FIRES BURNING IN THE STATE: _____   |   |                                      |
| 9. THREAT INFORMATION:<br>a. ASSESSMENT _____<br>b. PROXIMITY OF FIRE TO HOMES AND COMMUNITIES: _____<br>c. NATURAL OR OTHER BARRIERS BETWEEN FIRE AND COMMUNITIES: _____  |   |                                      |
| 10. THIS ASSESSMENT IS BASED ON<br><input type="checkbox"/> ON SITE SURVEY <input type="checkbox"/> DISCUSSION WITH THE INCIDENT COMMANDER <input type="checkbox"/> OTHER _____  |   |                                      |
| 12. SIGNATURE OF PRINCIPAL ADVISOR   | 12. PHONE NUMBER<br>a. Day _____ b. Other (Cell, pgr, etc.) _____ c. Night _____            |                                      |
| 13. FEDERAL AGENCY   | 14. OFFICE LOCATION (City, State, ZIP)  |                                      |

FEMA Form 078-0-2, (8/11)      PREVIOUSLY FEMA Form 90-32

<http://www.fema.gov/fire-management-assistance-grant-program>



# GRANT PROGRAMS

## FEMA Fire Management Assistance Grant

- **Individual fire cost threshold for a State:**
  - \$100,000, or
  - Five percent x \$1.30\* x the State population
- **Cumulative fire cost threshold for a State:**
  - \$500,000, or
  - Three times the five percent x \$1.30\* x the State population

# GRANT PROGRAMS

## FEMA Fire Management Assistance Grant (FMAG)

- **Eligible work:**
  - **Category B – (Emergency Protective Measures):** Limited assistance provided under Section 403 of the Stafford Act
  - **Category H – (Fire-fighting Activities):** Eligible work associated with fire-related activities provided under Section 420 of the Stafford Act
  - **Does NOT provide funding for debris operations**

# GRANT PROGRAMS

## FEMA Fire Management Assistance Grant (FMAG)

- **FMAG Recovery Assistance Mobile Based Operations (RAMBO)**
  - Pilot Program
  - Checklist available prior to meeting with FEMA
  - Expedited reimbursement process



# GRANT PROGRAMS

## FEMA Public Assistance Grant Program



# FEMA Public Assistance Program

# GRANT PROGRAMS

## FEMA Public Assistance Grant Program

- **Primary Factors that dictate a declaration**
  - **Estimated cost of the assistance**
  - **Extent of localized impacts**
  - **Amount of insurance coverage in force**
  - **Extent to which hazard mitigation has reduced potential losses**
  - **Occurrence of recent multiple disasters**
  - **Availability of other federal assistance**

# GRANT PROGRAMS

## FEMA Public Assistance Grant Program

### Texas Wildfire Declaration for Public Assistance

- Primary Impact: Emergency protective measures
- Total Public Assistance cost estimate: \$27,402,214
- Statewide per capita impact:<sup>6</sup> \$1.31
- Statewide per capita impact indicator:<sup>7</sup> \$1.30
- Countywide per capita impact: Andrews County (\$358.13), Archer County (\$38.79), Armstrong County (\$59.96), Bailey County (\$101.60), Baylor County (\$67.65), Brewster County (\$224.43), Callahan County (\$6.62), Carson County (\$255.96), Castro County (\$13.83), Clay County (\$79.23), Coleman County (\$12.43), Concho County (\$19.48), Cottle County (\$30.14), Crockett County (\$542.88), Dawson County (\$78.86), Duval County (\$11.60), Eastland County (\$15.21), Garza County (\$313.14), Glasscock County (\$33.51), Haskell County (\$217.91), Hockley County (\$20.17), King County (\$4,664.81), Lynn County (\$57.83), Mitchell County (\$1,142.05), Pecos County (\$155.61), Reagan County (\$56.58), Stephens County (\$10.87), Terrell County (\$126.98), Terry County (\$11.97), Throckmorton County (\$147.08), Tom Green County (\$6.12), Trinity County (\$3.93), Tyler County (\$14.03), Val Verde County (\$151.54), Young County (\$13.33).
- Countywide per capita impact indicator:<sup>8</sup> \$3.27

**It is critical to accurately capture eligible costs in the initial damage assessment.**

# GRANT PROGRAMS

## FEMA Public Assistance Grant Program

- **FEMA Public Assistance Grant**

**Category A: Debris removal**

Category B: Emergency protective measures

Category C: Road systems and bridges

Category D: Water control facilities

Category E: Public buildings and contents

Category F: Public utilities

Category G: Parks, recreational and others



# GRANT PROGRAMS

## FEMA Public Assistance Grant Program



# FEMA Hazard Mitigation Grant Program



# GRANT PROGRAMS

## Hazard Mitigation Grant Program

- **Hazard Mitigation Grant Program**

- Available to applicants to implement mitigation measures following a major disaster declaration
- Amount available varies with each disaster
- Project does not have to be in a declared county
- State must have a pre-approved standard hazard mitigation plan
- States with an enhanced mitigation plan are eligible for an additional 5% in funding

<http://www.fema.gov/library/viewRecord.do?id=4225>

# GRANT PROGRAMS

## Hazard Mitigation Grant Program

- **Hazard Mitigation Grant Program**
  - Applicant must be participating and in good standing with the National Flood Insurance Program (NFIP).
  - Projects must be environmentally sound, cost-effective, solve a problem and prevent future damage.
  - Projects can protect either public or private property.

# GRANT PROGRAMS

## Hazard Mitigation Grant Program

- **Wildfire Mitigation Projects**

- **Eligible activities**

- ***Creating defensible space*** around structures through the removal of flammable vegetation
- Using non-combustible building envelope assemblies, ignition resistant materials, and proper retrofit techniques of new and existing structures
- ***Reducing hazardous fuels*** by vegetation management, vegetation thinning, or reduction of flammable materials to protect life and property beyond defensible space parameters, but proximate to at-risk structures.

# GRANT PROGRAMS

## Hazard Mitigation Grant Program

- **Wildfire Mitigation Projects**
  - **Defensible Space Activities**
    - Minimize volume of combustibles
      - Dry leaves
      - Pine needles
      - Dead or dying foliage
      - Trees
      - Propane tanks



# GRANT PROGRAMS

## Hazard Mitigation Grant Program

- **Wildfire Mitigation Projects**
  - **Defensible space activities documentation**
    - **The description of requested defensible space activities must be provided for each property**
    - **The radius of defensible space may vary from one jurisdiction to another**
      - **Local codes**
      - **International Code Council's International Wildland-Urban Interface Code can be used as the default code**

# GRANT PROGRAMS

## Hazard Mitigation Grant Program

- **Defensible Space**
  - At least 100 feet from each building or structure
  - “In zone” is 30 from structure
    - Keep plants low
    - Ensure a water supply is readily available



# GRANT PROGRAMS

## Hazard Mitigation Grant Program

- **Wildfire Mitigation Projects**
  - Hazardous fuels reduction activities
    - Community-level vegetation management
    - Vegetation removal
    - Vegetation clearing and/or thinning
    - Slash removal
    - Vertical clearance of tree branch



# GRANT PROGRAMS

## Hazard Mitigation Grant Program

- **Wildfire Mitigation Projects**

- **General information for application**

- A description of the wildfire mitigation activities and the method to accomplish the activities
- Map(s) showing the project area and relationship of structures to wildland/urban interface or forested, range, or grassland area
- Property-level rating of wildfire risk for each home or community, along with the scale used to measure the rating levels, if applicable.

- **Demonstrate that duplication of programs will not occur**



# GRANT PROGRAMS

## Hazard Mitigation Grant Program

- **Hazard Mitigation Projects in Texas**
  - **Vegetation/dead tree removal to reduce fuels**
    - **Cost-effective**
    - **Eligible activity**
    - **Environmentally sound**



# GRANT PROGRAMS

## Hazard Mitigation Grant Program

- **Hazard Mitigation Grant Process**
  - Applicant submits grant application to the state.
  - State makes a determination that the project will either likely, not likely or ineligible for funding
  - Applicant determines whether or not to proceed with application.
  - FEMA conducts an investigative technical analysis, cost-benefit analysis and environmental analysis to determine if the project will be funded.
  - Many applications will not be funded on the basis of ineligibility.
  - It is important to consider the State's recommendation during the application process.

# GRANT PROGRAMS

## Hazard Mitigation Grant Program

- **Ineligible Activities**

- Vegetative site stabilization, natural dune restoration, agricultural cultivation, and grazing
- Public picnic shelters, pavilions, and gazebos
- Public restroom
- Small-scale recreational courts, ball fields, golf courses, etc.
- Campgrounds
- Installation of signs when designed not to trap debris
- Sewer, water, and power to serve the allowable uses

# GRANT PROGRAMS

## Hazard Mitigation Grant Program

- **Ineligible Activities**

- Unimproved, unpaved parking areas
- Unpaved access roads, driveways, and camping pads limited to those necessary to serve the acceptable uses on acquired property.
- Small boat ramps, docks, and piers to serve a public recreational
- Drainage facilities intended to service onsite needs
- Construction activities, excavation, and other minor water control structures to create areas for water detention/retention
- Simple structures used exclusively for agricultural purposes

# BREAK



# CASE STUDY – BASTROP, TEXAS WILDFIRE



# CASE STUDY

## Bastrop, Texas Wildfire

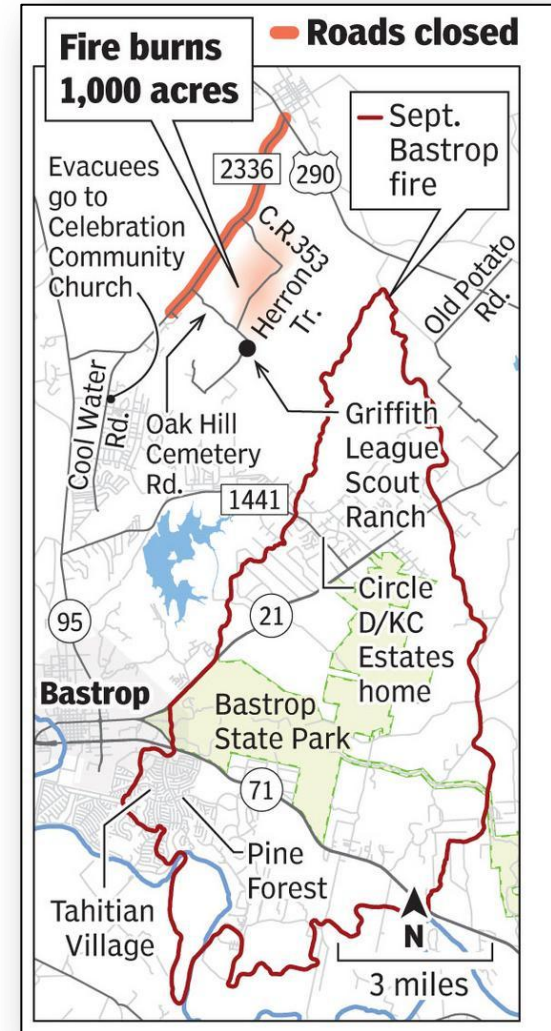
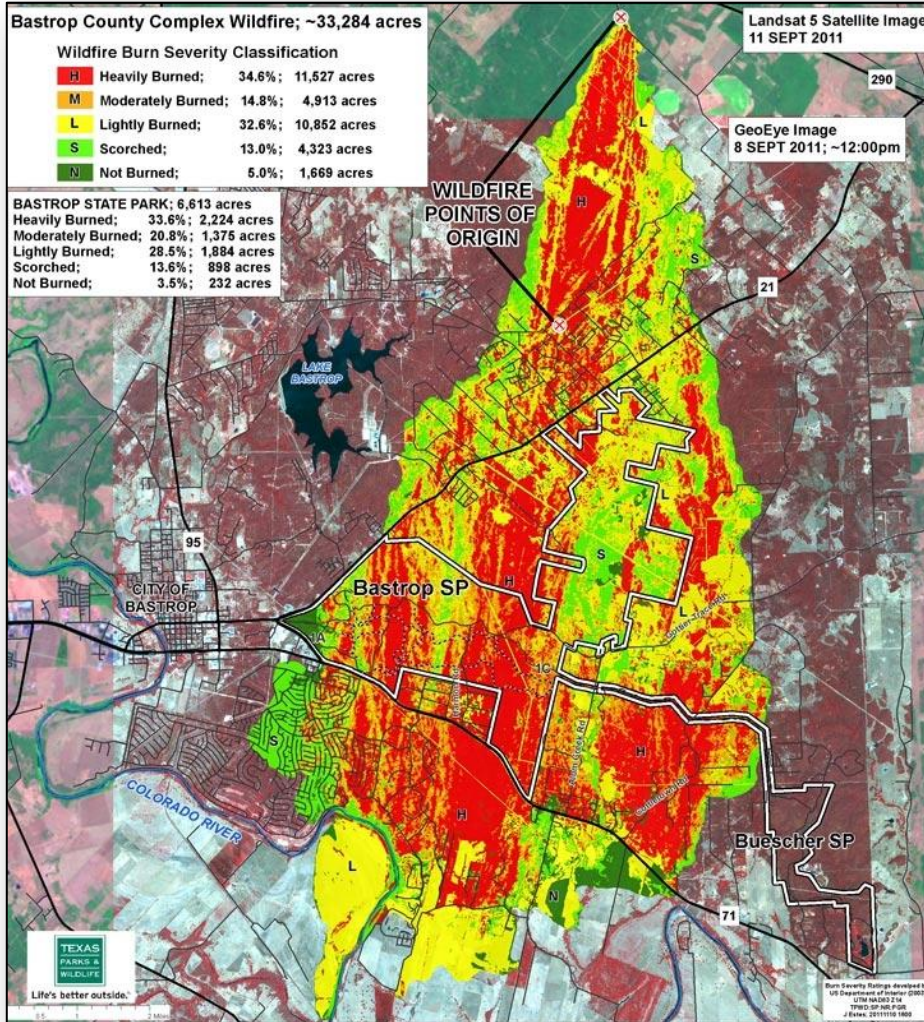
- **Bastrop Conditions**

- Fire started Sept. 4, 2011
- Tropical Storm Lee caused 30 mph winds
- Most destructive single wildfire in Texas history
- 34,000 acres burned
- 1,667 Homes destroyed (1,213 survived in the burn area)
- 38 non-residential structures destroyed
- 5,000 (+/-) people displaced from destroyed homes
- 2-fatalities
- 1.5 million trees killed



# CASE STUDY

## Bastrop, Texas 2011 Wildfire





# CASE STUDY

## Bastrop, Texas 2011 Wildfire



# CASE STUDY

## Bastrop, Texas 2011 Wildfire



# CASE STUDY

## Bastrop, Texas Wildfire

- **FEMA Pricing Sheet for Fire Debris**

- Hazardous limbs
- Hazardous stumps
- Abandoned vehicles
- Animal carcasses
- White goods
- Freon Removal
- PPDR Vegetative
- PPDR C&D
- Back fill
- Ash
- PPDR concrete slabs
- PPDR hazardous containers
- PPDR HHW
- Vehicle/vessel aggregation
- Haulout
- Mud, silt, sand

| SCHEDULE 1 - UNIT RATE PRICE SCHEDULE  |                     |
|--|---------------------|
| <b>1. ROW Vegetative Debris Removal (Collect &amp; Haul)</b><br><small>Work consists of collection and transportation of eligible vegetative debris on the ROW to an approved TDSRG or other designated disposal facility.</small>   | <b>Estimated CY</b> |
|  | 337,500             |
| <b>2. ROW C&amp;D Debris Removal (Collect &amp; Haul)</b><br><small>Work consists of collection and transportation of eligible C&amp;D debris (to include metals) on the ROW to an approved TDSRG or other designated disposal facility.</small>                           | <b>Estimated CY</b> |
|  | 30,000              |
| <b>3. Demolition, Removal and Transport of Eligible Structures</b><br><small>Work consists of all labor, equipment, fuel, and associated costs necessary to demolish structures on private property.</small>   | <b>Estimated CY</b> |
|  | 20,000              |
| <b>4. TDSR Management and Operations</b><br><small>Work consists of the management and operation of TDSRG for acceptance, management, segregation, and staging of disaster related debris.</small>   | <b>Estimated CY</b> |
|  | 367,500             |
| <b>5. Reduction of Eligible Debris Through Grinding</b><br><small>Work consists of all labor, equipment, fuel, and miscellaneous costs necessary to reduce disaster generated debris through grinding.</small>   | <b>Estimated CY</b> |
|  | 168,750             |
| <b>6. Reduction of Eligible Generated Debris Through Air Curtain Incineration</b><br><small>Work consists of all labor, equipment, fuel, and miscellaneous costs necessary to reduce disaster generated debris through air curtain incineration.</small>                   | <b>Estimated CY</b> |
|  | 168,750             |
| <b>7. Reduction of Eligible Generated Debris Through Controlled Open Burning</b><br><small>Work consists of all labor, equipment, fuel, and miscellaneous costs necessary to reduce disaster generated debris through controlled open burning.</small>                     | <b>Estimated CY</b> |
|  | -                   |
| <b>8. Haul-out of Reduced Debris to Final Disposal Site</b><br><small>Work consists of loading and transporting reduced debris at an approved TDSRG to a final disposal facility. Tipping fees will be billed in addition to load and haul rate as a pass through.</small> | <b>Estimated CY</b> |
|  | 47,250              |

Notes:

# CASE STUDY

## Bastrop, Texas Wildfire



- **Debris Streams**

- **White goods**
- **Vehicles**
- **Ash**
- **Concrete slabs**
- **Less construction and demolition (C&D) debris**

# CASE STUDY

## Bastrop, Texas Wildfire

- **Private Property Debris Removal (PPDR)**
  - 16,000 trees on the right-of-way
  - 30,000 trees removed from private property
  - 400 trees removed from one property
  - Must subrogate insurance claims



## CASE STUDY

### Bastrop, Texas Wildfire

- **Removal of hazardous dead trees that could potentially fall onto the right of way or damage infrastructure**



# CASE STUDY

## Bastrop, Texas Wildfire

- **TREES CUT (Estimate for totals)**

**15,000 ROW**

**35,000 PPDR**

**50,000 SUBTOTAL**

**50,000 Bluebonnet Electric**

**100,000 TOTAL**

**100,000/1,500,000 = 7% of total dead trees**



# CASE STUDY

## Bastrop, Texas Wildfire

### DEBRIS STREAMS

**1,000,000 CY vegetative**

**50,000 CY C&D**

### COSTS

**\$8,000,000 ROW**

**\$8,000,000 PPDR**

**\$16,000,000 TOTAL @25% local share,**

**Bastrop County share is \$4,000,000**





# CASE STUDY

## Bastrop, Texas Wildfire

- **State Park**

- Logging company removed burned vegetation
- Payment for services was the timber
- Short timeframe for useful lumber after being burned
- Unique characteristics of the park allowed this project to be cost-effective and successful



# CASE STUDY

## Bastrop, Texas Wildfire

- **Environmental Concerns:**
  - Houston Toad**
    - Endangered species
    - Project area one of the few remaining habitats
    - Debris piles may be providing artificial habitat
    - Extensive environmental monitors heavily involved in debris operations



# DEBRIS OPERATIONS FOR WILDFIRES



# DEBRIS OPERATIONS

## Wildfires

- **Damage Assessment**
  - Homes impacted
  - Demographics/  
socioeconomic area
  - Burn area
  - Integrate GIS
  - Estimated insurance
  - Windshield assessments
  - Safety measures – fires smolder for a long time



# DEBRIS OPERATIONS

## Wildfires

- **Insurance subrogation**
  - Many homeowners have insurance for improvement and outbuildings
  - Policies may not cover debris removal for trees
    - \$500 - \$3,000 for debris/tree removal
  - Estimated insurance will impact speed of PA declaration
    - Impacts to PPDR program
  - Must have mechanism for City/County to “bill back”
  - FEMA will want to review insurance policies

***It's the law!!!***

# DEBRIS OPERATIONS

## Wildfires

- **Initial debris operations**
  - Define debris operations area
  - Develop a health and safety plan
  - Coordinate with volunteer resources
  - Understand where the right of way is
  - Coordinate with FEMA early on special programs like PPDR
  - Coordinating with TCEQ on disposal guidance

# DEBRIS OPERATIONS

## Wildfires

- **Debris operations**
  - **Distance from the right of way**
  - **Working in wooded areas**



# DEBRIS OPERATIONS

## Wildfires

- **Debris management sites**
  - **Drought conditions**
  - **Community sensitivities**
  - **Water supply**
  - **Coordinating with fire marshal on fire suppression**
  - **On-site water source**
  - **Adequate firefighting capacity at the site**





# DEBRIS OPERATIONS

## Wildfires

- **Resource Requirements**
  - **Personnel training and certification**
    - Daily safety briefings
    - Documentation training
    - Environmental/historical awareness
    - Endangered species training
    - Hazardous materials
    - Certified arborist



# DEBRIS OPERATIONS

## Wildfires

- **Resource Requirements**
  - **Specialized equipment**
    - Logging equipment
    - Circular saw
    - Feller Buncher



# DEBRIS OPERATIONS

## Wildfires

- **Resource Requirements**
  - **Personal protective equipment and field supplies**
    - **Masks**
    - **Goggles**
    - **Snake guards**
    - **Machetes**
    - **Insect repellent**



# DEBRIS OPERATIONS

## Wildfires

- **Organizing volunteers**
  - Volunteers assist residents move debris to the right of way.
  - Different groups organized collectively as one unit in the process
  - Staggered schedule with debris removal behind volunteer groups



# DEBRIS OPERATIONS

## Wildfires

- **Documentation**
  - Load tickets
  - Unit rate tickets
  - PPDR program survey
  - GPS/address
  - Photos



# DEBRIS OPERATIONS

## Wildfires

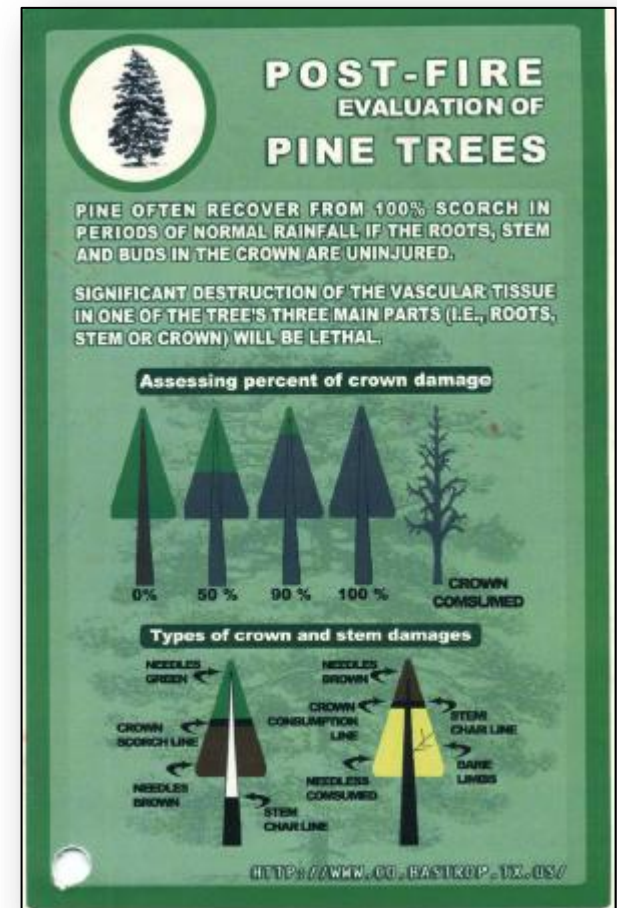
- **Debris stream analysis**
  - **Vegetative**
  - **C&D**
  - **Concrete**
  - **Ash**
  - **Vehicles**
  - **White goods**
  - **HHW**



# DEBRIS OPERATIONS

## Wildfires

- Determining tree survivability
  - Post fire evaluation of pines
    - Bark char is greater than 50%
    - No green needles present in crown
    - Presence of wood boring beetles
    - “Weeping” or “bleeding” resin
    - Exposure of charring in roots



# DEBRIS OPERATIONS

## Wildfires

- Disposal methods
  - C&D
  - Clean wood
  - Household hazardous waste (HHW)
  - Non-household hazardous waste
  - Animal carcasses

<http://www.tceq.texas.gov/assets/public/response/drought/managing-wildfire-debris.pdf>

**Table 1. Options for Management of Segregated Debris**

To find an appropriate landfill near you, go online to <[tceq.texas.gov/goto/landfills](http://tceq.texas.gov/goto/landfills)>

| Waste Type                       | Examples of Waste Type   | Disposal Option  |
|----------------------------------|--|--|
| Vegetation                       | Trees, Brush   | Preferred: Recycle<br>Option: Type IV MSW Landfill<br>Option: Type I MSW Landfill                          |
| Clean Lumber                     | Lumber, siding, plywood and similar wood materials that have not been painted, stained or chemically treated | Preferred: Recycle<br>Option: Type IV MSW Landfill<br>Option: Type I MSW Landfill                          |
| Animal Carcasses                 | Non-diseased Poultry, cattle, domestic animals   | Preferred: On-site Burial/mounding<br>Preferred: MSW Type I Landfill                                       |
|                                  | Diseased poultry, cattle   | Outdoor burning. Coordinate with local authorities and firefighters  |
| Household or Commercial Waste    | Putrescible waste  | MSW Type I Landfill  |
|                                  | Garbage, refuse, rubbish   | MSW Type I Landfill  |
| White Goods                      | Refrigerators  | Preferred: Recycle<br>Option: MSW Type I Landfill  |
|                                  | Stoves   | Preferred: Recycle<br>Option: MSW Type I Landfill  |
|                                  | Washer/Dryers  | Preferred: Recycle<br>Option: MSW Type I Landfill  |
| Construction or Demolition Waste | Asbestos containing debris - shingles, siding, insulation, tiles   | MSW Type I Landfill w/ Special Waste Authorization   |
|                                  | Painted/stained/treated wood   | Preferred: MSW Type IV Landfill<br>Option: MSW Type I Landfill   |
|                                  | Roof shingles  | Preferred: Fuel source for cement kilns with appropriate air authorization<br>Option: MSW Type IV Landfill |
|                                  | Sheet rock   | Preferred: MSW Type I Landfill<br>Option: MSW Type I Landfill  |
| Batteries                        |  | Preferred: Recycle (Lead-acid batteries are not allowed in MSW landfills)<br>Option: HHW Collection Event  |
| Household Hazardous Waste        | Cleaning products  | Option: HHW Collection Event<br>Option: MSW Type I Landfill<br>Option: Permitted HH facility               |
|                                  | Paints, Solvents   | Option: HHW Collection Event<br>Option: MSW Type I Landfill<br>Option: Permitted HW facility               |
|                                  | Pesticides   | Pesticide Collection Event   |



# ENDANGERED SPECIES AND ENVIRONMENTAL CONSIDERATIONS



# ENDANGERED SPECIES AND ENVIRONMENTAL CONSIDERATIONS

## Federal Environmental and Historic Preservation

- **Federal environmental and historic preservation (EHP)**
  - **National Environmental Policy Act (NEPA) review of FEMA Funded Projects**
  - **Debris is often categorically excluded from the NEPA review process**
  - **Debris operations as a result of a wildfire often encroach on natural habitat requiring a review beyond the categorical exclusion**

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# ENDANGERED SPECIES AND ENVIRONMENTAL CONSIDERATIONS

## Endangered Species

- **Section 7 of the Endangered Species Act:**
  - **FEMA must prevent or modify any projects that are likely to jeopardize the continued existence of an endangered or threatened species or modify their habitat**
  - **FEMA must review projects that may affect an endangered species with the US Fish and Wildlife Service (FWS).**

# ENDANGERED SPECIES AND ENVIRONMENTAL CONSIDERATIONS

## Responsibilities of the Applicant

- **Section 7 Consultation.**
  - **Step 1: Determine if a listed species or their habitat is in the project area.**
  - **Step 2: Determine if the project may affect the species or their habitat.**
  - **Step 3: Determine if the project may adversely affect the species or their habitat.**

<http://www.fws.gov/midwest/endangered/section7/s7process/7a2process.html>

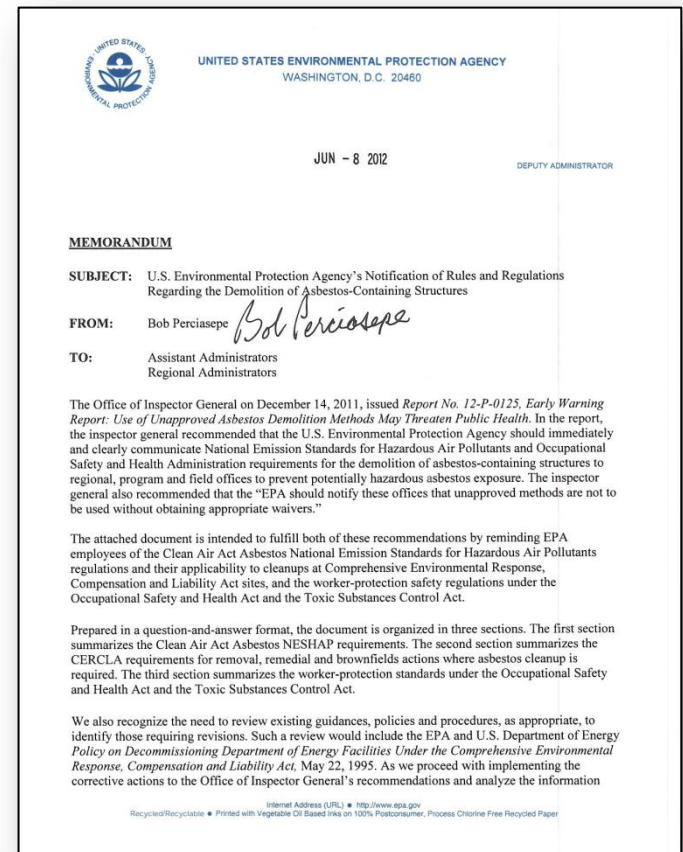
# HEALTH AND SAFETY INFORMATION



# HEALTH AND SAFETY INFORMATION

## Health and Safety Concerns

- EPA memo regarding demolition of asbestos containing material, June 2012
  - NESHAP
  - CERCLA
  - OSHA



<http://www.epa.gov/asbestos/pubs/structures.pdf>

# HEALTH AND SAFETY INFORMATION

## Potential for Asbestos Exposure

- **Debris from homes and buildings may contain Asbestos.**
  - Avoid breathing dust at the site.
  - Use a tight-fitting particulate mask
  - Wear protective glasses or goggles
  - Wear gloves, a long-sleeved shirt and long pants or coveralls to protect your skin.
  - Keep debris and ash dampened.
  - Place wetted debris in closed containers.
  - Wrap wetted debris in polysheeting cover.

# HEALTH AND SAFETY INFORMATION

## Implement a Safety Plan

- **Identify a health and safety officer**
  - OSHA Hazardous materials training and certification
  - Asbestos training and certification
- **Provide daily situational update to all field personnel regarding known and potential hazards**
- **Identify protective equipment required for each job function and debris program**
- **Issue personnel personal protective equipment**
- **Document health and safety procures**



# NEXT STEPS

- **Presentation will be posted on the H-GAC website.**
- **Reorganization of the debris management resources on H-GAC website**



# QUESTIONS?



# ADJOURN

## Thank you!

**John Buri**

Director of Post-Event Programs, SAIC

(713) 737-5763

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|                                  | Pesticides   | Pesticide Collection Event   |

| Waste Type                | Examples of Waste Type                  | Disposal Option  |
|---------------------------|---|--|
|                           | Automotive products                     | Option: HHW Collection Event<br>Option: MSW Type I Landfill<br>Option: Permitted HW facility             |
|                           | Electronics: VCRs, Computers, TVs, etc. | Option: Recycle<br>HHW Collection Event<br>Option: MSW Type I Landfill<br>Permitted HW facility          |
| Compressed Gas Containers |   | Recycle  |
| Tires                     |   | Pick-up by authorized Scrap Tire Transporter or delivery to authorized processing or end-use facilities. |



## After the Wildfires in Declared Disaster Areas in Texas: Disposing of Ash from Residential Structures

In cleaning up after a wildfire, after you've separated out all other debris according to the guides distributed by us ([the TCEQ](#)) and [Bastrop County](#), you must deal with the ashes. As you do, we encourage you to take these precautions to protect your family's health:

- Keep children out of the ash.
- Wear protective gear:
  - a respirator or mask with a rating of N-95
  - safety goggles or glasses
  - a long-sleeved shirt
  - work gloves
  - long pants
  - safety shoes or work boots
- Wash your hands after working, and especially before you eat.
- Before you follow the guidance we give here, contact your local authorities to be sure you comply with all local ordinances.

### • What are my options?

Basically, two options are available:

#### **Option 1: Bury the ash on your property**

But be sure to:

- Check local ordinances.
- Call 1-800-344-8377 (DIG-TESS) or 1-800-545-6005 (Texas One Call) to confirm locations of gas pipelines and other utilities.
- Find a site that is away from planned or likely future structures.
- Bury the ash in a pit or trench.
- Bury only the ash from your own property.
- Bury only ash from residential buildings.

If you have more ash than you can bury, take the rest to a landfill. If you are concerned about the volume of ash on your property, call the TCEQ Debris Hotline, 800-687-7057.

#### **Option 2: Take the ash to a landfill**

These four landfills near Bastrop can accept ash:

- **Texas Disposal Systems Landfill**  
512-421-1300  
3016 FM 1327, Buda 78610 ([map](#))
- **Austin Community Landfill**  
512-272-4329  
9900 Giles Road, Austin 78754 ([map](#))

- **BFI Sunset Farms Landfill**  
512-272-4327  
9912 Giles Road, Austin 78754 ([map](#))
- **IESI Travis County Landfill**  
512-243-6300  
9600 FM 812, Austin 78719 ([map](#))

Elsewhere in Texas, find the municipal solid waste (MSW) Type I or Type IV landfill nearest you. Find a list of all MSW landfills in Texas online at [<tceq.texas.gov/goto/landfills>](#).

If you take the ash to a landfill:

- Be sure the ash is well contained, so it will not spill during the trip.
- Be sure the ash is well covered—for example, with a tarp.
- If any ash spills during the trip, you must clean up the spill.
- Keep the receipt from the landfill for your records.

### **What if the ash is from my business?**

Unless your business generated Class 1 industrial waste, take the ash to a landfill.

If your business did generate Class 1 industrial waste, call the landfill to find out if you first need authorization from us before the landfill may accept the ash.

If you need our authorization, call the TCEQ Technical Assistance Group at 512-239-2334.

### **Need help or advice? Call us!**

Call the TCEQ Debris Hotline, 800-687-7057, if you have any questions about ash disposal that are not answered in this guide.

Our regional office that serves your county can give you information specific to these wildfires. In Bastrop County, call [TCEQ Region 11](#), 512-339-2929. Elsewhere in Texas, find out how to contact the TCEQ regional office that serves your county online at [<tceq.texas.gov/goto/region>](#).

### **Find more information online**

You can find this and other helpful documents on our website at [<tceq.texas.gov/goto/wildfires>](#).

For more information from Bastrop County officials, go to [<co.bastrop.tx.us/bcdisaster>](#).

**US Fish and Wildlife Service**

**Endangered Species Section 7 Process Flow Chart**

For more information, go online to:

<http://www.fws.gov/midwest/endangered/section7/s7process/s7stepxstep.html>

