

**Pecos River Ecosystem Project
Tamarisk Debris Removal**

PRESCRIBED BURN PLAN

Fire Planner(s):

Name: Roy Lindsay

Title: Landowner

Signature

Date

Name: Bob Kelton

Title: Landowner

Signature

Date

Name: Harlan Hopper

Title: Landowner

Signature

Date

Name: Tom Nance

Title: Project Coordinator for Ward #1

Signature

Date

Fire Leader:

Name: Roy Lindsay

Title: Landowner

Signature

Date

Name: Bob Kelton

Title: Landowner

Signature

Date

Name: Harlan Hopper

Title: Landowner

Signature

Date

Fire Manager:

Name: Tom Nance

Title: Project Coordinator for Ward #1

Signature

Date

LOCATION:

Pecos River Corridor between Red Bluff Dam and Barstow Dam
County/State: Reeves, Ward, Loving Counties, Texas
Ownership: Multiple tracts

SOURCES OF EMERGENCY ASSISTANCE (location & phone #):

Fire: Texas Forest Service (Bill Davis – cell 979 218-2300)

Law Enforcement: Reeves County Sheriff Office

Medical: Pecos County Memorial Hospital

Also see Medical Plan, attached

Nearest Phone to Unit: Cellular phone on site

Number _____ - _____ - _____

PERMITS AND OFFICIAL NOTIFICATIONS:

Burn Permit/Notification Required? Yes / **No**

Source(s):

Air Quality Permit/Notification Required? Yes / **No** (Notification and coordination)

Source(s): TNRCC Region 7 Midland

(432) 570-1359; fax (432) 570-4795

permission to allow the fire to burn after dark

Other Notifications Required? **Yes** / No

Source(s): Reeves County Sheriff Office (432) 445 4901

Ward County Sheriff Office (432)

Loving County Sheriff Office (432)

Texas Forest Service (Fort Stockton) 432 336 7290

Dig Test

VEGETATION DESCRIPTION:

Vegetation Types	Fuel Models	% of Unit Area	% Slope	Aspect
Standing dead Tamarisk	13	Less than 1%	0	N/A

This fuel type is most similar to Fuel Model 13 with a high vertical component. Percent of the unit area of this fuel is based on an average of 150 feet (total for both sides of the river) within a two mile band along the river corridor. This two mile band is the total fire unit in most cases. There is virtually no fine fuel outside of the 150 foot salt cedar corridor.

Fire Unit Narrative Description (include description of surrounding fuels):

Site Description: The fire unit will be from Red Bluff Dam at FM Hwy 652 downstream to the Mentone Highway. The unit is defined to the east and west by their respective section lines. The sections extend two miles to the east and to the

west of the river, thereby creating a four mile wide burn unit. The total burn unit size is 43,520 acres and the expected burnable portion of the unit is 309 acres (the length of the river times the average width of the salt cedar debris = 17 miles x 150 feet).

Surrounding fuels: Surrounding fuels are comprised of mesquite are little to no herbaceous vegetation. There is insufficient amounts of fine fuel to carry fire more than 300 feet beyond the edge of the river, except where drainages enter into the river, creating a 'grassy draw'. These areas will have a fire break cut to break up the fuel continuity. Additionally, these areas will be monitored during fire activity.

Maps Attached:

Location map:	Yes / No
Burn unit map:	Yes / No
Fuels map:	Yes / No
Burn unit map with ignition pattern, hazards, etc:	Yes / No
Aerial photograph:	Yes / No
Smoke Screening Map (30 degree Vector)	Yes / No
Other:	

PRESCRIBED BURN JUSTIFICATION:

Type of Burn (ecological management, hazard reduction, training, or research):

This burn is considered Ecological management and hazard reduction. These burns are the second step in the Pecos River Ecosystem Project. These burns will reduce the hazard of an excessive amount of dead woody material floating down the Pecos River during a flood event. This large amount of debris would be a hazard to bridges, flood control and irrigation structures.

Burn Unit Management Goal(s):

- Remove Dead tamarisk debris as part of the Pecos River Ecosystem Project

Specific Burn Objectives:

- Ensure safety to firefighters and public.
- Reduce dead tamarisk woody biomass by 80%.

FUEL AND WEATHER PRESCRIPTION (give acceptable ranges)

Required Parameters:	MAX	MIN	PREFERRED (if applicable)
Wind Direction(s) (mph)	Any	6	S/SE

Effective Windspeed (mph)	23	6	6-10
1-Hour Fuel Moisture (%)	N/A	N/A	N/A
10-Hour Fuel Moisture (%)	10	2	5
100-Hour Fuel Moisture (%)	10	2	7
Live Fuel Moisture (%)	N/A	N/A	N/A
Atmospheric Mixing Height (ft)	N/A	1640	2500
Other			
Transport Winds (mph)	N/A	9	12-14

Guidance Parameters:	MAX	MIN	PREFERRED (if applicable)
Air Temperature (°F)	100	40	65-85
Relative Humidity (%)	50	8	25-35
Days Since Rain	60	5	40
20 ft wind speed (mph)	23	6	4-12

List any combinations of parameters that you will exclude from your burn window (e.g. high windspeeds with low 1-hour fuel moisture).

Max windspeed + Min RH

Other Comments: Some of the burn units will require specific wind directions due to proximity to roads, houses or other sensitive receptors.

FIRE BEHAVIOR NARRATIVE (Describe *desired* fire behavior, how will you manipulate fire behavior to meet management and control objectives?): The target fuel (dead tamarisk) will readily burn in any weather parameter within the prescriptions. Fire intensity is only a concern near and around structures that will need to be protected. Around these areas, mechanical removal of fuel will be used as needed to reduce non-target impacts. In most areas, control is not a concern due to the lack of surrounding fuels. In areas where surrounding fuels are present and contiguous so as to cause control concerns, these areas will have mineral soil lines as needed for fireline control. These issues are discussed in more detail in the Fire Unit Specific Information.

CREW ORGANIZATION

Qualified fire leader(s): Roy Lindsay & Bob Kelton & Harlan Hopper

Note - Roy, Bob and Harlan will be the responsible fire leader on their respective properties only.

Crew Number 6 to 25

Organization chart attached? Yes / No

Fitness & experience requirements:

EQUIPMENT

Required items:	<u>Available</u>
Pumper on site	Yes / No
Three radios	Yes / No
Protective clothing	Yes / No
First aid kit	Yes / No
Weather kit	Yes / No
Fire shelters	Yes / No

Equipment Item	Number	Source

Lindsay UNIT SPECIFIC INFORMATION

NEIGHBOR NOTIFICATIONS: please fill in neighbor information

Name	Address	Phone

Fire Unit Narrative Description (include description of surrounding fuels):

Site Description:

Surrounding fuels:

Maps Attached:

Burn unit map: **Yes / No**

Burn unit map with ignition pattern, hazards, etc: **Yes / No**

Other:

SMOKE MANAGEMENT PLAN

Smoke screening procedures completed? Yes / No

List downwind/down drainage smoke sensitive areas (give distance):

List other smoke sensitive areas:

Map of smoke sensitive areas attached? Yes / No

Describe desirable smoke behavior and smoke management actions:

Assuming a wind with a southerly component, which is typical for this time of year, the primary smoke management concern will be highway crossings. The most critical times will be during early ignition and post-fire residual smoke due to the lack of heat produced to achieve sufficient rise up and away from the sensitive receptor(s). During the ignition of the main fire there will be sufficient heat produced to achieve good smoke rise within the smoke column thus lifting the smoke up and away from most sensitive receptors. The Fire Leader will coordinate with the county sheriff or Texas Department of Transportation to place two 'SMOKE ON ROAD' signs if smoke could become a roadway hazard. Additionally the fire leader will coordinate with Texas Department of Public Safety to monitor any affected highways and reduce the speed limit if smoke becomes a hazard to highway traffic. The Minimum Acceptable Visibility (MAV) for a two-lane highway with a 65 mph speed limit is 1,070 feet during daylight hours and 2,140 feet at night. If the MAV is breached the fire leader in conjunction with Texas Department of Public Safety will utilize a pilot car (with flashing lights) to escort traffic through the smoke until the MAV is re-attained.

BURN DURATION

Time (indicate minutes or hours) for:

Baseline Preparation: __hours (planning and site preparation)

Spreading Fire: __hours

Mop-up: __hours

Total Duration: __hours

MANAGING THE BURN (Describe each of the following):

Firebreak preparations:

Two techniques will be used to create firebreaks: 1) use of natural fuel breaks 2) use of mineral soil lines (a barrier to surface fire movement).

Firing techniques and ignition pattern:

Firing will always begin at the downwind most point and work into the wind, thus providing the greatest safety factor for the ignition crew. Initially, the down wind most corner will be ignited to serve as a test fire to assess fuels and burning conditions, such as fuel consumption and smoke dispersal. Following satisfactory test fire conditions, ignition of the main fire will commence at the direction of the fire leader. All ignition will be accomplished with hand firing techniques, primarily drip torches and small bags of Aluma-gel.

Crew communication:

There is virtually no cell phone reception along the river. Radios will be borrowed from local VFD and/or law enforcement. The fire leader will be responsible for ensuring the fire crew can communicate effectively.

Fire behavior and weather monitoring:

The fire leader will record weather conditions (Temp, RH, wind speed and direction) at least once per hour while the fire is active and record fire behavior observations such as flame height, fuel consumption, ease of fuel ignition, etc.

Holding:

At a minimum there will be two people, with communication with the fire leader, on the downwind edge of the unit. Due to the winding nature of the river, an escaped fire will eventually burn back on itself assisting in ease of control. Other holding resources will be available in staging to be used as needed to patrol potential problem areas.

Fire sensitive areas:

Around oil/gas pipeline crossings and power line crossings.

Contingencies (include safety zones, escape routes, secondary control lines, escape response procedures):

Safety zones will include areas void of vegetation, the river itself and previously burned areas that are cool enough to enter. Escape routes will be identified by the fire leader prior to ignition.

Secondary control lines will be areas void of vegetation. There will be a motor grader or similar equipment on stand by if needed to cut emergency fire breaks.

Potential hazards to crew:

Hazards include deep mud/muck that can slow progress/escape, snakes, scorpions and other wildlife. Also changes in weather can cause erratic fire behavior and heat stress/exhaustion. Crews will be reminded often to drink plenty of water.

Other possible hazards: oil/gas lines across river, traffic, ATVs, etc.

Mop-up:

Mop-up will be needed when residual smoke could potentially affect public safety, such as at road crossings. If no negative affects or control concerns are present, then mop-up will be minimal.

Public relations:

The Fire Leader will be responsible for ensuring adjacent landowners are aware of the fire activity as well as the county sheriff(s). Additionally, should there be questions from the public, the fire leader will be responsible for addressing these. If needed the fire leader can appoint a competent fire information officer.

Follow-up assignments:

The respective Irrigation District staff and/or landowner will monitor the burn unit and document fire effects and response of vegetation following the fire. Photo points before, during and after the fire are highly encouraged.

Kelton UNIT SPECIFIC INFORMATION

NEIGHBOR NOTIFICATIONS: please fill in neighbor information

Name	Address	Phone

Fire Unit Narrative Description (include description of surrounding fuels):

Site Description:

Surrounding fuels:

Maps Attached:

Burn unit map: **Yes / No**

Burn unit map with ignition pattern, hazards, etc: **Yes / No**

Other:

SMOKE MANAGEMENT PLAN

Smoke screening procedures completed? Yes / No

List downwind/down drainage smoke sensitive areas (give distance):

List other smoke sensitive areas:

Map of smoke sensitive areas attached? Yes / No

Describe desirable smoke behavior and smoke management actions:

Assuming a wind with a southerly component, which is typical for this time of year, the primary smoke management concern will be highway crossings. The most critical times will be during early ignition and post-fire residual smoke due to the lack of heat produced to achieve sufficient rise up and away from the sensitive receptor(s). During the ignition of the main fire there will be sufficient heat produced to achieve good smoke rise within the smoke column thus lifting the smoke up and away from most sensitive receptors. The Fire Leader will coordinate with the county sheriff or Texas Department of Transportation to place two 'SMOKE ON ROAD' signs if smoke could become a roadway hazard. Additionally the fire leader will coordinate with Texas Department of Public Safety to monitor any affected highways and reduce the speed limit if smoke becomes a hazard to highway traffic. The Minimum Acceptable Visibility (MAV) for a two-lane highway with a 65 mph speed limit is 1,070 feet during daylight hours and 2,140 feet at night. If the MAV is breached the fire leader in conjunction with Texas Department of Public Safety will utilize a pilot car (with flashing lights) to escort traffic through the smoke until the MAV is re-attained.

BURN DURATION

Time (indicate minutes or hours) for:

Baseline Preparation: __hours (planning and site preparation)

Spreading Fire: __hours

Mop-up: __hours

Total Duration: __hours

MANAGING THE BURN (Describe each of the following):

Firebreak preparations:

Two techniques will be used to create firebreaks: 1) use of natural fuel breaks 2) use of mineral soil lines (a barrier to surface fire movement).

Firing techniques and ignition pattern:

Firing will always begin at the downwind most point and work into the wind, thus providing the greatest safety factor for the ignition crew. Initially, the down wind most corner will be ignited to serve as a test fire to assess fuels and burning conditions, such as fuel consumption and smoke dispersal. Following satisfactory test fire conditions, ignition of the main fire will commence at the direction of the fire leader. All ignition will be accomplished with hand firing techniques, primarily drip torches and small bags of Aluma-gel.

Crew communication:

There is virtually no cell phone reception along the river. Radios will be borrowed from local VFD and/or law enforcement. The fire leader will be responsible for ensuring the fire crew can communicate effectively.

Fire behavior and weather monitoring:

The fire leader will record weather conditions (Temp, RH, wind speed and direction) at least once per hour while the fire is active and record fire behavior observations such as flame height, fuel consumption, ease of fuel ignition, etc.

Holding:

At a minimum there will be two people, with communication with the fire leader, on the downwind edge of the unit. Due to the winding nature of the river, an escaped fire will eventually burn back on itself assisting in ease of control. Other holding resources will be available in staging to be used as needed to patrol potential problem areas.

Fire sensitive areas:

Around oil/gas pipeline crossings and power line crossings.

Contingencies (include safety zones, escape routes, secondary control lines, escape response procedures):

Safety zones will include areas void of vegetation, the river itself and previously burned areas that are cool enough to enter. Escape routes will be identified by the fire leader prior to ignition.

Secondary control lines will be areas void of vegetation. There will be a motor grader or similar equipment on stand by if needed to cut emergency fire breaks.

Potential hazards to crew:

Hazards include deep mud/muck that can slow progress/escape, snakes, scorpions and other wildlife. Also changes in weather can cause erratic fire behavior and heat stress/exhaustion. Crews will be reminded often to drink plenty of water.

Other possible hazards: oil/gas lines across river, traffic, ATVs, etc.

Mop-up:

Mop-up will be needed when residual smoke could potentially affect public safety, such as at road crossings. If no negative affects or control concerns are present, then mop-up will be minimal.

Public relations:

The Fire Leader will be responsible for ensuring adjacent landowners are aware of the fire activity as well as the county sheriff(s). Additionally, should there be questions from the public, the fire leader will be responsible for addressing these. If needed the fire leader can appoint a competent fire information officer.

Follow-up assignments:

The respective Irrigation District staff and/or landowner will monitor the burn unit and document fire effects and response of vegetation following the fire. Photo points before, during and after the fire are highly encouraged.

Hopper UNIT SPECIFIC INFORMATION

NEIGHBOR NOTIFICATIONS: please fill in neighbor information

Name	Address	Phone

Fire Unit Narrative Description (include description of surrounding fuels):

Site Description:

Surrounding fuels:

Maps Attached:

Burn unit map: **Yes / No**

Burn unit map with ignition pattern, hazards, etc: **Yes / No**

Other:

SMOKE MANAGEMENT PLAN

Smoke screening procedures completed? Yes / No

List downwind/down drainage smoke sensitive areas (give distance):

List other smoke sensitive areas:

Map of smoke sensitive areas attached? Yes / No

Describe desirable smoke behavior and smoke management actions:

Assuming a wind with a southerly component, which is typical for this time of year, the primary smoke management concern will be highway crossings. The most critical times will be during early ignition and post-fire residual smoke due to the lack of heat produced to achieve sufficient rise up and away from the sensitive receptor(s). During the ignition of the main fire there will be sufficient heat produced to achieve good smoke rise within the smoke column thus lifting the smoke up and away from most sensitive receptors. The Fire Leader will coordinate with the county sheriff or Texas Department of Transportation to place two 'SMOKE ON ROAD' signs if smoke could become a roadway hazard. Additionally the fire leader will coordinate with Texas Department of Public Safety to monitor any affected highways and reduce the speed limit if smoke becomes a hazard to highway traffic. The Minimum Acceptable Visibility (MAV) for a two-lane highway with a 65 mph speed limit is 1,070 feet during daylight hours and 2,140 feet at night. If the MAV is breached the fire leader in conjunction with Texas Department of Public Safety will utilize a pilot car (with flashing lights) to escort traffic through the smoke until the MAV is re-attained.

BURN DURATION

Time (indicate minutes or hours) for:

Baseline Preparation: __hours (planning and site preparation)

Spreading Fire: __hours

Mop-up: __hours

Total Duration: __hours

MANAGING THE BURN (Describe each of the following):

Firebreak preparations:

Two techniques will be used to create firebreaks: 1) use of natural fuel breaks 2) use of mineral soil lines (a barrier to surface fire movement).

Firing techniques and ignition pattern:

Firing will always begin at the downwind most point and work into the wind, thus providing the greatest safety factor for the ignition crew. Initially, the down wind most corner will be ignited to serve as a test fire to assess fuels and burning conditions, such as fuel consumption and smoke dispersal. Following satisfactory test fire conditions, ignition of the main fire will commence at the direction of the fire leader. All ignition will be accomplished with hand firing techniques, primarily drip torches and small bags of Aluma-gel.

Crew communication:

There is virtually no cell phone reception along the river. Radios will be borrowed from local VFD and/or law enforcement. The fire leader will be responsible for ensuring the fire crew can communicate effectively.

Fire behavior and weather monitoring:

The fire leader will record weather conditions (Temp, RH, wind speed and direction) at least once per hour while the fire is active and record fire behavior observations such as flame height, fuel consumption, ease of fuel ignition, etc.

Holding:

At a minimum there will be two people, with communication with the fire leader, on the downwind edge of the unit. Due to the winding nature of the river, an escaped fire will eventually burn back on itself assisting in ease of control. Other holding resources will be available in staging to be used as needed to patrol potential problem areas.

Fire sensitive areas:

Around oil/gas pipeline crossings and power line crossings.

Contingencies (include safety zones, escape routes, secondary control lines, escape response procedures):

Safety zones will include areas void of vegetation, the river itself and previously burned areas that are cool enough to enter. Escape routes will be identified by the fire leader prior to ignition.

Secondary control lines will be areas void of vegetation. There will be a motor grader or similar equipment on stand by if needed to cut emergency fire breaks.

Potential hazards to crew:

Hazards include deep mud/muck that can slow progress/escape, snakes, scorpions and other wildlife. Also changes in weather can cause erratic fire behavior and heat stress/exhaustion. Crews will be reminded often to drink plenty of water.

Other possible hazards: oil/gas lines across river, traffic, ATVs, etc.

Mop-up:

Mop-up will be needed when residual smoke could potentially affect public safety, such as at road crossings. If no negative affects or control concerns are present, then mop-up will be minimal.

Public relations:

The Fire Leader will be responsible for ensuring adjacent landowners are aware of the fire activity as well as the county sheriff(s). Additionally, should there be questions from the public, the fire leader will be responsible for addressing these. If needed the fire leader can appoint a competent fire information officer.

Follow-up assignments:

The respective Irrigation District staff and/or landowner will monitor the burn unit and document fire effects and response of vegetation following the fire. Photo points before, during and after the fire are highly encouraged.

PRE-BURN CHECKLIST AND CREW BRIEFING

Pecos River Ecosystem Project Fire Unit:

Date:

A. PRIOR TO CREW BRIEFING

- Fire Unit is as described in plan.
- Required firebreaks complete.
- Permits obtained. Give permit #'s:
- Official and neighbor notifications complete.
- Required equipment is on-site and functioning.
- Planned ignition and containment methods are appropriate.
- List of emergency phone numbers are in each vehicle.
- Planned contingencies and mop-up are appropriate.

B CREW BRIEFING

- Each crew member has a burn unit map.
- Fire Unit size and boundaries discussed.
- Fire Unit hazards discussed.
- Purpose of burn.
- Anticipated fire and smoke behavior.
- Review of equipment and troubleshooting.
- Check crew qualifications.
- Review organization of crew and assignments.
- Review methods of ignition, holding, mop-up, communications.
- Review contact with the public; traffic concerns.
- Location of vehicles, keys, and nearest phone.
- Location of back-up equipment, supplies, and water.
- Review all contingencies including escape routes.
- Review mop-up procedures.
- Answer questions from crew.
- Give crew members the opportunity to decline participation.

C. PRIOR TO IGNITION

- Weather and fuel conditions are within prescriptions.
- Weather forecast, obtained within two hours of ignition, says prescribed weather will hold for two hours past expected duration of burn.
- Crew members have required protective clothing.
- Crew members have matches.
- Conduct test burn.

D. BEFORE LEAVING BURN UNIT

- Mop-up completed as described in prescription.
- Next morning inspection arranged.
- Notifications of completed burn (if required).

E. NOTE ANY MODIFICATIONS TO RX

Fire Leader:

Date: