

Appendix G

Pesticide Use Proposal and Safety Plan



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The herbicides to be used for site preparation and release are triclopyr-ester, triclopyr-amine, imazapyr, hexazanone, and sulfometuron-methyl. These herbicides would be applied in several combinations depending upon conditions at the time of site preparation.

A mix of 25% triclopyr-amine and 6 oz. per gallon imazapyr would be universally used for injection and may be used for cut stump treatment (See rates below).

Foliar spray would be applied in a mix of 4% triclopyr-ester and 1/2% imazapyr mixed in water. Foliar spray would be applied to shrubs and sprouts at the time of site preparation, and to shrubs, vines, and low leafy vegetation to release desirable regeneration. Where taller, more woody competition develops, triclopyr-ester mixed 5 gallons to 25 gallons of mineral oil/surfactant would be used in a streamline treatment.

Where restoration of longleaf is the objective, hexazanone will be used in soil spot treatment. The rate would be two gallons or 4 pounds per acre.

The risks associated with all the above herbicides have been evaluated in the FEIS for Vegetative Management in the Coastal Plain/Piedmont. By applying the rates using application methods and safety considerations specified in the Record of Decision (ROD) for this document, no significant risk to the human environment, wildlife, or non-target vegetation was found. During injection, cut stump, and directed spray treatments, almost all herbicide is absorbed by the target vegetation.

Triclopyr is not ground active. Imazapyr is ground active but cut surface treatments enter the stems directly and the 1/2% used in hand directed foliar spray have not shown effects on non-target vegetation. Hexazanone is ground active and would be used as a ground spot treatment on sites where longleaf pine is being restored. The vegetative management EIS prescribes that herbicides would not be ground applied within 30 feet of streams and riparian areas. Additionally, a 30 foot buffer is required for non-target vegetation. Typically, District coordination provides a 3 chain streamside management zone on either side of perennial streams and a 2 chain streamside management zone for intermittent streams as described in Chapter 1 under Streamside Management Zones. This substantially exceeds the coordination requirement established in the Vegetative Management EIS, which found that applications of up to 6 pounds active ingredients per acre are not likely to have an adverse effect on water and aquatic life, with a buffer of 30 feet.

Given these relationships the following buffers against impacts on water and aquatic species are provided:

Perennial Streams:

198' SMZ + 30' non-target veg. = 228' buffer.

Intermittent Streams:

132' SMZ + 30' non-target veg. = 162' buffer

A site specific examination of the sites shows that the vegetative components on the site can be controlled by the above herbicides. All soils within the analysis have a silt, loam, and/or clay component which provides sufficient density and fix or hold herbicides on the site, or slow movement through the soil for sufficient time that most of the herbicide not absorbed by vegetation degrades on site. Finer textured soils tend to hold even soluble herbicides to colloid sized particles. As an example, the hexazone label provides for increased rates depending upon the percent of organic matter and soil characteristics. Recommended rates nearly double for clayloam soils when compared to sandyloam soils.

Injection, stump spray, foliar spraying, and ground spot treatment with herbicide to obtain species control would introduce slightly toxic chemicals to target sites. All of the above herbicides are Class "A" chemicals and the methods of applications are addressed FEIS Vegetation Management in the Coastal Plain Piedmont (pop. Research and technical data reviewed in preparation of the above EIS, and the Material Safety Data Sheets for these herbicides, indicate that they have short half lives and biodegrade through microbial action. Therefore they do not build up between treatments such as site preparation and release. Also, these herbicides are soluble and don't bioaccumulate in animals or humans. The preparation of the EIS included risk assessments evaluating actual field applications and personal exposure data. Tests included actual mixed herbicide formulations which included surfactants and inert ingredients. The applicator exposures were below the standards set for human health.

Based upon this analysis and the use records available, the actual product used can be determined at the time of application based upon season of treatment, species and quantity on site to be controlled, cost, and supply situation. Rates typical of sites similar to those examined for this alternative are:

Cut and Stump Spray triclopyr-amine/imazapyr Mix:

.75 gal, 25% triclopyr-amine @ 3 pounds/gal = 0.56 pounds/ac

.75 gal, 5% imazapyr @ 4 pounds/gal = 0.15 pounds/ac

Injection:

.5 gal, 25% triclopyr-amine @ 3 pounds/gal = 0.38 pounds/ac

.5 gal, 5% imazapyr @ 4 pounds/gal = 0.1 pounds/ac

Foliar Spray w/ imazapyr/triclopyr-ester:

4 gal, 1.6% triclopyr-ester @ 4 pounds/gal = 0.26 pounds/ac

4 gal, 0.25% imazapyr @ 4 pounds/gal = 0.04 pounds/ac

Soil Spot Treatment w/ hexazanone

2 gal hexazanone @ 2 pounds/gal = 4 pounds/ac

Herbaceous Weed Control w/ imazapyr and sulfometuron-methyl

Imazapyr 0.28 oz/gal

Sulfometuron-methyl 0.14 oz/gal

Apply 1.4 gallons per surface acre for 681 trees per acre.

(Longleaf planted at 681 trees per acre)

Apply 0.6 gallons per surface acre for 258 trees per acre.

(Loblolly planted at 258 trees per acre for pine/hardwood regen.)

Imazapyr Rates = 0.01 - 0.025 pounds AI per acre

Sulfometuron-methyl Rates = 0.005 - 0.012 pounds AI per acre

Streamline w/ triclopyr-ester:

2 gal, 17% triclopyr-ester @ 4 pounds/gal = 1.28 pounds/ac

An evaluation of the above estimated application rates indicates that the highest rate of triclopyr that would be applied per acre for a single treatment period would be 1.84 pounds active ingredient (AI) per acre. This rate would require two treatments: cut stump treatment followed by streamline release, and treatments would be separated by a minimum of three years. The highest rate of imazapyr would be 0.19 pounds per acre for the combined stump spray and foliar spray treatment. The highest rate for sulfometuron-methyl is 0.012 pounds per acre. Maximum rates prescribed in the VMEIS are 4 pounds, 0.75 pounds, and 0.3 pounds per acre, respectively. Impacts and risks associated with these maximum rates were considered insignificant in the evaluation completed for the EIS. The maximum rate for hexazanone is 6 pounds per acre in the VMEIS (as amended) and the highest rate considered under this analysis is 4 pounds per acre. Therefore the lower rates on lands and vegetation site specifically evaluated as suitable for these treatments would also be interpreted as non-significant under the analysis in the Vegetative Management EIS.

SAFETY PLAN

FOR

PESTICIDE USE

HOMOCHITTO RANGER DISTRICT

HOMOCHITTO NATIONAL FOREST

Prepared by: Thomas (Bo) Sullivan 1/6/01
Thomas (Bo) Sullivan Date
District Pesticide Coordinator

Reviewed by: Gary W. Bennett 2/5/01
Gary W. Bennett, District Ranger Date

PRECAUTIONARY NOTES

Pesticides used improperly can be injurious to man, animals, and plants. Follow the directions and heed all precautions on the labels.

Store pesticides in labeled containers under lock and key - out of reach of children and animals - and away from food, feed and clothing.

Wear protective clothing and equipment if specified on the label. If your hands become contaminated with a pesticide, do not eat or drink until you have washed. In case a pesticide is swallowed or gets in the eyes, follow the first aid treatment given on the label and get prompt medical attention. If a pesticide is spilled on your skin or clothing, remove clothing immediately and wash skin thoroughly.

I. A.

Application of Plan

This safety plan pertains to the day to day use, storage, and application of pesticides identified in C. Coverage. If substances other than those listed are used in quantities exceeding one pound of active ingredients per project or of housekeeping type, a separate or amended plan will be prepared and approved.

B.

Authority

This plan is prepared as prescribed by FSM 2153.22. It encompasses all aspects therein in addition to portions of FSH 6709.11, Forest Service Health and Safety Handbook Chapters 5 and 9, FSH7109.11a, FSM 2140, FSM 344.1, FSM 2150, and FSM 3451.43. Terminology used is same as defined in FSM 2150.5.

C.

Coverage

This plan is written to cover the following herbicides:

'Accord	Velpar L	Oust	Arsenal
Glyphosate	Hexazinone	Sulfometuron Methyl	Imazapyr
Garlon 4	Garlon 3A	Transline	
Triclopyr	Triclopyr	Clopyralid	

Application will be direct spray, injection, spot gun, or streamline.

D.

Certified Applicators

Thomas Sullivan, Terry Tharp, George Beard, Andy McNichols, Perry Zumbro, Wilbert Cobb, Randy Whetstone, Mike Winborne, and Richard Boone are the R-8 certified pesticide applicators on the Homochitto Ranger District.

Thomas Sullivan is the District Pesticide Coordinator.

E.

Safety Plans

All Forest Service employees dealing directly with pesticides through application or by supervising their use will read and sign Exhibit A of this plan. (Contractors see Part IV of this plan). In addition to reading the safety plan all persons involved will successfully complete the self study guide for on-the-ground herbicide applicators. This safety plan accounts for all required items listed in FSM 2153.22.

II. Planning

All chemical related work will be prescribed in detail on a project work plan.

Accompanying all work plans will be an accurate map. The pesticide use report for the current fiscal year will be filed under 2150.

An applicator's log for restricted use pesticides will be filled out and filed under 2150 for a period of two years. These records can be destroyed after that period.

III. Safety Requirements

At all times safety will be the number one priority. All field crew personnel will adhere to safety requirements. The minimum safety equipment to be worn will consist of:

1. Safety Glasses/Goggles
2. Leather or Rubber Gloves
3. Leather Boots
4. Hardhat
5. Eyewash bottles filled with distilled water.

In addition, long trousers and long sleeve shirt should be worn.

Safety equipment, except for boots, will be furnished by the U.S. Forest Service, to Forest Service Employees. Contractors will furnish their own safety equipment for their crews.

IV. Chemicals

A.

Description

This plan is written to cover the use of Oust, Velpar L, Garlon 4, Garlon 3A, Arsenal, Accord, and Transline. Exhibit A contains a copy of a specimen label for each of these chemicals. This exhibit includes general information, active ingredients, use directions, precautions, warnings, emergency telephone numbers and first aid.

B.

Toxicity

Pesticides are toxic. Signal words are shown on all pesticides labels to warn of their toxicity.

<u>Signal Word</u>	<u>Toxicity</u>	<u>Class</u>	<u>Mammalian LD50</u>
Danger	High	I	50 PPM
Warning	Moderate	II	50 - 500 PPM
Caution	Low	III	500 - 5000 PPM

Skull and crossbones are pictured on all chemicals that are highly toxic.

C.

Disposal

Empty containers and waste must be properly disposed of. The following procedure will be adhered to:

1. Combine small portions of same chemicals into one container.
2. Triple rinse "empty" containers with the pesticide carrier and pour washings back into spray tank for application to the project area. Do not pour rinse washings onto the ground.
3. Do not reuse empty pesticide containers for unauthorized purposes. Crush containers (metal), and punch holes in plastic containers to insure against reuse.
4. Do not bury any empty pesticide containers or containers of waste pesticides on National Forest System lands.
5. Disposal of crushed cans at an approved site is permissible if such facilities are opened during the period covered by this plan.
6. Follow State and local regulations if they are unique regarding pesticide container disposal.

E.

Inventory

An up-to-date specific inventory of pesticides on hand will be kept in the District Office at all times. An inventory will be maintained on the outside of the pesticide building and the phone at the Bude Work Center

F.

Transporting for Use

This section is a reprint from Section 9 - 10 C of the Health and Safety Code Handbook:

"Pesticides labeled with the signal words "Danger - Poison" (Skull and crossbones), or "Warning" are considered highly and moderately to toxic, related equipment, outside the passenger--carrying portions of vehicles--such as trailers and pickup beds".

Basic Rules In all transportation situations, the following apply:

1. All pesticide drums, cans, and jugs will be securely strapped and protected from breakage or spillage. Ripped or punctured bags are to be contained to prevent leakage.
2. Pesticide containers and related equipment will be stored in a manner that will prevent leakage. Extended storage of tools and equipment will be in the pesticide storage building.
3. Pesticides will not be transported to or from the job site in application equipment, i.e., injectors, hypohatchets, etc.
4. Pesticide containers will be labeled to show contents and potential hazard.
5. Original pesticide containers will carry EPA approved label.
6. Service containers (any container used to hold, store, or transport a pesticide concentrate or diluted preparation, other than the original labeled) will be labeled as follows:
 - (a) Pesticide Concentrate
 - (1) Product Name
 - (2) EPA registration number
 - (3) Name and percent of active ingredient
 - (4) Signal word from registered label
 - (b) Use Dilution Preparation
 - (1) Produce name preceded by word "Diluted"
 - (2) EPA registration number preceded by the words "derived from"
 - (3) Name and percent of active ingredient as diluted
 - (4) Signal word from registered label

G.

Storage in Transit

All equipment, tools and chemicals will be carried and secured in their designated location during transit. If 5 gallon containers are carried in the bed of a pickup or crew-cab, no personal items such as drinking water, lunches, etc., will be carried in the same bed. Also the bed will be washed

thoroughly in the dirt portion of the work center with soap and water each night. Injectors and hypohatchets will be empty during transport.

H.

A. Labeling

The pesticide building is labeled with hazard identification in accordance with FSM 2145 and FSM 2157.22.

B. Door

The door on the building will be secured at all times with a lock.

C. Sump

The sump will be checked for leakage annually. A promise card system has been established.

D. Emergency Procedures

Any problems or emergencies will be directed to Jeff Bein, Thomas Sullivan, Gary Bennett or Dave Chabreck, weekdays 7:00 a.m. to 4:30 p.m. at (601) 384-5876.

Spills - Should a spill occur while in transport or on the site:

1. Secure immediate area. Prevent the chemical from entering streams or lakes.
2. Contact District Office for additional instructions.

Appropriate action will be taken as prescribed in FSM 2145, FSM 2157.1 and FSM 2158.41/22.

Chemical contact with skin - Should chemical come in contact with skin:

1. Wash with soap and water.
2. Monitor area.
3. Should problem persist contact District Office and transport to nearest county hospital.

Chemical in eyes - Should chemical get in eyes:

1. Flush immediately.
2. Should problem persist contact District Office and transport to nearest county hospital.

Spillage in storage shed - Should spillage occur in storage shed, flush chemicals into sump or soak up to soda ash (or equivalent).

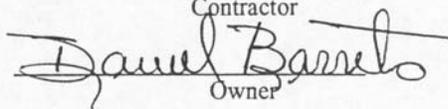
Reporting - All reports of pesticide accidents will be filed in accordance with FSM 6731.8 and FSM 2158.4

VI. Contractors:

This Safety Plan will be given to all contractors doing chemical work on the Homochitto National Forest, Homochitto Ranger District before work is to be performed. The Contractor shall also read and understand Division 100, Part 130, Government Furnished Property, and Division 300, Parts 330 through 340, Pesticide Safety, in his/her contract as well. The Contractor has read and understands this Safety Plan and the Divisions and Parts of Divisions listed above and acknowledges this fact by his/her signature below.

Barreto Forestry Contracting Inc.

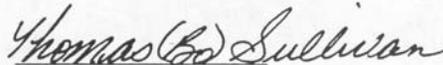
Contractor

A handwritten signature in cursive script that reads "Daniel Barreto". The signature is written in black ink and is positioned over the printed name "Daniel Barreto".

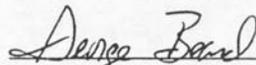
Owner

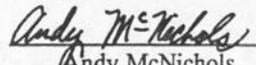
EXHIBIT A

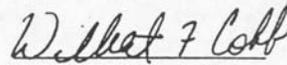
This safety plan pertains to the day to day use, storage, and application of pesticides identified in C. Coverage. The people listed below will deal directly with pesticides through application or by supervising their use. All are certified pesticide applicators on the Homochitto National Forest, Homochitto Ranger District. All persons listed below have read and understand this safety plan and acknowledge this fact by their signature below.

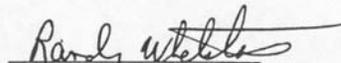

Thomas (Bo) Sullivan

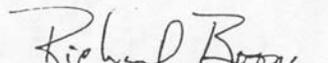

Terry Thorp


George Beard


Andy McNichols


Wilbert Cobb


Randy Whetstone


Richard Boone


Mike Winborne

Emergency Telephone Numbers

Bude Ranger Station		384-5876	
Gary Bennett - District Ranger		384-5068	Cell:660-6310
Dave Chabreck - OPS Team Leader		225-9282	Cell:660-6311
Jeff Bein - Silviculture Supervisor		384-3026	Cell:660-6329
Thomas (Bo) Sullivan		384-2842	Cell:660-6328
George Beard		639-4433	
Ron Jackson - Law Enforcement Officer	Pager:471-4764	384-5876	Cell:384-6549
Franklin County Hospital		384-5801	
Jerry Windham		965-4391	Ext.- 180
Pesticide Safety Team		800-424-9300	
CHEM TREC		800-424-9300	
University of Miss. Medical Center (poison control)		601-354-7660	
DOW Chemical (emergency)		517-636-4400	
Paul Mistretta	R-8 Pesticide Coordinator	404-347-2229	
Pat Castillo	R-8 Pesticide Spill Coordinator	404-347-2229	

