



NEW MEXICO TREE FARM NEWS



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On behalf of the New Mexico Chapter of the Society of American Foresters, I would like to invite all New Mexico

Tree Farmers to our next chapter meeting which will be held October 16th, from 10:00 a.m.- 2:00 p.m. at the NMSU--Mora Research Center in Mora, New Mexico. A lunch will be provided.

The Society is an association of professional foresters. There will be several presentations, including an overview of inventory software developed at the Mora Research Center, referred to in the point sampling article from the March 2004 *New Mexico Tree Farm News*.

If you would like to attend, please contact me at mloveall@nmsu.edu or by phone at (505) 387-2319 ext. 13 by October 12.

FALL TREE FARMERS' FIELD DAY

In honor of the 2003 New Mexico Tree Farmer of the Year: A. Hart & Utilia Alex.

October 2nd, 2004, 10:00 am to 2:00 pm

We will meet at the Alex Tree Farm (Rancho De Jicarita) at 10:00 am, 3.5 miles East of Penasco, NM **(Please park in pasture below tree line and walk up to 2nd house, thank you)**

Lunch will be provided

Please RSVP by September 24, 2004
 Call Arnie Friedt at NM Forestry Division, Cimarron District Office,
 (505) 376-2204 or by e-mail: afriedt@state.nm.us

AN INVITATION TO ALL NEW MEXICO TREE FARMERS

Mark W. Loveall (Chair, New Mexico Chapter of the Society of American Foresters)

REVEGETATING A SOUTH-FACING SLOPE IN NORTHERN NEW MEXICO-A SUCCESS STORY

A. Hart

We have about four acres of mixed juniper/pinon and ponderosa at 8400 feet. This south facing slope has a micro climate that is much hotter and drier than the surrounding area. It is part of 70 acres of irrigated pasture and forest that we bought in 1977. The lack of vegetation on this slope has always been a problem because we have a road and buildings here too. During the monsoons we usually have one or two downpours that are heavy enough and fast enough to make water move down this slope causing damage.

After rebuilding our road several times over the years we realized that something had to be done. This area was denuded by generations of cattle and sheep grazing the native plants into the ground. Combined with heavy logging the only thing left was a jungle of second growth ponderosa and a hillside that could only support sparse grass clumps along with the trees. Under the trees was



a heavy duff layer that supported nothing and outside the drip lines it was mostly rock as the soil had departed downhill into the pasture.

My first replanting efforts took place every spring. It was natural to assume that the wet spring was the best time to throw seed. I tried broadcasting seed-they didn't germinate. I tried small patches covered with plastic to hold the moisture-they germinated then died during the dry months of May and June. I tried covering the seed with mulch of different types-again death. May and June is tough on everything. We tried planting in the fall. Usually our fall is wet. The seeds would germinate if they escaped the birds with a very poor percentage. Last year I tried throwing seed in the forest just before a heavy snow. The birds didn't get as many and we have some germination without mulch. That was a good thing to learn.

But on the hillside, after much trial and error, we found the solution. We plant after a week of monsoon in mid-July. The ground is usually good and wet by then and we have more regular rain on the way. We use a Mountain pasture mix of four grasses and two clovers. I add a little alfalfa and red clover. Then we cover the hand broadcast seed with hay. At the beginning we cleaned barns for soiled hay. We couldn't get enough and it was too much work. Now we use the hay from our fields that is not good enough to sell. Last year we got 15 pickup loads of loose hay.

The seeds usually germinate in five days or so and if the monsoons continue they get about an inch or two high during the fall. I have tried supplemental watering from our cisterns when the fall is too dry. That works for small spots.

When spring arrives I am constantly walking about checking each seeded area to see if the little grass survived and is coming back green. In most cases they do. The first year of growth is usually depressing since they don't grow much but the second year gives me great pleasure.

A secondary reward is the wildlife increase that this new grass supports. We have elk at daybreak in front of our windows on a regular basis. Songbirds are constantly rooting through the grass looking for seeds. Squirrels and chipmunks are in the neighborhood. We have heard turkeys although there still are not enough shrubs to support their population.

So getting vegetation back on this baked hillside requires monsoons and mulch and a little help from Mother Nature.

FELLOW NEW MEXICO TREE FARMERS, PLEASE WELCOME: RANDY AND NANCY OLTMANN'S, PIONEER TREE FARMERS

Will Stapleton, NM Tree Farm Committee Chairman

Randy and Nancy Oltmanns of Aztec (San Juan County), New Mexico. Unlike other county residents, who buy and plant trees, they have expressed a desire to manage their woodlands according to American Tree Farm System Standards.



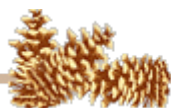
The Oltmanns on their Pioneer Tree Farm.

Randy and Nancy bought their first twenty five acres of land along the Animas River, north of Aztec, in 1975 and moved onto the property the following year.

From the beginning, the primary enterprise has been raising livestock. First, sheep then swine (when their daughters were enrolled in the vocational agriculture program at Aztec High School). Sheep continued to be part of the farm plan, but swine were dropped in 1981. They bought another thirteen acres this same year. From 1980 to 1985, hay was raised on 20 acres which became permanent pasture in 1985.

It should be noted here that the farm's SOUTH DOWN lambs were in demand for several years by local 4-H club members, hoping to win first prize or top auction dollar at the county fair or start a flock of their own.

In 1995, the farm plan veered away slightly from being a livestock oriented farm when seven acres were returned to a riparian reserve. The commercial live flock was reduced in 2001 to further expand the wildlife habitat which had always been frequented by deer and wild





geese. Foxes and bald eagles are occasional visitors.

I started discussing the idea of replacing livestock with trees with Randy in 2002. Although the farm has a high water table and other conditions, which some trees



The Oltmanns on their Pioneer Tree Farm next to the Animas River.

might not favor, he was willing to consider raising trees as an option. He completed the American Tree Farm System application in 2003 and sent it to the Chama District Office of the New Mexico Forestry Department. In the Fall of 2003, Chama District foresters Jodie Hohenstein and Craig Daugherty had made arrangements to visit the farm.

During the walk about the farm, Randy, Jodie and Craig discussed wildlife enhancement as an initial Pioneer Tree Farm Project. This would invoke eradication of Salt Cedar and Russian Olive in a four acre area and replacing these non native species with native species such as lilacs, mountain mahogany, buffalo berry and Arizona Cypress. Some eradication and planting was accomplished in 2004. Randy plans to plant 125 more seedlings in 2005. He is spacing the seedlings so that mechanical weed control can take place. Randy's grandson, Tell, is building blue bird nesting boxes to place in the wildlife enhancement area and elsewhere.

Randy and Nancy have full time jobs as well. Randy is a volunteer fire fighter and certified EMT.

CERTIFIED TREE FARMERS IN NEW MEXICO USING FLEP COST-SHARE TO IMPROVE THEIR FORESTS

Nick Smokovich (NMSF – Socorro District)

Mr. John Ruddock the owner of a Certified Tree Farm in the Quemado area was awarded a FLEP (Forest Land Enhancement Program) thinning. The 65% cost-share reimbursement has allowed Mr. Ruddock to hire loggers

to thin 30 acres of over stocked Ponderosa forest type. Thinning for forest health, wildlife habitat and mistletoe control were all identified as priority needs in his Stewardship management plan. Work started in September and is expected to be completed by October. We applaud Mr. Ruddock in taking an active role in the stewardship in his "Tree Farm"!

MY TRANSITION FROM TREE HUGGER TO TREE LOVER

A. Hart

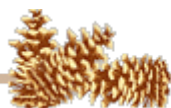
Aren't they the same you ask? Not according to my definition. Tree Huggers cannot see the trees for the forest. They think in black and white. Don't cut trees alive or dead. Thinning young trees, cutting mature trees or cutting burned trees it is all the same to them. Leave the forest to Nature.

Unfortunately, it is way too late for that since Humans have wrecked the forests of the West. They can only be repaired by Humans.

Tree Lovers, on the other hand, revere the forest because of the individual trees. To protect the forest and bring it back from the edge it is necessary to help each tree. That requires fixing the environment that has been causing all the stress to each tree. Some of the concerns are serious overcrowding, insect infestation, erosion, loss of wildlife habitat, and invasion of nonnative species. Humans have set the stage for all of it.

Tree Huggers like to say that the forests are in their current state due to over logging. I believe, especially here in the Southwest, the forests were wrecked by over grazing. Generations of cattle and sheep took out all the edible vegetation and compacted the soil. The lack of shade along with our arid climate cut the microclimate needed for plant germination. The lack of grass cut the normal cycle of ground fires. Our social response to wild fires (put them out) aided in the destruction. Without regular fire to thin out germinating trees the percentage trying to compete for our very limited resources went sky high. I have seen twenty ponderosa pine growing in four square feet. They are 30 years old with an inch and a half diameter and only green at the top.

Our national mental picture of forests arrives from the East and South where rainfall is not a problem. In those forests trees can live and grow properly in very dense populations. Here it is impossible. But the image of a forest does not come from the Southwest. Getting people to understand proper spacing for our trees is probably impossible. A recent "Tree Farmer" magazine article showing a thinned forest in Arizona was termed a "clear-cut" by some Tree Hugger. What can you say?





So, my transition. When we bought our 70 acres in 1977 we split it with a friend. Part of the paper trail concerned usage of the land. One of the statements I put in said, "Neither of us could cut a tree without the permission of the other." Now I can laugh at that statement and the mental attitude I had at the time. Now I cut thousands of trees a year and, sometimes, don't feel like I am getting anywhere. We bought back his share a few years later.

When we built our road and started construction on our buildings I spent a lot of time trying to do it in a way to minimize the trees we had to cut. We even used the backhoe to dig some of them for transplanting. It was summer and they all died but you can see my method.

It wasn't until a decade later that I had the time to pay attention to the forest and the trees. Our first effort was to thin ten acres under NM Forestry supervision. My spacing was much too close but I was concerned about beetle kill and snow load bending the living. I still had that "clear cut" mentality.

More years passed-we were out of state. Upon our return, in 1999, it was time to help our forest. We have thousands of the above mentioned ponderosa per acre. I couldn't walk through most of it. They obviously weren't growing. But the ten acres thinned a decade earlier looked great. I had my marching orders. We hit the first ten acres again and then did another five. After doing a second five it seemed like cut and burn, cut and burn, cut and burn was all we were doing. My wife calls it my passion. We give away over 50 pickup loads of firewood a year.

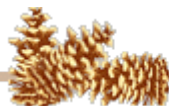
But what a magnificent transformation. I love walking in my forest. My tree spacing has allowed for sunlight on the forest floor. The resulting vegetation is a sight for sore eyes in this area of pine needles instead of grass. My walks now include a spray paint can to mark the next bunch of trees to go. Done is not a word we can use but progress is significant and very rewarding.

FIXED-AREA PLOT SAMPLING

Mark Loveall & John Harrington (NMSU – Mora Research Center)

In the previous issue (March 2004) of New Mexico Tree Farm News, point sampling methods for forest inventory were described. In this issue, the conditions necessitating the use of fixed-area plots and procedures are examined.

Background Information



Point sampling is an efficient method for inventory in many of New Mexico's forest types, especially in ponderosa pine and mixed conifer forests. However, more than half of the state's forested lands are covered by the pinon-juniper forest type. Because pinon and juniper most commonly exhibit a decurrent growth form (multiple stems for much of the tree's height), point sampling's reliance on trees with a central stem makes this technique impractical in pinon-juniper woodlands. Therefore, the use of fixed-area plots is the preferred sampling technique in these forest types for determining stocking, regeneration and canopy cover.

How to go about conducting a fixed-area plot cruise

The most important considerations regarding the practical application of fixed plots are the size and shape of the individual plot, along with the number and location of plots within the area sampled. The plots may be of any shape, but circular plots are the most commonly used and will be described here. The size of the plots depends on the type and condition of the forest sampled. For example, where trees are widely spaced, fairly large plots of $\frac{1}{4}$ to $\frac{1}{5}$ acre may be practical, but in denser stands, smaller $\frac{1}{10}$ acre plots may suffice. You want to select a plot size that has approximately 8 to 12 trees within the plot boundaries. The following table shows the radius required for commonly used plot sizes:

Plot Size (acres)	Plot Radius (feet)
$\frac{1}{2}$	83.3
$\frac{1}{4}$	58.9
$\frac{1}{5}$	52.7
$\frac{1}{10}$	37.2
$\frac{1}{25}$	23.5
$\frac{1}{40}$	18.6
$\frac{1}{100}$	11.8
$\frac{1}{1000}$	3.7

The number of plots necessary may be based on a predetermined allowable error, but it is simpler to compute the number as it relates to a percentage of total area. For example, if the entire area to be inventoried is 20 acres, a 10% sampling intensity is desired, and $\frac{1}{10}$ acre plots are to be installed, then the cumulative area encompassed within sample plots is 2 acres (10% of 20 acres), and the number of $\frac{1}{10}$ acre plots which add up to 2 acres is 20 (10- $\frac{1}{10}$ acre plots sample 1 acre, and so 20 of these sample 2 acres).

Plots of different sizes may be nested within a single plot



center. For example, if one desires to determine the amount of regeneration (e.g., trees at least 6" tall up to having 0.5" DBH), a plot of $\frac{1}{1000}$ acre could be placed at the same point as the larger $\frac{1}{10}$ acre plot to sample for regeneration only.

Once the number of plots is determined, how the plots are laid out needs to be determined. If your forest is fairly uniform in terms of tree density (stocking) and topography laying the sample plots out in a systematic grip will work just fine. If you have variation in either stand properties (tree density or size) or topography (sloped versus level) or in aspect you will want to set up the sample design so that each of these attributes of your forest are sampled independently. For example, let's say you have a 10-acre forest that you want to do a 20% sampling using $\frac{1}{10}$ acre plots. Looking at your forest you see that 7 acres are on a primarily east facing steep slope and three acres are on a relatively flat area. First you know you are going to need to put in a total of 20 sample plots. Of those, 14 (70%) will be on the east facing slope and 6 (30%) will be on the flat area.

Tools required to perform the sampling should include a flexible measuring tape, diameter tape or calipers or Biltmore stick (described in previous issue) and a tally sheet. The tally sheet will be slightly different than the tally sheet used for point sampling (an example is provided in Figure1). This is because different tree

measurements are recorded. Fixed-area tally sheets should have the following column headings: Tree Number; Species; Diameter Stem 1; Diameter Stem 2; Diameter Stem 3; Diameter Stem 4; Crown Width 1 and Crown Width 2. Ideally, one person should stand at plot center holding the measuring tape and recoding data, while the other holds the tape out to plot edge, measuring diameter on trees which lie within the plot. It is recommended sampling commence at an open area within the plot, with the tally moving in a clockwise direction (SAF 1998), but a more systematic approach such as starting at due north and moving clockwise be convenient. It should also be noted that the radius is the horizontal distance from plot center (SAF 1998). The slope radius may be significantly less than horizontal radius on steep slopes.

Each tree found with the plot should be tallied by species. In the case of the pinon-juniper woodlands, where most of the trees have multiple stems, basal diameter and crown width measurements should be substituted for DBH measurements. Basal diameter is measured the same as DBH, except it is commonly taken at 30 cm (11.8") above ground level. For those trees that have multiple stems at this height (i.e. forked beneath 30 cm) you need to measure the diameter of each stem. Since the crowns are rarely circular, the width should be measured at the widest point, with a second measure taken perpendicular to the first. After

Date: _____ Landowner: _____

Unit Name: _____ Plot Number: _____

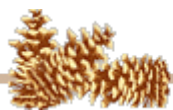
Latitude: _____ Longitude: _____

Tree Number	Species	Diameter Stem 1	Diameter Stem 2	Diameter Stem 3	Diameter Stem 4	Crown Width 1	Crown Width 2





Figure 1. Example tally form for a fixed-area plot.





the data have been entered on the tally sheet, crown area for each tree will be calculated using the formula for an ellipse (Equation 1).

$$\text{Area} = (CW_1 / 2) * (CW_2 / 2) * \pi$$

where: CW_1 and CW_2 are perpendicular crown widths
 $\pi \approx 3.1416$

Equation 1. Formula for calculating the area of an ellipse.

What to do with your cruise (inventory) data.

Tree measurements taken within the sample plots are most useful when converted to a per acre basis. Generally, the conversion is accomplished by multiplying the measure of interest by the inverse of plot size and dividing by the number of plots. Using the above example, the forest is 20 acres, and 20- $\frac{1}{10}$ acre plots were installed. If on all plots, a total of 50 pinon trees were tallied, how many pinon per acre would there be in this forest? To achieve the answer, multiply 50 by 10 (the inverse of $\frac{1}{10}$ acre plots), then divide by 20 (number of plots installed). The sample estimates 25 pinon trees per acre in this forest.

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- American Forest Foundation
- Energy, Minerals and Natural Resources Department – Forestry Division

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New Mexico Tree Farm Executive Committee

Will Stapleton – Chair
Harry Morrison – Vice-Chair
Doug Boykin – Advisor
Charlie Wicklund – Treasurer
Secretary - Vacant
Todd Haines – State TMO

New Mexico Tree Farm News is published once or twice a year, depending on funds.

Distribution includes over 150 Tree Farmers through out New Mexico along with over 50 forest products

producers.

If you would like to advertise your Tree Farm, your products, or your company, please send us the information and we will be glad to include it in the next newsletter.

Donations to cover printing and mailing cost are always appreciated.

Dear New Mexico Tree Farmers:

I had hoped to have the “new” format for this newsletter but a busy field season kept me from accomplishing this goal. I want to encourage all New Mexico Tree Farmers who wish to submit their writing to do so. The easiest way is to submit your article, poem, etc. via electronic mail to John Harrington (joharrin@nmsu.edu) or by regular mail at:

John Harrington
NMSU – Mora Research Center
P.O. Box 359
Mora, NM 87732

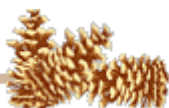
I am planning the next issue (Volume VIII (1)) out by early next year.

- John Harrington, Editor (joharrin@nmsu.edu)



Order Your New Mexico Tree Farm Logo

You can still order your New Mexico Tree Farm logo now. An eight inch logo patch costs \$52, a six inch patch costs \$21, and a 4¼ inch patch costs \$18. If you wish to have the logo sewn on a garment (vest, shirt, or jacket) please included it in the package. If you wish the package sent back to you, please include a self-addressed and durable mailer large enough for the garment and/or patch. **Make checks payable to: Will Stapleton, NM Tree Farm Program, P. O. Box 356, Aztec, NM 87410.** Thank you for your support of the





New Mexico Tree Farm Program.

NEW OFFICERS NEEDED

Once again, it is time to find volunteers to help the New Mexico Tree Farm Committee move forward. Will Stapleton, our trusted leader and friend (and current chair) is moving on to other things after serving for over 6 years. The Committee will miss him and his enthusiasm, as well as his patience. John Harrington has also stepped down as Committee Secretary, but will continue to serve as our newsletter editor. Vice-chair Harry Morrison will move from his position to Chair and will serve a 3-year term. This creates opportunities for you, the Tree Farmers, to develop, nurture and direct the New Mexico Tree Farm Program much like you do with your Tree Farms. The success of the Tree Farm Program is dependent on member input and this is particularly true for the New Mexico Tree Farm Committee. Typically, there are three to five meetings per year where Program activities and policies are discussed. Over the past several years these activities have included developing and submitting grants for the program, selecting the Tree Farmer of the Year and administering the Program as a whole. Everyone who has been on the Committee has found it to be both an educational as well as a rewarding experience. I want to encourage all New Mexico Tree Farmers from those of you who have joined recently to those of you have been involved since the early days of the Program to consider volunteering to serve on the Committee. Two of the vacant positions require applicants to have specific backgrounds: the Backyard Tree Farm representative and the Industry representative. To be the Backyard Tree Farm representative you must be in the Backyard Tree Farm Program. For those of you Tree Farmers who also sell processed timber products, for example have your own sawmill, fit the criteria for Industry representative.

Current open seats are

Vice-Chair - We need nominations, with the idea that this is a 6-year term, 3 as vice-chair, 3 as chair

Secretary - we need nominations or a volunteer – 2-year term (renewable)

Treasurer - Charlie Wicklund has agreed to serve again

Back Yard Tree Farm Program Representative - We need nominations or a volunteer – 2-year term (renewable)

Industry Representative – (Utilization or consultant) - We need nominations or a volunteer 2-year term (renewable)

The goal of the New Mexico Tree Farm Program is to have a minimum of three active New Mexico Tree Farmers on the committee to determine programs, projects, and activities.

If you are interested, please let Doug Boykin the NM Tree Farm Program Advisor know ASAP.

(505) 835-9359

dboykin@state.nm.us

