

# Timber Tips

Issued to transmit ideas of interest to timber management employees across forest, regional, and station boundaries. We welcome your contributions. If you wish official evaluation or credit for your suggestions, submit them also to the Forest Management Service Center. Mention of a trade product does not constitute endorsement.

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## Washington Office Forest Management Perspective



Can policy drive technology or does technology drive policy? Like the chicken and the egg, both technology and policy are linked. Timber Tips, a time-honored information technology from the 1960's, intended to spread the innovation and adaptation of forestry measurement tools and technology from field practitioners to other field practitioners. Ideas for improving the use of automatic rewind logger's tapes – practical, to “the photograph pouch” - innovative for eliminating sacroiliac strains (a joint that supports the spine) - are presented in this issue. Policy, however, in the early versions of Timber Tips was not apparent.

In today's version of Timber Tips, technology and policy are finding the good mix of driving each other. In this issue, you will be introduced to “Two Trails” software that creates mapping information in point, line and polygon format simultaneously, thus saving time in having to re-measure arcs when traversing units; Fire Salvage using FScruiser V2; a web-based training course on Timber Sale Financial Management, and the enticement to apply Good Neighbor Authority to locally collaborate with the State forestry agency to increase the pace and scale of restoration in your national forest.

Technology and policy are driving forces that increase the efficiency of our Agency and our tasks, enabling us to accomplish more at lower cost and meet the high standards of quality that the Forest Service is recognized for. Timber Tips in its new production run has combined the spirit of the Tip with the blaze of information to assist the application of sound forestry practices in the National Forest System. Enjoy this addition, and if you have ideas, innovations or applications, the editors would love to hear from you. Happy cruising!



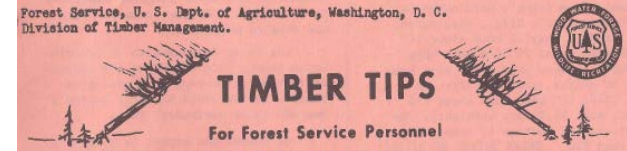
By Joe Reddan,  
Assistant Director  
Forest Products





## Field-Based Tips (Classics)

Forest Service, U. S. Dept. of Agriculture, Washington, D. C.  
Division of Timber Management.

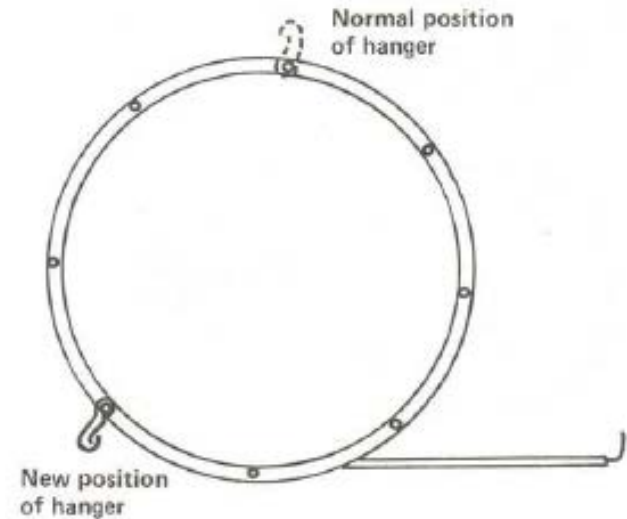


### Improving Automatic Rewind Tape

"Your auto-logger's tape will work better and last longer with a few simple changes," advises Dave Gutcher of the Deschutes Forest (R-6). "Move the hanger to the position shown to the right. Remove the tape from the spool and turn it over so the numbers will be on top.

"The tape will now wind off the top of the reel rather than the bottom, which will eliminate its binding against the sides of the spool and the roller.

"A bicycle spoke for the tape nail is hard to beat, also. And to hang the tape below your cruiser vest, use a short Arlberg ski strap," suggests Dave. **January 1969**



### Increase Tape Life

"Don't snap your tape -- wrap it," says Joe Andreske of the Ottawa Forest (R-9).

"Logger's auto-rewind tapes speed up many foresters' jobs," Joe says. "But when you jerk loose the anchor pin to retract it, in it comes miles per hour! It whips over & around obstacles, can well snap off its end. But wrap the end 4 - 5 inches with electrician's tape, and that problem, at least, will be over!" Joe avers. **May 1968**

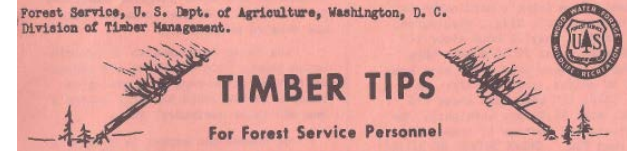






## Field-Based Tips (Classics)

Forest Service, U. S. Dept. of Agriculture, Washington, D. C.  
Division of Timber Management.



### Keeping a Map in Rig

"Trouble keeping a map in your rig?" asks L.J. "Whitey" Tourtellot of the Shasta Lake District, Shasta-Trinity Forest (R-5). "Staple a district map (or forest map if it will fit) to the ceiling of your cab. Orient it with north toward the rear so you can read it easily.

"Place ownership boundaries or other needed information on the map before installing it. To ensure a clean and permanent map, spray it with Krylon plastic also. If ceiling is metal, attach with rubber cement, masking, or electrical tape," says Whitey. **November 1965**

### Bark Thickness Idea

"Pine bark thickness is tough to gauge from an increment boring because the bark breaks up when the core is extracted," so notes David Stack of the Washburn Ranger District, Chequamegon Forest (R-9).

"To avoid the break-up, insert the borer a short depth and remove it without extracting the core. Now bore the operational core. When you extract it, the bark will be supported between the two cores and be accurately measured," says David. **July 1961**





## Field-Based Tips (Classics)

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### TIMBER TIPS

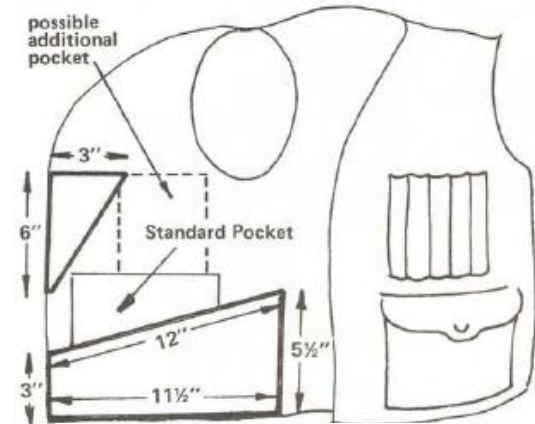
For Forest Service Personnel

#### Photograph Pouch

"Fingertip convenience plus secure photo-toting," advertises Bill Wieger of the Boulder Ranger Dist., Payette Forest (R-4), who's perhaps been looking at mother kangaroos. He's come up with two handy pockets, sized for a plastic photo carrier, riveted to overlap one of the large side pockets of a cruiser coat.

"That upper triangle keeps the carrier in place when you bend over or fall. If you don't have a heavy sewing machine, the rivets alone will serve; also will allow needles, twigs & other debris to sift out. Only need one square foot of sturdy material," Bill says. "Make the pockets of the size & shapes shown, and even with the restricted space between arm hole and bottom of the vest there'll be room for insertion & withdrawal of photos.

"And the sacroiliac strains to take out photos from the usual back pouch of the vest are eliminated; that useful carrier's freed for lunch or other tools. The standard inside pocket is still available for other items because the new pocket is overlapping, but is not nearly so deep." **July 1966**



You can use your photos instantly, protect them from weather and paint spray, have both hands free.

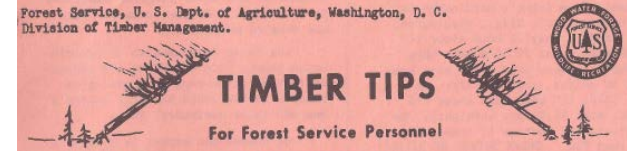


THE WIEGER POCKET





## Field-Based Tips (Classics)

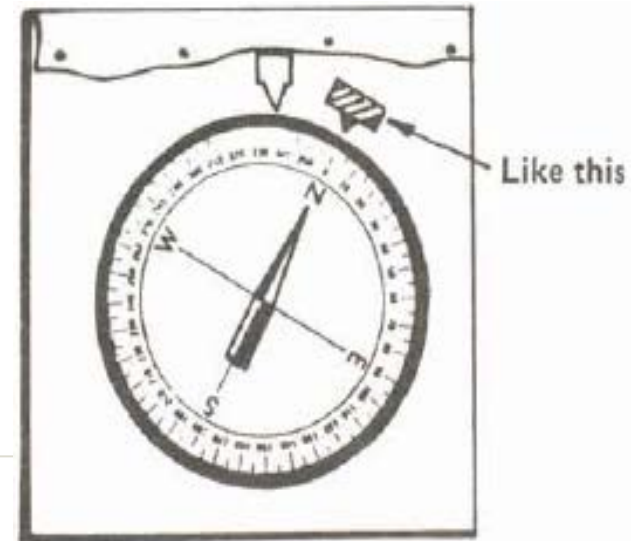


### Declination Setting

“To set off declination in Sivla-type compasses most folks either scratch the declination in the plastic or add it in their heads,” notes Ronald Roginske of the Bozeman Ranger Dist., Gallatin Forest (R-1).

“Easier and more readable this way: A) Attach a length of tape to the underside of the compass. Inside edge of the tape to correspond to the bearing of the declination. B) Trim excess tape from the edge of the compass.

“Even a paint-splattered compass is easy to set and to read,” advises Ronald. “To change declination for a different area, pull off the old tape, apply a new one. Perhaps luminous tape might help in dark woods or at night,” comments Ronald. **May 1965**



### Eyeglass Magnetic Attraction

“If you hold a compass close to your eye for a reading, be sure to check your eyeglass frames for magnetic attraction,” advises Clayton Schooley, Michigan Department of Conservation, Michigamme State Forest at Ispeming, Michigan. “When I first used a Suunto, I seemed to be confused most of the time -- until I found my eyeglasses pulled the compass needle about six degrees!” **March 1964**







# Technology: Augmenting with External GPS Receivers

By Mike Shettles, Forest Biometrician, FMSC



If you're collecting forest surveying information using a data recorder that does not have an internal GPS receiver, or you have a data recorder with an internal GPS receiver deemed too inaccurate for sale layout, a simple and economical solution exists. There are now several models of external GPS receivers that have been tested by Missoula Technology Development Center (MTDC) for their accuracies under a range of canopy conditions. Many of these receiver are small enough to be easily affixed on the outside of a cruisers vest, can cost as little as a few hundred dollars, and most importantly, are equipped with Bluetooth technology for transmitting position information to data recorders operating surveying software.

While accuracy testing for a number of these receivers is ongoing, make sure to check the [MTDC Accuracy Matrix](#) for performance results of the external receiver you're considering purchasing for your unit. Tested horizontal accuracies are categorized by canopy type (Open, Light-Medium and Heavy-Closed), and number of positions averaged (1, 5 or 60) for each model, reported in meters. Please send any questions you have about a particular receiver to Gary Boyack, Measurement Specialist, FMSC ([gboyack@fs.fed.us](mailto:gboyack@fs.fed.us)).

### MTDC GPS Receiver Horizontal Accuracy Reports

MTDC has been testing GPS receivers of various grades in order to determine their horizontal accuracy in different conditions, and, in some cases, different settings. Select a make and model to see the accuracy reports for that receiver.

Manufacturer

Trimble

Model

R1 GNSS

Trimble R1 GNSS

Tested Accuracies By Canopy Type  
NSSDA(units in meters)

External Antenna	Real Time Correction	Glonass	Post Process	# of Positions Averaged	Open	Light-Medium	Heavy-Closed
No	None	Yes	No	1	0.94	3.78	7.23
No	None	Yes	No	5	0.95	2.99	5.75
No	None	Yes	No	60	0.9	3.06	6.11
No	None	Yes	Yes	1	0.32	10.79	34.43
No	None	Yes	Yes	5	0.25	6.3	7.73
No	None	Yes	Yes	60	0.24	2.95	5.87
No	WAAS	Yes	No	1	0.82	1.85	2.59
No	WAAS	Yes	No	5	0.83	1.32	2.52
No	WAAS	Yes	No	60	0.81	2.74	2.69
No	WAAS	Yes	Yes	1	0.27	4.43	14.22
No	WAAS	Yes	Yes	5	0.25	7.59	9.24
No	WAAS	Yes	Yes	60	0.26	2.22	3.44





Forest  
Management  
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## FMSC: Two Trails Software

By Gary Boyack, Measurement Specialist, FMSC  
and Mike Shettles, Forest Biometrician, FMSC



While there are a number of survey applications requiring corporate licenses that are common for area determination and feature-location purposes; there is also a freeware package available that is fully-supported and built specifically with the needs of timber cruisers in mind. **Two Trails software** is a surveying package integrating all types of USFS-approved surveying methods used to determine boundaries for Forest Service units. It can also be used to navigate to sample plots associated with the units and even establish the plot grid in the field. Unlike other survey packages, Two Trails allows the user to measure points, either on or near the boundary, which creates mapping information in point, line and polygon format simultaneously, rather than one at a time. These various surveying operations can be used to continue work even when GPS signal is weak or unavailable and to do the work more safely while still meeting accuracy standards. Similar to the National Cruise System (NCS) software suite featured in the previous issue, Two Trails also has a stable SQLite database engine, resulting in full database capability which allows for advanced postprocessing operations, such as multi-edit points, groups, and polygon transformation. Either in the field or in the office, timber cruisers can now join independently-collected polylines or use common boundaries without re-measuring them, thus saving time.

Other key features include:

- Geo-referenced spatial files ready for input into ArcView or ArcMap are automatically created
- Creation of KML and GPX files are also available
- Delimited ASCII files are created allowing easy analysis and use with other applications
- TwoTrails has versions for the PC and mobile-CE devices, loading easily without administrative privileges
- Is developed, supported and maintained at the FMSC, hence there are no “black box” issues.
- Planned future ability to relay position information to FS Cruiser

**Even in dense canopy or rough terrain, you can do your job without down time using Two Trails.**

Click [here](#) for the user's guide and to download the latest version of the Two Trails software! Virtual training is also available for the NCS suite and Two Trails software. To arrange training, please contact your Regional Measurement Specialist.





## Regional Success Story: Eiler Fire Salvage Using FScruiser V2 in Region 5

By Dan Merritt, R5 Master Cruiser and Mike Shettles, Forest Biometrician, FMSC



### Background

The Tamarack and Dutch timber sales, part of the 2014 Eiler Fire salvage effort on the Lassen National Forest, have become forest-level projects involving three different Ranger Districts—Eagle Lake, Almanor and Hat Creek—as an effort to handle the demand that these districts alone are no longer fully equipped to handle. A TEAMS Enterprise crew is also involved to expedite the completion of the pre-sale work. All crews have been using the new FScruiserV2 for the cruising effort. The silvicultural prescriptions call for a leave tree mark (LTM) in the primary sale area strata, with roadside hazard strata calling for an individual-tree mark (ITM). The LTM units are being cruised with the Point Count Measure and the ITM units with the 3P cruise methods. Region 5 Master Cruiser, Dan Merritt, along with several of the TMOs and pre-sale Crew Leaders involved with these timber sales, were interviewed due to their usage of the new FScruiser V2. Their collective feedback is summarized in the following points below.



Eagle Lake Sale Prep Crew

### Comments/Impressions

-This is the first project the TEAMS Enterprise team has used the new FScruiser V2, and they have “readily switched over” making for a “very simple transition”.

-Because of the increased stability of the new program, especially with tree-based methods, it’s been great to be able to use the new program for the roadside hazard areas in this sale. We previously would be doing our 3P cruises with paper and pencil, with separate random number sheets for each stratum, which made the bookkeeping difficult.

-We used the Big BAF option for selecting our measure-trees in the PCM strata, mainly due to familiarity. But it’s nice to know the new program offers the option to use a set frequency for measure-tree selection.

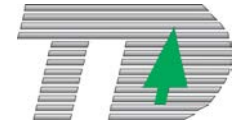
-A user warning was offered that the new program does offer a number of prompts, the majority of which ask the user to confirm an action by “hitting OK”. While this is a good thing that prevents possible unwanted actions, there is another “ok” button up at the top right of the screen that’s always there. If this other “ok” is tapped, it closes the program. This has a propensity to be hit in error, particularly after a series of prompts asking you to confirm by hitting “OK”. Luckily the new program does save your sampling state, so even if you accidentally close FScruiser V2, your frequency picks up where it left off, for each stratum and sample group, when the program is reopened. But just be aware of this possible “annoyance” that could “chip away” at your efficiency.





## Timber Sale Financial Management Web-based Training Course

By Jenny Newton, Project Leader, T&D



Sponsor **Margo Langley, National TSA Coordinator**, developed the content for turning a 3-day classroom course into a dynamic, on-line training that is accessible service-wide on an as needed basis.

**The Forest Service Technology & Development Program** funded an agreement with Integrated Resources Enterprise Team to assemble an on-line, interactive, training course consisting of easy-to-use, self-guided modules. The course covers the important aspects of Financial Management as it relates to timber sales, stewardship contracts and agreements. Included are quizzes and reviews, narration, and is 508 compliant. Additionally, the modules include resource folders providing useful links to common terms and definitions, and downloadable documents.

### This course helps ensure employees:

Have access to consistent information regarding timber sale financial management.

- Can prepare for the interregional sale administration certification.

- Are trained on financial aspects associated with all contract versions, regardless of current assignment.

- Receive updated information and training as changes occur to timber sale financial management.



The modular format allows for easy editing and the addition of future modules as new information becomes available. Check it out [here!](#)



## On the Horizon

### Reauthorizing and Extending the Good Neighbor Authority

By Mike Shettles, Forest Biometrician, FMSC



The Good Neighbor Authority (GNA) was reauthorized and expanded in both the 2014 Farm Bill and the 2014 Consolidated Appropriations Act, allowing for its application in any state containing adjacent State and National Forest lands. This allows the U.S. Forest Service to partner with States to implement restoration projects across state-federal boundaries, with the objective to accelerate the pace and scope of restoration through improved coordination across jurisdictions during hazardous fuels, insect and disease, and watershed restoration projects. With this renewed and expanded partnership capacity, the Forest Service and State agencies are able to perform watershed restoration and protection services on National Forest System lands utilizing State contract procedure.

While many responsibilities for project implementation can now be delegated to the State, the Forest Service is still responsible for conducting NEPA analysis on Federal Lands, as well as providing or approving all silvicultural prescriptions and marking guides to be applied. The Forest Service must also collect appraised value for all National Forest timber sold using state contracting procedures, and report all GNA attributed management activities in the appropriate databases. Examples of authorized restoration projects include timber sales, prescribed burning, fish passages, decommissioning existing roads, seeding for soil stabilization, etc. Examples of tasks a state partner may perform include inventory, boundary marking, appraisal and contract development, contract award, contract administration, etc.

Policy and guidance through Forest Service Handbook 2409.19 Chapter 80 is currently being finalized and will be out later this calendar year. In the interim, Regional Foresters have the authority and instructions to implement GNA projects. The agreement templates that will be used to carry out projects under the GNA have been approved by the Office of Management and Budget and are ready for use with states to begin implementing projects under GNA. They can be found on the Forest Service [Good Neighbor Authority webpage](#) and, because there is no one-size-fits all agreement using this authority, editable versions will be available on the [internal AQM website](#). The Forest Supervisor for the Chequamegon-Nicolet National Forest [signed the first Good Neighbor Agreement](#) under this authority on September 14, 2015 with the State of Wisconsin.





## The Cold Deck...Stacking Tips for Future Utilization

Please forward ideas, tips and success stories for future utilization to Mike Shettles at [michaelashettles@fs.fed.us](mailto:michaelashettles@fs.fed.us) or to the following physical address:

Mike Shettles  
2150 Centre Ave, Bldg A, Suite 341a  
Fort Collins, CO 80526-1891

### Management and Communications

#### Priming the Pump

“Priming the old pump is an art that will not long be with us, but thirty years ago, when I was the forest ranger at Cut Foot Sioux in the old Minnesota National Forest, priming the pump was a daily chore. If I wanted fresh, cool water from the depths of the well, I had to prime the pump. The old pump worked fine when it was primed. Now pumps may obsolesce, but the principle of pump priming will ever be with us. We pour in hard work to draw out worthwhile accomplishment. We prime with study to obtain knowledge; we prime with understanding to secure good will. Many an old pump needs nothing more than a modicum of judicious priming for a fresh resurgence of usefulness. I sometimes think this applies not only to old pumps, and old forests, but to old foresters as well.” Cal Stott, S&PF (R-9) **March 1960**

#### Open Mind

“An open mind is important, for minds are like parachutes; they work only when open. The largest stumbling block to simplifying work lies not in the technical field, but in the minds of people doing the work who feel they are using the best methods possible. The main obstacle found in both industry and offices is resistance to change.” S.F. Kaplin, General Electric Company. **January 1961**

#### Creative Employees

“Don't let your nut bolt,” advises Lou Bissell, Maine Extn. Forester. “Don't lose your 'creative' employee just because their ideas rock the boat. They may soon be 'creating' for you! Warning: If your agency treasures people who cause no problems, you are taking the sure road to mediocrity,” says Sylvia Porter. Research Institute of America lists ways to identify the creative employee:

- a) Notices problems which have previously escaped attention.
- b) Has many alternative thoughts on any given subject.
- c) Relates to their own work ideas they have heard elsewhere.
- d) Asks questions no one else has thought of.
- e) Is willing to try unexplored sources for answers.

Of all ways to simplify work, we would select first the open mind.” **July 1968**

### From the Late Great Yogi Berra

“You don't have to swing hard to hit a home run. If you got the timing, it'll go.”

“Baseball is ninety percent mental. The other half is physical.”

“It was impossible to get a conversation going, everybody was talking too much.”

