

**STATE OF TENNESSEE  
SOURCING EVENT 34101-11957**

**SCOPE OF WORK  
FOREST MANAGEMENT INVENTORY FOR  
TENNESSEE ARMY NATIONAL GUARD  
VOLUNTEER TRAINING SITES –  
MILAN AND SMYRNA**

**1.0 INTRODUCTION / BACKGROUND**

The Tennessee Army National Guard (TNARNG), as an agent of the National Guard Bureau (NGB), is responsible for the prudent management of forest resources on all of its properties. The largest of these properties, Volunteer Training Sites (VTS), are managed in accordance with Integrated Natural Resource Management Plans (INRMP) which guide all activities that may impact natural resources on the sites. These INRMPs contain a Forest Management Plan (FMP) for their respective sites, which contain detailed forest management goals and planned actions to achieve them. The FMPs for VTSs Milan and Smyrna will be updated in the near future and up-to-date forest inventories are needed for use in these updates.

The TNARNG requires a Contractor to complete forest (timber volume) inventories to provide needed data. The forest inventory is an essential part of the development of forest management practices and is required prior to updating the FMPs. Timber resources vary across these sites, and forest inventories will be based on previously defined timber stands given in the existing FMPs.

To assure the qualifications of the professional hired for this project, it is a requirement that the forester be a member in good standing with the Society of American Foresters (SAF). Additionally, the forester shall be at least one of the following: a member in the Association of Consulting Foresters, a Licensed Forester in a state other than Tennessee, or an SAF Certified Forester.

**2.0 OBJECTIVE**

The objective of this Scope of Work (SOW) is to produce individual forest (timber volume) inventories for VTSs Milan and Smyrna. VTS-Smyrna has approximately 373 forested acres and VTS-Milan has approximately 1,750 forested acres, totaling approximately 2,123 acres. The inventories must meet industry standards and use scientifically defensible methods.

The following tasks must be accomplished to meet this objective:

1. Collect and review previous forest inventories, forest management plans, and GIS data
2. Conduct field sampling at each site using methods that meet industry standards and are scientifically defensible
3. Compile collected data and produce required information given in section 4.4
4. Produce reports and datasets for each site. These reports and datasets must be in a format that allows easy comparison with previous forest inventory reports and datasets

Note there are two stand-alone forest inventories to be developed, one each for VTS-Milan and VTS-Smyrna.

### **3.0 SITES**

VTs Milan and Smyrna vary greatly in terms of land area, type and quality of forest cover, and land use activities.

VTS – Smyrna (Rutherford County, TN) is a relatively small site encompassing 858 acres on either side of Stewart Creek and J. Percy Priest Lake in middle Tennessee (22 miles southeast of Nashville, TN). It has approximately 373 acres of forestland, including redcedar woodlands, mixed evergreen/hardwood forest, and bottomland forest. Merchantable timber on the site is minimal and proximity to major waterways may limit forest management activities to some extent. It contains 117 acres of managed grassland and a 126 ac. cantonment area. It also encompasses several miles of shoreline. The training site is bounded on one side by a municipal airport and lies in a fairly urban environment.

VTS – Milan (Carroll and Gibson Counties, TN) is a 2,466 acre training site in west Tennessee, approximately 20 miles north of Jackson. The site is long (north to south) and narrow. It consists of approximately 1750 acres of forestland. Forestland includes approximately 1093 acres of upland forest – largely mixed hardwood with some redcedar woodlands and a few loblolly plantations – and 642 acres of bottomland forest. The site has merchantable timber, some of which is past its prime. Management at this site focuses on training area requirements and ecosystem management, with timber production viewed as a side benefit. The site also has almost 700 acres of managed grassland and a cantonment area. There are two perennial streams on post, Halls Branch and Johns Creek. It is bounded on most of the east side by a state highway. To the west, it is bordered by Milan Army Ammunition Plant and Wildlife Management Area. Other surrounding lands are primarily farmland.

### **4.0 MAJOR REQUIREMENTS**

The following tasks must be completed for the Contractor to successfully accomplish this SOW:

#### **4.1 Task 1: Project Start-Up Meetings**

The Contractor will attend a start-up meeting with TNARNG representatives at each VTS. At these meetings, the Contractor will be furnished with the most recent forest information and maps available for the sites. The meetings will also afford the contractor the opportunity to meet the site staff they will coordinate access with, receive an initial safety briefing, learn the specific coordination and access requirements for each site, and become familiar with the down range areas and their unique conditions. The TNARNG Point of Contact (POC) will be responsible for copying documents in cases where the original cannot be distributed to the Contractor for use during the execution of this SOW. This information will include the following:

- GIS files or other data indicating previously mapped forest stand locations and attributes;

- Maps showing exact locations of restricted areas (areas that would be excluded from on-the-ground timber inventory data gathering);
- Previous forest inventories, and current FMPs;
- Documentation regarding current and pending natural resources management activities;
- Documentation (regulations and/or procedures) regarding the management and access to the site, including natural resources management; and,
- Natural resources requirements and/or restrictions for each site;

Whenever possible, the above-listed data will be provided to the Contractor in electronic format. The Contractor will be responsible for reviewing all provided data.

***Deliverable:***                    *Startup Meeting and Meeting Minutes.*

***Timeline:***                    *Startup Meeting within 30 days following Notice to Proceed; Meeting Minutes within 45 days following Notice to Proceed.*

## **4.2 Task 2: Submission of Project Work Plan**

The Contractor will submit for review by the TNARNG POC a Project Work Plan detailing the scheduled stages of the project, the proposed methodology to be used in each phase, and any species or habitats of special concern. The work plan will be completed and approved by the TNARNG POC within two months following the start-up meeting and prior to the initiation of any fieldwork.

Sample points, points and areas of interest, and species and habitats of special concern will be recorded via GPS with sub-meter accuracy in the UTM WGS 1984 projection. Files will be compliant with current Corps of Engineers Spatial Data Standards (SDS/FIE), likely version 4.0. The Contractor must coordinate with the TNARNG GIS office to develop the appropriate data collection format and standards for this project prior to beginning any field work. The approved data collection format will be included in the work plan.

The Contractor is also responsible for obtaining any permits and authorizations that may be required to complete this contract. Copies of all permits will be provided to the TNARNG POC within 30 days of issuance.

***Deliverable:***                    *Project Work Plan detailing survey methodology, sampling plans, and species and habitats of special concern.*

***Performance Period:***    *90 days following Notice to Proceed.*

## **4.3 Task 3: Forest Inventory Field Work**

The Contractor will conduct all needed forest inventory field work for the two training sites. The approximate acreage to be inventoried is: VTS-Smyrna 373 acres and VTS-Milan 1,750 acres, for a total of 2,123 acres. Developed areas on the installations are excluded, as are non-forested areas such as grasslands and shrublands.

Access to the site will be provided as necessary to accomplish field work; however, the Contractor must understand that military training activities will receive first priority with regard

to scheduling access to Training Areas. It is the Contractor's responsibility to coordinate with the training site on-site POCs to schedule access to each training site.

The inventory will be completed to an accuracy consistent with generally accepted and scientifically defensible professional forest inventory and management standards. All work will be performed by or under the supervision of a forester who is a member in good standing with the society of American Foresters (SAF). The forester shall be at least one of the following: a member in the association of consulting foresters, a licensed forester in a state other than Tennessee, or an SAF Certified Forester. Data collected will include all information needed to produce a forest inventory that provides management unit/stand data and maps with the following attributes:

- Management unit/stand acreage;
- Dominant and immediately sub-dominant species present;
- Stand density and average tree DBH;
- Standing timber volumes overall and by timber types (saw, pulp, pole, etc.);
- General determinations of age-classes present;
- Standing snag density and average DBH;
- Market values of standing timber;
- Any unusual site conditions observed;
- Any observed damage;
- A recordation of any habitats or species of particular interest that are observed; and
- A concise, qualitative observation of the general forest health.

The contractor will provide monthly status reports on project progress.

This information will be provided in ESRI or compatible GIS format. Files will be compliant with the current Corps of Engineers Spatial Data Standards (SDS/FIE) (likely 4.0) and will include complete metadata. The TNARNG GIS Office will provide oversight of GPS/GIS data requirements. The Contractor will coordinate with the TNARNG GIS POC prior to beginning the field work to ensure their data collection protocols and equipment meet required standards. Data and GIS files must be in an editable format. Read only files are not acceptable. The TNARNG GIS POC can provide an example and blank geodatabase to ensure all data is collected in an acceptable format.

***Deliverable:***                    ***Field work and monthly status reports on project progress.***

***Performance Period:***    ***Complete by Twenty-one (21) months from notice to proceed***

#### **4.4 Task 4: Preparation and Submission of Draft Forest Inventories**

The contractor will prepare a separate draft forest inventory report for each training site. Draft forest inventory reports, data sets, and GIS data will be submitted to the TNARNG POC at least three months prior to the contract end date (21 months from notice to proceed). Forest inventory reports and datasets will be in a format that is easily comparable to previous forest inventory reports. At a minimum, the forest inventories will include:

- Summary of inventory methodology;
- Coordinate table and map of sample locations;

- Comparison of findings with previous forest inventories, overall and by stand;
- Discussion of significant findings and observations;
- Management unit/stand acreage;
- Dominant and immediately sub-dominant species present;
- Stand density and average tree DBH;
- Standing timber volumes overall and by timber types (hardwood, pine, redcedar; saw, pulp, pole, etc.);
- General determinations of age-classes present;
- Standing snag density and average DBH;
- A breakdown of the current market value of standing timber within each management unit where appropriate, delineated by dominant and immediately sub-dominant species present;
- Any unusual site conditions observed;
- Any observed damage;
- A recordation of any habitats or species of particular interest that are observed;
- A concise, qualitative observation of the general forest health; and
- Field notes, field forms, and raw data tables included as appendices.

For the purpose of creating maps for the reports, the Contractor can obtain any applicable raw GIS data from the TNARNG GIS POC.

The draft reports, GIS data, and datasets will be reviewed by TNARNG staff to ensure all needed information is included and formats are correct/acceptable. The drafts are due twenty-one (21) months from notice to proceed. One hard copy and one electronic copy of each report should be submitted. All GIS files and datasets should be submitted for review at the same time as the draft report. The State POC will return comments within one month of receipt of draft reports.

***Deliverable:***                    ***Draft Forest Inventory Reports, Datasets, and GIS data.***

***Performance Period:***        ***Twenty-one months from Notice to Proceed (due three months prior to end of contract).***

#### **4.5 Task 5: Preparation and Submission of Final Forest Inventories**

The Contractor will prepare the final forest inventory reports incorporating the TNARNG POC's comments. Two hard-copies and three electronic copies (2 on cd and 1 via DoD SAFE) of each final report will be submitted to the State.

All data collected in the course of the project including field forms, raw data tables, spreadsheets, databases, and GIS files will be provided to the TNARNG in electronic form. It should be included on the CDs containing the final reports. All GIS data, metadata, and datasets will be in editable files that can be effectively incorporated into the TNARNG GIS system. Read-only files are not acceptable.

***Deliverable:***                    ***Final Forest Inventory Reports, All Data Collected, and All GIS Data.***

***Performance Period:***        ***Two months following return of TNARNG comments on draft report (due within 24 months of Notice to Proceed).***

### **5.0 GOVERNMENT FURNISHED INFORMATION OR MATERIAL**

The TNARNG shall furnish access to all requested data relevant to this project. This will include topographic maps and environmental data about the sites, previous forest inventories, and FMPs. The TNARNG will provide access to the installation for the necessary field work; however, the Contractor must schedule their access to each training site through the respective training site POCs, and understand that priority for access is given to military training.

## **6.0 CONTRACTOR REQUIREMENTS AND RESPONSIBILITIES**

The contract work shall be performed by or under the direct supervision of personnel who are professionally qualified in forest inventory and management, and meet previously listed requirements.

The contractor shall obtain all permits and authorizations that may be required to complete this contract. Copies of permits will be furnished to the TNARNG POC within 30 days of issuance. The Contractor shall furnish, except as noted, all labor, materials, equipment, tools, transportation, communications, and supplies required to complete the work in accordance with project specifications, terms of the contract, and this Scope of Work.

The TNARNG POC will serve as the liaison with the training site personnel concerning scheduling of meetings at the facilities. However, it is the Contractor's responsibility to coordinate all other access to the facility through the training site POCs. Access will be provided as necessary to accomplish field work; however, the Contractor must understand that military training activities shall receive first priority with regard to scheduling access to training areas.

All information and data provided by the TNARNG to the Contractor is for the purpose of fulfilling this contract. This information is to be protected by the Contractor; it is not to be distributed or utilized for any other purpose under penalty of law.

Upon completion of the Project, the Contractor shall protect and/or return all maps, photographs, specimen materials, studies, surveys, inventories, evaluations, plans, and project reports obtained or collected during the course of the contract work in accordance with all regulations, laws and statutes. Copies of reports and applicable related materials will be furnished to the TNARNG upon completion of the contract.

## **7.0 DELIVERABLES**

All maps, historic documents and other items borrowed from the TNARNG or other contractors under contract to the TNARNG are the property of the TNARNG and shall be returned to the TNARNG upon completion of this Contract.

The deliverables due in fulfillment of this Contract are summarized below. Payment will be made following receipt of deliverables according to the following approximate schedule (payment will not be delayed if a deliverable is provided ahead of schedule):

Time from Notice to Proceed	Deliverable	Payment
30 days	Start-up Meeting	5%
45 days	Start-up Meeting Minutes	5%
90 days	Project Work Plan	10%
Throughout	Copies of all permits and authorizations obtained during the course of the contract work	0%
Throughout	Minutes and records of meetings, consultations, and conferences	0%
Throughout Complete by 21 months	Forest inventory field work and monthly progress reports	50%, Increments possible.
21 months	Draft Forest Inventory Reports, GIS files, and complete survey results in electronic database for each site (1 hardcopy and 1 electronic of each report)	10%
24 Months	Final Forest Inventory Reports, GIS files, and complete survey results in electronic database for each site (2 hardcopies; 3 electronic of each report(2 on CD and 1 via DoD SAFE))  And all data in electronic form	20%

## 8.0 MEETINGS AND REVIEWS

Consultations and meetings will be conducted as necessary. At a minimum, this will include:

1. Start-up meeting – on-site, in-person.
2. Review of Project Work Plan – may be conducted in person or via phone/email.
3. Monthly progress report reviews – may be conducted in person or via phone/email.
4. Draft Forest Inventory reviews – may be conducted in person or via phone/email.
5. Review of Final Forest Inventory Reports in person or via phone/e-mail.

## 9.0 POINTS OF CONTACT

The VTS-Milan on-site POC for this project is 1LT Brown at (731) 222-5304 ([andrew.j.brown50.mil@mail.mil](mailto:andrew.j.brown50.mil@mail.mil)). All visits to Milan by the Contractor should be coordinated through 1LT Brown and CW4 Helton (731) 222-5305 ([timothy.e.helton.mil@mail.mil](mailto:timothy.e.helton.mil@mail.mil)).

The VTS-Smyrna on-site POC for this project is CPT Sutherland at (615) 355-3716 ([clinton.b.sutherland.mil@mail.mil](mailto:clinton.b.sutherland.mil@mail.mil)). All visits to Smyrna by the Contractor should be coordinated through CPT Sutherland and SGT Patrone (615) 355-3720 ([john.t.patrone.civ@mail.mil](mailto:john.t.patrone.civ@mail.mil)).

The TNARNG Natural Resources POC is Brian Knapp, (615) 313-0945 ([brian.e.knapp.nfg@mail.mil](mailto:brian.e.knapp.nfg@mail.mil)) or Courtney Rogers, (615) 313-0603 ([courtney.a.rogers3.nfg@mail.mil](mailto:courtney.a.rogers3.nfg@mail.mil)).

The TNARNG GIS POC is James "Dave" Meadows at (615) 313-0837 ([james.d.meadows.nfg@mail.mil](mailto:james.d.meadows.nfg@mail.mil)). GIS/GPS requirements must be coordinated in advance through Mr. Meadows.

The TNARNG technical representative under this Contract is Brian Knapp at 615-313-0945. All material submissions are to be sent to Brian Knapp at the following address:

**Tennessee Army National Guard  
JFHQ-TN-FMO-ENV  
ATTN: Brian Knapp  
3041 Sidco Drive  
Nashville, TN 37204-1502**

No TNARNG personnel, other than the Contracting Officer, shall have the authority to change or alter these requirements. The Technical Representative shall clarify technical points or supply relevant technical information, but no requirements in this statement of work or the scope of work may be altered as a sole result of such verbal clarification.

## **10.0 PERIOD OF SERVICE**

The Period of service for this contract shall be twenty-four (24) months from notice to proceed.

**- END OF SCOPE OF WORK -**