

Performance Work Statement (PWS)
Treatment of Invasive Exotic Plant Species
Great Smoky Mountains National Park
Gatlinburg, Sevier county, TN

1. Background.

The Great Smoky Mountains National Park (GRSM) is located in Tennessee and North Carolina and consists of nearly 521,000 acres. The park was established by Congress on June 15, 1934. The parks mission is to protect, preserve, and interpret the natural, cultural, and historical resources for the benefit and inspiration of present and future generations. There are over 9 million visitors annually. Control of non-native invasive species is a high priority in both backcountry and boundary areas of the park in order to preserve the diversity of native flora and fauna. In some boundary areas fuels reduction projects are taking place and non-native invasive plant control is a part of that effort. Resource Management and Science personnel are tasked with controlling non-native invasive species throughout the eight hundred square miles of park property.

The purpose of this project is to accomplish the treatment of several large invasive exotic species sites located in remote areas of the Great Smoky Mountains National Park. Some of these areas are difficult to access and require large blocks of work time when Park personnel visit these sites. The goal of this project is to accomplish a complete initial treatment and two re-treatments (second year) of all indicated invasive exotic species at multiple separate work sites in the Gatlinburg area. There are additional areas that may be added on to the contract if extra funds become available and the contractor is willing to take on the additional work.

2. Required Services.

The purpose of this project is to eliminate invasive exotic plant species from areas of the Great Smoky Mountains National Park in the Gatlinburg area. The treatment areas are located on boundary areas of the Great Smoky Mountains National Park in and around Gatlinburg (see attachment Area map and site maps). There are several work sites located in park boundary areas where the park adjoins Gatlinburg city and/or private property. The work sites are remote and will not be accessible by vehicles, although most areas have parking available nearby. All areas are located in forested areas possibly near streams and wetlands.

The contractor shall provide all labor, tools, equipment, materials and supervision required to cut and stump treat, as well as foliar spray invasive exotic plants within several areas near National Park boundary and Gatlinburg. All of the appropriate exotic plant species will be treated accordingly at each of the individual work sites. Work shall be completed over an 18 month period from the date of award. One treatment shall be completed during the 2020 growing season and two follow-up treatments shall be completed during the 2021 growing season.

The invasive exotic plant species that shall be treated fall into two groups:

- **Group #1**

- Mimosa (*Albizia julibrissin*)

- Common privet (*Ligustrum vulgare*)

- Multiflora rose (*Rosa multiflora*)

All of the above listed species in group #1 are to be cut and immediately stump treated with the appropriate herbicide mixture. Brush is to be consolidated and piled on site to the extent necessary to facilitate immediate treatment with 25% triclopyr / 75% horticultural oil mixture with red indicator dye on all stumps. Work sites are partially in stream corridors on steep ground and varied terrain. All plants in wetland areas, in creeks, on creek banks, or within the mean high water mark of streams will be treated with a solution of 25% glyphosate and 75% water with blue indicator dye. Typical size of tree species ranges from 1/4 to 6 inches DBH with most being sapling and seedling sized trees. The stem size of shrub species ranges from 1/8 to 5 inches caliper at ground level. Seedlings of both tree and shrub species shorter than 8 inches tall and smaller than 1/8 inch in caliper may be hand-pulled if necessary, as long as the entire root system can be pulled out of the ground.

- **Group #2**

Kudzu (*Pueraria montana*)

Oriental Bittersweet (*Celastrus orbiculatus*)

Japanese wisteria (*Wisteria floribunda*)

The vines species in Group #2 are to be cut and immediately stump treated with the appropriate herbicide mixture of 25% triclopyr / 75% horticultural oil mixture with indicator dye on all stumps. All kudzu vines growing into trees and shrubs must be cut and stump treated at ground level, as well as cut several feet above the ground to prevent other vines from climbing back up. Brush is to be consolidated and piled on site when necessary to facilitate the treatment of all stumps. All plants in wetland areas, in creeks, on creek banks, or within the mean high water mark of streams will be treated with a solution of 25% glyphosate and 75% water with indicator dye. After vines are cut, the remaining ground cover of Kudzu shall be foliar sprayed with a 2% solution of Triclopyr and water with appropriate surfactant. In streamside areas and wet or marshy areas a solution of 2% glyphosate, labelled for aquatic use, and water shall be used.

For both plant groups:

- Vegetation that has been cut must be removed from all roads and trails, or developed areas. Treated vegetation must not pose a future hazard to Park visitors and must not have the potential to fall into roads and trails, or campsites.
- No treatments may take place during heavy rain or periods of surface run-off.
- Actual conditions on the ground may vary. The work site encompasses several areas scattered around the Gatlinburg, TN area (zip 37738).
- All work areas have been affected by the Chimney Tops 2 wildfire event. There are many known hazards associated with working in burned areas, including deep stump holes, dead standing trees(snags), hanging limbs, downed trees, and partially fallen trees.
- Listed below are descriptions of the separate work areas:

BASE: Work Areas:

- **All work areas are within sight of the parking areas.**

- 1. Ski Mountain road:

This site is located near 426 Ski Mountain Rd. on the opposite side of the road. Access Ski Mt. Rd. from Hwy 441 at the park boundary. Site is less than .5 miles up Ski Mt. Rd. Parking is available in parking lots near this address. This site is approximately 22 acres in size and includes plant groups 1 and 2. Predominantly one large kudzu patch with kudzu and all other species distributed throughout. UTM Nad 83 e: 271186 n: 3954337

- 2. Turkey Nest road:

This site is located near 723 Turkey nest Rd. on the opposite side of the road at the site of a new home. Site is south and uphill from the park boundary behind the new home. Work area is approximately 22 acres in size and includes plant groups 1 and 2. Predominantly one kudzu patch roughly 4 acres in size and mimosa saplings are found throughout. UTM Nad 83 e: 273128 n: 3953833

- 3. Gatlinburg Bypass road:

This site is located on the northern end of the Gatlinburg bypass and on the west side of the road in a minor creek drainage. Work area is located approximately .5 miles from the intersection of the "Spur", which connects Gatlinburg and Pigeon Forge. Park at the National Park entrance sign parking area where the creek crosses under the roadway (northern end of parking area). Plant group 2 will be treated in this 3.14-acre work area. Kudzu treatment only. UTM Nad 83 e: 271919 n: 3955911

Option ITEMS: Work areas: *All items will be awarded bases on available park funding.*

Additional areas for optional add-on work are in the same general vicinity as the required work sites.

- 1. Gatlinburg Bypass/Campbell Lead mimosa:

25.8 acres of roadside mimosa. This site is 1.7 miles from the intersection of the Spur and the Gat. Bypass at Campbell Lead Rd. The area is roadside, on the right (West) side of the Bypass on steep terrain uphill from the road to the boundary of the road corridor. Site extends .5 mile south to the point where the road crosses over Buckberry branch. UTM NAD 83 e: 271315 n: 3955124

- 2. Gatlinburg Bypass rose:

1.87 acres of multiflora rose. This site is 2.2 miles from the intersection of the Spur and the Gat. Bypass at Campbell Lead Rd. The area is roadside, on the left (East) side of the Bypass on a steep slope downhill from the road to the creek. UTM NAD 83 e: 270815 n: 3954723

- 3. Gatlinburg Bypass/Spur intersection mimosa:

5 acres of mimosa saplings. This site is located on the right() side of the road at a small paved parking area as you merge from the Spur to the Bypass. UTM NAD 83 e: 272465 n: 3956380

3. Contractor Responsibilities

- The contractor shall be responsible for the identification of all target species and of similar appearing non-target species. In addition, some areas may contain sensitive native species

(including but not limited to small mammals, insects, plants, lichens, bryophytes, mosses, liverworts and others) that must be avoided and must not be impacted by treatment activities.

Special care must be taken on steep terrain to prevent damage from abrasion. Information about invasive exotic species may be obtained by researching a variety of Internet sites or by contacting the COR. The COR will provide information regarding sensitive species of concern, if any, after contract award. Identification characteristics and other information relevant to sensitive native species may also be obtained by consulting with Great Smoky Mountains Inventory and Monitoring Section liaison (to be named after contract award).

- The contractor must have the ability to interpret topographic boundary maps of work sites using their own gps equipment. Paper copies of maps will be provided by the NPS. Boundaries of work sites will not be flagged or marked previous to work period.
- All appropriate exotic species must be cut as close to ground level as possible, or to a height not to exceed 5 cm (2 inches), and IMMEDIATELY treated with the appropriate herbicide solution. (refer to page 1 for appropriate species and discussion of treatment methods).
- All stumps left from cutting vegetation should present a level surface to accept herbicide spray and must not present sharp edges or potential cut/puncture hazards.
- Disposal of all removed vegetation is the responsibility of the vendor. Brush, cut or fallen limbs, or other obstacles that result from vendor activities must be removed from the mowing zones near highways and park roads, trails, and developed areas.
- All treatment activities will be properly documented by vendor personnel, and the vendor is required to assign one person (preferably the on-site supervisor) to maintain such records and submit originals to Great Smoky Mountains National Park. Forms to be used will be provided by the GRSM liaison. Vendor personnel responsible for maintaining records will be provided with proper training and instruction for completing required forms by the COR or the GRSM liaison, with a time and date for such training and instruction to be scheduled prior to any treatment activities. Original field treatment forms are to be submitted to the GRSM liaison weekly, with the schedule for submission to be defined by the GRSM liaison after contract award and prior to initiation of treatments. It is strongly recommended that the vendor retain copies of the completed treatment forms for future reference.
- A minimum of one person (preferably the on-site supervisor) is required to possess Commercial Pesticide Applicator's Certification, issued by the Tennessee Department of Agriculture (TDA) (or under a reciprocal certification issued by TDA). Ideally, such certification will be in the Forestry category (other acceptable categories are Right-of-Way, Ornamental & Turf or SPC). Proof of certifications or certification reciprocity must be submitted to the COR prior to treatments.
- The Contractor shall use every precaution necessary to prevent pollution of streams by fuel, oils, herbicides, silt, or other harmful material. Application equipment will be filled and cleaned inside or adjacent to the treatment areas and at least 100 feet from private land and/or 30 feet from flowing streams.
- The contractor is legally responsible for the safe transportation of herbicides. Contractor shall follow travel routes designated by the COR when transporting herbicides from the public road system to the treatment sites. Transport vehicles shall be parked inside the treatment site or in an area designated by the COR.
- Transportation of herbicides used on this contract shall be in accordance with label instructions and the general approved and accepted procedures for safe transportation of herbicides. The

following precautions should be taken by the Contractor to prevent spills, accidents, injury or theft:

- 1) Transport herbicides in the cargo compartment of a truck or other vehicle away from the passenger compartment.
 - 2) No personnel should ride in the back of a vehicle with the herbicide.
 - 3) All herbicide containers shall be tied down or otherwise constrained to prevent breakage or spillage.
 - 4) All herbicide containers shall be transported in some form of secondary container in case herbicide containers leak.
 - 5) Pesticides shall not be transported in the same compartment with food or clothing.
 - 6) If any herbicide is spilled in-or-from the vehicle it should be cleaned up at once.
 - 7) Unlocked herbicides shall not be left unattended.
 - 8) A chemical spill response kit is required to be on site during all herbicide-related operations.
- Contractor shall be responsible for all costs of damages, clean-up, and decontamination should a herbicide spill occur. If a spill occurs, every effort will be made to keep it from contaminating water and other off-site areas. The spill shall be cleaned-up as quickly as possible. Appropriate Federal, State and local officials will be notified. Herbicide spills shall be handled in accordance with the standard procedures for spill clean-up. (40 CFR 117) COR shall be notified immediately of any herbicide spill or accident.

Traffic Control

- The contractor shall provide, if necessary, traffic control measures that will be required for all work within this contract area. All necessary traffic control activities are the responsibility of the contractor and must comply with National Highway Traffic Safety Administration (NHTSA) and Federal Highways Administration (FHWA) guidelines.

4. Government Furnished Property, Materials & Supplies

- No Government Furnished Property.

5. Suggested and/or Required Contractor Furnished Property, Materials & Supplies

- Hand spray bottle or low volume/pressure backpack sprayer (Birchmeir etc..)
- Chainsaws or String trimmers with brush blades may be used
- Truck mounted spray system
- Traffic control signs and safety vests
- Bypass loppers
- Hand pruners
- Hand saws
- Safety Glasses
- Nitrile gloves
- Long sleeved shirts
- Leather gloves
- Hearing protection
- Funnel
- Liquid measuring cup
- Bucket and/or water pump: required to retrieve water from adjacent creeks.
- Maps of treatment plot locations (provided by COR)
- Laser range finder (optional)

- GPS, portable (required)
- Chemical spill response kit, including absorbent pads and wipes (required)

6. Overview of treatment methods and associated requirements

- The contractor will be responsible for the identification of all target species and of similar appearing non-target species. In addition, some areas may contain sensitive native species (including but not limited to small mammals, insects, plants, lichens, bryophytes, mosses, liverworts and others) that must be avoided and must not be impacted by treatment activities. Special care must be taken on steep terrain to prevent damage from abrasion. Information about hemlock and HWA may be obtained by researching a variety of Internet sites or by contacting the COR. The COR will provide information regarding sensitive species of concern after contract award. Identification characteristics and other information relevant to sensitive native species may also be obtained by consulting with Great Smoky Mountains Inventory and Monitoring Section liaison (to be named after contract award).
- Safety Data Sheets (SDS) and label information for used chemicals will be available to personnel at the work site. Such information may be obtained by contacting the COR.
- Acronyms:
 1. ARPA: the Archaeological Resource Protection Act of 1979
 2. CFR: Code of Federal Regulations
 3. COR: the Contracting Officer's designated representative*
 4. CO: the Contracting Officer for GRSM
 5. DBH: diameter measured at breast height for shrub and tree species
 6. GPS: Global Positioning System
 7. NPS: National Park Service
 8. GRSM: Great Smoky Mountains National Park
 9. I&M: GRSM Inventory and Monitoring Section of the GRSM Division of Natural Resources and Science
 10. MSDS: Material Safety Data Sheet
 11. PPE: Personal protective equipment
 12. RA: GRSM Ranger Activities Division (Law Enforcement)
 13. SCR: Special Contract Requirements
 14. TM: indicates trademarked name of a product
 15. UTM: Universal Transverse Mercator, NAD 83

7. Business Hours. The contractor shall coordinate specific on-site work schedule with the Contracting Officer and COR five days prior to performance start date. While contractor is on site, the COR may be reached by phone during normal business hours of 7:00 am to 5:30 pm Monday through Thursday. Work shall be completed within the two-year contract period after Contracting Officer issues the contract. Any work outside of normal business hours shall be pre-approved by the Contracting Officer and COR.

8. Management. The contractor shall manage the total work effort in accordance with effective and efficient management principles and safe working practices to ensure on-time completion of this contract.

9. Safety & Environmental Compliance.

- The contractor shall comply with pertinent provisions of the Occupational Safety and Health Act (OSHA), and state, local, safety, laws.

Applicable Regulations

EO 13112 Invasive Species 3 Feb 1999; Federal Noxious Weed Act of 1974 (P.L. 93-629) (7 U.S.C. 2801 et seq.) as amended by the Food, Agriculture, Conservation and Trade Act of 1990, Section 1453["Section 15, (a) (3)"]; CFR Title 32, Volume 1, Part 190 National Defense; 7 CFR Chapter 3 Part 360, Noxious Weed Regulations; TN Comprehensive Boating Safety Act of 1997; Chapter 75A of the NC General Statutes(boating safety); Hard copies are available upon request.

- The contractor shall comply with pertinent Environmental Protection Agency laws and regulations.
- The GRSM safety officer has the authority to issue restraint or cease-and-desist orders to the contractor when violations or unsafe acts are present and threaten Government and contractor employees or damage to Government property.
- The contractor shall immediately report to the Contracting Officer, COR and Great Smoky Mountain National Park safety officer all accidents resulting in employee injury or death or damage to property while performing this contract.

Additional Safety requirements specific to this contract

- All personnel should be briefed regarding terrain hazards, the possibility to encounter potentially hazardous wildlife (venomous snakes and stinging insects, spiders, coyotes, bears, feral dogs and hogs, or other species) and plants, fungi or other organisms exhibiting toxic properties.
- All work sites are in areas of high bear activity. Follow general bear safety guidelines and observe proper bear-safe food storage regulations.
- Most of the treatment areas are in boundary areas and may have streams or wetland areas nearby. These areas are typically rugged with uneven ground, steep slopes, fallen trees, and thick undergrowth.
- Public safety is a high priority. The summer tourist season brings heavy trail and road traffic at times. All trails in work areas will remain open to the public and care should be taken to prevent visitor exposure to chemicals and hazardous contractor activities.

Suggested Safety Equipment:

- Safety items: A first aid and safety kit must be available at all times while working. Kit contents should include eyewash, insect sting medication,(benzocaine wipes and/or benedryl tablets), poison ivy cream, various size bandages, antiseptic wipes, bandage tape and small scissors, burn cream, and other common first aid kit items. Further recommendations of Safety items and/or potential suppliers may be obtained by contacting the COR.

Personal Protective Equipment (PPE)

- Personnel shall be provided by the contractor, and MUST include all requirements listed on the pesticide label. Other needed PPE includes nitrile gloves, long pants, socks and appropriate footwear, long sleeve shirts when applying pesticides. Potable water must be available on site. A safety and first aid kit should be available for immediate use while working. Snake protection boots or chaps are recommended. All PPE may be subject to inspection and approval by the COR prior to use, and questions regarding PPE should be submitted to the COR.

Suggested safety kit equipment Safety items

- A first aid and safety kit must be available at all times while working. Kit contents should include eyewash, insect sting medication (benzocaine wipes and/or benedryl tablets), poison ivy cream, various size bandages, antiseptic wipes, bandage tape and small scissors, burn cream, and other

common first aid kit items. Further recommendations of Safety items and/or potential suppliers may be obtained by contacting the COR.

10. Special Contract Requirements

Archeological Findings

- All work is subject to the Antiquities Act of 1906 (16 CFR 1B, Archaeological Resources Protection) and the Archeological Resource Protection Act of 1979 (ARPA) (16 CFR 1B; 470aa – 470mm). Text of both documents may be obtained at <http://www4.law.cornell.edu/uscode/16/ch1B.html>, or by contacting the COR. Petroglyphs, artifacts, burial grounds or structural features, ceremonial, domestic and archeological objects of any nature, historic or prehistoric, found in the work area are the property of Great Smoky Mountains National Park and will only be removed by GRSM Park personnel. Should the contractor's operation uncover any archeological remains the contractor will immediately suspend operations at the site of discovery, notify the COR of the findings, and continue operations in other areas. Included in the notification will be a brief statement describing the location (preferably with UTM coordinates located with GPS technology) and a detailed description of the findings. Any archeological finding **MUST NOT BE DISTURBED IN ANY MANNER AFTER DISCOVERY to protect the integrity of the site and preserve historic data.** Should the temporary suspension of work at the site result in delays, or the discovery site require archeological studies resulting in delays or additional work for the contractor, he/she will be compensated by an equitable adjustment under the General Provisions of the contract.

Control of Erosion, Sedimentation and Pollution

- Operations will be scheduled and conducted to minimize erosion of soils to prevent siltation and/or excessive discharge of mud to streams, rivers, irrigation systems, and impoundments (ponds, lakes, reservoirs, etc.). The contractor will not be permitted to blade, doze, or slice the soil surface to remove vegetation. Soil disturbance should be minimized and prevented to the extent possible.
- Pollutants such as fuels, lubricants, butamens, raw sewage, and/or other potentially harmful materials will not be discharged onto the ground, into or near rivers, streams and impoundments, or into natural or manmade channels. The vendor is responsible for all clean up resulting from toxic spills and may be billed for costs of such cleanup if spills are discovered after job completion that may be shown to have been the result of vendor activities.

Unspecified Damage to Park Resources

- Any unspecified damage to Park resources is the responsibility of the contractor for which billing by Great Smoky Mountains National Park may be made.

11. Motor Vehicle & Traffic Regulations. Contractor employees operating motor vehicles shall possess a valid driver's license. Driver and vehicle permits, licenses, registrations and proof of insurance shall be maintained in the vehicle at all times and made available upon request. Contractor employees shall comply with federal vehicle motor law requiring seat belts be worn at all times. Contractor employees shall adhere to the posted speed limits.

12. Employee Badges/Parking. All contractor employees shall comply with parking procedures published for the National Park. Contractor employees shall return any National Park issued personal or vehicle identification badges immediately upon termination of employment or completion of this contract.

13. Non-Payment for Additional Work. Any additional contractor performed services not specified in contract, either at its own volition or at the request of an individual other than an appointed Contracting

Officer, except as may be explicitly authorized in the contract, shall be performed at the financial risk of the contractor. Only an appointed Contracting Officer is authorized to bind the Government to a change in specifications, contract terms, or conditions.

14. Conflict of Interest. The contractor shall not employ off-duty COTR's or other Government employees if such employment would create a conflict of interest or be contrary to the policies contained in conflict-of-interest directives utilized by the National Park.

15. Contractor's Proposal Package. The following deliverables are to be submitted with offer in response to RFQ.

- Provide a technical approach to perform required services mentioned above.
- Contractor safety plan.
- Proof of Insurance–Business Liability & Workers Compensation.

Quote Specifications:

Bids for this contract are to be submitted as a whole job price including treatment cost for all exotic species listed above in the treatment plots. The cost of pesticide **must** be included since this will be provided by the contractor. Bids should reflect what the vendor would charge for the entire job including all work sites and considering travel time to off-trail locations on varied terrain including all incidental expenses. Bidders should include all costs associated with boat rental or boat travel and all associated logistics in their bids.

Quotes should be based on observations made at the pre-bid site visit.

These specific herbicides are to be used for all treatments related to this project:

Glyphosate product: Roundup Custom®

Triclopyr product: Garlon4 Ultra®

Horticultural oil product: JLB Oil®

Contract Period:

Work must be completed within the 18 month contract period which starts upon contract award. Final inspection will take place no sooner than 18 months from contract award date and final payment will not be made until the COR has performed the final inspection.

16. Inspection. The Government will conduct inspection upon completion of required services. Final payment will be processed upon confirming that all noted contractor performance deficiencies have been satisfactorily corrected.

PWS Section	Required Service	Standard	Monitoring Method	Incentive/ Disincentive
3	Treat required invasive plants as specified in PWS	100% compliance	Random Inspection	Performance Evaluation

17. Attachments.



