

June 19, 2018

Documents:

Meeting Agenda

Meeting Minutes

Read Aheads and Presentations

Sample Scopes of Work

Template for Preparing a Performance Work Statement

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Middle Rio Grande Endangered Species Collaborative Program

Est. 2000

Science/HR Workgroup Meeting Agenda

June 19, 2018 1:00 PM – 4:00 PM

Location: WEST Inc. – 8500 Menaul Blvd NE, Conference Room A-319

Conference Call Information:

Phone: (712) 451-0011 Passcode: 141544

1:00-1:05	Welcome, Introductions and Agenda Review <ul style="list-style-type: none">➤ Decision: Approve meeting agenda	<i>Ashley Tanner</i>
1:05-2:20	SOW Workshop <ul style="list-style-type: none">• Elements of a SOW• Q&A and Discussion	<i>Stephanie Dreiling</i>
2:20-2:40	Break	
2:40-2:55	Review of May 29, 2018 Science/HR meeting <ul style="list-style-type: none">• Action items update➤ Decision: Approval of April meeting minutes➤ Decision: Approval of May meeting minutes	<i>Ashley Tanner</i>
2:55-3:25	Update on SOWs development <ul style="list-style-type: none">• Economics SOW• RGSM Overbanking SOW• HR SOWs• Early Life History SOW	<i>Ashley Tanner and Debbie Lee</i>
3:25-3:55	Future SOWs <ul style="list-style-type: none">• Prioritization of SOWs to move forward from➤ Decision: Choose SOWs for EC approval➤ Action Item: Formation of small group(s) to develop SOWs	<i>Ashley Tanner (facilitator)</i>
3:55-4:00	Additional items, follow-ups, and next meeting date <ul style="list-style-type: none">• GSA report is now available➤ Decision: Approval to schedule next Science/HR meeting for July 24, 2018	<i>Ashley Tanner</i>



Middle Rio Grande Endangered Species
Collaborative Program
Est. 2000

**Science and Habitat Restoration Workgroup (ScW/HR)
Meeting Minutes**

June 19, 2018 1:00 PM – 4:00 PM

Location: WEST Inc. – 8500 Menaul Blvd NE, Conference Room A-319

Decisions

- ✓ The minutes of the April 24, 2018 ScW/HR meeting were approved with no comment and no objection.
- ✓ The minutes of the May 29, 2018 ScW/HR meeting were approved with no comment and no objection.

Action Items:

WHO	NEW ACTION ITEMS	BY WHEN
WEST	Schedule a small group for discussion of SOW #13	TBD
Debbie	Work with the Bylaws Group to construct a strawman to illustrate the process by which the SOWs will advance through the Program to the EC.	July 17, 2018
WEST	Develop a SOW template.	July 17, 2018
Ashley	Fit SOW #17 into the SOW template and prepare to move it forward to the EC in August	July 17, 2018
ONGOING ACTION ITEMS		
All	Send focus questions concerning peer review to WEST.	Ongoing
WEST	Schedule DBMS small group meeting to work on data protocol	August 2018

Next Meeting

- The next meeting will be July 24, 2018. Time and location is to be determined.

SOW Workshop

A Scope of Work (SOW) Workshop was given by Stephanie Dreiling of Western Ecosystems Technology, Inc. (WEST). The workshop was given from a contractor’s perspective and facilitated a discussion among Program participants on what makes a SOW “good”, and how the Program may wish to organize SOWs. Introductions were made with a brief overview of each participant.

- The discussion began by reviewing the general components of a SOW. Examples of various SOWs were provided. (Refer to presentation titled “MRGESCP Program SOW Review” and “Sample SOWs” handout.)
 - Sample 1, for raven monitoring data analysis, served as a good baseline SOW. It was expressed by a participant that it contained all the elements their agency found necessary in an SOW. Another participant could see how it would be easy to indicate how to handle intellectual property. This example did take an intellectual approach but could be scaled. Much of the projects done by MRGESCP participants

tend to be more basic than the SOW 1 example and not as specific as to staff requirements. The next sample might be more similar to participants in terms of type of work being done.

- Sample 2, for a rare plant survey, was different in that it did not have a separate qualifications list, but qualifications were included within the SOW. This one was short but had the right information.
- Sample 3 was a National Park Service Solicitation which was a really difficult SOW, and actually had to be reworked as it got “caught up in the weeds.” Though short, it was difficult to extract what was required. This served as the “bad” example as it makes it challenging for a contractor to interpret.
 - A participant asked how to rewrite the SOW so it would be better?
 - The answer was to start with a task. What do we expect from this task? And what is the timeframe?
- A SOW is not a constraint, but rather conveys the vision of the project. Stephanie suggested that the SOW contain enough information for the respondents to understand the project, and to “let the expert be the expert” by proposing the details of how to get the job done. Understanding the desired outcome is important. Specify the type of analysis needed if necessary, but be careful to not get too restrictive. Focus on the deliverables and the task. Sometimes a certain type of analysis is needed, but it is a balance between providing enough information and providing so much information to be constrictive.
 - It was commented that determining when you need a specific methodology is important. Having conversations can help ensure both the contracting organization and the contractor has the same understanding of the tasks and any specific methodologies that are required. This can be included in the SOW, with the caveat that the SOW should not limit innovative or different approaches which may provide a better result. For the contractor, knowing specifics about budgets and other limitations helps them develop the best response possible that addresses the agency’s needs.
 - While having a concrete dollar value is “like gold” to a contractor, they hardly ever get that. There is often a limit what can be put out in the private domain. Sometimes, cost is unknown.
 - The solicitation can weight different variables in a proposal different. Cost may only be worth a certain percentage of the final scoring, for example.
- A template for preparing SOWs was also discussed. Participants noted that it would be useful tool, so long as it was not too restrictive, in ensuring consistency for tracking requirements of the different agencies.
 - It could be helpful for the MRGESCP Executive Committee (EC) to see consistent criteria in SOWs. It was suggested that different templates for different types of projects may be helpful (ex: science versus habitat restoration or data management).
 - It was suggested that common language for standard sections (ex: background of the Program) should be developed for the template(s) so that important Program information is conveyed consistently. Also, while templates are good for the EC, the ScW/HR needs to ensure that SOW development aligns with long-term planning.
 - A few participants noted that while a template would be helpful for consistency, individual agencies have different requirements that may be difficult to convey in a template.
 - We should come up with a list of requirements for types of SOWs, include the justifications for those requirements. All this information would need to be stored

somewhere accessible. A table each of the BOs and a list of references would be useful tools as well.

- Participants agreed to continue discussing a SOW template at a future meeting.
 - WEST will draft a SOW template for the group to react to.

Review of the May 29, 2018 Science/HR Meeting

- The April 24, 2018 meeting minutes were approved with no comment and no objection.
- The May 29, 2018 meeting minutes were approved with no comment and no objection.
- Action items and update(s)
 - The next DBMS meeting will be scheduled in August (a July date did not work out).
 - Confirm that Kate Mendoza's task on updating GIS has been completed.
 - The EC requested all standing work groups submit a 2018 charge. The ScW/HR group had no comment and no objection to submitting their current charge for EC review and approval.
 - USACE would welcome any outstanding habitat restoration GIS files for inclusion in the geodatabase. At a later meeting, there will be a conversation about how those files will conveyed and used in the future.

Update on SOWs Development

- There was an Economics SOW meeting at the end of May. The group determined that it needed more information in order to better focus the SOW. WEST was tasked with reaching out to some other riverine programs to ask (1) How each decides on HR projects? (2) How do they qualitatively and quantitatively determine success? (3) What are the measures for success? (4) Do they do any economic evaluation of their program?
- The HR SOWs meeting resulted in a singular SOW for now. This SOW will compile all of the habitat restoration project reports and data to be tied to the habitat restoration GIS efforts. This will enable future DBMS users to click on a project on the map, and find detail information about the project, including links to the associated report(s).
- The Early Life History SOW has not progressed far beyond where it stood at the June Science/HR meeting.

Future SOWs

- Ashley T. put together a table to track SOW ideas and wanted to know if it was useful and what information, if any, is missing that would be useful?
 - Participants commented it was useful and gives insight into what the ScW/HR is thinking about. Plus, it would be easy to add ideas to the list. It was suggested that including how each idea may (or may not) address a BO requirement would be useful and was a good tool for migrating the SOW process into the AM efforts.
- RGSM Overbanking SOW
 - SOW #13 very much relates to an existing effort by SWCA. The RGSM Overbanking SOW group asked the ScW/HR on whether it should continue. It could be tasked with developing ideas that would complement but not duplicate SWCA's efforts.
 - A robust discussion followed, and the group decided to schedule a future meeting.
 - WEST will schedule a small group for discussion of SOW #13.
- SOW 17, Habitat Restoration Compilation
 - For SOW #17, there is a need to understand what has been done and what is out there. Where are the associated reports and shape files? It also requires a group to

- compile all those reports and attributes and link it all together; this is an important SOW and informs the DBMS.
 - There is a spreadsheet of all those files, but it would need to be updated from 2014 and forward. We would need John Peterson of USACE to finish what he is doing. John's mapping efforts will be complete in a couple of months.
 - This would also be a good SOW for the template exercise.
 - Ashley Tanner will move forward with SOW #17.
- The list of SOW ideas had been updated since last looked at by the work group in May, so a review was requested.
 - Several people remarked that SOW #18, as a starting point, may be used to incorporate some of the earlier maps.
 - A discussion followed about how geospatial data would be displayed on the DBMS/Program GIS page. The following points were made:
 - Aerial imagery would only be the start, but other layers would allow you to delineate vegetation, utilize LIDAR, and more depending on Program needs.
 - May be able to have historical imagery available, which could then be compared to new aerial imagery and to see how the Middle Rio Grande (MRG) has changed.
 - Thinking about how that landing space would look, what you're likely to look for, and what is likely that other agencies would look for is productive.
 - For this scope, the funds would be used to acquire high resolution aerial imagery of Program boundaries to delineate vegetation types. There have been various aerial photographs taken in the past ten years but given the size of the Program area (from the Colorado border down to the Elephant Butte Reservoir, between the levees), better resolution may be possible.
- Further discussion took place on several SOWs but the group was not ready to bring any developed SOW to the EC and there are no new SOWs for EC consideration to move forward.
- In choosing SOWs for EC approval, we want a rolling process to not leave money on the table. When some of these SOWs are tabled and need a replacement it would be helpful to know the process for advancing new SOWs.
 - Debbie will work with the By-laws Group to construct a strawman to illustrate the process by which the ScW/HR will advance SOWs to the EC.

Additional Items, Follow-Ups

- The GSA Adaptive Management Framework is now available, and a presentation will be given at USACE from 9am-11am on Thursday, June 21. Please RSVP to be added to the security list.
- There will be a Program BBQ after the EC meeting June 28. Participants of ScW/HR are invited to attend. RSVPs are requested.

Participants List:

Participant	Organization
Rick Billings	Albuquerque Bernalillo County Water Utility Authority
Stephanie Dreiling	Western Ecosystems Technology, Inc.
Kim Eichorst	Bosque Ecosystem Monitoring Program
Lynette Giesen	U.S. Army Corps of Engineers
Grace Haggerty	New Mexico Interstate Stream Commission
Debbie Lee	Western Ecosystems Technology, Inc.
Mike Marcus	Assessment Payers Association of the MRGCD
Lana Mitchell	Western Ecosystems Technology, Inc.
Yasmeen Najmi	Middle Rio Grande Conservancy District
Matthew Peterson	City of Albuquerque Open Space
Michael Porter	U.S. Army Corps of Engineers
Dana Price	U.S. Army Corps of Engineers
Michael Scialdone	Pueblo of Sandia
Nathan Schroeder	Pueblo of Santa Ana
Ashley Tanner	Western Ecosystems Technology, Inc.
Dave Wegner	Western Ecosystems Technology, Inc.

Sample SOWs

National Fish and Wildlife Foundation RFP for Raven Monitoring Data Analyses, March 2018

Contacts for Technical Questions:

Tara Callaway, Endangered Species Biologist, U.S. Fish and Wildlife Service, Email tara_callaway@fws.gov, Office 760-322-2070 ext. 417

Mark Massar, District Wildlife Biologist, Bureau of Land Management, Email mmassar@blm.gov, Office 760-898-5367

Contact for NFWF Contracting and Administrative Questions:

Anne Butterfield, Senior Manager, Impact-Directed Environmental Accounts, National Fish and Wildlife Foundation, Email Anne.Butterfield@nfwf.org, Office 415-593-7628

Eliza Braendel, Manager, Impact-Directed Environmental Accounts, National Fish and Wildlife Foundation, Email eliza.braendel@nfwf.org, Office 415-593-7628

1. INTRODUCTION

The National Fish and Wildlife Foundation is seeking a qualified contractor(s) to analyze raven monitoring and management data collected from 2013-2017.

This Request for Proposals (RFP) for the Raven Monitoring and Management Data Analyses Project (Project) describes the background; proposal information, organization, and content; scope of work; and deliverables. Failure to submit the Proposal in accordance with the procedures outlined may be cause for disqualification. If anything in the proposal is optional, it must be specifically noted as optional with a separate budget; otherwise if the proposal is selected, all actions detailed in proposal will be required to fulfill the contract. If the proposal references this RFP, the RFP needs to be included as an Appendix and a reference to that Appendix must be added wherever the RFP is mentioned.

BACKGROUND

Common Raven (*Corvus corax*; hereafter referred to as raven) surveys have been completed from 2013 through 2017 with an effort to document and monitor the extent to which nesting ravens depredate desert tortoises within high-quality and sensitive tortoise habitat in southern California (e.g., desert tortoise critical habitat units). Selected habitat areas occur in critical habitat units (CHU) and have rotated among the years such that each important area was surveyed over at least one breeding year. An effort was made to include locations which were known (or highly suspected) to support large numbers of breeding ravens over multiple years to gain a better understanding of the extent of the depredation problem, to identify trends



regarding the rate of occurrence of “offending ravens”, and to begin to document the rate of success of current removal methods of offending individuals. We now want the data analyzed to gain a clearer view of the issues contributing to the unnaturally-high densities of breeding ravens in the desert and develop an understanding of the impact breeding raven foraging habits may have on the desert tortoise in relation to localized human subsidies.

Key management questions are outlined below, and while some questions may not be feasible to answer completely, the data may elucidate trends or variables that can help land managers better understand how to manage raven populations. The data may also be able to further clarify the role of human-caused subsidies in the raven mega-population phenomenon and to begin the process of addressing achievable management actions (currently available as well as in preliminary development phases) that may offer low-cost, long-term, and effective solutions.

2. PROPOSAL INFORMATION, ORGANIZATION, AND CONTENT

All Proposals should be concise, well organized, and demonstrate the Proposer(s)' qualifications and experience applicable to the Project.

All proposals shall contain, at a minimum, the following information:

- A. Title Page
- B. Table of Contents
- C. Cover Page
- D. Approach and Scope of Work
- E. Schedule
- F. Qualifications
- G. Budget
- H. Company Overview
- I. References
- J. Project Team Staffing

A. *Title Page (1 page maximum)*

The following must be provided on the title page:

Title of the project

- Name and address of proposing firms and/or individuals
- Phone/Fax of Proposer
- Primary contact person
- Email address and phone number of the primary contact person

B. *Table of Contents*

A clear identification of the materials by section and page number.

C. *Cover Letter (2 pages maximum)*

The cover letter should be brief (two pages maximum), and provide a short synopsis of the Proposer's approach to completing tasks and deliverables.

D. Approach and Scope of Work

Please refer to Section 3 (Scope of Work) for detailed response requirements. Proposer is encouraged to propose enhancements or procedural or technical innovations to the Scope of Work that do not materially deviate from the objectives or required content of the project.

Proposer shall:

- Demonstrate direct experience with and understanding of raven issues.
- Describe the approach to completing each task specified in the Scope of Work. The work plan shall be of such detail to demonstrate the Proposer's ability to accomplish the project objectives.
- Sequentially outline the activities that would be undertaken in completing the tasks and specify who would perform them.
- Furnish a project schedule for completing the tasks in terms of elapsed weeks from the project commencement date.
- Identify methods that the Contractor will use to ensure quality control as well as budget and schedule control for the project.
- Identify any special issues, problems or risks that are likely to be encountered in this project and how the Contractor would propose to address them.

E. Schedule

Work will be performed over a nine-month period from approximately May 2018 through January 2019, although work can be completed early. There is the possibility of renewing the contract when new monitoring and management data becomes available. Please include a detailed schedule which lists milestones and estimated completion dates of each of the tasks and sub-tasks listed in Section 16.

F. Budget

Budget descriptions need to be estimated clearly and broken down by tasks such as, but not limited to: data analyses, database management, project administration, equipment/supplies (total cost), and overhead (percent of labor). Data analyses, database management, and project administration efforts need to include an estimated number of hours and cost per hour. Each task will include the total cost estimates. If the budget is not clearly estimated, further evaluation of the proposal will be discontinued. Monthly financial reports must contain an estimated cost for each task that month and total hours.

G. Appendix C: Company Overview

Please provide the following for your company:

- Official registered name (Corporate, D.B.A., Partnership, etc.), Dun & Bradstreet Number, Primary and secondary Standard Industrial Classification (SIC) numbers, address, main telephone number, toll-free number(s), and fax number(s).
- Primary key contact name, title, address (if different from above address), direct telephone and fax number(s).
 - Person authorized to contractually bind the organization for any proposal against this RFP.

H. References

Please provide three (3) references, including names and contact information, for which you have performed similar work.



I. Project Team Staffing

Please include biographies and relevant experience of key staff and management personnel who would be assigned to the project. Please describe coverage levels of employees who would be assigned to this project.

SCOPE OF WORK

a. Database Creation And Management (recommend use of Data Basin platform but can clarify reason for another platform in proposal, if any)

A database will be created to store all collected data as well as inputting future data. The database control will be handed over at the end of the contract for the USFWS and BLM to manage. Photographs from projects need to be added and organized by CHU, year, and subject matter.

b. Data Analyses

Data analyses will be performed to answer the management questions below. In the proposal, detail how these questions will be addressed and what statistical methods will be performed. Sample data will be provided in order for contractors to gauge how they will organize, input, and analyze data. Data will be analyzed to assess year-to-year changes in raven breeding efforts, reproductive success, and utilization of desert tortoise as a source of prey, within each study area.

i. Analyze Nesting

1. Preferred nesting substrates for each CHU and across desert;
2. Species' preferences by CHU;
3. Nesting success by CHU, species, and proximity to subsidies;

4. Proximity to point subsidies (water, food, and nesting); 5. Correlation between location and density of offending raven nests versus subsidy type or location; and

6. Nesting territory size depending on active nests and proximity to point subsidies. ii. Analyze Removal Efforts 1. Overall success rate of removal efforts

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- Determine if there is a correlation between offending raven

removals and reduction in desert tortoise predation;

- Number of visits resulting in a take;
- Number of visits unsuccessful; and
- Calculate overall time by labor by cost per successfully-removed offending raven.

iii. Analyze Offending Raven Effectiveness

1. Develop/identify a metric for analyzing the success or effectiveness of implemented raven management strategies.
2. Success rate at removing the “worst offenders” or “serial killer” ravens
 - a. Are these individuals more difficult to remove, easier, or no difference?
3. Determine effectiveness of offending raven removals
 - a. What is the effect of removing offending ravens in the following years?
 - b. Does removing offending ravens decrease/increase predation pressure or active nests in the following years?
4. Determine variables that play a role in repeat offenders like the time period during the season, breeding development stage, nesting substrate, proximity to point subsidies, etc.
5. Identify offending raven “hot spots” over time
 - a. Determine areas that are hardest-hit in relation to desert tortoise mortality from raven predation
 - b. Are the same nest locations/territories with highest tortoise mortality used every year?

- iv. Analyze Pellet Data
 - 1. Determine raven diets based on their pellet compositions
 - 2. Determine whether diets are affected by proximity to point subsidies
- v. Predation Time Period
 - 1. Determine peak predation time in each CHU and across desert
- vi. Desert Tortoise Remains
 - 1. Compile age class of carcasses in each CHU and across desert

c. Map

Create an interactive map for all areas surveyed that allows the user to get details by clicking on an icon.



The map will contain the following information:

- Active and inactive nests (all species, except peregrine falcons and golden eagles, and delineate nesting substrate – powerline, transmission line, cliff, tree, building, etc.)
- Offending raven nests
- Offending raven removals
- Desert tortoise carcasses (predated and road-killed differentiated)
- Live desert tortoises
- Subsidy sites (delineate type of subsidy by food, water, or nesting/perching)
- Survey routes
- Powerlines/transmission lines (differentiate between the two) Subsidy sites (delineate type of subsidy by food, water, or nesting/perching)
- Survey routes
- Powerlines/transmission lines (differentiate between the two)
- Nesting substrates (powerlines, transmission lines, cliffs, trees, buildings, etc.)

vii. DELIVERABLES

The contractor will provide the following deliverables. All electronic files will be compatible with Microsoft Office (e.g., Word and Excel) and all electronic data will be compatible with ESRI ArcMap version 10 (e.g., shapefile). Database management will be turned over to the USFWS and BLM after project completion.



1. Monthly:

1 page report that contains:

- a. Status of project - estimate of percent progress
- b. Completed objectives
- c. Update on data results

2. Quarterly:

Meetings and expert review – The contractor should be prepared to organize meetings in webinars or webexes with USFWS, BLM, land managers, and other experts to present and discuss interim and final database and data analyses' results. Meetings will be scheduled quarterly to review and provide updates on milestones.

3. At the end of the contract:

- a. A functional database that contains:
 - All data input from raven monitoring and removal program
 - An input option for future data to be added
 - GIS layers for all data
 - Photograph section separated by CHU and year
- b. NFWF Final Programmatic Report that contains:
 - Methods, results, and discussion sections of raven monitoring, removal, and management program data analyses
 - PDF maps of:

- Active and inactive nests (all species, except peregrine falcons and golden eagles, and delineate nesting substrate – powerline, transmission line, cliff, tree, building, etc.)
- Offending raven nests
- Offending raven removals
- Desert tortoise carcasses (predated and road-killed differentiated)
- Live desert tortoises
- Subsidy sites (delineate type of subsidy by food, water, or nesting/perching)
- 7
- Survey routes
- Powerlines/transmission lines (differentiate between the two)
- Nest sites (active nests, inactive nests, bird species, and offending raven nest sites)

3. All electronic files, GIS layers, and shapefiles mailed electronically and physically on a flashdrive to USFWS contact

4. NFWF Final Financial Report

Project: Rare Plant Survey

Issuing Office: BLM Nevada State Office

Location: Southern Nevada District Office

Solicitation Number: Ebuy RFQ1022781, General Services Administration (GSA) contract holders only

Statement of Work

Rare Plant Surveys for Las Vegas Field Office Disposal Boundary Expansion

Introduction

In 2014, Congress added three BLM land parcels under BLM Las Vegas Field Office (LVFO) management to lands designated for disposal under the 1998 Southern Nevada Public Lands Management Act. To comply with federal and state environmental laws, the LVFO is in need of endangered plant survey data for these disposal boundary expansion parcels. The project area is approximately 6,900 acres. At least 5,400 of these acres will need to be 100% surveyed. The rest of the area within the parcels is nearly devoid of vegetation due to commercial mining or activities associated with rights of way. These areas need to be assessed for their habitat potential, and surveyed at 100% coverage in areas where habitat conditions make the presence of rare plants possible.

Tasks

The contractor will conduct plant surveys and provide data and a final report to BLM as detailed in the task list below.

Task 1: Perform a site assessment and submit a survey plan to LVFO for review.

The contractor will perform a site assessment of the approximately 6,900 acre project site to determine whether any of the approximately 1,500 acres of denuded land is rare plant habitat.

Target species are:

Eriogonum corymbosum var. *nilesii*, Las Vegas buckwheat

Arctomecon californica, Las Vegas bearpoppy

Anulocaulis leiosolenus var. *leiosolenus*, sticky ringstem

Astragalus geyeri var. *triquetrus*, threecorner milkvetch

Eriogonum viscidulum, sticky buckwheat

Pediomelum castoreum, Beaver Dam breadroot

Penstemon albomarginatus, white-margined beardtongue

Arctomecon merriamii, white bearpoppy

Penstemon bicolor ssp., bicolor two-tone beardtongue



Task 2: Conduct surveys using standard published protocols.

Field inventories must include all potential habitats within the defined site. Multiple site visits may be necessary to make observations during different phenological stages of target plant species. However, because of the short timeframe of the surveys, identification may need to be based on the plant parts, dormant or otherwise, existing on the sites during the timeframe of the survey. Survey at 100 % coverage using parallel pedestrian transects spaced no more than 30 feet apart. If the vegetation or topography in the area obscures or reduces the surveyor's ability to view the ground surface when utilizing 30-foot wide transects, the transect width will be narrowed accordingly to achieve full line of sight. Document the average distance between transects. All the area between transects must be visible. If there are rolling hills and or washes that traverse the parcel, transects must be adjusted so that a clear view of the transect area is visible at all times. An appropriate survey pace is approximately 2 miles per hour.

Upon locating the target species a number of documentation procedures must be completed. These include identifying the species, number of plants, precise location, habitat characteristics and the phenology of the species.

1. Locate the population on a 1:24,000 scale USGS quadrangle map, or equivalent GIS generated map.
2. Record location as UTM coordinates accurate to a minimum of 150 feet using a GPS.
3. Collect a voucher specimen only if the removal will not impact the population. Do not collect vouchers of sensitive or rare species without first contacting a BLM Botanist.
4. Take photos of rare plant populations and the surrounding communities.
5. Complete and submit a Nevada Native Species Site Survey Report to the Nevada Natural Heritage Program for every population occurrence mapped. A link to the form is included here:
<http://heritage.nv.gov/submit>

Private property will not be surveyed. Botanical surveys shall not be conducted concomitantly with other surveys even if the contractor is qualified to do so.

Task 3: Provide LVFO with a final report and all survey data.

The contractor will provide a copy of all survey data electronically, summarized in a report that includes printed maps. A copy of all field data sheets will be included as an appendix to the report. Maps will include the project area, and rare plant population locations by species. All GIS-based data will be in

NAD 83, UTM, Zone 11 coordinate system with measurements in meters and accurate to within 5 meters. Data will be provided to the BLM LVFO electronically as shape files suitable for use with ESRI software, attributed with survey data, and complete with metadata. The report will include the original datasheets.

The rare plant survey report should include the following:

Pre-field Review: Describe the intensity of the preview. What known populations were visited? What floras were used to study the species characteristics? Which herbaria were visited?

Field Methods: Report the methods used in the field survey and why those methods were chosen. Report any changes to the methods that were made and why. Report the methods used to correctly identify the species, whether it was keyed in the field or in the lab, who made the proper identification, etc.

General Discussion: A summary of the findings should be included in the report. The summary should include surveyors names and qualifications, dates and times that the survey was conducted, habitat description, population boundaries, condition of the population (disease, predation, etc.) and associated species.

References: Literature cited, herbaria visited, persons contacted.

Attachments and Enclosures: Included in the report should be the following attachments and enclosures: a comprehensive list of all vascular plants occurring on the project site, maps with locations documented, GPS files, what type of GPS unit was used, photos, and voucher specimens, and copies of the Nevada Native Species Site Survey Report Forms submitted to Nevada Natural Heritage Program.

Furnished by BLM



The LVFO will provide:

- Guidance and review for additions, revisions and modifications to the survey design.
- Maps and electronic spatial data of the project area boundary and denuded areas within the project area.

Furnished by Contractor



The Contractor will provide:

- All equipment, supervision, transportation, supplies, and incidentals needed to complete the surveys.
- Any postage, printing, copying, digital media, and transportation costs associated with producing a final report and data from the surveys.



- Qualified staff: Field personnel responsible for collecting desert tortoise data associated with the project must be reviewed and approved by BLM. The contractor must submit a current Qualification Statement for each surveyor. Surveyor qualifications include:
 - A minimum of two years of rare plant survey experience.
 - Knowledge of the local flora to the species level.
 - Experience in the fields of plant taxonomy and plant ecology.
 - Demonstrated expertise with technical botanical keys appropriate for the area.
 - Familiarity with state and federal laws and agency policies that pertain to rare plant protection.

Compliance

In accordance with BLM policies, all materials brought onto BLM-managed lands while conducting the biological surveys will be removed at the end of each work day. No vehicles will be driven off existing roads on public or private lands in accordance with typical procedures for working in desert tortoise habitat, and also with BLM policies. Survey personnel shall check underneath parked vehicles to ensure that tortoises have not taken shelter. Vehicles shall travel at a speed that would allow the driver to observe all size classes of desert tortoise and avoid them. Typically, speeds on unpaved roads should not exceed 20 MPH.

Period of Performance

The final report and data must be submitted to the LVFO by May 31, 2016.

Payment Schedule

Payments will be made to the contractor as follow:

- Completion of Task 1--20%
- Completion of Task 2--30%
- Completion of Task 3--50%

National Park Service Solicitation 140P2118Q000, April 2018

APPENDIX A

FIRST TASK ORDER STATEMENT OF WORK



Background:

Work under this task order will request support in the form of consultation/discussion, analysis, written products graphics through this Statement of Work (SOW) listing the requested task with specific questions and deliverables, dates to be performed and required delivery date. The deliverables listed below shall comply with the following list of requirements:

- Written summary of analysis, ranging from 3-5 pages in MS Word format for review draft;
- Provide supporting Excel sheets for data preparation as needed; however R is the desired analysis tool;
- Following NPS review of 10 working days, prepare final analysis report in PDF format within 10 working days;
- Provide analysis data with R code and a written description of functions and processes;
- Draft sections of narrative text to illuminate the lessons learned and clarifying language to our NPS Vegetation Mapping and Inventory (VMI) standards
- Provide 1 final report hard copy for archive purposes, and the digital report on CD/DVD. Drafts may be emailed to COR for receipt and review up to 5MB. For larger review files, CD/DVD may be required.

Deliverables:

VMI 1st task order: SOW Task 1.a – Crater Lake National Park (CRLA) in Oregon conducted accuracy assessment (AA) on their vegetation map in the summer of 2017. In order to conduct the analysis, the awardee will contact the Southern Oregon University – NPS Klamath Inventory and Monitoring Network team (POC: Dominic DiPaolo, 1250 SISKIYOU BLVD, ASHLAND, OR 97520; email: dipaolod@sou.edu; office: (541-552-8577) . Work with the NPS cooperator to obtain the AA data, sampling frame, and class types. Contact that team within 5 days of award, and obtain those materials within 5 more days. For a mosaic class (multiple members) map type, determine if an AA field call in either type can be called correct for the combined class. Support this analysis with current references or study results. Additionally, compute, define, and describe the confidence of either member of that class. Provide this analysis for draft review within 30 days of obtaining the data.

Task 1.b – Review our NPS AA standards (Lea and Curtis). Recommend for future Inventory 2.0 efforts the procedures to reduce validation costs. Show the analysis of alternatives and the recommended selection process for validation points.

Further, analyze and describe the forms of map testing accomplished cheaper by rapid assessment options. Describe how these validation and rapid assessment methods contribute to compute an overall map confidence value, and an efficient per class accuracy. (Note: Our current Lea and Curtis AA guidance has a tiered sample approach with 30 samples in common types, 15 in less common, and 5 in rare types.)

Task 1.c – Analyze and describe the options and trade-offs to balance size of the minimum mapping unit (MMU), QC, and analysis and verification. Determine how to compute the quality of the map class without doing a whole sample of 30+ per class. Considering Bayesian statistics, describe the methods to use existing knowledge to establish confidence levels.

For all three tasks, the analysis includes research plus description of methods and 2 cycles of review with NPS internal scientists.

Task Order Type

The NPS anticipates awarding a firm fixed price task order.

Travel

Travel is not anticipated for this task order.

Invoicing

Invoicing shall be in accordance with the terms and conditions in the IDIQ contract.

Period of Performance

The NPS anticipates this task order will last six months from the date of award.

Place of Performance

The work will take place at the vendor's facility.

**TEMPLATE
FOR PREPARING A
PERFORMANCE WORK STATEMENT (PWS)**

1.0 SCOPE

1.1 OBJECTIVE - The objective of this contract is to acquire contractor services to [task verb] [object description].

- **Do this section first.**
- This section includes a brief description of the purpose of the contract
- Make it short and to the point
- Goal is **NOT** to write something specific and detailed
- But to get general idea on paper
- Do **NOT** include vague adverbs, like *completely, effectively, efficiently, and thoroughly*

1.2 BACKGROUND -

- This section provides background that sets the contract within the larger context of the Agency's operations. It should address where services are to be performed, the importance of the services to be performed, any previous efforts relevant to this procurement, related on-going work, and subsequent work.
- Describes overall boundaries of the contractual relationship...the kind of work that is included and the kind of work that is not included.

2.0 REFERENCES - The following list of documents are required in the performance of this contract:

Number	Title and Edition	Date	Source
Number chronologically as the documents appear in the PWS.	Specify title and edition that applies to the requirement, e.g., "Reclamation Health and Safety Standards"	Insert date of the document.	Specify source of the document, e.g., "Bureau of Reclamation"

- **Do this section last.**
- This section lists documents with which the contractor must comply during performance of the contract.
- Reference citations must be complete so the contractor can find the documents, and so there's no question about what document is part of the requirement.

3.0 TASKS - The contractor shall perform the following tasks:

- **Do this section second.**
- The analysis of this section is the most important step in developing the PWS.
- You need to be clear about what you want the contractor to do and the results you want the contractor to produce.
- Describe only **WHAT** the contractor must do, **NOT** how the contractor must do its work.

- Write task in active voice...verb----noun, e.g., “design a data processing system.”
- Do **NOT** include more than one verb in any task statement.
- Avoid use of adverbs (like *thoroughly, completely, effectively*) because they are vague.
- Do **NOT** write expressions like: “Provide services to repair X.” Instead, write: “Analyze X.”
- Tasks must be broken down so you’re getting the SAME result with each task(s). Example: You want a contractor to “clean the office building” at the end of each working day. An office building is a complex object and has many parts: entryways, hallways, offices, restrooms, conference rooms, cafeteria, etc. Each of those has different parts, e.g., walls, floors, and windows. In addition, there’s different types of floors, such as linoleum-covered floors, tiled floors, and carpeted floors. Some parts may have parts that others do not have, such as toilets and sinks. Do you want the contractor to “clean” all of the parts? Will the desired cleaning result be the same for every part? Example: Cleaning wood floors has a different result than cleaning curtains. You want the wood floors and the curtains to be cleaned; however, you may also want the wood floors to shine and the curtains to hang orderly.
- If the contractor must perform a task more than once during the period of contract performance, or if it must perform continuously or continually, state the performance requirement at the end of the task statement. Example: “Change the oil every 3,000 miles” or “clean the interior daily,” or “monitor the entrance continuously.”
- You need to break the work down and identify the different parts so you can specify the desired **result** for each.

4.0 PERFORMANCE REQUIREMENTS SUMMARY

Task No.	Task Description	Performance Indicator	Performance Standard	Minimum Acceptable Quality Level
Coincides with Task Number under Paragraph 3.0	Description as identified under appropriate Task Number.	This is the state which you want the contractor to <u>change</u> . Try to quantify the service that’s being measured. Must be realistic.	This is the measurement that the contractor must <u>produce</u> .	This establishes the allowable error rate you will accept. Can be based on historical records, agency directives, or management decision. Must be realistic.
	Example: Taxi services might be “operate taxi.”	Example: Taxi services might be “difference between agreed upon time and actual pickup time.”	Example: Taxi services might be “pickup within five minutes of an agreed upon time.”	Example: Taxi services might be “5%.” Taxi could be more than 5 minutes late no more than 5% of the time. Failure to perform within the 5% could result in contract price reduction or other action.
	Example: Mop floors daily.	Example: State of cleanliness	Example: Floors must be free of dirt and refuse.	Example: Floors are mopped at least 95% of the time. Failure to perform within the 5%

				could result in poor performance evaluation.
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- **Do this section third.**
- Comes after task list on a PWS.
- This section describes the result you want for each task.
- Remember, you can permit vendors to propose standards of service, along with appropriate price adjustment or other action.
- Performance standards and allowable deviations are negotiable.
- Your approach should rely on standard commercial practices.
- Do **NOT** refer to “industry standards” or “industry practices” unless you can cite a specific document in which those standards or practices are described.

5.0 DATA AND REPORTS - The contractor shall provide the following data and reports as follows:

Item No.	Description	Content	Format	Medium	Delivery
Number chronologically as the documents appear in the PWS.	Description of the data or report. Example: “Monthly Progress Report”.	Address the content elsewhere in the PWS or here. Insert in this block, “See PWS, paragraph _____.”	State format required or contractor’s choice.	State medium you want the contractor to submit the data or report in. Example: “MS Word, CD.”	State who gets the data or reports, how many, and when. Example: “2 copies to the COR NLT COB 5 days after the end of the calendar month.”

- **Do this section fourth.**
- This section is where you list all the data and reports that the contractor must deliver to you.
- Data is information that you’re paying the contractor to get or create during performance and then deliver.

6.0 DELIVERABLES - The contractor shall submit the following reports in accordance with paragraph 5.0, “DATA AND REPORTS”:

- Specify in this section what you want the contractor to address in the report.

NOTE:

- PWS can include a list of Government-Furnished Property, services, and requirements for contractor's inspection system.
- Consider including table of contents if PWS more than 10 pages.
- If PWS is just a few pages, you can incorporate it into the main body of the contract. If PWS is long, you can make the PWS an attachment to the contract.



Environmental
& Statistical
Consultants

MRGESCP Program SOW Review

Stephanie Dreiling

19 June 2018

Statements of Work (SOW)

Introductions

Statements of Work (SOW)

I. Intro to SOWs

II. Review of SOWs

a. How and why some are more effective, using examples from WEST experience

1. appropriate level of detail

b. Managing change in scope responses to meet project need

III. Possible systems efficiencies and control

a. Templates

SOW Components

- Background & purpose: overview, description of need, anticipated start and end dates, contract type
- Requirements of each task: objective, task, desired outcome
- Milestones and schedule: deliverables due dates and receipt of by task. Includes any meetings, status updates
- Provided resources: data and any other responsibilities of the MRGESCP
- Skill and experience: level required to complete work
- Performance: methods to measure quality and SOW adherence

Sample 1

National Fish and Wildlife Foundation (NFWF) Raven Monitoring and Management Data Analyses

- Simple yet thorough introduction and background
- Proposal requirements clearly presented
- Schedule and Budget outlined
- Scope and Deliverables are clear – each contractor will be bidding to provide the same deliverables

Sample 2

BLM Nevada State Office, Project: Rare Plant Survey

Solicitation Number: Ebuy RFQ1022781, General Services Administration (GSA) contract holders only

- Simple yet adequate description of project and tasks (Field conditions, deliverables requirements)
- Concise yet thorough review of contractor qualifications requirements (“Furnished by contractor”)

Sample 3

National Park Service Solicitation 140P2118Q000, April 2018, Appendix A, First Task Order Statement of Work (part of a much larger IDIQ solicitation, included as a the initial project associated with IDIQ)

- Scope was not very clear, even to PhD level statistician with 15+ years of NPS I&M experience
- Schedule relatively clear
- Anticipated level of effort unclear
- Scope was re-written to add more technical detail and is under review

SOW not a constraint

“We are stubborn on vision, we are flexible on the details...And if you're not flexible, you'll pound your head against the wall and you won't see a different solution to a problem you're trying to solve” Jeff Bezos

Finding the right balance is challenging

- Too much and there is no room for contractors' expertise
 - Golden eagle survey example
- Not enough and there is confusion, inaccuracies, and difficulty in comparing bids
 - NPS example

Thorough, not complicated

- Clear purpose, with prioritized requirements
- Enough to clearly outline project needs, desired outcomes and metrics of success
 - Sometimes trying to be the expert can backfire
 - Canada example

Level of detail

- Enough to clearly outline project needs, desired outcomes and metrics of success
 - Sometimes trying to be the expert can backfire
 - Canada example

Templates provided by Bureau of Reclamation

- Template for Preparing a Performance Work Statement (PWS) \$25K-\$150K

Why it is helpful

- Clear and Concise
- Suggestions on process for sections
- Tables clearly connect tasks, performance indicators and standards, deliverable details etc.

Templates provided by Bureau of Reclamation

- Template for Preparing a Performance Work Statement (PWS) \$25K-\$150K

Why it is helpful

- Clear and Concise
- Suggestions on process for sections
- Tables clearly connect tasks, performance indicators and standards, deliverable details

- Working with Debbie & team on sample MRGESP scopes





west-inc.com

Corporate Headquarters

415 West 17th Street, Suite 200, Cheyenne, WY 82001

307.634.1756