



Bringing the Adventure and Science Communities Together

The Sierra Club Military Family and Veterans Outdoor Initiative Grant Reporting Instructions

Organization: Adventurers and Scientists for Conservation

Project Name: Grizzly Tracking in Montana

Project Dates: Start: 04/01/2012 End: 10/01/2012

Grant Award:

Progress reports (narrative and financial) are due every six months throughout the grant period, with a comprehensive final report due no later than 3 months after the grant period end date. If your organization has received a multi-year grant, second and third-year grant payments are contingent upon timely submission of progress reports.

Please provide thoughtful and concise answers to the following questions. The total length of the report narrative should *not exceed 6 pages*. All reports should be submitted as typed, single-spaced, Word documents. Please e-mail one copy, and send two copies by mail to:

Email: stacy.bare@sierraclub.org

Mail: Military Families and Veterans Initiative

Utah Chapter, Sierra Club

824 S 400 W STE B112

Salt Lake City, UT 84101-4803

1) What are your project goal and objectives (outcomes)?

Our goal is to engage military families, veterans and community members in a meaningful, rewarding and fun citizen-science project searching for DNA evidence of grizzly bears in a key wildlife linkage zone in Montana. Adventurers and Scientists for Conservation is dedicated to improving the accessibility of scientific information through partnerships between outdoor enthusiasts and scientists. Through this project, we gathered data related to grizzly bears in the Tobacco Root Mountain Range in Montana. This project has a clear connection to our mission which is to provide those who love the outdoors with the tools to gather scientific information.

Objectives (outcomes):

- Lead 3 weekend grizzly bear tracking outings in August/September 2012 in the Tobacco Root mountain range in Montana.
- Engage 48 military veterans, family members and community members over the course

of the 3 outings.

- Collect DNA samples of bears and provide to a USDA Forest Service lab for analysis.
- Survey participants about their happiness level and connections to nature before and after their trip using a survey developed by Dr. Elizabeth Nisbet of Trent University, Ontario, Canada.

2) In this reporting period, describe the progress you have made toward achieving each of these objectives.

ASC led three weekend grizzly bear trackings in August/September (Aug. 31-Sept. 2, Sept. 7-9, Sept. 21-23) in the Tobacco Root Mountain range in Montana, which is a key wildlife linkage zone in the Greater Yellowstone Ecosystem. We worked closely with biologists from the US Forest Service and Bureau of Land Management to identify survey areas that would be most beneficial to them. We designed our transects to cover a large area of the range including key habitat areas such as productive whitebark pine stands. We also focused our surveys on existing fence lines where discovering bear hair is more likely. In total we covered close to 80 miles of terrain during six survey days.

ASC engaged a total of 46 military veterans, family members and community members during the outings. Participants joined us from across the country including New York, Connecticut, Ohio, California, as well as Vancouver, British Columbia. The age of participants ranged from 13-years-old to over 60-years-old and included veterans from wars in Vietnam, Iraq and Afghanistan. Participants were trained in non-invasive tracking techniques, bear safety and leave-no-trace ethics. During the outings they also learned about wildlife biology, botany, ecology and local conservation efforts. Participants met with Forest Service biologists and learned about the history and current status of grizzly bears, and about what would happen if DNA evidence of grizzlies was discovered.

Over the course of the three weekends, participants collected over 50 samples of bear scat and hair (see attached maps). Participants recorded the location of each sample using GPS units and also recorded general information about the sample site, such as aspect, forest type and other relevant data. After an initial analysis and pre-elimination, 30 scat and hair samples have been sent to a US Forest Service lab for DNA analysis. We expect analysis to be completed within five months. The lab can be contacted at:

Wildlife Ecology Research Unit
Rocky Mountain Research Station
800 E. Beckwith Ave.
Missoula MT 59801
Phone: 406.542.4161
Fax: 406-542-3255
E-mail: kpilgrim [at] fs.fed.us

Prior to the outings, ASC worked with Psychologist Dr. Elizabeth Nisbet of Trent University in

Ontario, Canada to develop a survey that would assess each participant's connection to nature both before and after the outings. ASC distributed pre-trip surveys to participants on the way to the field site and collected the surveys upon arrival. ASC distributed post-trip surveys on the way back to Bozeman and collected them upon arrival. Surveys were organized and sent to Dr. Nisbet in early October. Dr. Nisbet is analyzing results and preparing a full report that she has submitted to present at the Sustainability Psychology preconference of the Society for Personality and Social Psychology conference in New Orleans, 2013. Below is the title of the paper and abstract she submitted:

Authors: Elizabeth K. Nisbet, Trent University, Gregg Treinish,
Adventurers and Scientists for Conservation

Title: Connecting citizen scientists with nature promotes nature relatedness and well-being

Abstract: Nature relatedness - the subjective sense of connection with the natural environment - has the benefit of fostering greater human happiness as well as promoting ecologically sustainable behaviour. Increasing nature relatedness is challenging, however citizen science holds great potential for engaging people with the natural environment through experiential learning. Citizen scientists ($N = 17$) completed measures of psychological well-being and nature relatedness before and after a weekend-long excursion guided by Adventurers and Scientists for Conservation. Using non-invasive carnivore survey techniques and DNA collection (e.g., scat, hair, tracks), participants gathered evidence of grizzly bears in rural and wilderness areas. Participants had significantly improved well-being (greater vitality, positive affect, and lower negative affect) at the end of the weekend, and were also more nature related. Results will be discussed in terms of the potential for future interdisciplinary collaborative citizen science projects and the benefits for both researchers and participants.

Dr. Nisbet can be contacted at:
Elizabeth (Lisa) K. Nisbet, Ph.D.
Psychology Department
Trent University
DNA C104
Peterborough, Ontario
Canada K9J 7B8
phone: (705) 748-1011 ext. 7855
fax: (705) 748-1580
email: elizabethnisbet@trentu.ca
web: naturerelatedness.ca

Our filmmaker is currently in post-production and has said the rough-cut will be ready for review on Nov 15th with a final cut available shortly thereafter. We will submit upon completion of the film. Dr. Cooper-Kuhn can be reached at:

Christi Cooper-Kuhn
Scientist & Filmmaker
Coordinating Producer for TERRA: The Nature of Our World (www.lifeonterra.com)
Social Media & Film Director for Our Children's Trust (www.ourchildrenstrust.org)
Bozeman, MT
720.917.9223
christi.kuhn@gmail.com

3) Enter results in the following table for the metrics you agreed to measure in your grant application. If any of these numbers are different from the numbers projected in your grant application, please explain the reason for the variance.

Metric	Target	Actual
# of military personnel and community members served?	48	46
Definitive signs of grizzly bears collected (DNA Evidence)?	Yes	30 DNA samples submitted for analysis (results pending see above for lab details)
Engaged military personnel as citizen-scientists and giving them the tools to make a difference with their time outside?	Yes	Yes, undoubtedly
Distributed a survey designed by Elizabeth K.	Yes	Yes (results pending)

Nisbet (Ph.D Psychology at Trent University) which will measure connection to nature before and after the event.		
Documentary Film	Yes	Yes (Pending)

4. Describe what lessons you've learned in implementing your project. What worked well? What fell short of expectations and why? What steps are you taking as a result?
 We have reiterated that the overall concept of engaging military families, veterans and community members as citizen-scientists works very well. Throughout the outings, we found that project participants were eager to learn, interested in science and conservation, and they wanted to make a contribution to the study. ASC naturalist guides helped to build a fun, team-building atmosphere. Numerous participants commented on the value of camping and exploring the landscape with a large group of people and getting to know new people with similar interests. Participants left the outings with a new set of tracking skills and a better understanding of wildlife biology and conservation. Many mentioned that these outings had forever changed the way they will spend time outside now that they had learned to identify wildlife tracks and sign.

In general, recruiting volunteers for the outings was extremely successful and we had a long waiting list for two of the three outings. However, a challenge that we faced was that for each trip, there were several people who had a last-minute change of plans and were not able to make it. We found this to be true especially with military veterans. In total 79 people signed up for the trips. Fortunately, we were able to fill nearly all the spots with people from the waiting list. Based on past experience, we had planned to have people drop out last minute and were prepared for this. In some cases we had active military service personnel who had to back out last minute due to unexpected changes in plans related to their service. We did our best to accommodate these people, but sometimes the timing just didn't work to reschedule and they were not able to join us. It also was very difficult to give folks on the waitlist adequate notice that they could join us as often times people who had signed up backed out last minute. We are considering charging a deposit fee in the future that may eliminate this concern, however we want to avoid this if possible.

We switched our survey site from the Gravelly/Snowcrest to the Tobacco Root Mountain Range upon further conversations with the BLM and Forest Service, this also meant that the Forest Service became a key partner more so than the BLM.

The MFO grant has enabled us to forge promising new relationships with a wide variety of military and veterans groups. We believe that fostering these relationships will help us to engage more service members and veterans on future outings. For future outings, we have been discussing the possibility of having an entire local chapter of a veterans group join us in the field and/or growing our collaboration with veterans groups through local universities.

5. Describe how your MFO grant has helped your organization build program capacity. Explain any changes that were made to the structure of the organization in the process. Is your building program capacity in accordance with your proposed timeline? If there are any derivations, please explain.

The MFO grant has helped ASC continue to build the capacity of our guided adventure science outings by enabling us to continue the series of bear tracking workshops that were initiated in 2011. This year, with a special focus on military families and veterans, ASC was able to deepen our engagement with this group. These outings provided a unique way for veterans to get to know other veterans with similar interests, as well as interact with other community members. During the recruiting process, ASC reached out to numerous veterans' groups across Montana and made strong connections to the military community that will be beneficial in years to come.

Through these outings, ASC has been able to focus on developing guided outings specifically designed for military families and veterans. Military families and veterans outings are one of our target groups to engage in our guided outings because of their experience and abilities in rugged terrain and wilderness. No structural changes had to be made to the organization as we already have an organizational structure that includes a position dedicated to our veterans outings. As we continue to grow our veterans outings, we plan to hire someone full-time for this position.

6. How has your MFO grant helped broaden public support in your community for outdoor environmental education programs and built support for returning military personnel and their families? Cite specific examples, such as increased media attention, greater participation in outdoor educational programs by schools, etc.

ASC's grizzly trackings provide a meaningful, hands-on way to learn about and contribute to local wildlife and landscape conservation efforts. By enabling ASC to lead a series of three outings this past fall, the MFO grant has been essential in helping us increase our presence, reach and effectiveness in the community. This will continue through the release of the film that was made for the project.

Our grizzly bear trackings have received a lot of media attention in Montana and across the country. The outings were featured in articles in the Billings Gazette, the Missoulian, Big Sky Weekly and Outside Bozeman. The grizzly outings and ASC's Executive Director Gregg Treinish are being featured in the award-winning documentary film *MoveShake*. Additional press on the outings are being developed for a radio show in New York as well as an article that is

being pitched to the Boston Globe.

In addition to receiving direct attention through the media, the MFO grant has allowed ASC to initiate and maintain partnerships with a wide variety of active military personnel and veterans groups in Montana including Montana Veterans Affairs, Fort Harrison in Helena, United States of Hope, Montana State University Office of Veterans Services, Montana State University ROTC, as well as local chapters of the American Legion, Vietnam Veterans of America and Veterans of Foreign Wars, among others. These groups responded very positively to the outings and were grateful to be able to share the opportunities with their members. Many of the groups advertised the outings through their websites, facebook pages and email lists.

As a result of the outings and the associated press and outreach, ASC has been contacted by numerous individuals, veterans' groups, teachers, and environmental organizations across the country inquiring about how they can get involved in similar projects. The media attention has done a lot to increase the reach of the program, build support for returning military personnel and their families, as well as build excitement about getting engaged in hands-on, outdoor science projects.

7. How did your partnerships with other organizations benefit your project? Did you engage any partners not forecasted in your proposal? How did your collaboration contribute to the overall support of returning military personnel and their families?

Our partnerships with military organizations and veterans groups provided a strong benefit to our project. The groups expressed appreciation for the outings and they were happy to be able to provide this opportunity to their members. Through these partnerships, we were able to reach military families and veterans that we otherwise would not have been able to. It was also a great benefit to receive the support of the veterans group leaders as we reached out to their members. By connecting with a wide variety of veterans groups, we believe that these outings will become more and more popular as the word spreads through the local and national veterans communities.

We engaged several partners on this project that we had not forecasted in our proposal. In addition to reaching out to some of the bigger military and veterans organizations in the state that we had targeted in our proposal, such as Fort Harrison and Department of Veterans Affairs, we also made a concerted effort to locate and engage the smaller military families and veterans groups as well. Through the recruitment process, we had a chance to speak with numerous veterans groups in Montana including: United States of Hope, Montana State University Office of Veterans Services, Montana State University ROTC, as well as local chapters of the American Legion, Vietnam Veterans of America and Veterans of Foreign Wars, among others. We also made some strong connections at Montana State University's Office of Veterans Services and ROTC, which allowed us to engage veterans who were recently back from Iraq and Afghanistan.

Collaborating with a wide variety of veterans groups allowed us to engage a diversity of veterans who ranged in age from their early twenties to their sixties. We watched veterans of different age groups connecting with each other, as well as with the non-veterans on the outings. We believe interactions such as these build community and support for returning veterans and military families.

8. How have your accomplishments in this reporting period helped advance your organization's mission and set the stage for your future work?

Our mission as an organization is to change the way everyone spends their time outdoors by providing outdoor adventurers with the tools and training to contribute to scientific research projects on an ongoing basis. The accomplishments achieved during this project directly benefit our mission. We successfully engaged forty-six volunteers in a program that surveyed a key wildlife linkage zone in the Greater Yellowstone Ecosystem and provided DNA samples of bears to local wildlife biologists. If the samples are found to be evidence of grizzly bears, land management agencies will be required to review land use activities in the area and protect habitat of the threatened bear. Additionally, if the samples are that of grizzly, it would be a giant leap forward for our organization and for the power of citizen-science in general.

This project sets the stage for our future work in several ways. First, the success and media attention associated with this project has boosted interest in our organization and the work we are doing. We hope to leverage this increased attention into more hands-on research projects that engage a variety of audiences in science and conservation. Second, through projects like this one, we continue to increase the profile of citizen-scientists in the scientific community by illustrating the value of public engagement and citizen involvement in scientific research projects. Third, we gained additional experience and capacity as an organization to run effective adventure science outings that engage a large number of people. Forth, this project creates another exciting and successful project that we can point to as we develop new projects in other areas of the country.

9. Describe other sources of income you have received in this reporting period to support this project.

USDA Forest Service covered the cost of our DNA analysis.

Off the Beaten Path, a local adventure travel company, enthusiastically provided additional vehicles needed for the outings.

Please keep multiple hard copies of all materials (press releases, brochures, media coverage, etc.), and choose the best three to four to include with your report.

Billings Gazette Article (09/12/2012):

“Group seeks evidence of grizzly bears in Tobacco Root Mountains”

http://billingsgazette.com/lifestyles/recreation/group-seeks-evidence-of-grizzlies-in-tobacco-root-mountains/article_9a85089a-6645-570b-a521-7c1543c32bfe.html

Also appeared in the Missoulian Newspaper

Billings Gazette Video (09/13/2012):

http://billingsgazette.com/lifestyles/recreation/organization-combines-outdoor-adventure-with-science/vmix_d560f096-d983-50cf-85b6-7cd392e3a630.html

Big Sky Weekly (06/12/2012)

“Veterans, public to track grizzly bears”

<http://www.exporebigsky.com/news/post/veterans-public-to-track-grizzly-bears>

Big Sky Weekly (10/13/2012)

“ASC finds possible evidence of grizzlies in Tobacco Roots”

<http://www.exporebigsky.com/news/post/asc-finds-possible-evidence-of-grizzlies-in-tobacco-roots>