

**Short Course Title:** Specimen Collection (SC)

**Full Title:** USGS Firearms Safety Program – Firearms Safety for Scientific Collectors On-line Course Components

**Subject Matter Experts:** The Lead SME of the project will be Suzanna Soileau whose role will be to facilitate the on-line course development. Suzanna has built and delivered online courses since 2003 and in 2011 served as the SME for the OED TEL course “USGS Firearms Safety Program – Refresher for Defense Against Wild Animals.” She will work closely with Chad Dickinson, USGS Firearms Program Manager, whose role will be in the development of on-line course curriculum content.

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**USGS Return on Investment:** The firearms safety training for personnel involved in specimen collection (biological research) was developed in 1997 and since then these courses have traditionally been offered in a classroom setting across the U.S. Airfare and per diem to these location can average well over \$600 per person. If a portion of this training can be converted to TEL delivery, this would translate to as much as \$300 per person in savings. If this course is offered to up to 40 individuals per year, that translates to up to \$12,000 in savings in addition to the practical benefits described below in **Anticipated Outcomes and Benefits**.

**Problem Statement:** Mandated by the USGS Manual, SM 445-2-H Chapter 29, the USGS Firearms Safety Program provides appropriate firearms safety training for any employee or volunteer, or others that work under USGS funding/direction, who uses, handles, carries, or stores a firearm as a part of their official duties. Currently there are two primary firearm safety courses: USGS Defense Against Wild Animals (DAWA) training program and Specimen Collection (SC) training program. Traditionally these trainings have been classroom and field based modules and development of an on-line component of the classroom training would allow for more flexible training schedules and enhance the field-based training time for employees to work on safety, proficiency and shooting skills. In 2011 Soileau and Dickinson developed the online component of DAWA course through the TEL program and completing this process for the SC component would round out the training program’s goals.

**Course Summary:** The on-line component of the USGS Firearms Safety Program SC course would cover the following specific topics: Introduction, Firearms Safety (General and Range), History of scientific collecting in USGS, History of firearms safety training in USGS, USGS Firearms Regulations and Policies, Safety in the Field, Firearm Types/Function/Ballistics, Modern Firearms Handling Techniques and Maintenance, Collecting Biological Specimens with Firearms: Animal Welfare Concerns, and Public Relations/Public Awareness for Collectors. Materials are meant as a precursor to the field-

based Range and Field Exercises training. To illustrate student proficiency, an on-line post assessment will be required prior to field training.

**Past Offerings:** The firearms safety training for personnel involved in specimen collection (biological research) was developed in 1997 and have traditionally been offered in a classroom setting. The online offering of the DAWA has been served since 2012.

**Existing Course Materials:** Current materials include the following PowerPoint presentations:

- Introduction and History of Firearms Safety for Scientific Collectors (14 page module)
- U. S. Geological Survey Firearms Safety Program ( 21 page module)
- USGS Firearms Safety - Basic Course for Defense (70 page module)
- The Defensive Mindset and Mental Conditioning (10 page module)
- Basic Firearms Safety Course for Specimen Collection (40 page module)
- Collecting Biological Specimens With Firearms: Animal Welfare Concerns (10 page module)

**Intended Audience:** The USGS Firearms Safety Program trains approximately 100-150 employees in firearms safety annually, which varies year to year depending on project needs. This includes USGS employees from the Geography, Geology, Water Resources, and Biological Resources Disciplines. Additionally the USGS Firearms Safety Program trains personnel from Yellowstone National Park. The majority of USGS firearms use occurs in Alaska, and in Alaska and other states, specimen collection is conducted and firearms are carried for defense against bears and mountain lions. We estimate 30-40 individuals each year will receive the SC component, yielding up to 120 individual over a three year period.

**Anticipated Outcomes and Benefits:** The main justification to pursue on-line training for the SC portion of USGS Firearms Safety Program is to allow more range time for employees to work on safety, proficiency and shooting skills, as well as providing agency cost savings. For basic courses, this allows for more flexible training schedules, and more field training. For employees who have already completed the basic courses, many only shoot when they attend the required annual refresher class and it often shows lack of firearm proficiency and manipulation skills. By substituting some of the classroom lecture with on-line training, range time could be increased. Specimen Collection courses' normally incorporate a vast difference in firearms types, gauges and calibers. Increased range training will allow students to work on safety, proficiency and shooting skills. If on-line training occurred, students could attend extended range training once they complete the on-line training, thus allowing more time to work on actual shooting skills.

An on-line component of the training could also support new supplemental video and animation components of the material, which would enhance the training curriculum. Finally, on-line delivery would enable the implementation of a post training assessment that must be completed prior to the field training. This not only assures that knowledge gain is sufficient enough to move on to field training, but also quantitatively tracks student assessment and knowledge gaps.

**Applicability to Multiple Disciplines:** The USGS Firearms Safety Program trains employees from the Geology, Geography, Water Resources, and Biological Resources Disciplines.

**Relevance to the USGS Science Strategy:** The USGS Science Strategy responds to evolving national priorities such as the scale of natural resource use which may modify the terrestrial, marine, and atmospheric environments upon which human civilization depends. The backcountry scientific research that is implemented to respond to these issues places researchers in the habitats of highly valued, yet very dangerous animals such as grizzly bears and mountain lions. The USGS Firearms Safety Program is intended to provide employees the skills needed to safely implement research, as well as respond appropriately to contact with dangerous species.

**Timetable:** The majority of the training is conducted from March-June; before employees head into the field. Course development will occur in from July 2014 – January 2015 and course delivery will be implemented spring 2015.

**Budget:**

SME time is estimated to be a total of 3 months (480 hours) for Suzanna Soileau. This proposal requests 50% of that time and effort as indicated below. Chad Dickinson’s time will be covered in full by the USGS Bureau Firearms Safety program.

Lead SME (Soileau): 240 hours = 1.5 month’s salary and benefits =	\$9588.00
Total Base:	\$9588.00
IDC costs: \$9588 + 13.783% =	\$1321.00
<b>TOTAL COSTS:</b>	<b>\$10,909.00</b>

**Number of Modules:** At least 3 with the likely potential of more.

**Update Schedule:** Materials would be updated yearly as appropriate.

## Suzanna Soileau Vita

### Education

DePauw University	Geosciences	B.A. 1999
Montana State University	Adult and Higher Education	M.Ed. 2007

### Appointments

2014-present	Physical Scientist (Outreach), USGS Northern Rocky Mountain Science Center, Bozeman MT
2010-present	Information & Education Specialist, USGS Northern Rocky Mountain Science Center, Bozeman MT
2008-2010	Outreach Contractor & Hydrological Science Technician, USGS Northern Rocky Mountain Science Center, Bozeman MT
2003-2009	Water Quality Research Associate & Education Coordinator, Dept. of Land Resources and Environmental Sciences, Montana State University, Bozeman MT
1999-2001	Chemist, Montana Dept. of Agricultural, Bozeman MT

### Professional Activities

Key examples of my experience in the integration and transfer of knowledge as well as its creation include the following:

- Lead SME for USGS OED TEL course “USGS Firearms Safety Program – Refresher for Defense Against Wild Animals.” Course has been offered 2012 – present.
- Since 2003 I have designed and delivered online, graduate soil and water quality science curriculum through the Montana State University Masters of Science in Science Education (MSSE) program. The courses are taught as offering of the MSU Department of Land Resources and Environmental Sciences. Current courses I instruct include: The Dirty Dozen (LRES-580); Water Quality in the Classroom (LRES 580); Stream Side Science (LRES 580); and Elementary Soil Science (LRES 580)
- I currently design and maintain the websites of four USGS led programs: 1) USGS-Northern Rocky Mountain Science Center (<http://nrmsc.usgs.gov>); 2) USGS- Brine Contamination to Prairie Potholes from Energy Development in the Williston Basin (<http://steppe.cr.usgs.gov/index.html>); and 3) USGS- Groundwater-Streamgaging site for the Wyoming-Montana Water Science Center (<http://staging-wy-mt.water.usgs.gov/projects/ogw/index.htm>). I also developed the USGS-Interagency Grizzly Bear Study Team’s Grizzly Bear Mortality Database for 2009 - 2014 (<http://nrmsc.usgs.gov/research/igbst-home.htm>) and have designed web-based prototype database programs for other natural resource management agencies.
- I have led on-the-ground field projects related to water quality monitoring including the following: 1) National Park Service Greater Yellowstone Network, Inventory and Monitoring Program - *Monitoring water quality and quantity at Bighorn Canyon NRA: Seeps, springs and river and stream locations*; 2) U.S. Department of Agriculture-Natural Resource Conservation Service Conservation Initiative Grant - *Pharmaceutical screening of surface water, ground water, and streambed sediment in Gallatin Valley, Montana.*

Chad Dickinson Vita  
Bureau Firearms Program Manager  
United States Geological Survey

Chad Dickinson has been involved with the USGS Firearms Safety Program since 1998 and has been a certified federal firearms instructor since 2005. In 2008 Chad Dickinson was appointed as the Bureau Firearms Program Manager. He holds instructor certification from the USGS in Basic Firearms Safety for Defense Against Dangerous Wild Animals. In addition to the USGS firearms training program Chad Dickinson has trained extensively at the Gunsite Academy in Paulden AZ and holds certificates in Tactical Shotgun (2002), Federal Firearms Instructor Development Course (2007&2010) and Predator Defense Course (2012). In 2003 Mr. Dickinson attended the National Rifle Association Basic Pistol Course and the Range Safety Officer Course in 2014..

Chad Dickinson is also a member of the USGS, Interagency Grizzly Bear Study Team (IGBST) located in Bozeman, MT. Mr. Dickinson has been a member of the IGBST since 1994 and is currently the senior technician in charge of coordinating research trapping efforts for grizzly bears in the Greater Yellowstone Ecosystem. As senior technician, he provides the training and orientation of seasonal employees in the proper use of snares, traps, and immobilizing drugs in the capture of grizzly bears; in the handling of live grizzly bears for the purpose of obtaining sex, age, standard measurements, and biological data and to affix radio and GPS collars, ear tags, and other identification markers on captured bears; in the use of telemetry and other tracking techniques used in the study of grizzly bears; the use and care of pack and saddle stock and in backcountry camping techniques; the safe and effective use of firearms in backcountry situations and grizzly bear biology and behavior.

In addition he serves as the Firearms Safety Officer for the IGBST providing annual firearm safety training to all permanently assigned and seasonal employees involved in the monitoring and trapping of grizzly bears in the Yellowstone Ecosystem and maintains necessary DOI and USGS certification requirements for this job requirement.