

**WEST VIRGINIA ARMY NATIONAL GUARD
SECRETARY OF DEFENSE ENVIRONMENTAL AWARDS FY15
NATURAL RESOURCES CONSERVATION—SMALL INSTALLATION**

Introduction and Background



The West Virginia Army National Guard's (WVARNG) Camp Dawson had a modest beginning, established as a tent facility used in summer and closed in winter. Looking back at its start, the Camp Dawson of today is even more remarkable. Since the 1980s, the campsite with a few permanent buildings and a small range has been transformed, acquiring land, building new ranges and training capacities and constructing a significant amount of new, diversified infrastructure. Today, Camp Dawson encompasses approximately 5000 acres and is the site for the second largest hotel and conference center in the state and a state-of-the art fitness compound including a \$10 million gym facility and Olympic pool. In addition to its training lands, live fire ranges include a modified record firing range, demolition range, small arms range and a live fire shoot house, many of which are new or have been recently remediated and updated. With the expansion of Camp Dawson's training capacities, its troop throughput has increased from an average of 110,000 per year to 130,000 soldiers in FY15 with expected increases in the 20-30% range over the next 5 years. Camp Dawson is also home to an exemplary Natural Resources Conservation (NRC) program that has truly taken root at the core of activities on the post over the past several years. Working with a small, but dedicated staff, the NRC program has brought all significant NRC activities in-house, cultivating a rare level of institutional expertise and hands-on engagement.

Accomplishments



Over the past 2 years, the NRC program has achieved several significant milestones. Camp Dawson completed a pond construction project adjacent to a new modified record firing range (MRFR) this year. This effort tied together habitat enhancement with the training mission and partnered the NRC staff with the NRC Service (NRCS), project managers and trainers. The pond serves as a fire suppression source for the MRFR and habitat enhancement for area wildlife. Excess clay excavated from construction of pond also benefited WVARNG's river bank stabilization project. In FY14, the NRC program completed a 5-year project to construct an interpretive wetland boardwalk with volunteer assistance using National Public Lands Day grants. The new recreation site includes a boardwalk and picnic area with exhibits on natural resources and ecology to educate visitors. Camp Dawson also improved upon an old field/ strip-mine rehabilitation project encompassing nearly 100 acres. The project restores native grasslands that support wildlife and creates new drop zones and bivouac areas for training. The NRC program also restructured a progressive invasive species program to further facilitate the needs of Facilities Management (FM) and the Sustainable Range Program (SRP). The installation NRC program is primarily managed by the Environmental Program Manager, NRC Manager, GIS Specialist and a Conservation Specialist, who is also a registered forester and coordinator of the statewide pest management program. Their comprehensive skill set is augmented by special projects and an internship program conducted with West Virginia University's (WVU) Department of Forestry and Wildlife. The paid internship program supports graduate-level research for WVARNG's planning level, wetlands and flora and fauna surveys, and the students benefit not only from the stipend, but also from the experience while obtaining college credit.

Camp Dawson's NRC program works collaboratively with state regulatory agencies, building on a long history of positive relationships. Natural Resources



Conservation Service (NRCS) has provided assistance on the new pond construction and assessments on road projects that may have overland sediment issues. NRCS staff have served as subcontractors on a number of projects. The NRC program partners with the Department of Natural Resources (DNR), sharing survey data, and with USDA to manage geese populations that pose a human health hazard adjacent to the post. In conjunction with the state Forestry Service, the NRC program obtains permits to for its in-house, comprehensive prescribed fire management program; the NRC staff also maintains NPDS permits with coordination of the Department of Environmental Protection (DEP). The NRC program has emphasized transparency and accountability in all its operations, which benefits the regulatory relationships and these agencies often work hand-in-hand on projects in the field with the NRC program staff.

These relationships along with the Camp Dawson Integrated Natural Resources Management Plan (INRMP) ensure that the installation is always in full compliance. The INRMP was last revised in 2012 (signed and fully implemented in 2013) and is reviewed annually. The next revision will occur in 2017. Notably, Camp Dawson received a positive class finding for its INRMP implementation at post's EPAS inspection this year.



The NRC program has been exceptionally successful in launching new projects with consistently limited resources. In some cases, the program partners with other directorates within WVARNG, including Facilities Management (FM) and the Sustainable Range Program (SRP) to share the costs of mutually beneficial efforts, such as invasive species eradication. The NRC program has also successfully sought out grant funding and volunteer opportunities; the new recreation and education area on post was created entirely with volunteer labor and around \$30,000 in National Public Lands Day funds over a 5-year period. The internship program with WVU also represents a cost savings, providing the installation with high-quality fieldwork at a fraction of the cost of contracting. Most importantly, though, the NRC program has focused on bringing more and more activities in-house, making use of skills within WVARNG and coordinating with training events that can also benefit NRC goals. The prescribed fire program and associated training, for instance, is all conducted in-house, and the installation's pond construction and demo range remediation projects were integrated into Annual Training activities for engineering units. Survey work, invasive species management and pesticide/herbicide application have all been incorporated into the NRC program's slate of in-house activities. The WVARNG estimates that without this approach, the NRC budget would have to be increased substantially to achieve the same projects with contract labor.

While the NRC program has completed projects across a range of areas—prescribed fire, invasive species management, grassland habitat development, wildlife monitoring, among many—what is essential is the program's landscape level approach, taking a comprehensive view to management at the level of the ecosystem. Under this approach, each project directly and indirectly supports goals of all other program areas.

Prescribed Fire: Camp Dawson's in-house fire management program includes a fire training program integrated with training site command, allowing the installation to complete all training and fire events independently. WVARNG soldiers assist in



prescribed fire activities, avoiding the need for contracted burn crews.



The program is well-established; Camp Dawson was one of the first installations to complete an approved integrated wildland fire management plan back in 2007. In



addition to reducing wildfire fuel loads, the program focuses on native grasslands, using fire regime rotation to help grasses thrive and control invasive species encroachment. Parcels ranging from 20 to 50 acres are managed with fire each year. Currently, the installation is building its own fire department to be integrated with the wildland fire program. Volunteer firefighters from the community also assist on some burn events, along with trained university interns.



All NRC staff are trained as wildland firefighters and complete prescribed burns in-house with the approval of the WV Division Forestry. Camp Dawson was one of the first installations to complete an approved integrated wildland fire management plan back in 2007. In addition to reducing wildfire fuel loads, the program focuses on native grasslands, using fire regime rotation to help grasses thrive and control invasive species encroachment.

Invasive Species Management: Fire is one technique for controlling invasive species, but the NRC program has taken a more targeted approach to eradication. Working with WVU interns, the NRC program plotted the location of all invasive species on the training site, particularly patches of Japanese knotweed, autumn olive, multiflora rose and tree of Heaven which restrict access for training soldiers and compromise native wildlife. The installation has combined its invasive eradication efforts with timber stand improvement and force protection. Security fence lines and motor pools requiring certain clearances are prioritized for invasive removal, followed by timber stands that are being outcompeted. Developing an action plan that prioritizes areas for clearance has allowed the installation to remove species clogging training area roads, enhance the post's perimeter and control encroachment. The mapping of species and prioritization for removal have been incorporated into a current integrated invasive species eradication plan that sets out a 5-year rotation for treatment.



Native Grass Promotion: Eradication of invasive plants works hand-in-hand with Camp Dawson's work to establish native grassland habitats. The installation established a native grass program that links to rehabilitation of mine lands as well, completing this work in-house. As mining areas are restored, the NRC program plants native grasses that respond incredibly well to the disturbance of training. Based on the NRC staff's stem counts, they have also been able to validate the effectiveness of the fire treatment regime. Rehabilitated native grass sites can now be utilized for training; areas have been converted into Forward Operating Bases (FOB) for company-wide training exercises as well as, drop zones and bivouac sites. Eliminating invasive trees and shrubs in favor of native grasses enhances training opportunities while providing ecosystem restoration to damaged strip mine areas.

Forest Management: Camp Dawson includes several large swaths of forest, however, the oversight of those areas is somewhat complicated. Much of the forest falls on acres the WVARNG has leased; those forests are managed by the WVARNG to an extent. A local timber company, however, also has a lease on the land. Allegheny Wood Products allows the WVARNG to freely use those parcels, but tree harvesting is completed at the timber company's discretion. The NRC program coordinates with the company to conduct wildlife cuts, including some clear-cutting to support grouse. Increasingly, the NRC program has been negotiating with the timber company to implement best management practices to support threatened wildlife and minimize the erosion and ecosystem damage that can accompany harvesting.

Water Resources Development and Protection: Camp Dawson's project to construct a pond at a training range exemplifies the ways that natural resources and training priorities can work in harmony; the project created valuable habitat, enhanced training operations and supports Morale, Welfare, and Recreation (MWR) for the training site. Working with the NRCS, the NRC program designed a pond to be incorporated into a \$ 5 million modified record firing range. The NRC program was seeking an area for enhanced wildlife habitat and the range included a site where a pond could also serve as a fire suppression resource for range operations. The plan hit a snag, however, when the range plans were adjusted and the pond was put on hold. At the same time, a demolition range had degraded soil stability, causing seepage issues and potential overland flow of MEC contaminants. ORAP evaluated the site and, based on testing, called for remediation to include excavation of the soil to be mixed with limestone at the site and refurbishment with clay to prevent seepage. The NRC program suggested that creating the range pond could meet the needs of both sites; the proposed pond site was primarily on clay soils. The NRC program assisted with soil sampling and pond design, determining the volume of clay that could be excavated to make the pond and relocated to the demolition range.

To accomplish these linked projects, the NRC program tapped the horizontal engineering school to assist in excavation as part of a two-day training event that pulled about one-third of the clay from the ponds site. When horizontal units from throughout the state and region came to Camp Dawson for 2-week annual training, the pond and remediation sites were once again utilized as a training opportunity. Altogether, the NRC staff and the training events excavated around 5000 cubic yards of the total 15,000 cubic yards gleaned from the pond site. The units' training also included the creation of banks, sloping and grading and channeling springs to create the pond. The NRC program then established native vegetation and created rock habitat before the pond was filled, followed by construction of a swimming and dock area. The site is slated for vertical engineering annual training activities this coming year; units will construct a pavilion and run electrical lines to create a complete MWR resource at the site. The NRC program is now preparing a turbidity treatment to clear the suspended clay particles before establishing a trout and bass/blue gill population for recreational fishing.

Wildlife Management: Camp Dawson is home to two threatened or endangered species, the Indiana bat and running buffalo clover. Over the past 2 years, the NRC program completed a new bat survey; these have been conducted on a 3-year rotation since 2003. The newest survey incorporated acoustic sampling technology that captures the sounds of bats chirping. The acoustic sampling in conjunction with mist netting, allows for a much more accurate picture of bat presence and density. The



Indiana bat's presence was confirmed with this method, but the installation was also able to demonstrate that other bat species populations seem to be holding steady, including the recently threatened northern long-eared bat.



Camp Dawson consults with USFWS to manage for the Indiana bat, timing tree removal to the bats' lifecycles. The NRC program completes habitat assessments



Camp Dawson's NRC Manager handles an adult Allegheny woodrat prior to release. NRC staff conduct yearly mark and recapture surveys to track populations on the training areas. Individuals are sexed, aged, weighed, and marked with PIT (Passive Integrated Transponder) tags for identification.

detailing vegetative cover and potential roost habitat when consulting with the USFW before any projects involving timber removal. The installation is also home to the state-listed Allegheny wood rat, and survey data demonstrates a strong population on post. The NRC staff conduct catch-and-release surveys for the rats each year, marking individuals to track population health. Over the past several years, the program initiated golden wing warbler surveys in partnership with DNR. Using mist netting, the NRC program, in coordination with West Virginia University (WVU), was able to catch the songbirds and take DNA samples; WVU is tracking the hybridization of golden wing and blue wing warblers. Camera surveys are also conducted for birds, and the installation maintains bait stations for golden eagles that cross Camp Dawson on their winter migration. The photos are analyzed using an adapted facial recognition software that allows the user to identify individual birds year to year.

A small patch of endangered running buffalo clover is present on post, and the NRC

monitors the area and completes stem counts annually. The plant is stable and appears to be slowly expanding. Thanks to strong consultation relationships and effective management, there are no restrictions on training associated with wildlife. The NRC program emphasizes habitat enhancement for the species it monitors and coordinates with USFWS and WVARNG project managers to best site any new construction. New resources, like the pond constructed last year, also serve as feeding ground for bats and birds of interest to the installation.



NRC Restoration Efforts: Camp Dawson NRC program has partnered with Friends of the Cheat River in the mission to restore mining areas and preserve the river and watershed. Acid mine drainage associated with former mining sites can cause iron deposition and low pH, destroying the biological balance of the Cheat River; Camp Dawson has assisted with passive treatment techniques, creating limestone channels to treat runoff. The NRC program helped to rehabilitate the grasslands at a festival site that the Cheat organization uses to host festivals to fundraise for treatment projects.. The NRC program also shares water quality data with Friends of the Cheat and DEP, testing water as it enters and exits the training site perimeter at 11 monitoring sites. With this oversight, the NRC program is able to delineate potential contaminants and establish trend lines for the region. Last year, the installation also undertook a cooperative project with the Chesapeake Bay Foundation to limit nitrogen runoff. The



installation took chicken waste from agricultural companies in the area and used the material as fertilizer for grassland restoration efforts, thereby minimizing disposal and runoff that agricultural operations created in the watershed.

For every NRC program, enhancing the quality of training lands is a support to sustainable training, and the Camp Dawson program clearly demonstrates the ways that these activities are mutually beneficial. Over the past 2 years, the NRC program has also completed projects that directly enhance training capabilities while improving ecosystems on post. The rehabilitation of native grasslands and elimination of invasive species, for instance, has opened up training opportunities in sites that were previously inaccessible or otherwise closed to activity. New drop zones to support rotary wing training and bivouac sites have all been created as a result of this grassland restoration. The construction of the pond adjacent to the new training range not only fulfilled that range's need for fire suppression, but also supported additional restoration on the demolition range and stabilization of the streambank on post. The pond provides critical habitat for wildlife, as well as recreational opportunities for soldiers and visitors. The integration of those projects into formal training activities also represents a direct benefit to WVARNG and other state Guard soldiers and the most efficient use of the WVARNG's resources and skills. The NRC program's integration with training has led to the expansion of collaborative projects.

The new pond also supports units that have a mission of converting natural water into potable water using mobile treatment units. The region's issues with water quality and mine runoff have restricted this training in the past; the addition of the pond now provides the installation with an accessible resource to support annual training for water treatment specialty units. The NRC program's monitoring protocols help to demonstrate that WVARNG can sustain training without harm to the environment. Water sampling results demonstrate that water flowing off post is not affected by training activities. The establishment of native grasslands, based on stem count data, is directly benefited by the installation's prescribed fire program and native grasses provide solid ground for troop disturbance. The fact that the NRC program now completes so much of this work in-house also saves resources and funding for other mission areas. Having these skills in-house has benefited WVARNG in other ways as well; last year, a horizontal training event was inspected by the DEP who served WVARNG with a notice of compliance violations detailing the site had erosion problems and improper construction of sediment control devices along a road adjacent to a stream. Potential fines were estimated in excess of \$30,000. The Camp Dawson NRC program, with help from SRP and Training Site Command, was able to immediately respond to the issues, from design to implementation of repair, and close out the site before it became a serious regulatory issue. The work involved re-grading ditches, establishing rock check dams, repairing the road, reestablishing a level spreader, spreading gravel for erosion control and reseeding with native grasses.

Internal program continuity is protected by the installation INRMP and partnership with internal directorates and state agencies; in the event that the NRC program staff changes, their initiatives are integrated into operations so that projects will remain on track. Records are captured on WVARNG's universal drive and SharePoint site.

The NRC program has sought out ways to share its successes and lessons learned. Staff have given presentations on grassland restoration for the SRP annual

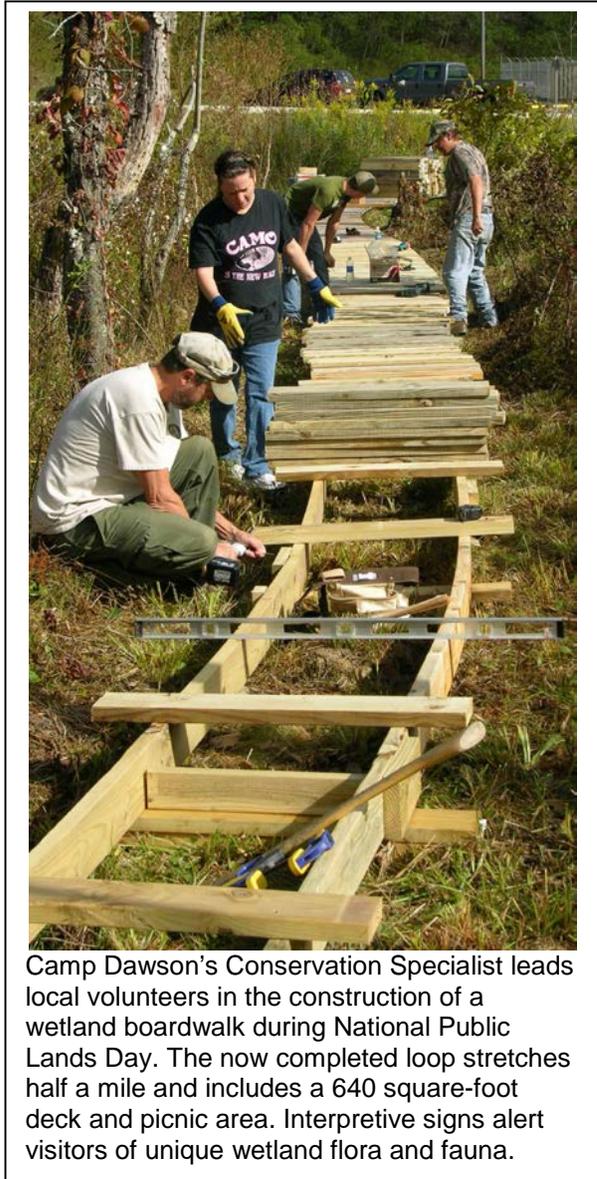


conference and on the rehabilitation of mine lands with native grasses at the Eastern Native Grass Symposium. The installation's success in supporting the Allegheny wood rat has also been noted; the NRC program recently presented at the Wildlife Society Symposium detailing habitat protection and population dynamics of the species.

Camp Dawson is a valuable resource for the community, providing recreation opportunities and environmental education. The National Public Lands Day event noted above reflects the installation's commitment to volunteerism and outreach. Completed last year, this project was a committed effort over a 5-year period. Using grants, the NRC program and volunteers designed and built a wetland boardwalk and picnic area with educational kiosks targeted to elementary school children and scouting groups. The boardwalk stretches half a mile, looping to a 640-square-foot deck and picnic area. The Mountaineer ChalleNGe Academy and neighbors of the post all participated; now the site provides opportunities for more education. The area can host school groups and conservation tours, soldiers and birders, and the site was publicized when completion during a NPLD event was attended by local media to increase the public's awareness. The Mountaineer ChalleNGe Academy is now volunteering to manage the site, controlling invasive species encroachment and maintaining the boardwalk and deck.

Camp Dawson is open to the public in many areas, and the post offers no-cost permits for hunting on 2000 acres. Around 100 hunters and 20 to 30 soldiers take advantage of the program each year, which offers small game, fowl and deer hunting as well as archery hunting on a 400-acre section. Fishing is also available on post and the NRC program assists in stocking the cantonment area pond each year with trout. The pond is a family-friendly resource, where visitors can rent canoes and paddleboats.

The installation's collaboration with Friends of the Cheat River and DNR also benefits the entire region in improving water quality, wildlife resources and awareness of water issues. The installation's internship program with WVU has also contributed to environmental education and stewardship, helping to shape the next generation of NRC professionals.



Camp Dawson's Conservation Specialist leads local volunteers in the construction of a wetland boardwalk during National Public Lands Day. The now completed loop stretches half a mile and includes a 640 square-foot deck and picnic area. Interpretive signs alert visitors of unique wetland flora and fauna.