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Operation Wildlife – Engaging Active-duty Service Members in Habitat Restoration, Rare Species Conservation, and Ecological Science

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Operation Wildlife

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Letter from the Coordinator

Stewarding Operation Wildlife from its inception to the present has been one of the greatest honors of my life. I studied to be an ecologist, but working with service members and watching lives transform has taught me that restoring landscapes can be the beginning of a much greater opportunity.

I founded Operation Wildlife with the intention of providing a new method for accomplishing environmental goals and reducing costs for the Department of Defense, while simultaneously delivering job-skills training to transitioning service members and students through participation in habitat restoration, species conservation, and ecological research. Starting a program from scratch is never simple, but thanks to my supervisors who took the long view and believed in the vision, the seeds we planted were allowed to take root.

Last year, we provided more than 16,200 labor hours to Joint Base Lewis-McChord by involving 27 service members, 12 veterans, 8 military spouses, and 37 civilian college students in our work. We staffed 87 ecological projects, helped graduate students and professors conduct research, and helped on several Washington Department of Fish and Wildlife off-site projects. We built resumes and sent people off to use what they learned in their next pursuits. Soldiers made leaders out of students, and students made scientists out of soldiers.

There's no question that America's military personnel are her most dedicated public servants. Operation Wildlife provides a safe space for them to heal from war and begin to reintegrate into civilian life, while also showing them a new way to serve their communities. It has been a privilege and a joy to work alongside them, watch their stories unfold, and help them find their way to meaningful and satisfying careers.

While every installation is different and will require its own unique approach, I believe that programs like Operation Wildlife could thrive in other locations. The protocols outlined in this handbook have been critical to the success of Operation Wildlife at Joint Base Lewis-McChord, and I hope they can serve as a guide for future collaborators, staff, and volunteers. Please do not hesitate to contact me with questions about how our approaches have worked and might be adapted to fit other circumstances; I would be delighted to help the seeds we've planted here grow in distant soil. The dream of seeing Operation Wildlife become a national program could develop in many ways, whether directly or just by the organic spread of ideas. Let's find the way together.

Dennis Buckingham

Mission and Principles

Mission Statement

Operation Wildlife serves America's heroes, protects threatened and endangered wildlife and ecosystems, and benefits the local community. Through support from the Department of Defense, Operation Wildlife develops and executes cost-effective solutions for wildlife and habitat restoration, while providing job skills training to aid active-duty service members and supporting veterans' successful transition to the civilian workforce.

Principles

Operation Wildlife (OW) was founded on two primary principles—to serve active-duty service members and restore and maintain habitat for threatened and endangered species. To accomplish this, OW has initiated partnerships with Joint Base Lewis-McChord (JBLM) Department of Public Works Environmental Division (DPW/ED), Colorado State University's (CSU) Center for Environmental Management of Military Lands (CEMML), Washington Department of Fish and Wildlife (WDFW), and local universities. With these key partnerships, OW offers a unique set of opportunities to transitioning service members:

1. Demonstrate and hone leadership skills while overseeing civilian crews.
2. Acquire valuable certifications and licenses.
    a. Firefighter Type II Certification
    b. Herbicide Applicator License
3. Work alongside and learn from leading experts.
4. Gain experience with biological research and monitoring.
5. Build a strong understanding of local ecological processes.
6. Exposure to eco-therapy.
7. Gain hands-on experience using power tools and equipment.
8. Develop soft skills such as partnership development and collaboration.
9. Receive resume building and counseling.
10. Develop networks for future employment.

The transitioning service members, in return, provide a skilled and motivated workforce to aid in critical wildlife and habitat restoration. This work is essential to JBLM and the

Department of Defense (DoD), because these organizations are required to comply with strict federal and state regulations surrounding threatened and endangered species. OW provides the means to facilitate this mutually beneficial relationship.

The early success of OW has allowed the program to expand to include veterans, military dependents, and local university student volunteers, further benefiting local military and civilian communities. Through this networking, OW is leading the way in cost-effective management, ensuring regulatory compliance, elevating transitioning service members' experience, and creating opportunities for cooperative partnerships both on and off the installation.

Chapter 1: Introduction to Operation Wildlife

Operation Wildlife was founded in 2013 to meet the increasing demand for ecological management on military installations, assist active-duty service members' transition into the civilian workforce, and contribute to the betterment of military and community relationships. The specific needs for each of these aspects and how OW is able to address them are detailed in the following sections.

Ecological Need

The U.S. federal government owns more than 264 million hectares of land, accounting for 29% of the nation's total land area. Although the DoD manages just 12 million hectares (4% of all federal land), military lands disproportionately possess the greatest number of federally listed species (Groves et al., 2000; Stein et al., 2008). The land managed by the DoD is tied with the U.S. Department of Agriculture Forest Service for harboring the most species listed under the Endangered Species Act (ESA). This DoD managed land contains 355 endangered species, or about 23% of all endangered species in the U.S. Furthermore, when analyzing ESA listed species per unit area, the DoD land has three times more ESA listed species than the next leading agency (Stein et al., 2008).

From 1996 to 2007, the number of species covered by the ESA rose 24% to a total of 1,333 species (Stein et al., 2008). Federal lands provide essential habitat for many of them, for nearly 60% of ESA listed species reside on federal land as of 1996 (Groves et al., 2000; Stein et al., 2008). Although subject to changing policies, federal regulations, and funding, the DoD has a responsibility to maintain and improve wildlife habitats and ecosystem health while maintaining military readiness through co-use management strategies.

Joint Base Lewis-McChord, home of OW, was founded in 1914. Nestled in the southern Puget Trough ecoregion, JBLM has over 92,000 acres of wildland habitat comprising five different habitats—ponderosa savannas, oak woodlands, wetlands, glacial outwash prairies, and early successional mixed conifer forests. The Puget lowland prairies formed approximately 10,000 years ago following the retreat of the Cordilleran ice sheet, around the same time that indigenous people settled in the area (Boyd, 1999; Hegarty et al., 2011; Kehoe, 1992; Ugolini & Schlichte, 1973). The prairies and oak ecosystems were largely maintained for thousands of years by intentional burns set by the indigenous peoples for hunting and gathering purposes, and thus many species coevolved with a fire regime (Boyd, 1999). Prairies in the region have since been reduced by over 90% from their historical extent due to colonization in the 1800's and ensuing anthropogenic causes such as urban development, fire suppression, and agriculture. Only 2-3% of the remaining prairies are still dominated by native species, although most scholars acknowledge these numbers are outdated and note the number is actually closer to 1% (Crawford & Hall 1997; Dunwiddie & Bakker, 2011; Hegarty et al., 2011).

Glacial outwash prairies are recognized as one of the most endangered ecotones in the U.S. (Dunwiddie & Bakker, 2011; Floberg et al., 2004). The remaining prairies tend to be degraded, small, and fragmented, losing the connectivity on which many species and ecological processes rely (Dunwiddie & Bakker, 2011). Dunwiddie et al. (2006) found that nearly 80% of native plant species, primarily native annuals, occur in a severely limited range due to lack of associated fire disturbance and increased competition from non-native, invasive species (Dennehy et al., 2011). The loss of native plant species has a cascading and compounding effect on the status of nearly every other species including butterflies, invertebrates, birds, and mammals (Dunwiddie et al., 2006). JBLM has a critical role in protecting and managing this rare and endangered landscape since the largest and most intact remaining prairies in western Washington occur within the installation's perimeter (Dunwiddie & Bakker, 2011). As of 2019, JBLM Fish and Wildlife and partner organizations actively manage 38 species of concern and six state/federally endangered species— many of which rely on the remaining prairie, but the list of vulnerable species continues to grow.

OW is proud to partner with the DoD to provide a cost-effective solution to help maintain and improve the habitat on JBLM and meet federal regulations. OW works closely with JBLM DPW/ED, Fish and Wildlife, to help re-establish fire regimes to restore prairies and the native species that rely on them— such as the federally endangered Taylor's checkerspot butterfly (TCB), and the federally threatened Mazama pocket gopher (MPG) and streaked horned-lark (SHL). OW also works to control invasive plant populations through herbicide application and mechanical removal, leads the way in oak planting and maintenance, and provides assistance to JBLM Forestry with yearly timber surveys and more. A full breakdown of OW projects is available in Chapter 5. Through regional partnerships and coordinated efforts, OW also pushes region wide management on large scale and long-term projects both on and off base.

Veteran Services

Another of OW's primary missions is assisting transitioning active-duty service members to the civilian workforce. A 2010 poll conducted by the Society for Human Resource Management found that "sixty percent of employers surveyed felt that veterans had difficulty translating military experience into civilian job experience." The researchers also noted that veterans suffer from unemployment at much higher rates than their non-veteran counterparts (Faurer et al., 2013). OW confronts this issue by providing job training, certification programs, and one-on-one help with resume building and career advice. The OW program manager helps the service members build resumes in ways that translate their military experience and jargon into something that is more easily understood and relatable to civilian employers. In addition, the OW program offers access to a network of environmental employers and resources available to service members. This is covered in more detail throughout the book including in Chapters 2, 4, and 6.

OW embraces a civilian-style work environment where service members work alongside industry experts, veterans, military family members, and students from local colleges and universities. This allows the service members to maintain a sense of structure and belonging. This workplace culture also gives them a safe environment to decompress from the stress of transition and sets them up for success when reintegrating into the civilian workforce. In fact, Pedretti-Burls (2007) lists working in conservation and restoration as having important eco therapeutic benefits that promote mental health and wellbeing. Participant feedback supporting this sentiment is given in Chapter 8.

Community Partnerships

OW recognizes the need for building community relationships both on and off military installations. OW meets this need by utilizing the installations themselves as ecological classrooms for the greater betterment of the community. In addition to serving transitioning active-duty service members, OW provides valuable training and networking opportunities to veterans, military spouses, and dependents. OW also works closely with local colleges and universities to provide opportunities for students to gain hands-on experience researching and working in unique and threatened ecosystems. Furthermore, OW partners with local and national organizations to provide a cost-effective yet skilled workforce to carry out projects both on and around the perimeter of the installation. These important partnerships maximize the opportunities for OW participants and help push region wide management strategies. Community partnerships are covered extensively in the following chapters.

Chapter 2: Program Leadership

Leadership Style

Operation Wildlife attained early success due to its unique leadership style that puts interns first, promotes leadership from within, and facilitates constant exchange of education. Most importantly, it is imperative that the program manager ensures that interns feel valued. This is the foundation to create buy-in for any workplace culture. In return, interns truly invest themselves, take on increasing leadership roles, and uphold a positive, inclusive, and educational culture. This culture facilitates the essential exchange of education that makes OW so valuable, not top-down but also peer-to-peer and through inter-agency collaboration.

Participants First

OW requires several key elements to succeed, but none are more crucial than the consistent dedication and loyalty of the participants themselves. When participants feel supported, appreciated, and valued, they give their best efforts every day (staying on task, working safely, staying engaged, communicating effectively, and seeking field leadership opportunities) and teach a positive organizational culture to incoming interns. This instills a culture of success.

The way people are treated in a program is of utmost importance. Promoting a culture of appreciation is easy, but it must be deliberate. Examples of how to do this include:

- Teaching about underlying ecological objectives for every task as well as how the activity fits in with larger organizational or regional objectives. This often means teaching the same thing over and over as new people join the team.
- Eagerly helping with resumes whenever asked.
- Staying late to talk one-on-one about college/career options. The chance to go beyond the typical work day for someone has huge long-lasting value and should not be missed.
- Checking in on projects to ensure professional deliverables, without micromanaging.
- Sticking up for the team when there's a conflict from the outside.
- Always seeking new educational opportunities for participants, arranging field trips, or even sending them to work with a partner organization just for the experience.
- Always telling new internal or external partners that education is expected in return for the interns' labor.
- Being the first to take on particularly arduous or potentially dangerous tasks. This doesn't always apply, but when it does it is a leadership opportunity not to be missed.

If interns know that the program manager's top priority is the quality of their experience, they will remain loyal and continue a culture of positivism and dedication. On the other hand, it takes one or two instances of treating an intern like disposable labor to create a cancer within

your organization. Because volunteer/intern labor is essentially free, constant vigilance is required to keep them feeling appreciated. This is especially true with how they are treated by other staff biologists. It will take time before everyone in the office truly values the interns. However, as long as the program manager recognizes when given tasks are menial or when individual biologists don't have the educational or social acumen, these instances can be addressed in a way that assures the interns still feel appreciated.

Leadership from Within

OW believes in allowing the interns to become the project field leaders. This promotes individual growth and teamwork and has been a highly successful model at JBLM. All projects remain under the control of staff biologists, but the interns' decision-making, communication, and professional experience play key roles on projects. They are encouraged to collaborate on and submit new ideas, help guide best work methods, and assist with the curation of the data that they submit. This freedom allows the interns to expand their ecological knowledge and hone their leadership skills. This model allows each OW participant to feel valued as a partner and representative of the program. This fosters their sense of responsibility, accomplishment, and pride.

OW gives leadership roles to high-performing interns, so that they can build a management-tier resume. This also allows the program to accomplish far more objectives than if the program manager served as field lead. Individual interns are assigned specific long- term projects on which they receive extra training. They are then able to lead groups of rotating participants on that project and pass on some of that education and training each time. Single day projects are also assigned to experienced field leads to ensure someone familiar with the area, equipment, and expectations is able to complete the job to a satisfactory level.

Constant Education

The program manager drives the exchange of education and training at OW by setting the standard for the biologists' contribution. On new assignments, biologists provide all necessary education while walking participants through the project. When applicable, the biologists also include the project's ecological impact, importance, and any history or relevant background information. This ensures the participants directly benefit from every project through ecological education or direct skills.

The program manager also works to directly educate participants. The program manager does this by taking each cohort of participants on a tour around JBLM to showcase current or future OW projects. It is imperative that the program manager takes the extra time to introduce new participants to OW's projects even when pressed for time. This not only helps familiarize the participants with the kind of work they will be expected to do, but continually provides education relevant to species of concern, distinct habitat types, and the larger ecological

management picture on JBLM. It also helps the program manager get to know individual participants and display the commitment to education.

Another aspect of the educational culture at OW is participants are encouraged to learn from each other. Students from different colleges all have a different story to tell, as do service members from different sectors of the military. Many participants are hunters, anglers, or farmers. All avenues or life experience exchange are encouraged, and interns are told to seek common ground across ideological divides. This culture of diverse and mutual instruction is highly valuable for helping active-duty military transition to the civilian workforce.

Leadership Roles

Within OW, there are two primary leadership positions— a program manager and a field operations coordinator. The program manager builds partnerships and coordinates all cooperative projects, handles research and project design, solves problems as they arise, and stewards the overall organizational footprint. The program manager also recruits and orients new participants, applies for grants and prepares promotional material, attends to DPW staff obligations, and ensures communication across the chain of command.

At JBLM, the field operations coordinator handles all daily and operational logistics such as equipment and vehicle maintenance. This person also helps schedule daily projects and provides operational support to the program manager as needed. One of the most important roles for this position is to be responsible for the more technical and difficult long-term projects. This provides continuity, ensures quality completion at the end, provides continuous training to the new participants over the course of a season, and maintains positive group morale despite the task's repetition.

Both the program manager and the field operations coordinator play a role in creating an inclusive and productive environment where interns and volunteers can hone their job skills by encouraging critical thinking, involvement, and continued development of strong leadership skills. Within the office, they work to ensure that each intern has the opportunity to gain experience on a wide range of jobs while also supporting each individual's primary area of focus. Both of their perspectives are also critical in identifying the best leaders for upcoming projects.

The program manager and field operation coordinator must also recognize team dynamics and how each intern is performing to ensure success. There may be times where different approaches are required to help interns find their niche within the program. Most importantly, the manager must be approachable and able to develop a beneficial relationship with the interns and volunteers. This is essential to the participants' success since the program manager will act as their primary mentor in the department and will be a critical reference for them moving forward. Participants who feel valued will in return invest more time and quality work into OW, and they will be more likely to promote OW through word-of-mouth

recommendations, thus helping build the program's rapport throughout the DoD and civilian sectors.

Chapter 3: Structure and Funding Mechanisms

Organizational Structure

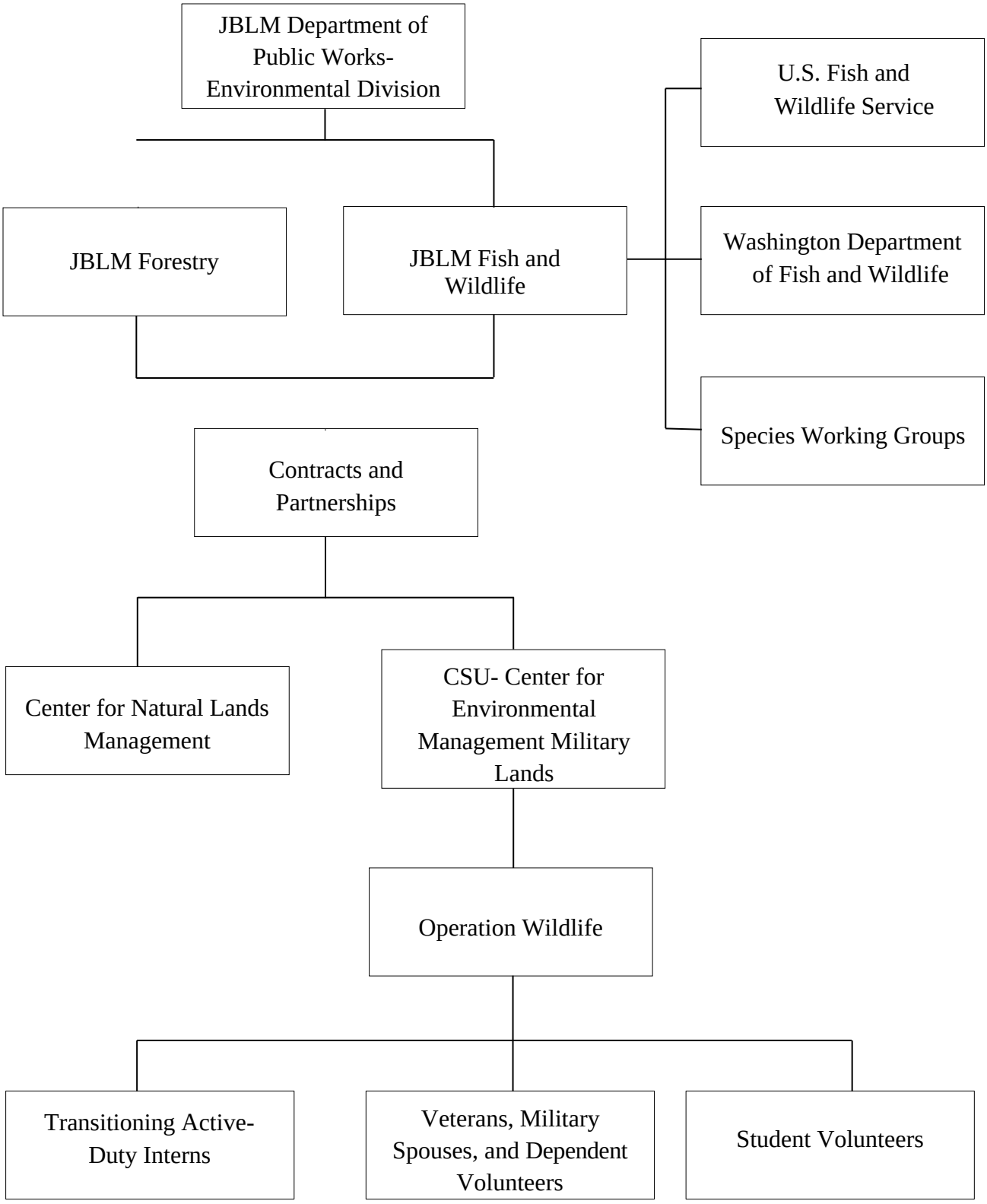
Operation Wildlife's structure must be adaptable to fit the various available resources and installation requirements. The following structure, as shown in Figure 1 below, describes the different departments OW works with at JBLM.

The Department of Public Works Environmental Division has a Fish and Wildlife program that consists of a team of biologists managing 38 species, nine of which are listed under the Endangered Species Act, and five habitat types throughout the 92,000-acre JBLM training area complex. JBLM Fish and Wildlife also collaborates with several outside agencies such as the U.S. Fish and Wildlife (USFW), WDFW, Center for Natural Lands Management (CNLM), and other species working groups to protect, maintain, and enhance the various ecosystems on the installation. OW works alongside JBLM Fish and Wildlife and JBLM Forestry staff to carry out plans for the restoration and maintenance of species and habitats while promoting native biodiversity and supporting the military mission at JBLM.

At OW, the program manager is the point of contact between the staff biologists and OW's program participants. The field coordinator collaborates with the program manager to plan program participants' daily activities and lead field work. See the Leadership Roles section for a more detailed description of these responsibilities.

OW also works with state and local conservation groups to provide support on projects surrounding the installation. A few examples include working collaboratively with the Nisqually Tribe to plant native species to help restore a shared watershed, assisting Washington State University on local stormwater projects, and providing the labor to restore a World War II cemetery after years of neglect.

Figure 1: Operation Wildlife Organizational Chart



Funding Mechanisms

General Guidelines

Securing yearly federal funding is challenging, especially for new environmental programs such as OW. However, there are some general guidelines that ensure program success. At each military installation, OW should have a large scope of work. This not only benefits the participants by providing experience with a broad range of projects, but it also allows OW to receive funding from more diverse sources. Fostering partnerships within the DPW can be advantageous when the budget is tight. This diversified infrastructure, even if specific funding sources are not utilized on a yearly basis, will minimize financial risk. The importance of mitigating this risk cannot be stressed enough as sources that regularly pay out are likely to change from one year to the next. For example, a specific source may not fund anything for several years in a row, and then unexpectedly pay several hundred thousand dollars. Other times, a source may pay out regularly but then fade away with little warning.

Another way to help ensure successful funding is to be prepared for a release of funds at any time. OW should have a very robust, preapproved task order with numerous options. Each option should be carefully considered and entirely self-contained, and each task within the different options should be monetized down to the penny. For example, Option A may be planting and maintaining 15 acres of oaks which would require the cost of the seedlings, mulch, fuel, any necessary tools, etc.; therefore, the total cost would be $X.XX to plant and maintain one acre of oaks. This way, when money becomes available, OW can quickly process the money for priority options that fit within the allotted budget. This quick turnaround time has been instrumental in funding OW at JBLM. While monetizing individual tasks will take time and experience, it promotes efficient use of money and helps demonstrate the legitimacy of the program to department heads—further increasing avenues of support and potential funding.

OW made its services essential to JBLM's Fish and Wildlife and Forestry branches, and this relationship will be crucial as OW expands to other installations. Techniques on how to build these relationships with installation departments are further elaborated on in Chapter 3. Once OW is fully integrated into daily operations, budget managers will work diligently to ensure OW remains funded. This is furthered by the program manager and the official DPW volunteer coordinator networking and promoting OW's valuable work up the chain of command in DPW. Essentially, it all comes down to having a plan, prioritizing projects, promoting the program, and taking calculated risks.

Potential Funding Sources

At JBLM, OW is funded through various partnerships and grants. The specific mechanisms for funding will vary significantly at each installation, so it is important to

note that the partnerships covered here may not always be applicable. The discussed mechanisms should only serve as examples and possible revenue sources to further explore.

OW is primarily funded by DPW/ED at JBLM. Currently, budget managers within the Environmental Division work with the Army Corps of Engineers (ACOE) and Cooperative Agreement Study Unites (CESU) that pairs federal agencies with non-profit organizations, mostly universities. Funding is authorized through the Sikes Act. Another channel is the Economy Act that provides authority for federal agencies to obtain services from other federal agencies. The installation develops a task order with a defined scope of work and a Military Interdepartmental Purchase Request then contracts an ACOE district office. In the case of JBLM, the Alaska District is used. Other districts commonly used are the Omaha and Fort Worth districts, but there are others. The ACOE then works with a CESU member to advertise the works competitively. The task order identifies tasks to be completed, deliverables, and a reporting schedule. Financial funding from any source can go through this route, though most of it at JBLM has been "opportunity money" via unfunded requirement dollars toward the end of the fiscal year.

Networking is crucial. As previously stated, the program manager, DPW volunteer coordinator, and DPW budget manager should constantly be promoting OW throughout the Environmental Division. They should check in frequently with the budget head, Environmental Division head, and even the head of the entire DPW at the installation. This way, when late money comes up, partners should know that OW will be able to utilize the extra funds and be able to process them quickly enough to meet any deadlines.

OW's tasks conform to the objectives and foals stated in the Integrated Natural Resources Management Plan (INRMP), JBLM Biological Opinion (BO), and other regulatory documents. VENQ (Environmental Quality) funds are tied to specific species—such as the streaked horned-lark or Mazama pocket gopher—covered within the INRMP. Since OW works to monitor these species and improve and maintain their habitat, OW may be able to utilize VENQ funds.

OW may also be able to receive additional funding through the installation's forestry department. This funding can come through the Forestry Reserve Account (FRA) from timber sales or through the Army Reserve Account (ARA) specific to each installation's forestry program. This is because OW is able to meet mission requirements and forestry management objectives with limited funding.

At JBLM, OW initially worked with Fish and Wildlife but began taking on tasks for the Forestry branch as well. Over time, this led to JBLM Forestry funding OW's field operations

coordinator position. This grew out of OW showing its value and gradually taking on more and more Forestry tasks, broadening the program's scope and diversifying its funding streams. The field operations coordinator works almost exclusively on forestry based projects when in the field. This may not be possible at every installation, but all options should be considered.

At other installations, OW should also explore funding routes through Qualified Recycle Program, Better Opportunities for Single Soldiers, Soldier 360, Army Legacy, and base hunting and fishing licensing fees. These are all relatively unexplored options at JBLM, but some could prove to be very beneficial as OW expands nationally.

While securing funding may seem like an overwhelming task, it is possible by taking small incremental steps. When following the guidelines outlined above and exploring all options, the process will naturally build momentum.

Grants

OW can also apply to various grants for additional funding. For example in several funding years, OW has been selected to receive between $6,000 and $9,000 from the DoD National Public Lands Day Grant that supports environmental education. This additional funding allows OW to purchase necessary supplies and equipment for projects such as power tools, lumber, kayaks, waders, binoculars, etc. This increase of available supplies allows OW to design and complete more projects on base that benefit participants and support environmental restoration and maintenance throughout the year. Furthermore, this defrays the costs for other collaborators who are also able to benefit from this equipment.

Chapter 4: Building Partnerships

The techniques discussed here have proven to be successful for Operation Wildlife at JBLM, but the key to success is adaptability. No two participants' or organizations' needs are the same, and this will be especially true as OW expands regionally and nationally. Therefore, the techniques covered here should be used as general guidelines that can be tailored to fit each program's specific needs.

Initiating Contact with Universities

OW actively advertises by posting fliers at nine colleges and universities within a 20 mile radius of JBLM. Some universities require flyers to be preapproved by student life organizations or academic advisors. In the initial year of the program, it is important for the program manager to be visible and available to answer questions. Opportunities to be proactive about interacting with professors should not be missed. This contact allows the program manager to briefly describe the OW program and initiate potentially long-lasting relationships.

Interested students, after seeing the flyers, make the initial contact with the OW program manager. The program manager then responds with a general overview of OW, including any upcoming projects and schedule.

Some local universities have well-developed internship-for-credit programs, and several even require students to successfully complete an internship prior to graduation. In these cases, with the help of the program manager as needed, the student and faculty draft a contract with defined learning objectives and deliverables, and the program manager approves it.

Although it is the sole responsibility of the students to ensure they are meeting their internship program's requirements, the program manager should coordinate with the students throughout the quarter/semester to make sure they stay on track. Some cases may require the program manager to occasionally check in with the students' academic advisors, although in most cases the program manager has little contact with faculty other than to submit an end-of-term evaluation. These evaluations provide a prime opportunity for the program manager to highlight JBLM as an ecological classroom, offer to host a field trip for future classes, or to talk about coordinating on-base research projects for students and/or faculty. This interaction is critical to building a dynamic mutually beneficial relationship with the university.

As progressively more students successfully complete the program, OW will earn a reputation as a leadership, skills, and ecological knowledge building program for students around the school. As that recognition with the college or university builds, faculty will utilize OW as a tool for research and teaching more often, thus allowing OW to further integrate with and support region-wide management and education. It is up to the program manager to build and maintain these relationships, and the prime builder of the program's reputation will be through engaging and helping students. Examples of this may include assisting student-led

research, connecting them to local professionals, referring them to jobs, or simply through providing the best possible internship experience for them. These relationships with students also facilitate the primary way OW has grown— through word-of-mouth recommendations across the region. In fact, because of these, OW at JBLM has worked with students from over 14 different colleges and universities across most of Washington state.

In some cases students may even be able to secure research grants from their school. If awarded, the grants provide a stipend to cover research and/or tuition costs during their internship. OW is able to provide students access to the base and help facilitate their research. JBLM is an ideal site for the students to work as the base actively manages 38 species of concern, has 5 distinct habitat types across 92,000 acres of wildland, and already has a robust volunteer and research program. This also provides the opportunity for other OW participants to get involved with the students' research.

It is important to note that most student volunteers are unable to receive class credit simply because their schools do not have the appropriate programs in place. Situations where the internship mechanism is underdeveloped require more adaptability from the program manager, if it makes sense to try to build a new program at that school. This can be a great investment in the future but will likely require the manager to directly contact academic advisors and advocate on behalf of students. The faculty must be the ones to initiate and push for an internship-for-credit pathway at the university, but they often need the interest of students and support of established organizations, such as OW, to demonstrate the need for such programs. In cases where students are unable to receive class credit, they still have a lot to gain from volunteering at OW and are encouraged to participate in the program. They simply coordinate their own schedule with the program manager.

Strong relationships with local colleges and universities benefit the entire community. Students are able to gain hands-on experience through a diverse range of jobs, while providing an array of cultural and educational backgrounds to the OW program. This helps set a civilian style work environment for transitioning active-duty interns and introduces them back into academia. Relationships with colleges and faculty also present unique opportunities for OW participants in the form of private lectures, tours of facilities, and educational advice. These can often be "traded" for class field trips to base, allowing the program manager to attract future interns and build programming at the same time.

Building Partnerships with Installation Environmental Programs

Since OW operates under JBLM Fish and Wildlife and JBLM Forestry, the framework for a functional partnership already exists. However, some biologists may be hesitant to rely on volunteer work from a new startup program, so it can take several years to gain necessary

credibility with biologists to become an essential part of their work. It is important to keep this long-term goal in mind when fostering these relationships.

When building partnerships, the program manager must set expectations for performance within the department and with staff members regarding specific jobs. Projects in their first years may experience some pitfalls due to lack of training, preparedness, or experience; however, these are constantly improved upon. Therefore, it is imperative for the program director to schedule end-of-year/end-of-project check-ins to determine best ways to improve OW's involvement going forward. Typically, by year two or three of OW's involvement with a particular project, the interns and volunteers exceed expectations.

OW has successfully built partnerships by offering assistance on every project— big, small, straightforward, or difficult. The program manager assigns one or more experienced and trusted field leaders to oversee each project, which ensures that every task has dedicated stewards focusing on it. This builds consistency and leads to a good impression with the biologists who are then much more likely to involve OW in their future planning. The program manager also constantly advocates on behalf of the interns and volunteers, strives to get them on higher priority projects, and ensures biologists are providing education to increase program value for participants. Over time, this rapport allows biologists to design and carry out research and monitoring projects based on the understanding that they have access to a skilled and motivated workforce at their disposal.

It is also necessary to note that many projects OW is asked to assist with will be relatively menial, particularly in the first few years. Referring back to OW's mission and leadership style of putting interns first, it is critical that the program manager ensure the interns and volunteers are still getting something valuable out of their time and effort. This may come in the form of direct education, instruction, and valuable face time with the biologists.

At JBLM, OW's reputation for providing quality volunteer work has quickly spread and Washington Department of Fish and Wildlife biologists have been asking for assistance on projects off base as well. It is the responsibility of the program manager to foster these types of partnerships that significantly benefit the transitioning active-duty interns, volunteers, local community, and the threatened and endangered species and habitats. After just five years at JBLM, OW has become an indispensable asset to the military community, JBLM Fish and Wildlife, and region-wide conservation efforts as well.

Initiating Community Partnerships

OW is proud to represent JBLM as a community partner by aiding projects off base as operational tempo allows. Ideally, the project manager should aim to schedule community projects so that each group of interns and volunteers can work off base at least once. This requires the program manager stay informed with local community programs and anticipate ways OW can help that align with its primary mission.

Each community project should have a clear and direct benefit for the interns, which occasionally requires some negotiation. For example, U.S. Geological Survey staff from an adjoining estuary preserve reached out to OW at JBLM looking for two interns to contribute to their research project weekly throughout the summer. Instead, the program manager was able to negotiate sending interns to work on the project on a rotating basis, increasing the variety of experience each intern gains. Educating a new team every week was an additional burden on the staff members, but once they understood that was simply the cost of getting the help (and assured that only reliable and careful interns would be sent) they agreed. This allowed almost every intern within OW to be instructed on the project, receiving valuable education and networking with potential employers along the way.

OW has been successful participating in a wide range of community projects, which can be attributed to the program manager reaching out to organizations doing important environmental work around the perimeter of the base. Arguably one of the most important of these organizations is the Nisqually Tribe, who were the original caretakers of the land and still one of the larger entities supporting restoration and conservation in the area. OW has been able to assist the tribe in the restoration of the Ohop Valley watershed by planting native trees along vital salmonid habitat, while simultaneously providing interns with an opportunity to learn from the tribe.

Another prime example is when OW provided the labor to help the Washington State University (WSU) Stormwater Research Center build a local bioswale that catches and removes impurities from stormwater in exchange for an educational lecture and private tour of the research facilities. Occasionally, OW is also in a position to provide much needed labor for a good cause such as restoring a neglected War World II memorial. Such occasions provide excellent opportunities to promote OW and its interns through local news articles. The program manager should notify the installation or DPW outreach coordinator to promote coverage of these events.

It is also recommended for the program manager to represent OW at local professional conferences to stay informed and get involved in region-wide projects. This representation is another great way to promote the program and showcase its interns, volunteers, and mission. As previously stated, all community projects should align with OW's primary principles and should directly benefit the interns through lectures, tours, education, or direct instruction. OW functioning off base is a courtesy to help benefit the community, so it must meet these requirements.

Initiating Contact with Service Members

Recruitment of transitioning service members to OW requires multiple working relationships with organizations throughout the installation. Initializing conversations and building relationships with Morale, Welfare, and Recreation (MWR) and other facilities can

create valuable opportunities for advertising. MWR permission is needed when placing flyers in areas such as gyms and recreation centers. Education and transition centers also allow OW to reach members of diverse military backgrounds and expertise as well as members in different stages of their career. Flyers will initially bring in the majority of participants; however, as OW becomes established on JBLM, word-of-mouth also becomes a powerful tool.

OW also works cooperatively with the Career Skills Program (CSP) to recruit transitioning service members. CSP organizes short-term opportunities that provide job skills training and career development to assist service members' transition to the civilian workforce. By working with the CSP, service members are able to have their duty stations changed to OW for a 12-16 week period during the last 180 days of their service commitment (not including terminal leave). The CSP entity on JBLM that assists OW is operated through the Thurston County Chamber of Commerce, so specific procedures and memos will likely vary widely between installations.

While most OW active-duty interns go through the CSP, there are some cases where interns are able to use other routes such as Operation Warfighter, which works through the JBLM Warrior Transition Battalion. Operation Warfighter pairs wounded, injured, and ill service members with internships where they can gain work experience during their rehabilitation and recovery. The service members that go through this route are typically separating from active duty due to medical reasons. Each branch of the military has a similar command that helps ease the transition for injured service members, so these partnerships should continue to be an option as OW expands nationally.

In some cases where legitimate need exists, it may also be possible to employ service members directly through Borrowed Military Manpower (BMM). Previously during labor shortages, DPW has been able to use this route to recruit transitioning service members. This could be an option moving forward particularly as environmental management needs continue to increase while funding remains stagnant.

Custom designing a direct transfer memo can also be an option, but this method is not in line with DoD policy regarding CSPs. Being an actual DoD entity tied directly to the installation, DPW programs are in a bit of a gray area here. OW has used this method on a few occasions in the past, but it exposes the program to unnecessary risk if someone should get hurt. Therefore OW at JBLM reserves this course for extraordinary circumstances.

Once working with OW, active-duty interns gain hands-on experience on a wide range of environmental restoration and management projects. Having transitioning service members' primary duty station changed to OW allows for their total immersion into the program and decompression from transitioning stressors, while still allowing them to maintain a sense of structure and belonging. At the end of their service commitment, OW interns typically go directly to terminal leave and do not return to their units. Therefore, it is imperative that the

program manager helps make sure that participants are able to meet all of their out-processing requirements.

Chapter 5: Policy and Procedures

Introduction to the Program

Prospective participants typically contact the Operation Wildlife program manager via the email listed on advertisement fliers. After being contacted by an interested party, theprogram manager responds with one of two default emails that give a basic description of the program, typical projects, and what to expect. One email is for active-duty service members (interns) and the other is for veterans, military family members, students, and nonaffiliated volunteers (volunteers).

Setting the tone for a civilian work environment is important for interns to assist in their transition from a military working environment to the civilian workforce. This is implemented from the first interaction that the program manager has with the prospective intern through a standard email explaining that OW promotes a civilian style work environment where everyone starts off equal and ranks should be left at the door. However, those who perform well can gain more responsibility by becoming field leads and will work more closely with biologists, graduate students, and agency professionals. Before the intern attends orientation, they are required to schedule a meeting with the program manager that functions as an informal interview to ensure that they are a good fit for OW and to address any additional questions they may have.

Emails sent out to volunteers should have a slightly more formal and academic style while setting the tone for an inclusive work environment. Volunteers must be U.S. citizens, attend operational security (OPSEC) training, and potentially clear a background check. While there is not an official interview process, volunteers should know that their first three to five visits should be treated as a working interview. This allows the program manager to evaluate whether or not they are a good fit for OW in the field without spending time reading resumes and scheduling formal interviews. Volunteers should feel equally empowered to become field leads as they take on more responsibilities. Volunteers at OW have a unique position to invite service members into conversations about their college and share dialogue about their experiences. Since there are no set schedules (see managing volunteers in Chapter 4), volunteers are able to control how frequently they come. However, they should understand that the more regularly they volunteer, the greater the chance that they can become a field lead. After a minimum of 12 visits they are eligible for a professional reference from the program manager.

Program Orientation

At JBLM, OW provides a standardized orientation once a week or as needed to incoming participants. The orientation is used to introduce new participants to OPSEC, policies,

procedures, and expectations at OW. During this time, the program manager goes through the orientation checklist (Appendix A) with each program participant.

Before starting any work with OW, volunteers are required to sign a disclaimer form (Appendix B) and a volunteer agreement form (Appendix C). The disclaimer form is a volunteer code of ethics/confidentiality form from the Installation's Volunteer Corps of JBLM. This form documents that the volunteer understands that although they will not be monetarily compensated by OW for their time, they are expected to maintain a professional work ethic. The volunteer agreement form is a government document verifying that the volunteer understands they will not be considered an employee of the U.S. Government and will not be entitled to salary, wages, or other benefits for their voluntary services. Volunteers are also required to create an account with Army One Source where they register as a volunteer biological technician on the military installation. A new position description will have to be posted at each installation for this. Using their Army One Source account, volunteers are able to track their hours and browse other available positions. It also allows the installation to track volunteer activity, and provides medical coverage to registered volunteers at Army facilities if an accident occurs.

The orientation should include daily activity protocols such as office guidelines, equipment and personal protective equipment (PPE) use, vehicle rules, radio protocols, field work suggestions, and everything else. The content of the checklist will be tailored to the needs of each installation, but many specifics should not be left out: an organizational mission statement, participant rules and expectations, OPSEC rules as well as those for working around protected species and habitats, an inclusivity statement, safety protocols, and organizational culture guidelines. Also important are rules for authorized drivers of government vehicles, a specific line-by-line example of radio etiquette, a statement about being prepared for long hours of exposure to variable conditions, and a question about known allergies and relevant medications. This is a good time to allow for questions and comments to establish dialog and gain insight to the personalities that are joining the team.

The conclusion of the orientation is a conversation about OW's organizational culture. Specifically, OW strives to be an area for professional development on all fronts. Program participants are urged to ask questions of everyone, because everyone is both a teacher and a student each with different experiences and capabilities. It is also imperative to set expectations for inclusive and non-discriminatory language, and respect for people with different ideologies. Communicating across the political divide and collaborating with people who see the world differently is a skill that will pay dividends in the careers of veterans and civilian students alike. OW is a place to practice that. Encouraging constructive interactions both in the office and in the field is the cornerstone setting participants up for future success and of building a program that people want to keep attending and tell their friends about.

The culture setting conversation should end with encouragement for the participant to help the program manager understand any emerging problems that they identify. This can be any suggestion that could improve the program in any way, but specifically if a particular person is difficult to work with it is important to let the program manager know. The earlier these problems are identified the better and more gracefully they can be handled. Sometimes a little guidance is all that is needed to see a change in behavior. When that isn't effective or in other specific cases the best course of action is to let the participant go. In these situations, it should be remembered that letting someone go can be one of the hardest parts of management but also one of the strongest lifters of morale for the rest of the team.

Finally, it is critically important for OW to emphasize the need for OPSEC while working on a military installation, especially to its nonaffiliated volunteers. OPSEC is used to keep service members safe, sensitive information secure, and military operations moving along as planned. Volunteers must understand that photographs of military operations are strictly prohibited, understand what to do if they find classified documents, beware of strangers asking about their internship, and take their professional responsibility seriously to protect our nation's secrets.

Managing Participants

Scheduling and Information Organization

Effectively managing participants is imperative to OW's success. Each day requires the program manager to be attentive and flexible to successfully manage a large number of participants and projects. Daily projects frequently change due to weather or shifting priorities. Volunteers, interns, and even biologists may need to cancel at the last minute due to extenuating circumstances. There may also be an equipment failure, or a plethora of other things to go wrong that require the programs manager's attention. Therefore, it is essential for the program manager to have contingency plans and be flexible coordinating with participants and biologists alike. To reduce operational stress and promote individual responsibility, the participants are required to manage their own schedules. To streamline this process, OW utilizes various whiteboards around the office. Whiteboards are an essential tool at JBLM due to the nature of the program's constant turnover.

Two whiteboards are dedicated to scheduling—one for military interns and one for volunteers. OW is the active-duty interns' official duty station, so they must adhere to several standard protocols. The military board should include the interns' names, start and end dates, and any dates they will not be attending OW. All active-duty interns are expected to report to OW daily unless on approved leave or attending official appointments. All approved leave forms should be filed into the appropriate folder at the OW office. The volunteer whiteboard should include pertinent information such as the volunteer's name, their school affiliation if applicable,

and the days of the week they expect to attend. All information should be updated as required.

Additionally, all participants are encouraged to denote their preferred area of focus next to their names by writing no more than three of the following letters, in order of preference: Forestry (F), Restoration Ecology (R), Wildlife Conservation/Biology (W), Game Management (G), Botany (B), Science/Research (S), and Environmental Education (E). Although it is important for the participants to gain experience working in a broad range of projects, their personal preferences are taken into account when possible.

Some projects, such as working with herbicides or on prescribed burns, require specialized certifications and licenses. The program manager will provide all necessary resources and information on what training is necessary to obtain certification and licensure; however, it is the sole responsibility of the participants to follow through. At JBLM, OW is able to pay for testing and licensing fees. A third whiteboard is used to track current participants who hold or are working toward these certifications.

A fourth whiteboard is used to list the daily project assignments and teams. When participants walk into the office this board is the first thing they see. This allows them to immediately form their teams and prepare for their assignment. This board also includes a lot of other pertinent information—such as emergency contact information, participants' contact information, upcoming projects, and days of no scheduled activity (DONSA). All participants are encouraged to keep updated pictures of the listed contact information.

Assigning Projects

The program manager and the field operations coordinator should arrive at the office an hour before participants. This allows for essential planning time. Daily projects are assigned based on priority level and number of OW participants expected. Each project is assigned a field leader, and the rest of the team is assigned based on team dynamics and participants' primary interests and skills.

Having a positive team dynamic is essential for a productive day, so the program manager must be cognizant of how individuals work together. New participants should always be paired with experienced field leads. It is also important to ensure that all participants get the opportunity to work on a wide range of projects. The program manager should recognize when tasks are rather menial and should try to spread them out between various groups of participants to help keep the general morale high. Occasionally, a participant may struggle in the program, so it may require some trial and error to help them find their niche. While not always easy, helping participants find their niche is another way OW can invest in its participants while helping them refine their job skills.

Tools for Success

OW provides all equipment, tools, and specialized gear required to complete various projects such as binoculars, rain gear, waders, etc. Therefore, the participants have little to no upfront cost for their participation in OW. At the OW office, participants have access to large drawers to store required personal items— such as a spare set of clothes and work boots. Participants are expected to bring their own lunch and water.

Many OW projects require the use of power equipment or large machinery. In these cases, OW provides thorough training and any necessary personal protective equipment. This gives participants a rare opportunity to learn how to haul and drive tractors, use and maintain hand held power equipment, and prepare wildland fire engines for use on prescribed burns. It is very important that the program manager inspect equipment and verify proper PPE use with participants.

OW is not just about complying with state and federal regulations on military installations, but also about setting participants up for success in the future. One effective way to do this is through an information announcement board in the OW office. Local job announcements are regularly posted here, along with resume tips and examples, relevant news articles, and program overviews from previous years. All participants are encouraged to regularly check the board for updated info and for any other opportunities they may be interested in.

Chapter 6: Management and Projects

Project Management

Operation Wildlife's success is largely due to how the program promotes leadership from within. During orientation, participants are told that those who perform well are given field leadership roles. Out of those participants, a select few will be assigned to more robust, technical projects. Projects are assigned to OW by DPW/ED staff biologists; however, the program manager assigns field leader roles to participants based on their availability, skills, and experience. There are often multiple field leaders assigned to each project.

Biologists define deliverables and provide training to the selected field leader(s). After the initial training, the field leader is responsible to lead crews and train others on the job. For this reason, detailed project protocol documents are extremely helpful. After each day, the field leader should update the program manager and biologists on the project's status, and privately review team dynamics and morale. Since there is often more than one field leader assigned to each project, it is imperative to maintain an organized filing system where other field leaders, the program manager, and the biologists can easily access the information. To facilitate this organization, there is a designated filing cabinet at the OW office to store pertinent information for each project. This information typically includes the training protocol, data sheets, maps, project notes, etc.

Allowing participants to take on the critical roles of field leaders serves several purposes. First, it allows the participants to gain experience coordinating projects through working directly with biologists while building a management-tier resume. It also not only encourages increased responsibility and allows the participants to hone their leadership skills, but it builds a culture of ownership which drives commitment and loyalty. This leadership style also frees up valuable time for the program manager to focus on logistics, participant management, and large scale partnership and project coordination.

Project Variety and Job Skills

OW has a large scope of work, and thus provides training and hands-on experience to participants through a wide range of projects. Projects tend to vary greatly between seasons, but every season provides unique opportunities for participants. to learn how to conduct scientific research and collect data, identify local flora and fauna, and develop other practical job skills. Participants also learn regional ecological processes and management strategies being used to restore and maintain at risk species and habitats.

As OW becomes more established at a new location, its assistance will be requested on more and more technical and robust projects. OW also frequently works in conjunction with local postgraduate students on research projects as relationships with universities develop.

Therefore, the below descriptions are not definitive and are expected to change significantly over time. Major project categories for OW at JBML are outlined below and shown in Table 1. For a full 2019 project calendar, refer to Appendix D.

Forestry

OW works on a number of forestry projects throughout the year and is now partly funded through JBLM Forestry. The field operations coordinator leads crews on these projects, many of which are technical and extensive, some lasting several months out of the year. One of these is an annual ecological review survey of proposed harvest areas. This assesses potential impacts to nesting raptors, western gray squirrels, and other ecological resources such as wildlife and legacy trees to help inform harvest strategies. This and other forestry projects provide an opportunity for participants to learn about the delicate balance between economic and ecological management of forests. Another technical project is Garry oak woodland stand- development transects. Here participants learn to follow strict protocols to measure out segments, classify overstory trees, note seedlings, saplings, and precommercial stems, and record other attributes of interest. Interns also learn to cruise timber, assess trees for thinning, mark timber sales, and a host of other highly marketable skills.

Among other things, JBLM is home to the only stands of ponderosa pines west of the Cascade Range. This means OW participants also have the opportunity to assist lead ecologists with long-term Ponderosa stand development surveys. On this project, participants learn how to work from plot centers taking basal areas, diameters at breast height, species identification, and much more.

Participants also lead sapling maintenance projects in restoration and post-harvest planting areas. Participants also plant trees and understory obligate forbs along prairie and woodland edges to help restore oak savannas. During the fire season, participants help deploy fire tubes to protect young saplings from prescribed burns while allowing for the burns to knock back succession. These unique projects are instrumental in restoring ecologically valuable oak savannas.

Wetlands

JBLM is home to many wetlands, including rare kettle wetlands formed by receding glaciers. Unfortunately, many of these sensitive areas have been choked out by invasive reed canary grass. OW participants have been able to support several projects aimed at combating this issue. For example, during the dry summer season participants mow and apply herbicide to prepare selected wetlands for the planting of native emergent vegetation mats. These veg mats are grown in aquaponics systems to give them a head start, thus allowing them to outcompete and exclude reed canary grass.

OW participants also plant willows along banks to provide shade, limit erosion, and control invasive plant species. Occasionally, participants also remove beaver dams to restore stream flow to salmonid spawning areas.

Prairies

As referenced in Chapter 1, glacial outwash prairies in the southern Puget Sound region have been reduced by over 90% with the majority of the remaining prairies occurring on JBLM (Dunwiddie & Bakker, 2011). Today there are 37 distinct prairies on JBLM consisting of over 11,000 acres of designated Priority Habitat (Martin & Kronland, 2015). Many threatened and endangered species depend on this remaining habitat; therefore, prairie restoration and maintenance is a top priority of JBLM Fish and Wildlife, partner organizations, and OW.

OW participants collect native seeds for future prairie restoration projects, while also monitoring, removing, spraying, and deadheading invasive species. OW also supports robust prairie restoration projects by planting around 100,000 plugs per year. Additionally, OW participants use tractors to seed prairies following prescribed burns with targeted restoration seed mixes—particularly in TCB habitat.

Fire Management

A fire regime is an essential tool for the maintenance and restoration of Puget lowland prairie habitats, so OW dedicates a large portion of its labor to preparing for and assisting with prescribed burns. Participants work on various fire unit preparation projects throughout the year, such as clearing around sensitive plant species to reduce ladder fuels, managing fire breaks, and recording potential hazards within burn units. Throughout the fire season, participants also help biologists better understand and predict fire behavior by conducting weekly measurements of live and dead fuel moisture.

During the summer months, OW provides direct firefighter support to assist JBLM Fish and Wildlife with prescribed burns. Interested participants complete the necessary education, training, and evaluations required to become nationally certified National Wildfire Coordinating Group Type 2- Wildland Firefighters, whereupon they help carry out all fire operations including ignition, line control, mop-up, suppression, and monitoring.

Invasive Plant Projects and Herbicide Application

OW offers participants the opportunity to become a state licensed herbicide applicator. The Washington State Department of Agriculture issues this license upon successful completion of a series of standardized tests. OW provides the educational setting, study material, test fees, and transportation to/from the test site. Participants prepare for the standardized test through peer-based learning.

Becoming a licensed applicator allows the participants to become familiar and knowledgeable about the local invasive / noxious weeds and various methods used to treat and remove them. Individuals with the herbicide applicator certification lead field teams on invasive species removal and mapping projects year round.

Birds

At JBLM, avian projects provide year-round learning experiences. During the slower winter months, participants gain experience using woodworking equipment and techniques while repairing and building boxes for western bluebirds, purple martins, wood ducks, and northern saw-whet owls. These winter projects are also an opportunity to learn about different habitat characteristics and preferences of each species.

During spring and summer months, participants monitor western bluebird boxes on a weekly basis to help JBLM Fish and Wildlife track nesting and fledging success rates. This is also the season for yearly snag surveys to determine Purple Martin presence or occupancy and to keep track of snag decay class. These occupancy surveys help biologists track colony numbers and anticipate their future habitat needs on JBLM. Additionally, participants are able to assist avian biologists on general bird surveys. This is a unique opportunity to gain experience identifying birds both visually and by their songs.

Mammals

OW participants work directly with WDFW biologists to build, deploy, and monitor detection tubes to determine Western Gray Squirrels (WGS) presence. The information provided by this project is critical to track the state's threatened WGS range and population over time. OW participants also assist with transect surveys for the federally threatened Mazama Pocket Gopher. These projects hone participants' research skills while also exposing them to critical management techniques.

Participants also build and install roost towers for the Townsend big-eared bats and other rare bat species. Additionally, participants have the opportunity to assist on evening bat emergence surveys helping provide valuable colony data. Participants also deploy game cameras to help JBLM Fish and Wildlife monitor large mammal populations such as black bears, elk, black-tailed deer, etc. on the military installation.

Reptiles, Amphibians, Fish

OW also works on a variety of reptilian, amphibian, and fish projects. Each year, participants lead amphibian egg mass and funnel trapping surveys to track amphibian

populations and reproduction rates. In addition to learning identification of species, this project requires participants use chest waders and occasionally kayaks to access otherwise inaccessible areas. Similar to other projects, participants gain experience recording data and Global Positioning System (GPS) coordinates on ArcGIS-enabled Mesa tablets. Participants also track western toad out-migrations/breeding and close roads to protect population numbers.

OW also assists WDFW off-base to implement their management plan for Washington's endangered western pond turtles. Participants assist in trapping the turtles to collect and record biological data. In this process, participants also learn how to read carapace markings to identify individual turtles. The WDFW biologists select twenty-five large, mature female turtles to equip with radio transmitters for monitoring as part of several ongoing projects. Selected OW field leaders are trained on protocols, data collection methods, and how to effectively use a very high frequency (VHF) radio receiver and antenna to locate the tagged animals. The field leaders help teams track and locate the tagged females every two hours with the purpose of finding their nests.

Participants also assist JBLM Fish and Wildlife with salmonid surveys, mapping spawning activity, redds, and spent carcasses. Salmon runs are at historical lows throughout Washington. The data collected during these activities are vital to understanding salmon populations during this recovery process for the species.

Butterflies

Butterfly flight season is a focus of JBLM Fish and Wildlife during the spring. OW participants work with several species of rare butterflies and their host plants. The Taylor's checkerspot (TCB) is a federally endangered butterfly that has an established but waning population on JBLM. Working with WDFW and JBLM Fish and Wildlife, participants conduct TCB occupancy surveys, collect host plant seeds to aid in the restoration of their habitat, prepare sites for the release of captively reared TCB larvae, and then actually participate in multi-agency on-site releases. This opportunity to handle a federally endangered species provides huge resume building potential to participants.

Spring is not only spent mapping populations of TCB. Along with the visual identification of other butterflies in the area, participants learn how to identify flight patterns and host plants associated with each species. Mapping host plants plays a role in the fire management of these habitat areas. For example, surveys conducted to map out the Hoary Elfin butterfly categorize and determine the effects of prescribed fire on their habitat. This study allows participants to play a part in the full circle of rare species conservation.

Educational Opportunities

OW also provides focused educational opportunities for participants. JBLM Fish and Wildlife periodically hosts educational lectures and research presentations that participants are strongly encouraged to attend. Occasionally, the lectures are training based, such as rare butterfly identification, but JBLM Fish and Wildlife also frequently hosts local postgraduate students who present their research projects. Additionally, in the slower winter months, participants receive a private tour of the Slater Museum at the University of Puget Sound and spend one on one time with the professor who curates the museum. This is especially beneficial for transitioning service members. By receiving guidance and advice from professionals in their field, transitioning service members become comfortable in a higher education setting. These interactions make the military to academia transition easier.

Other Job Skills

As evident from above, OW works on an extremely broad range of projects. On each of these projects, participants gain valuable work skills that may not always be immediately obvious. For example, participants not only learn how to operate equipment, but also the accompanying safety skills and proper use of PPE. Many projects also require the use of tractors or boats on which participants learn how to trailer, tie down, and haul large equipment.

Participants are also able to develop their scientific and research skills through the use of various transect survey methods. They learn best practices for data collection, how to use GPS's, and how to record pertinent information using Mesa tablets and Trimbles. Additionally, OW provides an incredibly rare opportunity for participants to gain experience using VHF radio telemetry to track sensitive species. Finally, all projects help participants hone their project management, team work, and leadership skills.

Table 1: 2019 Projects- Compressed Version

Showing Projects with at least 10 Volunteer Days

Organized by Species/Habitat Type

# of Volunteer Days Shown

Forests	
Timber Sale Surveys	111
Oak Transects	81
Oak Sapling Maintenance	55
Cedar Netting	25
Tree Marking	17
Prairie Oak Preserve maintenance	14
Sapling Maintenance	12
Stand Development Plot Surveys	10
Wetlands	
Beaver Dam Removal	16
Willow Staking	14
Prairies	
Conifer Removal/Slashing	65
Plug Planting– Various Projects	49
Seed Predation Study w/MES Student	33
Tractor Seeding	17
Seed Collection	14
Seed Collection	10
Fire Management	
Firefighters	184
Fire unit prep	126
Co-use for fire	23
Burn scar seeding	21
Fuel moisture monitoring	13
Invasive Plant Control	
Holly Lancing	37
Hawthorn Removal	33
Trifolium Surveys	30
Blackberry Spray	21
Ivy Lancing/Control	12
Birds	
WEBL Nest Success Surveys	94
WODU Maintenance	51
WEBL Maintenance	31
PUMA Tower Install/Maintenance	31
PUMA Snag Nest Survey	31
Bird Box Construction	10
Mammals	
WGS Surveys w/WDFW	61
Reptiles, Amphibians, and Fish	
Amphibian Surveys	72
Western Pond Turtle Surveys w/WDFW	71
Western Toad Searches	38
Salmon Abundance Surveys	23
Salmonid Redd Surveys	13
Butterflies and Pollinators	
Butterfly Surveys	36
TCB Release Prep	24
TCB Transect Flagging	11
TCB Release w/WDFW	10
Other Job Skills	
Equipment Training	32
Herbicide Training/Licensing	25
Fire Training	24
Vehicle/Tool Maintenance	24
Water Program Support	10

Chapter 7: Career Building

Resume Building and Career Counseling

Participants use the training, experiences, and skills gained through Operation Wildlife to curate a marketable resume. Resources available to assist participants in resume building include sample resumes and a comprehensive list of OW projects with their respective duties. In addition, the program manager is available, as needed, to work one-on-one with participants on their resumes. During this time, the program manager helps them tailor their resume to highlight their skills and experiences gained while working with OW as well as throughout their career. For transitioning active-duty interns, this also includes assistance translating military jargon to points more easily understood by civilian organizations.

The program manager also offers informal career and interview advice depending on individuals' needs. This may be in the form of giving advice on college programs, helping participants navigate scholarships and GI bills, or simply preparing participants to meet with potential employers. This extra time investment helps ensure participants' success when transitioning into the workforce, builds loyalty, and elevates the program's reputation.

OW also promotes an inclusive and welcoming atmosphere where participants from all different educational and professional backgrounds are able to share their experiences and exchange advice freely. In particular, this can help transitioning active-duty interns get first-hand feedback from students and veterans who attend local colleges and universities. It also helps the active-duty interns begin to see themselves in an educational setting. Furthermore, all participants will work alongside biologists in the field where they have the opportunity to learn about the biologists' career paths and ask any questions that they may have.

Recommendations and Participant Success

Since founding OW in 2013, the program manager has built a network with many different colleges and organizations throughout the western Washington region. The program manager uses this network to connect participants to potential employers in the environmental science field. When notified of job openings, the program manager posts the announcements in the OW office for participants to consider. Additionally, OW functions as a vetting service to identify potential job candidates for JBLM Fish and Wildlife, JBLM Forestry, and others. When participants work with OW, the program manager assesses their leadership and teamwork skills, work ethic, and ecological knowledge to identify those who would excel as part of the JBLM environmental management team.

OW was designed to be a transitioning program where participants can hone their skills and gain critical experience for moving forward professionally. For participants who take

advantage of the opportunities OW offers, the program manager provides strong job recommendations. Previous participants now work for a variety of organizations including but not limited to JBLM Forestry, JBLM Fish and Wildlife, CNLM, WDFW, JBLM Water Program, and even the Range and Training Lands Assessment. Many former participants credit their time at OW and the recommendation they received from the program manager as the reason they received their current positions.

Chapter 8: Records Keeping

Record Keeping and Reporting

Due to the unpredictable nature of field work and the constantly shifting environment of Operation Wildlife, daily records are kept in the OW Google Calendar. This allows for easy access to the data, quick entry, and optimum flexibility for potential changes. At the end of each day, each project is entered as an event with the involved participants listed in the description. This information is stored indefinitely and is entirely searchable. Then as time allows, or at the end of the month, the data is transferred to an excel document. In the excel document, the data is reconfigured to display the projects worked on that month, number of person days per project divided into active duty and volunteer categories, and the dollar equivalency of that work based on the federal hour volunteer rate of $25.42 as of 2019.

The program manager generates two monthly performance reports—one for JBLM Forestry and one for JBLM Fish and Wildlife. The performance reports highlight the information found in the excel spreadsheets—specifically the number of person hours spent on each project that month and the dollar equivalency of that work. These performance reports keep JBLM Forestry and JBLM Fish and Wildlife updated on OW's projects. These reports also play a valuable role in adding to the reputation of OW by quantifying the program's contribution. Ideally, as OW continues to grow and expand, the program will be able to streamline these processes by creating a custom Access database to track projects, participants, and automatically generate monthly and yearly reports.

Participation and Yearly Numbers

Since being founded in 2013, OW has grown significantly as shown below in Table 2. OW's total labor equivalency output increased over 102% from 2016 to 2019. In 2019, there was an average of 10.9 participants working on any given day, nearly double that of the average number of participants working in 2016. This growth is projected to continue as OW's expands throughout the region and to new locations. With this level of growth comes new logistical and management challenges; however, it is important to improve each project each year so that growth is not only in size but also in quality.

Operation Wildlife Participation Through the Years

Year	2016	2017	2018	2019
Total Volunteer Hours	8,688	11,888	12,584	16,248
Number of Active Days	195	195	183	187
Average Number of Participants Per Day	5.56	7.62	8.60	10.9
Total Labor Equivalency ($)	204,168	286,976	310,699	413,187

Table 2

In 2019 alone, OW worked with 84 participants: 27 transitioning active- duty service members, 12 veterans, 8 military spouses, and 37 civilian college students. The number of participants actively working with OW fluctuates seasonally—with a higher proportion of active-duty interns in the winter and a higher proportion of students in the summer. Advertising to diverse ranges of potential participants helps ensure a steady flow of participants throughout the various seasons.

Evaluating Program Success

OW's success is evident when examining the yearly performance numbers; however, OW first and foremost prioritizes its impact on the participants which can be more difficult to quantify. To date OW has used informal interviews, but moving forward OW plans to implement standardized entrance and exit interviews to capture participants' career goals, changing environmental attitudes, and skills gained through the program.

During orientation, each participant will be given an entrance interview which will cover general information such as how the incoming participants found out about the OW program, how much time they plan to invest into the program, and their short-term and long-term career goals. The entrance interview will also require a brief description of their previous work experience, education, and skills. This introduction will help the program manager anticipate ways OW can help each individual participant reach their goals while focusing on their interests and strengths.

To help assess the impact of OW on participants, an exit interview will be given to those who work at least 25 days with the program. The exit interview will cover information such as what the participants' immediate plans are when leaving the program— whether enrolling in school, joining the workforce, etc.—and what their long-term or short-term career goals are if

they have changed. The exit interview will also ask what their favorite project was and what they view to be the most important skill/experience they will take away from the program. If applicable, it will also ask if and how their previous military experience helped them in the program. Finally, the exit interview will ask if the participants felt that they had the tools, resources, and working conditions to be successful within the program.

The entrance and exit interviews will provide a standardized method for tracking participants' changing attitudes towards environmental management and restoration and their experience with OW. Additionally, the interviews will provide an opportunity for participants to give feedback and suggestions for areas on which the program can improve.

OW will then follow up with participants who met the minimum attendance requirement for an exit interview, one year after their graduation from the program. At this time OW will collect information such as their employment status, career field, and other pertinent details regarding their general career progression. Participants will also be asked to summarize the impact OW has had on their lives.

As a whole, this info will be difficult to quantify and even more difficult to relate back to the success of OW. For this reason, OW is currently working to attract a graduate student who will help initiate, collect, compile, and analyze this data.

Chapter 9: Success Stories

As discussed in Chapter 7, quantifying the success of Operation Wildlife and its impact on participants is quite difficult; however, the feedback from participants has been overwhelmingly positive. An article written by Buckingham (2019) in the Department of Defense Natural Resources Program, *Natural Selections* highlighted the program's impact using quotes from former interns. One intern, a mortarman who was injured in a Stryker rollover, said during his exit interview, "When I got back from Afghanistan, I was hurt badly and pretty depressed about my life. I couldn't go back to construction and didn't know what I would do. Now I feel like I found my passion and I wake up excited about my day for the first time I can remember." He now works for a forestry education program at an adjudicated youth facility in Arkansas.

Another intern, a staff sergeant, former drill instructor, and counter intelligence agent with three tours in Iraq and Afghanistan, said, "When I get settled on my property in Tennessee, I'm gonna make some butterfly habitat like this on the hill slope behind my house," after spending a full day on his hands and knees planting prairie plugs for an endangered butterfly reintroduction site. He has gone on to not only complete some of that work, but also start a dog rehabilitation program for veterans where troubled dogs and vets help each other heal.

One day in the wood shop another intern just blurted out, "I think my memory's coming back. It's weird, you know? I've been having these peaceful dreams lately." Yet another said, "I've been going home happy and I've been playing with my kids more. Last night my wife said our marriage might work out after all. She was joking, but kinda serious, you know?"

After asking for more formal feedback, OW received multiple reviews from transitioning service members, veterans, military spouses, and students. The feedback demonstrates the valuable impact that OW has for both the individual in the program and for the surrounding community, and it furthermore reinforces the need for OW to expand to other military installations. Some of the responses are listed below.

> "Finding a community and a comfortable place to learn your new passion after transitioning from the military can be difficult. Fortunately, I was recommended by a friend to check out this restoration ecology internship. It looked like fun and a good way to gain experience, but what I didn't know yet was the sense of community and love for a common passion it would bring. Coming into the program, I was immediately surrounded by loving, caring, curious, and knowledgeable people all seeking a common goal, it felt like a second home. Through the time spent at the internship, I felt fulfilled applying what we were learning in college and at the internship into the field, a way that many of us veterans learn best. I came out feeling confident and filled with new-found knowledge along with a genuine, burning desire to continue following my passion

in ecological conservation. Any veterans I meet or college students who are interested in this field, I urge them to take part in this experience."

-Creston Wood, Corporal, Marine Corps

"I worked in the Joint Base Lewis-McChord Fish and Wildlife internship program from Nov 2016 to May 2017. The internship program was an amazing transition from a 20-year career in the U.S. Army. It allowed me time to decompress from the rigorous demands of the military. After deploying 13 times during my career, it was nice to work in the tranquil natural setting and immerse myself into conservation efforts. This allowed time for me to focus on myself and experience a release from everyday stressors. When I began the program, my goal was to learn as much as I could from the team about Fish and Wildlife management. I made some amazing connections with service members, civilians and college students. These experiences pushed me along in my pursuit to study the field. The program afforded me many hands on experiences that I related and referenced to my studies including a final project on the research I conducted on the Oregon Spotted Frog. My greatest accomplishment from participating in the program was successfully obtaining my Bachelors of Science degree in Environmental Science with a concentration in Fish and Wildlife from American Military University. The program opened many doors and gave me a head start as a student as well as in my professional development. Having access to organizations and programs such as the U.S. Forest Service Internship in Eugene, Oregon; Kentucky Fish and Wildlife; Tennessee Fish and Wildlife; and Fort Campbell Forestry department were just a few of the benefits. I hope the same opportunity is afforded to other service members at other installations."

-Don Boykin, Sergeant First Class, U.S. Army

"I am so incredibly grateful to Dennis and the Fish and Wildlife internship program. My career has directly benefited from this experience. As a military spouse, when you move to a new location there can be a mixture of stress and self-doubt related to the unknown challenges of finding work and how much of a hit your career is going to take. Typically resources for military spouses are not geared towards careers in the sciences, much less field work. Looking back on my eight years as a military spouse, my resume is riddled with gaps of unemployment and jobs in customer service or childcare. Every military move is usually a step back to some degree, if not completely restarting. This program not only provided the location specific experience and education I needed (my work was previously out of state and country), but due to the program structure I was relieved of the stress and exhaustion I've previously experienced attempting to create opportunities of structured, applicable career work. Working hand in hand with

wildlife biologists to assist in conservation work on JBLM provided networking opportunities, and education conservation methods for sensitive species specific to the area. I was able to learn from fellow interns who came from different backgrounds and educational specialties. I became more familiar with the installation, which translated directly when I was hired to work for Public Works on JBLM. The program's familiarity and reputation for reliability and hard work was extended to me. In my current position as an Environmental Scientist, I'm able to contribute my knowledge to the water program, and I'm able to bring in support and collaboration between programs and branches of the Environmental Division. For the first time as a military spouse I was readily able to fill in a gap in work, and take steps forward in my career rather than revert to the bottom. I cannot fully express how meaningful this experience was to me, and how my family has benefited. Every time I have left behind a job or great boss, my soldier has taken on a level of guilt as his career and the Army are always the priority. We've accepted this is part of the military, but that doesn't mean it's easy. For the first time ever, there was something in place to relieve that transition stress and prepare me for work in this new location."

-Sarah Montero, Military Spouse

"I am currently an undergraduate student at the University of Washington, majoring in Environmental Science and Terrestrial Resource Management. I joined the Military straight out of high school because college is expensive and I had no clue what to do with my life. I quickly discovered that the military was not what I was looking for. As I was nearing the end of my military obligation I still was uncertain of what I wanted to do afterwards. I have always had a fascination with the outdoors and it was only after seeing a flyer advertising a fish and wildlife internship on the base that I realized that this is something I can make a career out of! I immediately applied and spent the last 4 months of my military career counting frogs rather than cadence. In this amazing internship I developed a basic understanding of natural resource management in a wide variety of topics ranging from preserving endangered species to managing forests through the application of controlled burns. Upon completion of my studies I look forward to pursuing a career in natural resource management. With the invaluable experience that Joint Base Lewis Lewis-McChord Fish and Wildlife provided me I am well on my way to achieving this goal"

-Hunter Whitten, Sergeant, U.S. Army

"For me, I think the biggest thing that this program gave to me was a support system that I never would have thought to be possible. I am currently a college junior at the University of Puget Sound double majoring in Natural

Science, Biology and Environmental Policy and Decision Making. I interned with the program for roughly 6 months. I am looking to pursue a career in marine conservation but found out about this program through a class I took at UPS and thought that it was perfect for me to get my foot in the door. I came in really nervous, not knowing what I signed up for, just that it was something that seemed fun and got me off campus for a bit. I left the program with a stronger sense of what I was capable of doing thanks to the individuals around me. This internship was my first out-of-the-classroom experience and I dove in head first. I participated in many projects and was even provided an opportunity to work with endangered species such as the Taylor's checkerspot butterfly, something that I wouldn't have been exposed to elsewhere. I also learned how to use small power equipment, something I never in a million years even dreamed of doing before this. Along with that, this program provided a space where interactions with active-duty service members and spouses were encouraged. I never felt inferior because this was my first time engaging in this type of work nor being a 5 foot 7 inch civilian young woman in this field. Instead everyone I worked with taught me with patience and allowed me to grow confidence in myself through the work I was doing. For that I will be forever grateful. I highly recommend to anyone looking to go into the world of restoration/conservation, no matter what specifically you want to do, that this is the perfect program to get involved in."

-Katline Barrows, University Student

Chapter 10: Future Directions

Operation Wildlife has grown significantly and experienced a lot of success since being founded 2013, but 2019 proved to be a landmark year for the program. While the program had a total labor equivalency output of over $410,000, OW's biggest achievements were made internally. This year, three U.S. Army soldiers from bases across the country went on permissive temporary duty travel to participate in the program. Additionally, OW had its first U.S. Navy participant from a nearby naval station. While maintaining its footprint, OW at JBLM has become a national hub for training active-duty service members in the environmental sciences field.

Throughout this growth, the OW program manager has held a commitment to improving program quality and participants' experience. As always, OW will continue to improve and expand, thus better meeting its mission of protecting threatened and endangered wildlife and ecosystems, serving transitioning service members, and benefiting the local community. Although OW hopes to eventually expand nationally, OW is currently excited to be hosting service members from other installations and setting an example for innovative conservation partnerships.

Appendices

Appendix A: Orientation Checklist

To be discussed with every new participant on their first day.

General Information

- Program history and overview.
- Work hours 0800-1600. Returning to the office before 1500 should only occur in three circumstances: 1) the assigned project is complete, 2) an unsafe condition arises, or 3) inclement weather is taking an unusual toll on morale.
- Do not arrive before 0730. This is coordination and planning time.
- We never work Federal holidays or Army holidays.
- Do not come if you are even a little sick.
- Write your name on the white board with your phone # and take a photo so you have all contacts.
- Keep your anticipated schedule current on the scheduling board by your name block.
- Choose no more than three areas of focus and write them in your name block in order of preference (F = Forestry, R = Restoration Ecology, W = Wildlife Conservation/Biology, G = Game Management, B = Botany, S = Science/Research, E = Environmental Education).
- Use email for all non-emergency off-hour communication. Use text during business hours.
- 12 days is the minimum for a professional reference, and don't ask for one unless you've earned it.
- Don't ask other DPW employees for a letter of recommendation without first discussing it with the program manager.

Office Policies

- Please do not enter the back area of the building (Forestry equipment shop).
- If you smoke do not throw cigarette butts in the trash can, or leave them outside of the building. If you chew do not spit in the office trash can.
- No perfume, cologne, or strongly scented products.
- Drawers are available, just put your name on one. Items left for 3+ months without communication are given away.
- Be familiar with the fire alarm and evacuation procedures.

Service Member Notes

- List upcoming appointments in the space beside your name block. Out-processing and medical requirements are a priority and we always work around them.

- All participation memos, signed leave forms, and other permissions should be stored in your file.
- Communicate with the program manager about any upcoming needs. Our policy is flexible as long as it isn't abused.
- The program manager will communicate with your command if you go back to your unit for any reason.
- Remember that you are a representative of JBLM and DPW when dealing with other personnel and civilians. This includes being a qualified escort for non-military volunteers, and even if you're not the "field leader" for the day you're still the official JBLM employee.
- Don't feel slighted when a young college student is chosen as "field leader". Your leadership and professional bearing are not in question; we are building new leaders and the program is counting on you to coach them and help them succeed.

Equipment Protocol

- Think about Personal Protective Equipment (PPE), help leaders think about what is needed for the day.
- Always wear helmets around brush deck, or in forests in general.
- Do not leave equipment in the trucks, return items to their place of origin, and charge devices.
- Sweep off large equipment in the field to prevent seed spread, rinse waders and boats when you return.
- Damaged equipment needs to be flagged descriptively and put on the repair board.

Vehicle Protocol

- Active-duty service members and employees are the only authorized drivers.
- No cell phone use by drivers under any circumstances and seatbelts are mandatory. Remember you are representing Operation Wildlife.
- No store stops other than for gas, except during lunch hour (1130-1300).
- There is an emergency kit in all vehicles. This includes instructions for all types of emergencies, directions to hospitals, insurance information for accidents, and a first aid kit.
- Do not drive on prairies.
- Fill gas tanks when half full or less.
- GSA gas cards are in the pencil bag associated with each vehicle, they cannot be swapped.
- Do not use E85, except in vehicles with yellow gas caps.
- Place keys in the visor of the driver side with the window open OR in the gas cap while working in the field. At the end of the day, the keys should be returned to their appropriate places.

Operational Security

- Do not take pictures of Military Operations of any kind.
- If you find confidential papers, do not touch. Call coordinator immediately. Also, do not go through informal channels such as though a service member participant's home unit. Handle through the official DPW chain of command.
- If someone you don't know asks about your internship, do not discuss. Also, if it does happen, do not play counter-spy. Just decline comment and report.
- Store law enforcement phone number and report any unusual behavior in training areas immediately.

Radio Use

- All teams must use a radio, and must call in and out of Training Areas. Range Control can be called directly (253-967-6371) if the radio isn't working.
- Write your Fish and Wildlife call number by your name block (FW #s 30-60).
- Check access before leaving the office, and write down control numbers in case asked.
- When leaving the training area be sure to call out – RANGE OPS WILL CALL SEARCH AND RESCUE IF YOU DON'T.
- Radio must be clipped to you in a secure fashion (they cost $2,000).
- Encourage/teach people with less experience to operate the radio.
- Example of Radio Traffic:

  Me: "Range operations this is fish and wildlife 3, 2."
  RO: "Fish and wildlife 3, 2 this is Range operations."
  Me: "Range operations. Fish and wildlife 3, 2 requests access to training area 6."
  RO: "Fish and wildlife 3, 2. Range operations. How many vehicles and personnel?"
  Me: "Range operations. Fish and Wildlife 3, 2 has 3 personnel and 1 vehicle."
  RO: "Fish and Wildlife 3, 2. We have you in training area 6, keep this channel open in case of emergencies and let us know when you are clear."
  Me: "Good copy, Fish and Wildlife 3, 2 out."

Field Work Notes

- Be ready to be out in the field all day. A complete field pack is the sign of a pro. Lunch, water, any meds, backpacker toilet kit (bury or remove toilet paper), changes of clothes, sun hat, rain gear, first aid, minimal survival gear, field guides and waterproof notebook, binoculars, camera.
- Practice Leave No Trace Ethics and pack out what you carry in.
- If you have allergies, make sure you have whatever is required to respond to emergencies, and notify your field leader.
- Attitude. Consistently joking and smiling in a downpour is one of the best ways to impress team leaders and potential employers.

Closing notes/Advice

- Build your brand, publish your professionalism (give us something to sell during reference calls).
- Think about the landscape management perspective rather than yard work mentality, and encourage others if you see their morale failing.
- With so many backgrounds, everyone has something to teach. Coach each other. Find ways to fill experience gaps for every team member – service members make leaders out of students and students make scientists out of service members. Also ask questions of everyone, you're here to learn as much as possible.
- Politics and religion – be constructive, build bridges, find common ground. Also help others do the same. Finding new allies across an ideological divide is the hallmark of a top organizational leader, practice that here.
- Culture of inclusion - No denigrating terms. Race and faith go without saying but pay special attention to gender specific words which are deeply ingrained and often use women as an insult. It is increasingly important to develop an inclusive style of speaking for success in today's civilian/corporate workforce.
- Communicate with the coordinator about any personality issues and/or ways to improve team chemistry. The program is only as successful and enjoyable as we all make it together.

Appendix B: Disclaimer Form

Installation Volunteer Corps

Joint Base Lewis-McChord

Volunteer Code of Ethics/Confidentiality

As a volunteer, I realize that I am subject to the same code of ethics which binds the professional in the field of which I work. I assume these responsibilities and will respect matters of confidentiality. I am aware and do agree to the need for confidentiality of the individual names, addresses, telephone numbers, cases, etc., who come to the organization for whatever need they might have. I agree that I will keep the names and matters in confidence.

I understand as a volunteer I have agreed to work without monetary compensation. Having accepted to do a task, I will do my work according to the same Standard Operating Procedures, as the paid staff is expected to do their work.

I believe that all work should be carefully planned and carried out in a professional manner. I will coordinate with the Volunteer Managerto assure that I am assigned a job I can enjoy and want to do.

I promise to maintain an attitude of open mindedness, and be willing to train for the job. I will share my skills with my co-workers and together we will strive to enrich the project in which we are working.

My attitude towards volunteer work will be professional. I have and will carry out my share of the work for which I have volunteered to do.

Being eager to contribute all that I can to help enhance the quality of life within my community, I accept this Volunteer Code of Ethics as my code and will follow it carefully and with a positive attitude.

Volunteer Name (print)	**Accepting Official (print)**
Signature	**Signature**
Date	**Date**

Appendix C

VOLUNTEER AGREEMENT FOR

☐ **APPROPRIATED FUND ACTIVITIES** ☐ **NONAPPROPRIATED FUND INSTRUMENTALITIES**

PART I - GENERAL INFORMATION

1. TYPED NAME OF VOLUNTEER *(Last, First, Middle Initial)*		2. YEAR OF BIRTH
3. INSTALLATION	4. ORGANIZATION/UNIT WHERE SERVICE OCCURS	
5. PROGRAM WHERE SERVICE OCCURS	6. ANTICIPATED DAYS OF WEEK	7. ANTICIPATED HOURS

8. DESCRIPTION OF VOLUNTEER SERVICES

PART II - VOLUNTEER IN APPROPRIATED FUND ACTIVITIES

9. CERTIFICATION

I expressly agree that my services are being provided as a volunteer and that I will not be an employee of the United States Government or any instrumentality thereof, except for certain purposes relating to compensation for injuries occurring during the performance of approved volunteer services, tort claims, the Privacy Act, criminal conflicts of interest, and defense of certain suits arising out of legal malpractice. I expressly agree that I am neither entitled to nor expect any present or future salary, wages, or other benefits for these voluntary services. I agree to be bound by the laws and regulations applicable to voluntary service providers and agree to participate in any training required by the installation or unit in order for me to perform the voluntary services that I am offering. I agree to follow all rules and procedures of the installation or unit that apply to the voluntary services I will be providing.

a. SIGNATURE OF VOLUNTEER		b. DATE SIGNED *(YYYYMMDD)*
10.a. TYPED NAME OF ACCEPTING OFFICIAL *(Last, First, Middle Initial)*	b. SIGNATURE	c. DATE SIGNED *(YYYYMMDD)*

PART III - VOLUNTEER IN NONAPPROPRIATED FUND INSTRUMENTALITIES

11. CERTIFICATION

I expressly agree that my services are being provided as a volunteer and that I will not be an employee of the United States Government or any instrumentality thereof, except for certain purposes relating to compensation for injuries occurring during the performance of approved volunteer services and liability for tort claims as specified in 10 U.S.C. Section 1588(d)(2). I expressly agree that I am neither entitled to nor expect any present or future salary, wages, or other benefits for these voluntary services. I agree to be bound by the laws and regulations applicable to voluntary service providers, and agree to participate in any training required by the installation or unit in order for me to perform the voluntary services that I am offering. I agree to follow all rules and procedures of the installation or unit that apply to the voluntary services that I am offering.

a. SIGNATURE OF VOLUNTEER		b. DATE SIGNED *(YYYYMMDD)*
12.a. TYPED NAME OF ACCEPTING OFFICIAL *(Last, First, Middle Initial)*	b. SIGNATURE	c. DATE SIGNED *(YYYYMMDD)*

PART IV - TO BE COMPLETED AT END OF VOLUNTEER'S SERVICE BY VOLUNTEER SUPERVISOR

13. AMOUNT OF VOLUNTEER TIME DONATED				14. SIGNATURE	15. TERMINATION DATE *(YYYYMMDD)*
a. YEARS *(2,087 hours=1 year)*	b. WEEKS	c. DAYS	d. HOURS		
16.a. TYPED NAME OF SUPERVISOR *(Last, First, Middle Initial)*				b. SIGNATURE	c. DATE SIGNED *(YYYYMMDD)*

Appendix D: 2019 Project Calendar

Project and number of volunteer days shown.

January	
Birds	
WODU Box Maintenance	17
WEBL Box Maintenance	14
PUMA Box Maintenance	13
Amphibians, Reptiles, and Fish	
Salmon Surveys	10
Prairies/Invasive Plant Control	
Oak Savannah Planting	20
Trifolium Surveys	18
Forests	
Oak Sapling Maintenance	16
Prairie Expansion	16
Oak Mychorrizal Research	2
Miscellaneous	
Ft. Worden Cemetery Cleanup	5
Legacy Support	5
Vehicle/Tool Maintenance	5
Admin Support	2
Recruiting/Flyers	2

February	
Birds	
WODU Box Maintenance	11
SWOW Box Maintenance	6
WEBL Box Maintenance	6
Butterflies	
TCB Release Prep	10
Amphibians, Reptiles, and Fish	
Amphibian Surveys	12
Frog Training	9
Salmon Surveys	7
Prairies/Invasive Plant Control	
Ivy Lancing	7
Forests	
Logging/Slashing	6
Pine Removal	3
Timber Sale Surveys	1
Miscellaneous	
Admin Support	2
Co-use	2
Legacy Support	1

March	
Birds	
Lark Barriers	2
Butterflies	
TCB Release Prep	10
TCB Release	6
Amphibians, Reptiles, and Fish	
Amphibian Surveys	39
Salmon Surveys	6
Prairies/Invasive Plant Control	
Holly Lancing	6
Forests	
Timber Sale Surveys	19
Fire Prep	15
Pine Removal	10
Tree Netting	5
Timber Cruise/Forestry Support	4
Tree Planting	3
Pine Plots	1
Miscellaneous	
Field Trip Support	2
Co-use	1
MES Thesis Support	1

April	
Birds	
WEBL Nest Surveys	15
PUMA Snag Fire Prevention	9
Lark Barriers	2
PUMA Snag Nest Survey	2
Butterflies	
Butterfly Surveys	13
TCB Transect Flagging	11
Butterfly Survey Training	4
TCB Release Prep	4
Amphibians, Reptiles, and Fish	
Amphibian Egg Mass Surveys	21
Western Pond Turtle w/WDFW	11
Salmonid Redd Surveys	7
Toad Searches	3
Prairies/Invasive Plant Control	
Kinnikinnik Mapping	5
Fire	
Fire Unit Prep	22
Forests	
Timber Sale Surveys	32
Cottonwood/Hawthorn Removal	4
Logging/Slashing	3
Oak Mychorrizal Research	3
Oak Sapling Maintenance	3
Forestry Support	2
Miscellaneous	
Equipment Training	15
Co-use	2
Game Camera Checks	2
Kids Fest Assistance	2
Recruiting Support	1
Vehicle/Tool Maintenance	1

May	
Birds	
WEBL Nest Surveys	24
PUMA Snag Nest Survey	4
Butterflies	
Butterfly Surveys	19
MES Hoary Elfin Study	1
Amphibians, Reptiles, and Fish	
Western Pond Turtle w/WDFW	26
Toad Searches	17
Salmonid Redd Surveys	6
Toad Searches w/WDFW	2
Prairies/Invasive Plant Control	
Prairie Oak Preserve Maintenance	5
Balsam Root Array	2
Fire	
Fire Unit Prep	20
Wetlands	
Interpretive Trail Signs	4
Morey Pond Restoration	3
Yellow Flag Mapping	2
Forests	
Timber Sale Surveys	35
Hawthorn Removal	10
Oak Sapling Maintenance	6
Cottonwood Removal	3
UW Tree Study	2
Pine Plot Survey	1
Miscellaneous	
Equipment Training	8
Admin Support	6
Vehicle/Tool Maintenance	3
Co-use	2

June	
Birds	
WEBL Nest Surveys	17
PUMA Snag Nest Surveys	9
Mammals	
Bat Emergence Count	3
WGS Tubes/Plates	2
Butterflies	
Butterfly Surveys	4
TCB Release w/WDFW	4
Amphibians, Reptiles, and Fish	
Western Pond Turtle w/WDFW	19
Toad Searches	5
Prairies/Invasive Plant Removal	
Violet Pr. Seed Collection	14
Invasive Deadheading	4
Invasive Forb Control	2
Scotch Broom Removal	1
Fire	
Fire Unit Prep	32
Training	18
Fire	12
Fire Tube	2
Fuel Moisture Monitoring	2
Wetlands	
Vegetation Mats	5
Forests	
Hawthorn Removal	17
Timber Sale Surveys	12
Oak Sapling Maintenance	8
Oak Plots	4
Miscellaneous	
Herbicide Applicator Test	5
Co-use	4
Vehicle/Tool Maintenance	4
Herbicide Class	2
Admin Support	1

July	
Birds	
WEBL Nest Surveys	18
PUMA Snag Nest Surveys	16
PUMA Tower Installation	9
Bird Box Construction	6
Mammals	
WGS Tubes/Plates	28
Bat Tower Installation	3
Amphibians, Reptiles, and Fish	
Western Pond Turtle w/WDFW	15
Toad Searches	11
Prairies/Invasive Plant Control	
Hawthorn Removal	6
Native Seed Collection	2
Fire	
Firefighter	56
Fire Unit Prep	14
Fuel Moisture Monitoring	5
Standby Firefighter	5
Wetlands	
Salmon Channel Enhancement	6
Beaver Dam Removal	4
Knotweed Removal w/CNLM	4
Purple Loosestrife Mapping	3
Forests	
Oak Transects	22
Tree Netting	8
Ivy Lancing	5
Miscellaneous	
Co-use	6
Admin Support	2
Vehicle/Tool Maintenance	2

August	
Birds	
Bluebird Nest Surveys	20
PUMA Tower Installation	4
Mammals	
WGS Surveys	24
Prairies/Invasive Plant Control	
Blackberry Spraying	14
Plantain Seed Collection	8
Spray w/CNLM	6
Corm Sorting	5
Boom Spray	2
Seeding Prep w/CNLM	2
Fire	
Firefighter	91
Fire Unit Prep	14
Fire Unit Mapping	5
Training	5
Fuel Moisture Monitoring	4
Wetlands	
Beaver Dam Removal	10
Milfoil Treatment Follow-up	8
Knotweed Removal w/CNLM	5
Forests	
Oak Transects	17
Timber Sale Survey	6
Log Deck	3
Miscellaneous	
Co-use	3
Legacy Support	2
Admin Support	1
Vehicle/Tool Maintenance	1

September	
Mammals	
WGS Surveys/Plates	10
Gopher Surveys	7
Prairies	
Seeding	5
Seed Predation Study	3
Post Burn Mow	2
Fire	
Firefighter	20
Burn Scar Seeding	8
Fire Suppression	2
Fire Unit Mapping	2
Fuel Moisture Monitoring	2
Wetlands	
Willow Staking	9
OSF Breeding Plot	3
Beaver Dam Removal	2
Forests	
Oak Transects	23
Holly Lancing	13
Cedar Netting	6
Timber Sale Survey	6
Miscellaneous	
Herbicide Class	6
Water Program Support	6
Recruiting	5
Vehicle/Tool Maintenance	5
Co-use	2

October	
Birds	
WODU Box Maintenance	19
PUMA Box Maintenance	6
Mammals	
WGS Data Entry	1
Prairies	
Seed Predation Study	14
Hand Seeding	9
Prairies Oak Preserve Maintenance	9
Blackberry Spraying	7
Prairie Expansion	5
Plug Delivery	4
Post Burn Mow	4
Tractor Seeding	3
Fire	
Firefighter	4
Wildfire Prep	2
Wetlands	
OSF Breeding Plot	2
Forests	
Oak Transects	15
Oak Maintenance	7
Holly Lancing	5
Miscellaneous	
Herbicide Class/Testing	12
Equipment Training	9
Vehicle/Tool Maintenance	3
Admin Support	1

November	
Birds	
WEBL Boxes	3
Mammals	
WGS Data Entry	2
Prairies	
Seed Predation Study	16
Plug Planting	10
Tractor Seeding	7
Hand Seeding	4
Plug Pick-up	3
Post Burn Mow	3
Post Burn Scotch Broom Spray	2
Fire	
Fire Prep	8
Wetlands	
Willow Stake Maintenance	5
Veg Mat Installation	4
Forests	
Oak Maintenance	15
Holly Lancing	10
Tree Marking- Timber Sales	10
Tree Plot Assessment	10
Miscellaneous	
Soil Sampling w/JBLM Geologists	4
Water Program Support	4
Admin Support	3
Bee Blocks	2
Co-use	1
Vehicle/Tool Maintenance	1

December	
Birds	
WEBL Boxes	8
WODU Maintenance	4
PUMA Tower Maintenance	3
Mammals	
WGS Data Entry	1
Prairies	
Conifer Removal/Slashing	19
Plug Planting	13
Trifolium Survey	12
Post Burn Scotch Broom Spraying	6
Site Prep/Planting	6
Fire	
Fire Winterization w/CNLM	7
Terra Torch/Burn Piles	2
Forests	
Brush Cutting	6
Oak Sapling Maintenance	6
Tree Netting	6
Timber Sale Surveys	5
Holly Lancing	3

Operation Wildlife

In Collaboration with Joint Base Lewis-McChord Public Works and Colorado State University

2019
Proved to be a Landmark Year

16,248
VOLUNTEER HOURS
With a total labor equivalency of over $410,000

84
PARTICIPANTS
Including 27 Active Duty Service Members

87
PROJECTS
Providing valuable education and experience

38
SPECIES ACTIVELY MANAGED
Including 6 ESA Listed Species

4
FEDERAL REGULATIONS SUPPORTED
Ensuring Installation Compliance and Protecting the Military Mission

Founded in 2013, Operation Wildlife meets the increasing demand for ecological management on military installations, assists active-duty service members' transition into the civilian workforce, and contributes to the betterment of military and community relationships.

OUR MISSON

Operation Wildlife (OW) serves America's heroes, protects threatened and endangered wildlife and ecosystems, and benefits the local community. Through partnership with the Department of Defense, Operation Wildlife develops and executes cost-effective solutions for wildlife and habitat restoration, while providing job skills training to aid active-duty service members and veterans' successful transition to the civilian workforce.

WHAT WE DO

We train transitioning military personnel who are in their last 180 days of service in environmental science, ecology, and management. Through collaborative partnerships with JBLM Fish and Wildlife and JBLM Forestry, service members work directly with biologists and gain hands-on experience on a wide range of projects. They have the opportunity to become Nationally Certified Wildland Firefighters and State Certified Herbicide Applicators.

Operation Wildlife also works with local colleges and universities and has a robust student volunteer program. The diverse mix of participants creates a civilian style work environment that facilitates the exchange of training, education, and life experiences between participants. This environment helps ease the military members transition into the civilian workforce or higher education.

Our Vision: Create innovative and collaborative partnerships to restore critical habitat, serve transitioning service members, and benefit the community.

learn more >

Operation Wildlife: Leading the Way for Innovative Environmental Partnerships

Operation Wildlife participants work alongside biologists on a diverse range of projects where they gain hands-on experience and an understanding of western Washington's ecology and environmental management techniques. Working with OW, participants gain a suite of marketable skills while making career-building industry connections and preparing for future success.

FORESTS

Oak woodlands, early successional mixed conifer forests, and the only Ponderosa pine savannas west of the Cascade Range can be found on JBLM. OW provides significant year-round support to JBLM Forestry. In 2019, OW provided 345 volunteer days dedicated to forest research, restoration, and maintenance.

Some projects include:
Timber Sale Surveys
Oak Transects
Stand Development Plot Surveys
Tree Marking
Timber Cruising
Oak Sapling Planting and Maintenance

PRAIRIES

Washington's glacial outwash prairies have been reduced by over 95%. The largest and vast majority of remaining prairies occur on JBLM, although only a small percentage of those are still dominated by native species. Furthermore, due to fragmentation, many of Washington's prairies have also lost the connectivity on which many species and ecological processes rely. Therefore, OW provides robust support—572 volunteer days in 2019—to restore and maintain this critical habitat.

Some projects include:
Conifer removal
Plug Planting and Tractor Seeding
Seed Predation Studies
Prescribed Burn Firefighting
Fire Unit Prep
Fuel Moisture Monitoring

WETLANDS

Both kettle and artesian wetlands are found on JBLM. These wetlands help filter water, prevent flooding, and support numerous species of concern. Unfortunately, many of these sensitive wetlands have been compromised due to invasive grasses. OW participants dedicated 52 volunteer days in 2019 to support wetland restoration and maintenance through a number of projects including cutting edge experimental treatments.

Some projects include:
Mowing and Herbicide Application
Planting Emergent Vegetation Mats
Willow Staking
Salmon Channel Enhancement
Beaver Dam Removals

AND MUCH MORE

Operation Wildlife participants contributed 1,310 volunteer days in 2019 to many species specific projects including those with rare and endangered species.

Some projects include:
Rare Butterfly Surveys
Taylor Checkerspot Butterfly Release
Western Grey Squirrel Surveys
Mazama Pocket Gopher Surveys
Bat Emergence Counts
Bird Box Surveys and Maintenance
Purple Martin Surveys
Western Pond Turtle Surveys
Salmon Surveys
Amphibian Egg Mass and Funnel Trap Surveys

Furthermore, participants contribute to invasive plant control and learn how to use and maintain small hand equipment, tractors, and other machinery.

"The internship program was an amazing transition from a 20-year career in the U.S. Army. It allowed me time to decompress from the rigorous demands of the military. After deploying 13 times during my career, it was nice to work in the tranquil natural setting and immerse myself into conservation efforts... These experiences pushed me along in my pursuit to study Environmental Sciences."

— DON BOYKIN, SERGEANT FIRST CLASS, U.S. ARMY

CONTACT US to learn more about Operation Wildlife and what we can do for you!

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Program Manager

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Acronym Guide

ACOE – Army Corps of Engineers	MPG – Mazama Pocket Gopher
ARA – Army Reserve Account	MWR- Morale, Welfare, and Recreation
BMM – Barrowed Military Manpower	NSWO – Northern Saw-whet Owl
BO – Biological Opinion	OPSEC – Operational Security
CEMML – Center for Environmental Management of Military Lands	ORISE – Oak Ridge Institute of Science and Education
CESU – Cooperative Ecosystem Studies Units	OSF – Oregon spotted frog
CIA – Central Impact Area	OW – Operation Wildlife
CNLM – Center for Natural Lands Management	PPE – Personal Protective Equipment
CSP – Career Skills Program	PUMA – Purple Martin
CSU – Colorado State University	SHL – Streak Horned-Lark
DoD – Department of Defense	TCB – Taylor's Checkerspot Butterfly
DONSA – Day of no scheduled activity	USFW – United States Fish and Wildlife
DPW – Department of Public Works	UW – University of Washington
DPW/ED – Department of Public Works/Environmental Division	VENQ – Army fiscal code for environmental program resources
ESA – Endangered Species Act	VHF – Very High Frequency
FRA – Forestry Reserve Account	WDFW – Washington Department of Wildlife
GPS – Global Positioning System	WEBL – Western Bluebird
GS – General Schedule (pay scale for federal employees)	WGS – Western Gray Squirrel
INRMP – Integrated Natural Resources Management Plan	WODU – Wood Duck
JBLM – Joint Base Lewis-McChord	WSU – Washington State University
MES – master's in environmental studies	

Links

For more information about Operation Wildlife, please visit the link below to watch Dennis Buckingham give a presentation at Colorado State University for the Center for Environmental Management of Military Land's annual meeting. He can be seen speaking from 1:39:20 to 2:01:00.

https://www.youtube.com/watch?v=l4aa3hC6Upg

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