

# ***SUSTAINABLE***

# ***JOINT BASE LEWIS-MCCHORD***

## **2008-2010 Progress Report**

### JB Lewis-McChord Sustainability Vision Statement

Joint Base Lewis-McChord is committed to supporting a strong national defense, securing the integrity of our natural and cultural heritage, and conserving our natural resources for tomorrow's generations, while seeking choices that enhance our neighboring communities' abilities to have a productive future.



### **INSIDE**

- Hydrogen fuel pilot project
- Sustainable Master Plan
- Habitat Preservation
- Energy Conservation Projects
- Recycling Champions
- Water Conservation





DEPARTMENT OF THE ARMY  
JOINT BASE GARRISON  
BOX 339500, MAIL STOP 1AA  
JOINT BASE LEWIS-MCCHORD, WA 98433-9500

JUN 14 2011

REPLY TO  
ATTENTION OF

Office of the Commander

Dear Stakeholders:

Commitment ... a word that promises serious intent and follow-through. We made a commitment to our installation and regional stakeholders at our initial sustainability workshop in February 2002, to change the way we do business; to ensure unwavering support of the military mission; to provide a superior quality of life for our Soldiers, Airmen and their Families; to foster a respectful and mutually beneficial relationship with our neighbors; and stewardship toward an environment that is second to none. Today, I want to tell you how Joint Base Lewis-McChord remains true to that commitment despite the challenges of building a joint base, increases in the number of maneuver units and subsequent training requirements, as well as continued development both on-base and in nearby communities.

We continue to build on that initial momentum and have achieved more than we thought possible. With this report, I am pleased to inform you of the progress of our JBLM Installation Sustainability Program. I am very proud of the many initiatives we have accomplished so far and want to take this opportunity to share them with you as well. I am not alone; others have recognized our efforts as well. Of particular note is the honor of three recent awards: The Secretary of the Army Environmental Award in the category of Sustainability, The Secretary of Defense Environmental Award in the category of Sustainability, and the EPA Region 10 Champions for Environmental Leadership and Green Government Award in the category of Waste Diversion. In addition, JBLM has been chosen as one of the installations in the Army's Net Zero pilot to accomplish Net Zero Water and Net Zero Waste by 2020.

We have many more challenges in front of us, but are heartened by the goals already achieved. We are positioning ourselves to face new challenges and capitalize on opportunities that will ensure a more sustainable, livable, and mission capable installation in the coming years. The success of this program would not be possible without the support and encouragement from our neighbors and friends, the strength of leaders, and the dedication of the Installation Sustainability Program teams.

Thank you to our Soldiers, Airmen, Families, employees, partners and neighbors for your contributions to the JBLM Sustainability Program. With your ongoing support we will continue to build on the irreversible momentum that began 10 years ago.

Sincerely,

A handwritten signature in black ink, appearing to read "T. H. Brittain", is written over a light blue horizontal line.

Thomas H. Brittain  
Colonel, US Army  
Commanding

# 2008-2010 SUSTAINABILITY REPORT



## JBLM 25-YEAR SUSTAINABILITY GOALS



### Air Quality

1. Reduce installation stationary source and non-tactical motor vehicle air emissions 85% by 2025



### Energy

2. Reduce total energy consumption by 30% by 2015
3. Sustain all activities on post using renewable energy sources by 2025



### Sustainable Community

4. Create sustainable neighborhoods for a livable JBLM community that enhances the Puget Sound region.



### Products and Materials Management

5. Cycle all material use to achieve ZERO net waste by 2025



### Sustainable Training Lands

6. Maintain the ability of JBLM to meet current and future military missions without compromising the integrity of natural and cultural resources, both on the installation and regionally
7. Recover all listed and candidate federal species in South Puget Sound region



### Water Resources

8. Treat all wastewaters to Class A reclaim standards by 2025 to conserve water resources and improve Puget Sound water quality

The Installation Sustainability Program is pleased to present this Sustainability Report to our friends and stakeholders. This publication provides you with an update on our activities since our last report was published in February 2008. We would also like to extend our appreciation to all of the Joint Base Lewis-McChord community members who are contributing to the realization of our goals.



# AIR QUALITY



## ALTERNATIVE FUEL

JB Lewis-McChord is moving away from fossil fuel dependency by exploring the various alternative fuel vehicle options. Currently, there are 1037 alternative fuel GSA vehicles for use on the installation. In addition, there are roughly 50 Neighborhood Electric Vehicles, 20 of them provided by GSA. The benefits of using an NEV over a conventional vehicle include no maintenance or fuel fees .

Alternative fuel will be consolidated and available adjacent to the new Army and Air Force Exchange Services fueling station and shopette to be located at 2nd Division Drive and Pendleton Avenue. This project will be completed in 2011. The station will provide E-85, B20, Compressed Natural Gas, and will be built for flexibility in order to accommodate other fuels as they become more viable.



One of the 50 NEVs for use on JBLM

## JBLM COMMUTES

**“**There are many benefits to carpooling or vanpooling including money saved from gas and vehicle maintenance, less stress in traffic, making new friends and cleaner air. I think it's also important to point out that we can all be part of the solution to traffic congestion.  
**”**  
**-Makieda Hart, JBLM Employee Transportation Coordinator**

There are currently 42 registered vanpools on JBLM resulting in an annual reduction of almost 10,000 single occupancy vehicle miles traveled (average of 24 miles, round-trip per commuter assumed as reported under the National Environmental Policy Act ). Increased traffic due to growing population both inside and outside the installation gates has increased the appeal of ridesharing by JBLM community members. JBLM's DPW-Environmental, Directorate of Logistics, and Pierce Transit have teamed up to further increase participation in ridesharing by promoting the many benefits as well as Pierce Transit-provided prize incentives for 2010-2011. A grant funded employee from Pierce Transit was provided to work part-time with this team for a year. The developed marketing plan for the 2011 year includes articles, events, and contests with great prizes.

### Mass Transit Benefit Program

MTBP is a government run program that provides up to \$230 per employee for certain transportation alternatives such as vanpools, buses, and trains. Government employees who take advantage of this program can experience many benefits including reduced stress from traffic and significantly decreased costs for fuel and vehicle maintenance. One vanpool participant reported saving roughly \$3000 in 2010.

There is often the perception that vanpools are inconvenient and inflexible and that is not the case. Vanpools don't have to be used every day – if an employee knows they need to work late or leave early then they can drive their own vehicle that day. If something unexpected comes up an employee can use the Emergency Ride Home program under which vanpool and carpool riders can get reimbursed for using a taxi up to six times per year.

Sustainability Outreach Coordinator Miriam Easley\* said vanpools make sense for most people who commute to the installation on a daily basis. “In addition to providing cost savings, convenience, and reducing traffic congestion, the program supports the JBLM air quality sustainability goal,” Easley said. “It also supports the JBLM Environmental Management System target of increasing participation in the rideshare program.”

For more information: 967-7301





## Future is now for hydrogen fuel-cell cars

by Kelly McGrath, Northwest Guardian

Published June 4, 2009

The Hydrogen Road Tour, a nine-day, 1,700-mile trek from Chula Vista, Calif. to Vancouver, British Columbia, made a pit stop at JBLM on its seventh day. The public event gave community members the opportunity to test drive, and learn more about, hydrogen fuel-cell vehicles. JBLM was chosen as the only military stop along the road tour because, said Chris White, communications director for the California Fuel Cell Partnership, of its "fabulous sustainability projects." Sustainable programs coming to JBLM include building an alternative fuel station, purchasing a hydrogen fuel-cell-powered shuttle bus and obtaining hydrogen-powered

forklifts. "(The road tour) is just the beginning of hydrogen on [JBLM]," COL Cynthia Murphy said. An environmental specialist for JBLM was one of several JBLM community members who test drove a fuel-cell vehicle. He took out the Toyota Highlander. "It was awesome," he said after the drive. "Very nice and smooth; it had more power than I expected." Miriam Easley\*, sustainability outreach coordinator for JBLM, was a passenger in one of the cars and a planner for the event. "I think the event helped people become more aware and excited about alternate fuels, especially being able to test drive cars," said Easley. "People need to realize this



WA State Representative Zachary Hudgins is shown the engine of a hydrogen fuel cell vehicle .

isn't something that is far in the future, the future is now."

## Bike to Work

From 2008-2010 JBLM bicycle commuters logged 735 trips and rode 7,291 miles (retrieved from Piercetrips.com). Bike commuters enjoy the many benefits of biking to work including exercise, cost savings, and no traffic stress. Some bicyclists even report arriving at work while their coworkers are still stuck in traffic. During Bike-To-Work Month in May, cyclists are also eligible for prizes from Pierce Transit.



In addition to being dedicated to their own bicycle commutes the JBLM Bike Team worked to make the commute for other bicyclists more convenient. The team counted bike stands located throughout the installation and posted the information to an installation map. Also, a draft map has been developed for on-post bike routes and connections to bike routes in the surrounding community.

An additional benefit for bicycle commuters is a relaxing start to their day. John Greer, a maintenance inspector in DPW describes the commute as peaceful. "You don't hear anything but the tires," he said. "It's just you and the road."



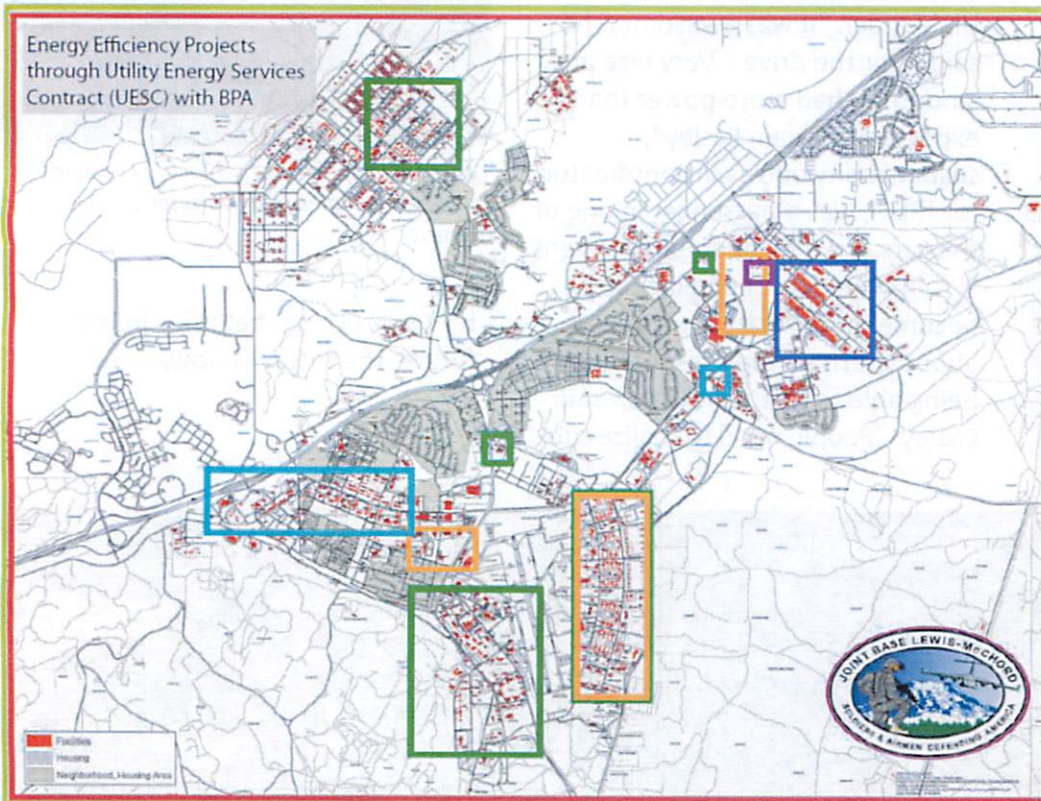


## Green Tags

JBLM purchased a significant amount of Renewable Energy Certificates (green tags), making it #6 on the EPA's "Top 10 Federal Government" Green Power Partners List (as of 8Jan10).

## UTILITY ENERGY SERVICES CONTRACT

The Bonneville Power Administration and Tacoma Public Utilities have been working with JBLM through various energy efficiency programs since 1994. In 2007, JBLM began working with the BPA Federal Agency Program to establish a Utility Energy Services Contract, in order to implement energy efficiency and sustainability projects base-wide. Based on audits completed by the Federal Agency Program, it is estimated that more than \$40 million in cost effective energy efficiency investments could be made at JBLM. In 2008, BPA and JBLM began drafting an \$18 million third-party financing task order under the UESC. This task order includes upgrading the steam distribution system, and repairing or upgrading base-wide lighting and HVAC systems.



To date, the BPA/JBLM partnership has produced nearly 2.5 million kWh/year in electricity savings, from six lighting retrofit projects. There are currently sixteen projects underway, which could produce more than six million kWh in electric energy savings.

## DELIVERY ORDERS AND EXPECTED RESULTS

- DO#1 Efficient lighting, insulation, roll-up doors, steam trap and HVAC on 4 warehouses. Savings: 699,246 kWh
- DO#3 Boiler tune up on 100 buildings.
- DO#6 Lighting upgrade for efficiency and security at Lewis North and Brigade Area.
- DO #8 Compressor upgrade for efficiency in both electric and water use.
- DO#10 Steam trap repair and web-based monitoring for 800 traps.
- DO#11 Conservation voltage reduction to keep distribution system volt.
- DO#13 and 15 Building improvements including lighting, HVAC and controls.

**Projected Totals per Year: ~40,400 MWh saved ~9,900 Metric Tons of CO<sub>2</sub> diverted ~\$1,660,000 saved**  
**Estimated rebates from Tacoma Public Utilities and Puget Sound Energy ~\$4,000,000**





## ENERGY EFFICIENCY PROJECTS

“ It’s like NIGHT AND DAY...I am very impressed with the quality plus how great your team is working with my team. Thank you! ”

-Patrick McGhee, AAFES General Manager on the impacts of the PX lighting upgrade.



Lewis Main PX lighting upgrade decreases electricity use, improves employee productivity, and improves customer experience.



Boiler Plant Upgrade in 6 buildings: pipe insulation; variable speed drives to control fans; new controls to optimize O<sub>2</sub> and improve burner management.



BEFORE



AFTER

Insulation, light and other retrofits made this warehouse a more pleasant place to work and conserves energy.

## COMPREHENSIVE ENERGY AND WATER MASTER PLAN

The Installation Management Command-directed CEWMP was completed in November of 2010. The purpose of the CEWMP is to evaluate current energy and water use of JBLM, make recommendations to improve those conditions, and implement a potential plan to enact these recommendations. It is designed to assist JBLM in satisfying the Energy Policy Act of 2005, Executive Orders 13423 and 13514, and the Energy Independence and Security Act of 2007.



# SUSTAINABLE COMMUNITY



“One of the key benefits to a comprehensive master plan is that you begin to recognize the value of the land on post. Building in such a way to make the most effective use of limited land resources comes to the forefront of concerns, which leads to a more compact, sustainable and vital community. - Tom Tolman, architect, Joint Base Lewis-McChord”

## SUSTAINABLE MASTER PLAN



**JBLM Planning Vision:** In support of the Mission, Soldiers, and Families we will create a sustainable community of walkable neighborhoods with identifiable town centers connected by great streets.

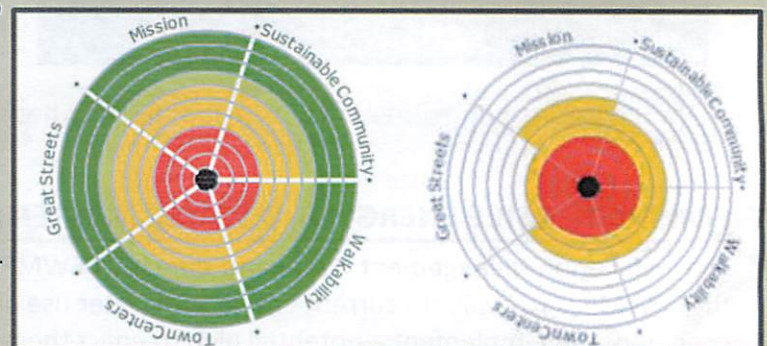
The Master Plan vision breaks with the usual planning model of urban sprawl and looks instead to utilize less land and natural resources; condense the community areas so that less infrastructure is needed; and encourage families to conveniently become active members of their communities. To help establish this vision, the Team organized charrettes, focus groups, and surveys that included planning and engineering firms as well as nearly 700 people from across JBLM.

The Plan helps to create a sustainable community by focusing development along transit corridors, ensuring that

pedestrians and bicyclists are given the same level of importance as automobile movement and creating neighborhood centers that make JBLM more livable. The plan is implemented through a form-based code and regulating plans for individual parcels, rather than typical land-use zoning that tends to encourage sprawl.

A new measuring tool was developed based on the 39 design principles from the JBLM Master Plan, to objectively track progress toward those goals. The neighborhood design checklist includes all master plan design principles and assesses if the sustainability principles are being implemented. The checklist ties into the five planning goals, requires that Leadership in Energy and Environmental Design standards are met, and measures the progress of the installation's achievement toward the Army's triple bottom line: Mission, Community, and Environment. The neighborhood checklist uses metrics that allow the user to assign a numeric score for the design principles under each goal and each design principle is described with its intent. The scores are based on specific criteria and are converted into percentages (displayed on the

neighborhood snapshot chart) that track the progress of accomplishing the sustainability goals and the master plan vision. Staff and contractors are able to use the checklists for the evaluation of areas described in each Area Development Plan (ADP).



Goal

Lewis North 2010



# SUSTAINABLE COMMUNITY



New duplexes in JBLM's Town Center provide a comfortable, urban living experience.



Concept drawing of Freedom Crossing, the downtown core of JBLM.

The hub of the Master Plan is a new downtown, consisting of mixed-use facilities that contain commercial and residential areas. Two entities are collaborating to build this cluster of buildings: The Army Air Force and Exchange Service will build the 600,000 square-foot downtown core; Equity Residential is constructing the 256-unit Town Center. Groundbreaking has begun and the expected goal year of completion is 2012. The Town Center alone should reduce annually vehicle miles traveled by 11.4 million miles, decrease CO2 emissions by 12.9 million pounds, and lower personal occupancy vehicle costs by \$1,500 per family.

## PENDLETON AVENUE: A Green Street

The Pendleton Multiway Boulevard project will improve 7,100 feet of the existing Pendleton Avenue. The two-lane street in the historic district will be converted into a multiway boulevard. The plan establishes comprehensive design guidelines that when implemented will create a very sustainable "green street". The Pendleton Avenue design vocabulary will reflect both the uniqueness of each area it passes through, as well as an overall set of repeating design elements, functions, and forms such as rain gardens, street lighting and wayfinding.



2008



Projected



Long-Range Vision

Looking Forward: JB Lewis-McChord – Lewis Main, Pendleton Avenue



# PRODUCTS & MATERIALS MANAGEMENT



## Event Recycling

Washington State Law requires that vendors at events must provide recycling containers. Public Works and Family, Morale, Welfare and Recreation have partnered to go beyond this requirement and work towards the goal of zero waste events. The key to accomplishing zero waste events lies in the education and outreach to vendors and community members. This is done through proper signage and the presence of recycling experts at the event to answer questions about recycling on JBLM. This is not only a great way to promote event recycling but also serves to educate community members on the extensive recycling program on Joint Base Lewis-McChord.



## Composting

The JBLM composting program started in 2004 with grass clippings, leaves and wood debris and has since expanded to include pre-consumer food waste and biosolids. Participants include Madigan, the Commissary, JBLM dining facilities, and child development centers. The final composted product is used for JBLM landscaping projects, the community garden, and learning gardens at youth centers. "There are three big aspects of this", said James Lee, JBLM Qualified Recycling Program manager. "It's a reduction on resource demand. It's a reduction on the demand that we place on the infrastructure. And then, at the same time, we're creating a value-added product out of what was, by anybody's definition, waste." From 2008-2010, JBLM composted over 12,710 tons of organic waste.

## RECYCLE NEWS

### Diversion Rate –

The Solid Waste Annual Report (SWAR) numbers for FY10 have been tallied and report submitted. The report accumulates the quantities (in tons) of total waste generated, how much of this was disposed of, and how much was diverted by means of reduction, reuse and recycling. The 2010 SWAR results – Total waste generated: 78,397 tons, Disposed of: 11,498 tons, Diverted: 66,901 tons.

The diversion rate for FY10 was 85 %. For comparison, in FY08 the diversion rate was 67%. The total calculated cost avoidance for waste diverted from disposal in FY10 was \$3,085,909. This diversion rate can be attributed to our comprehensive recycling program that includes initiatives such as the installation composting facility, event recycling, and the illegal dumping investigator.

### Electronics Recycling-

Anyone who has tried to dispose of electronic equipment knows that it can be a hassle. The few places that accept it often charge considerable fees. JBLM cardholders, at no charge, may drop off their unwanted computer equipment and TV sets at the Recycle Center, which is a Washington State Department of Ecology-approved collection site. "...there are 200 (electronic) collection points that are approved in the state, and

JBLM-Lewis Main and McChord Field have two of them. We're doing all the right things at JBLM", said Ron Norton\*, JBLM Recycling Program Manager. "The whole concept of electronics recycling has really just taken off as of this year [2009]," Norton said. "They'll take these things, they'll take them apart, and they'll go for the components. Plastic items such as keyboards are ground up and used in various materials like the new plastic siding and decking.

### Used road sand won't go to waste – Gritty aftermath of storm collected, cleaned, reused

Spread it over ice and snow, and it prevents accidents. Once everything melts, however, what happens to road sand? Most often street-sweepers collect it, and the material ends up in the landfill. It's a costly proposition to buy and dispose of the stuff...To keep (JBLM) streets safe during (winter storms), the Directorate of Public Works broadcasts up to 1,000 tons of sand. Instead of dumping the sand, DPW will turn it over to the recycling contractor which will haul it to Earthworks on JBLM-North. There the sand will be screened for reuse. Because the sand costs \$11 to \$12 a ton to buy, and waste placed in a landfill costs \$160 a ton, recycling makes perfect sense, financially.



# JBLM RECYCLING HEROES



**Janet Landon, General Manager of the Commissary**, has been a strong champion for sustainability and her leadership has produced tremendous results. From January-October 2009 the commissary generated 1069.51 tons of waste. Of the waste generated, approximately 80% or 867.01 tons were recycled at a savings of \$139,531 in utility costs for refuse. The waste diverted included cardboard, plastics, and pre-consumer food waste. The food waste is composted at the JBLM composting facility and the resulting material is used on JBLM projects which create additional savings for the installation. The amount of waste recycled is enough to cover roughly one and a half football fields, three feet deep.



**SGT Bill Bell and the Better Opportunities for Single Soldiers team** are an active presence in the installation's sustainability program, as evidenced by their participation in a barracks recycling project. Their efforts resulted in a 30% increase in the amount of recyclables collected at three pilot barracks. In addition, they have been an integral part of the new deployment waste diversion program. Their assistance during the deployment of the 201<sup>st</sup> BfSB, helped achieve an estimated 75% diversion of unwanted personal items that were later contributed to a local charity for reuse by needy individuals and families. The BOSS program is an excellent example of the Army's Triple Bottom Line and the quality and commitment of today's Soldiers.



**Shelia Albrecht-Martin\*** is the JBLM Recycling Outreach Coordinator. Her many projects include a barracks recycling program; event recycling with the goal of zero waste events; a refrigerator recycling program that saves the installation \$80 per refrigerator; and a deployment waste diversion program that helps Soldiers conveniently donate, recycle, and properly dispose of their personal items as they ready to deploy. Shelia's dedication to Service members, the JBLM Community, and the environment is made apparent through her hard work and the ever-increasing diversion rate.



**Greg Mason**, also known as the "Trash Cop", is the JBLM Illegal Dumping Investigator. In addition to monitoring training areas and commonly used sites for illegal dumping, Greg works with Service members to ensure the JBLM Garrison is kept beautiful and litter-free. His efforts have resulted in over 100 tons of trash removed from the installation, roughly 50% of it recycled; and has billed illegal dumpers over \$50,000. In addition, he has supported other aspects of the Sustainability Program, including investigating illegal timber harvesting and encouraging Service members to bike to work.



# PRODUCTS & MATERIALS MANAGEMENT



## Your junk: someone else's treasure

By Ingrid Barrentine, Northwest Guardian  
Published October 1, 2009

The Deployment Waste Diversion program is helping Soldiers clean out their barracks in a good-for-the-community sort of way. "There are all sorts of extra treasures that (Soldiers) have that they don't need after they deploy", said Col. Roy Robbings, the 201st Battlefield Surveillance Brigade rear detachment commander. "The Soldier has to empty his room...so it's going to go somewhere," he said.

On Sept. 14, four large Dumpsters marked with signs proclaiming "trash," "clean wood," "metal," and "cardboard" were placed on a grassy quadrant in front of the barracks housing Soldiers from the deploying 201st BfSB. "These are brought out for (a two-week) deployment window," Robbings said, "to (help Soldiers) sort out the junk or stuff that can be recycled or reused by someone else." Next to the Dumpsters, a tent-covered reuse area was set up with a poster depicting what types of things could be donated to the Tacoma Rescue Mission. On a recent afternoon, Charles Reed, a mission employee, stopped by to unload the Dumpsters. Soldiers helped him load boxes of clothes, TVs, cleaning products and video games onto his truck. "We have such a scope of needs that almost anything will be put to service right away," he said.



*JBLM Sustainability Outreach Coordinator\*, left, and SPC Scott Parks load a box of donated items on a Tacoma Rescue Mission truck.*

Prior to setting up the consolidation point, 201st BfSB Commander Col. Robert P. Whalen Jr. sent out an operations order encouraging Soldiers to "abide by signs placed on the containers." "We've posted flyers in the barracks and passed the information out through unit leadership so the Soldiers know that (the program) is here and can take advantage of it," Robbings said. This level of cooperation has marked the program's biggest success to date, Ken Smith, the Resource Conservation and Recovery Act program manager said.

According to Public Works, the amount of trash brought to the landfill during the 201st deployment window has decreased by about 75 percent.

### Commander's Recycling Policy

#### *Key Elements*

- Establishes a policy to help reach the goal of zero net waste by 2025
- Applies to Commanders, Soldiers, civilian employees, managers and supervisors stationed on JBLM
- Commanders and civilian managers are responsible for effective implementation of their recycling programs
- Recycling Coordinators will be appointed for each unit and organization. These coordinators will seek new opportunities for waste reduction and recycling
- For more information on recycling on JBLM contact the Recycling Outreach Coordinator: 966-6444



# SUSTAINABLE TRAINING LANDS



## Post, prison share unique goal

By Kelly McGrath, NW Guardian  
Published June 25, 2009



Stafford Creek offender plants native seeds.

The relationship might be an unconventional one, but together JBLM Correctional Facility share a common goal—restoring native prairies. The prairies, which are primarily located at JBLM, have been crowded out by invasive species. Stafford Creek offenders began the reintroduction process of indigenous prairie grasses by sowing five different types, while JBLM will later receive the cells and plant them in an on-post nursery.

There are currently 20 offenders working on the prairie restoration project. Their job is to place thousands of plugs into holes, fill them with dirt, press them down and place dirt over the seeds. "It's a lot to do and to

keep track of," said Stafford Creek offender Toby Erhart.

Over the next few months, the goal is to complete 200,000 cells containing species such as Oregon sunshine, western buttercup, Missouri goldenrod, hookedspur violet, harsh Indian paintbrush, wholelead saxifrage and field chickweed. By fall, the cells will be planted into a five-acre nursery bed at Training Area 13 on JBLM, where they'll grow and continue to be harvested for more seed production. "We're trying to do restoration on a much larger scale," said Rod Gilbert, a JBLM biologist. "Over the next five to 10 years, we hope to have between 50 and 60 species."

The restoration project is bringing changes to more than just the prairie lands. Offender Mark Traxler said working on the sustainable project has opened his eyes. "It's a good feeling," he said. "I didn't know how much this affects nature. There are butterflies that depend on this plant, and if they don't have the plant, they don't exist." Traxler said he only has a few months left at Stafford Creek and plans to pursue an education after he gets out. "This just added to my list of options," he said about sustainability and conservation.

## Ecological Prairie Burns

JBLM Forestry and Fish & Wildlife work cooperatively with other agencies to conduct the burns and manage the ecological impacts (positive and negative) that fire has on native and non-native species. Fires will occur with or without prescribed burns. Prescribed burns ensure that they occur safely. Having an active, professional burn program in place allows us to control when these burns occur and lessen the impact to the surrounding community. Native Americans conducted ecological burns until the late 1800s. Without these prescribed burns most, if not all, of the prairies would have been

encroached upon by Douglas fir forest. JBLM resumed the practice from the 1970s to 1990s. Before an ecological burn is conducted:

1. Site is assessed for rare and endangered species
2. Impacts to rare species are mitigated, or the burn must be re-assessed
3. Prescribed fire plan is completed and local agencies are notified
4. On the burn day, conditions are assessed to determine if the burn can safely be accomplished



Firefighters protect a patch of rare plants so that diversity is maintained and enhanced



Before - 2009

After - 2010



The Taylor's checkerspot butterfly is just one of the Endangered Species Act candidates that benefit from controlled burns

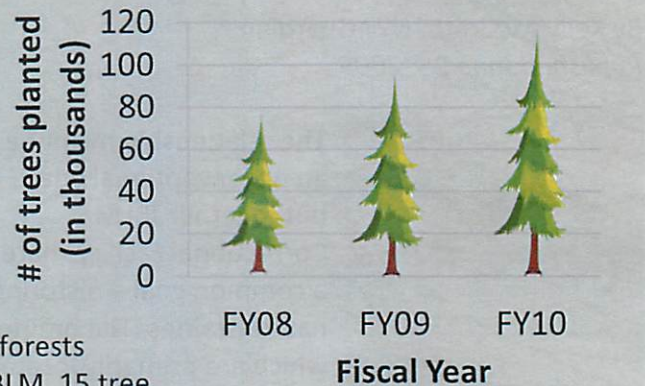


# SUSTAINABLE TRAINING LANDS



## SUSTAINABLY MANAGED FORESTS

JBLM contains the only designated public lands in the U.S. certified as a Well-Managed Forest in accordance with the Forest Stewardship Council criteria. Sustainability has been used in Forestry for hundreds of years. The military's triple Bottom line plus is supported by implementing practices that Recognize ecosystems, biological diversity, forest health, and Productive functions in the forest. A major element of forest Management includes reforestation after timber removal – tree planting and natural regeneration assures that productive forests will exist into the future. For every mature tree harvested on JBLM, 15 tree Seedlings are planted. From FY08-FY10, over 273,000 trees have been planted on JBLM. Tree species used in reforestation include Douglas fir, western red cedar, western white pine, western hemlock, and red alder. The value of trees related to reducing levels of greenhouse gases is well know, but its importance is now getting renewed interest. Tree planting is an ongoing strategy in mitigating affects of climate change. Nearly \$2 million in JBLM timber revenue was given to Pierce and Thurston counties to be used for roads and schools.



## RARE SPECIES OF JOINT BASE LEWIS-MCCHORD



*Western gray squirrel*



*Western bluebird*



*Streaked horned lark*



*Mardon skipper*



*Water howellia*



*Mazama pocket gopher*



More than 1,300 Oregon spotted frogs were released in 2010 at JBLM's Dailman Lake. This is part of an ongoing collaborative effort to re-establish their populations in Washington state. This project is made possible by the partnerships between JBLM, Washington Department of Fish and Wildlife biologists and placed at the Oregon Zoo, Northwest Trek, Woodland Park Zoo and Cedar Creek Corrections Center.

This year's frog release is the most successful yet, with the number of fr average frog size, and egg survival rates to actual frogs up from previous years' captive rearing efforts, according to Washington Department of Fish and Wildlife Department senior research scientist Dr. Marc Hayes. "We continue to learn more every year as we work collaboratively to establish a self-sustaining population of frogs at JBLM," said Hayes.

The Oregon spotted frog is near extinction due to loss of habitat, non-native predators and disease. The frog was listed as a Washington state endangered species in 1997 and is a candidate for federal listing. "Frogs are found in nearly all parts of the world and are known as sentinel animals, alerting us to serious environmental and climate changes that can affect all species," said Jim Lynch\*, wildlife biologist at JB Lewis-McChord.



# WATER RESOURCES



The DPW Water Team continues its effort to address water quality, water consumption, and wastewater discharge. The current Installation Sustainability Board-approved goal is “Treat all wastewater to Class A standards by 2025 to conserve water resources and improve Puget Sound water quality. Current objectives developed under the Environmental Management System to help achieve this goals are:

1. Implementation and expansion of wastewater pre-treatment Program.
2. Identify and manage large-quantity discharges of non-domestic wastewater to the wastewater treatment plant, such as swimming pools.

## Wastewater Pretreatment

JBLM is committed to improving the quality of water discharged to the Puget Sound. JBLM is a member of the Puget Sound Partnership, a community effort of citizens, governments, tribes, scientists and businesses working together to restore the Puget Sound. One of the ways JBLM plans to work towards improving the water quality of the Puget Sound is to improve water quality from industrial discharges to the JBLM WWTP.

JBLM continues implementation and expansion of the industrial wastewater pretreatment program. The pretreatment program identifies and pre-treats industrial pollutants that may interfere with wastewater

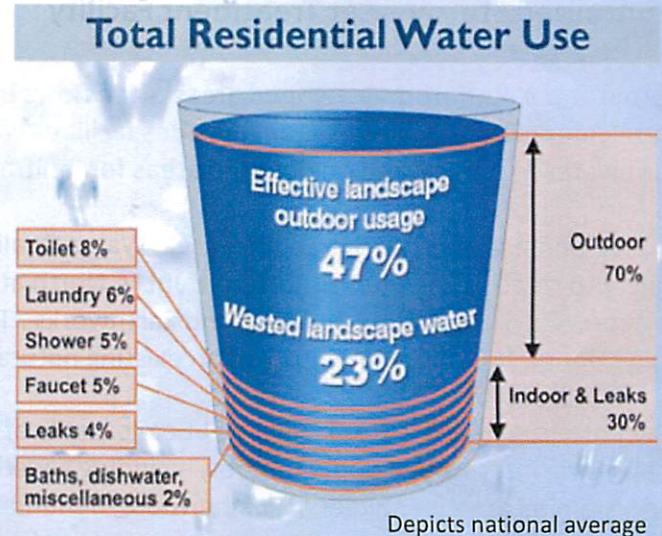


treatment or pass through the treatment process untreated. The JBLM pretreatment program will help improve the quality of wastewater discharged to Puget Sound, improve biosolid quality and identify opportunities for wastewater reuse. A JBLM Pretreatment Regulation has been developed and is currently in final review prior to senior leadership approval and signature.

## Water Conservation

JBLM Regulation 11-5 Water Conservation prescribes actions by garrison and resident organizations to support the water conservation requirements stipulated by Executive Order 13514 and the Energy Security and Independence Act. These requirements include a 2% water consumption reduction per year, based on a 2007 baseline. Currently, JBLM is meeting this water conservation requirement by a combination of leak repairs, irrigation reduction and water fixture efficiencies.

Each Summer, JBLM conducts a leak detection survey of the potable water system. The 2007 survey results indicated that the system had the potential to loose approximately 395,550 gallons of water per day or 144.4 million gallons per year. Public Works awarded a contract in 2008 to repair the major leaks, thus helping to conserve water.





# WATER RESOURCES



“*Water is one of our most precious and vital natural resources. Clean, safe, drinking water is critical to the JBLM mission. Clean water is necessary for the health, safety and welfare of Servicemembers, families and civilians at JBLM.*”



*Jennifer Smith\*, JBLM Stormwater Coordinator educates and engages youth in a stormdrain-marking event.*

## Stormwater Education

Precipitation that does not soak into the ground becomes stormwater surface runoff. Impervious surfaces like driveways, sidewalks, buildings and streets prevent stormwater from naturally soaking into the ground. Stormwater can pick up debris, chemicals, dirt, and other pollutants and flow into a stormwater system or directly to a lake, stream, river, wetland, or coastal waters.

The water team reaches out to the JBLM community to provide education on what everyone can do to keep stormwater clean and help protect the environment. This includes engaging the children at the youth centers with an interactive stormwater model; participation in events such as Earth Day; and an annual drinking water quality report that is sent to the housing communities.

## Centralized Stormwater Treatment Facility

Stormwater runoff from developed areas often flows into local water bodies. To reduce these flows, the JBLM stormwater management program includes facilities which treat stormwater to remove contaminants and direct stormwater to natural and engineered areas for infiltration.

As development on JBLM-North increases, Water Quality Team and Product & Materials Team collaborated on a project to treat stormwater runoff from JBLM-North at a centralized facility at the Sequelitchew Training Area Center for Environmental Education and Earthworks . This project diverts stormwater from JBLM-North to a series of wet ponds and makes the most of an existing naturally low lying area for stormwater infiltration.

The centralized stormwater facility will tie elements of Mission, community, and environment together. The facility will provide interpretive opportunities, including a wetlands education center, increased habitat for wildlife species, and a training area for soldiers. Furthermore, benefits of the centralized facility include improving water quality of Puget Sound by reducing stormwater runoff and reducing acreage requirements for stormwater facilities .



# COMMUNITY OUTREACH



Outreach is crucial to achieving sustainability goals. JBLM leads through example and shares the JBLM Sustainability story through an extensive communications program that includes internal and external outreach. Our public relations campaign includes a [website](#), [video](#), and slogan. Special visits, briefings, and tours are conducted to inform federal, state, and other local representatives of our environmental performance and to enhance community partnerships.



*The Lewis Main 2010 Earth Day event had roughly 600 participants and generated only one cubic foot of trash. Gardening celebrities Ciscoe Morris and Ed Hume were guest speakers.*



*Members of the JBLM community were invited to the AAFES theater in May 2009 to hear about the Master Plan and look at area development plans*



*Lewis Main environmental division had three booths for Kids' Fest 2010. Kids were treated to a stormwater activity, intro to worm composting and a free book from the Reading Tree.*



*Recycling Extravaganza in front of the Lewis Main Exchange provides sustainability information and opportunities such as electronics recycling and light bulb exchange.*

## How does your community garden grow?

By Ingrid Barrentine, The Northwest Guardian  
Published March 18, 2010



*Dave Paasch, l-r, Kevin Roach, and Christopher Thomson construct 4-by-10-foot beds at the JBLM Community Garden March 9, 2010.*

Something green has popped up between the horse stables and RV parking lot on Joint Base Lewis-McChord Lewis North. Thirty-two 4-by-10-foot plots were prepared last week for gardeners wanting to get their hands dirty at JBLM's Community Garden. Several volunteers gathered at the site to help build the beds and, potentially, stake out their own plots. Volunteer Dave Paasch, who lives with his wife in a

townhouse in DuPont, was the first to arrive at the garden. "My wife likes to garden, but there really is no place where we live," he said as he pushed wheelbarrow loads of broken-up chunks of concrete in between the plots.

The volunteers lined up the concrete fragments to form a perimeter around each bed. The concrete was recycled from a demolition project on JBLM Lewis North. Each bed was lined with a layer of newspaper, which will act as a biodegradable weed barrier. The beds were then filled with eight inches of topsoil.

The benefits to gardening are numerous. Aside from producing quality, homegrown fruits and vegetables, growing your own produce can be a good investment. "The U.S. Department of Agriculture estimates that every \$100 spent on vegetable gardening can yield \$1,000 to \$1,700 worth of produce," said Miriam Easley\*, the JBLM sustainability outreach coordinator, who was supervising the volunteers. "The key is to buy smart and don't feel the need for all of the fancy gardening gadgets," she said. "Get a good pair of gloves, a good trowel and some healthy plant starts."



# CULTURAL RESOURCES



## Leschi-Quiemuth Honor Walk/Run

by Marisa Petrich, Northwest Guardian

Published February 13, 2011

This annual event gives servicemembers the chance to see Joint Base Lewis-McChord's Range 91 as it hasn't been seen in nearly 100 years — as part of the historic Nisqually Reservation. The walk allows current generations, and a few visitors, to connect with their heritage.



Before JBLM existed, Range 91 was part of a 4,717-acre reservation established in 1854. The families moved in 1917 when the post was established, but the tribe had nowhere to go. The Nisqually people scattered. Now tribal landholdings exceed 1,000 acres, all of which has been reacquired in the last 25 years. The Leschi-Quiemuth event, named for Chief Leschi and his brother, allows the tribe to return to the Nisqually family allotments and historic sites on JBLM for the day.

"I take my granddaughter every year, and my aunt goes," organizer and Nisqually Tribal Council member Joyce McCloud said.

The walk is hosted by the Nisqually Culture Committee, the Nisqually Tribal Council and JBLM, and brings tribal members and guests through the historic area.

# ENVIRONMENTAL MANAGEMENT SYSTEM



## 2011 OBJECTIVES

- Elimination of lights left on when not in use
- Expand participation in the Recycling Program
- Purchase Environmentally Preferable Products
- Support Rideshare Program by having 20% of assigned Personnel participate in the Commute Trip Reduction program
- Expand Solo Point WWTP Discharge permit process to include large dischargers of "clean" water to sanitary sewer.
- Set all duplex capable printers to default to print duplex.
- Analyze potential options for replacing polystyrene food service ware with compostable items.

In accordance with EO 13423, JBLM has fully implemented and uses ISO 14001 to manage environmental programs. The JBLM EMS supports the sustainability goals and EO 13514 by providing annual objectives and targets needed to reach the goals. Each participating organization is required to support these objectives – this gives ownership and engagement by those responsible for daily operations.

Inclusion of I Corps units and other resident organizations and activities continues through the use of the JBLM Environmental Operating Permit program. Organizations are provided a customized EOP that identifies and organizes their environmental requirements, provides correct procedures for their activities that have an environmental impact and provides easier access to environmental training through an environmental advisor. The EOP makes compliance with environmental laws and regulations easier on the organization.

In 2010 The Directorate of Public Works celebrated 10 years of ISO 14001 certification of their EMS.

In April 2010 the JBLM EMS received an External Audit by the U.S. Army Environmental Command which confirmed conformance of the EMS to ISO 14001 and Army requirements.

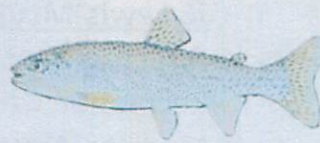


# JBLM – MCCHORD FIELD



## Morey Creek Dam Bypass Channel

Morey Creek Dam was a barrier to fish migrating up Morey Creek. In 2009, McChord Air Force Base, in partnership with Pierce County and the Salmon Recovery Funding Board, constructed 600 feet of new stream channel to bypass Morey Creek Dam. The channel provides fish habitat, such as over-hanging vegetation, instream logs and boulders, and pools to give fish a place to hide, rest, feed, and spawn. The bypass channel provides anadromous fish access to an additional six miles of upstream habitat. Anadromous fish are fish that are born in freshwater, migrate and mature in saltwater, and return to spawn. Local anadromous fish that will benefit are coho salmon, steelhead, and coastal cutthroat trout.



In April, 2010 McChord Field celebrated its 17th year of being a Tree City USA. McChord Field Scout Troops came to plant trees with Col Weldon, members of the McChord Field Environmental Management Flight and members of the community.



## JBLM-McChord Field Earth Day

Members of the JBLM-McChord Field environmental division invited the community to celebrate Earth Day in front of the JBLM-McChord Field Commissary. Information booths included the Master Gardeners, Wolf Haven, Department of Fish and Wildlife, US Forest Service,



JBLM-McChord Field Recycling, and a variety of JBLM-McChord Field units. Nearby Child Development Centers took the kids on a field trip to this event for a few hours of sustainability education, fun activities, and Earth Day giveaways.



# ACKNOWLEDGMENTS

The Joint Base Lewis-McChord Installation Sustainability Program continues through the support and partnership of numerous organizations throughout the Puget Sound Region and beyond:

## Local/Regional

Clean Cities Coalition

Pierce Transit

Intercity Transit

Puget Sound Clean Air Agency

Puget Sound Energy

Bonneville Power Administration

Tacoma Public Utilities

Environmental Protection Agency

General Services Administration

US Green Building Council

The Nature Conservancy

Nisqually Indian Tribe

Washington State Fish and Wildlife

Washington State Native Plant Society

Pacific Northwest National Laboratories

Pierce County Solid Waste Advisory Committee

Pierce County Environmental Educators

Muck Creek Council

Nisqually River Council

Sequalitchew Creek Council

Chambers-Clover Creek Watershed Planning Unit

Washington Department of Ecology

University of Washington

The Evergreen State College

## JB Lewis-McChord Specific

Directorate of Family, Morale, Welfare, and Recreation

Madigan Army Medical Center – Green Team

DECA – JBLM Commissary

AAFES – JBLM Exchange

LeMay, Inc

Equity Residential

*Special thanks to the JBLM Public Works staff, ISP Team members, and JBLM Public Affairs who contributed to this report.*

*Cover Photo by Ingrid Barrentine, Northwest Guardian*

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Sustainable Training Lands (253) 967-1549

Water Resources (253) 967-2837

Yakima Training Center

EMS/Sustainability (509)577-3889

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