# SUSTAINABLE FORT LEWIS

## 2005 – 2006 Annual Report

***The Installation Sustainability Program is pleased to present this Annual Report to our friends and stakeholders. This publication provides you an update on our activities since our last annual report was published in April 2005.***

## THE GOALS SET IN FEBRUARY 2002:

1. Reduce traffic congestion and air emissions by 85% by 2025
2. Reduce air pollutants from training without a reduction in training activity
3. Reduce stationary source air emissions by 85% by 2025
4. Sustain all activities on post using renewable energy sources and generate all electricity on post by 2025
5. All facilities adhere to the LEED™ Platinum standard for sustainable facilities by 2025
6. Cycle all material use to achieve ZERO net waste by 2025
7. Attain healthy, resilient Fort Lewis and regional lands that support training, ecosystem, cultural and economic values by 2025
8. Recover all listed and candidate federal species in South Puget Sound Region
9. Zero discharge of wastewaters to Puget Sound by 2025
10. Reduce Fort Lewis potable water consumption by 75% by 2025
11. Fort Lewis contributes no pollutants to groundwater and has remediated all contaminated groundwater by 2025
12. Develop an effective regional aquifer and watershed management program by 2012—COMPLETED

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## FORT LEWIS SUSTAINABILITY VISION STATEMENT

Fort Lewis 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.

# Leading the Way

## Environmental Management System takes shape

Fort Lewis met both Army and DOD metrics to comply with Executive Order 13148, "Greening the Government Through Leadership in Environmental Management" by 2005.

The installation accomplished self-declaration of its Environmental Management System (EMS) having met all six implementation metrics required by the Department of Defense (DOD).

The DOD metrics were developed to help installations guide progress and measure performance during implementation of their Environmental Management Systems. They include creating a policy statement, conducting a self-assessment, creating an implementation plan, creating a prioritized list of environmental aspects, conducting EMS awareness training, and completing a management review.

By self-declaring its EMS, Fort Lewis affirms that it has established a comprehensive framework for managing environmental programs and is prepared and working to expand its EMS among all agencies on the installation to reach full conformance to ISO 14001 standards by the September 2009 deadline.

Self-declaration was achieved by using a phased approach beginning with establishing an EMS in Garrison Directorates. Phase two is currently underway and focuses on bringing all resident units into conformance. Directorates, resident organizations and tactical units are expected to be in full conformance well ahead of the September 2009 deadline.

## Sustainability partnership identifies joint goals

The Washington Military Sustainability Partnership (WMSP) remains committed to the mission of developing sustainable military operations among installations in Washington State.

The primary focus of the WMSP is to preserve the military's ability to train in support of its National Defense mission while managing resources in a manner that meets our present needs as well as future mission, community and environmental requirements.

In September 2005, a WMSP working group examined the goals of each organization and collaboratively developed five joint goals:

1: Enhance military readiness
2: Promote and support the continual improvement of military assets through innovation
3: Minimize energy consumption and utilize 100% renewable energy sources by 2040
4: Sustainable use of resources
5: Foster a sustainable ethic

With a solid framework for progress now fully established, WMSP is moving ahead with the development of the Joint Sustainability Implementation Plan (JSIP). The JSIP outlines the collaborative strategies for achieving the joint sustainability goals and identifies six potential projects that support those goals.

Potential projects include establishing a contracting strategy to support the procurement of environmentally friendly products and services; developing a regional solid waste and recycling center; and assessing military joint training capabilities that support comprehensive military training while addressing both environmental and community concerns.

Together, these projects would enhance communications, incorporate sustainable principles and planning into daily operations, and ensure efficient use of resources across military services.

## Post Earns EPA Performance Track Membership

Fort Lewis personnel celebrated a major milestone in their environmental stewardship efforts when the installation was accepted into EPA's National Environmental Performance Track Program, effective August 1, 2005.

As the first Army installation to be accepted into the program, Fort Lewis joined more than 350 members nationwide, including 10 Department of Defense facilities, in their commitment to improve environmental performance.

The National Performance Track is a voluntary program designed to benefit facilities that consistently exceed regulatory requirements, work closely with their communities and excel in protecting the environment and public health.

The main benefit to Fort Lewis is access to regulatory flexibility including the extension of the on-site hazardous waste accumulation period from 90 to 180 days, which will save more that $100,000 annually. In addition, Fort Lewis will no longer need to renew EPA Part A/B permit applications to store hazardous waste over 90 days, saving another $200,000.

These savings mean taxpayer money can now be diverted from compliance based operations to activities that improve the long-term viability of the installation and its surrounding neighbors.

Changes at Fort Lewis have been transparent because the installation has consistently met the program's requirements of proven regulatory compliance; has a robust Environmental Management System; a history of past achievement and commitment to continuous improvement; and a mechanism for public outreach.

# Reaching Out and Sharing Resources

## Fort Lewis featured in the Army's first Sustainability video

Less than one year after the Army unveiled its new Strategy for the Environment, the Office of the Assistant Chief of Staff for Installation Management (ACSIM) commissioned the production of a training video to assist Army leaders with sharing the concept of Installation Sustainability with Soldiers, civilians and family members.

MG Collins, Deputy Commanding General/Chief of Staff, emphasizes the importance of Army leaders, Soldiers, family members and civilians in sustainability planning.

The Army's first Sustainability video titled, "Leadership: Sustain the Mission, Secure the Future" was released in Spring 2006. It includes interviews with Army leaders and three case studies focusing on the Stryker family of vehicles, ordnance weapon systems, and facilities and infrastructure.

Fort Lewis, one of three installations featured in the video, was selected based on its leadership in Sustainabilty, Environmental Management Systems, and its reputation as the Stryker Brigade Center of Excellence. Anniston Army Depot, Ala. and Fort Indiantown Gap, Pa. are also featured.

In September 2005, representatives from the Office of the Director of Environmental Programs, the US Army Environmental Center and a production crew, arrived at Fort Lewis to shoot footage of the installation's many sustainability initiatives and to conduct interviews.

The group, along with Fort Lewis' environmental staff, spent months planning the script and production schedule to the finest detail. As a result, execution was timely and efficient, and the production crew captured extensive footage of projects and initiatives relating to all five teams of the Fort Lewis Installation Sustainability Program. Because Fort Lewis is bursting with activity that reflects the Army's triple bottom line of sustainability: Mission, Community and Environment, numerous sites were selected for filming. They include: barracks construction featuring Leadership in Energy and Environmental Design (LEED™) standards; Model Motor Pool; biodiesel, CNG, and E-85 alternate fueling stations; Sequalitchew Creek EcoPark and Earthworks; native prairies and ranges; the wastewater treatment plant and Sustainable Interiors Showroom; historical buildings, new family housing, the commissary and Hillside Elementary School on post.

The crew also filmed Stryker vehicle training with two Stryker Brigade Combat Teams— 2nd Cavalry Regiment at Yakima Training Center and 3rd Brigade, 2nd Infantry Division on Fort Lewis ranges. The video can be viewed by webstreaming from the Army Sustainability website http://www.sustainability.army.mil/news/newsStory06-03.cfm .

Public Works employee, Marnie Holder, brings her GSA vehicle to the CNG gas station on Fort Lewis for refueling.
Photo By: Brendalyn Carpenter

***The Installation Sustainability Program Bids Farewell ...***


During the filming of the Army Sustainability video, the Director of Public Works, Mr. Steve Perrenot, presented a memento on behalf of the Installation Sustainability Program to MG (R) James Collins, Deputy Commanding General /Chief of Staff, in recognition of his superb leadership as the Installation Sustainability Board Chairman from 2003-2005.

## Fort Lewis explores alternatives to demolition

The saying "out with the old and in with the new" is used frequently, but do we ever think about what happens to the old things?

The Army has been thinking about what will happen with the 26 million tons of construction and demolition (C&D) debris that is expected to be generated from installations over the next 15 years as old facilities are torn down to make room for new buildings. They have strategically planned a sustainability program that takes into account the mission, environment and the community.

Fort Lewis is leading the way with the entire installation now fully integrated into a sustainability goal of "zero net waste by 2025." The Seattle Districts Corps of Engineers has directly teamed with Fort Lewis Public Works to help with this new approach to building removal.

On Oct. 1, Fort Lewis and the Seattle District hosted an Alternatives-to-Demolition open house. They were joined by employees from the U.S. Army Construction and Engineering Research Laboratory and Army Environmental Center. The goal of the open house was to begin giving contractors the tools and education they need to achieve the rates of diversion required by the new initiative.

"One issue identified by the team early on was that this alternative building removal approach to demolition was very different than the traditional demolition practices employed by the contractors. The contractors were requesting information regarding how to achieve these new contract diversion levels, so an additional step that this team has taken has been to facilitate a series of educational video conferences, meetings and an alternative building removal open house," said Elizabeth Chien, environmental engineer at the Seattle District.

Participants at the open house examine a vintage light fixture located in a building slated for demolition at Fort Lewis.
Photo by Elizabeth Chien

Contractors will be required to meet different specifications than previous projects they have worked on. For example, every piece of material that leaves the site is required to be weighed, tracked and documented. The contractor is allowed to salvage, resell, reuse and recycle building material and keep the profits. There is also a built-in dollar incentive for the contractor to achieve more than 50 percent diversion.

Ken Smith, chief of Environmental Operations Branch at Fort Lewis Public Works, feels that this initiative will ultimately reduce the cost of operations and will have a positive affect on the environment.

"This change in business practice will allow us to manage what was once just a waste as a resource. The partnership Seattle District and Fort Lewis formed to change traditional crush and haul demolition practices is unprecedented," Smith said.

There are plans to have other open houses throughout the next year to focus on other aspects of alternatives to demolition program. — *Ashlee Richie, Seattle District, US Army Corps of Engineers*

## Sustainable Forest earns recertification and revenue for local communities

Fort Lewis earned recertification of its sustainable forests in October, after a successful audit by Smartwood, a certifying organization of the Forest Stewardship Council.

The Forest Stewardship Council (FSC) is a non-profit organization that promotes sustainable forestry and wood product chain-of-custody certification worldwide.

Certification represents public recognition of Fort Lewis' progressive forestry operations, which emphasize "light-touch" timber harvests that enhance, rather than diminish, biodiversity; ecological restoration of oak and pine woodlands; and regular use of prescribed fire.

The Fort Lewis Forestry Program was first certified as a sustainable forest in April 2002—the first federally owned forest in the United States to achieve certification. However, the installation began implementing sustainable business practices long before that date.

Fort Lewis stopped using clear-cutting as a major forest management tool in the late 1980's. Most timber harvests today are light thinnings that are designed to leave the post-harvest forest more structurally diverse (e.g.-variety of tree sizes, gaps in the forest canopy, well-developed shrub layers) than the pre-harvest forest.

Certification requires the Forestry Program to adhere to FSC principles and criteria that relate to conservation of natural resources such a vegetation, wildlife, soils and water during timber harvest; protection of unique areas such as old-growth forests; and economic and non-economic contributions to local community welfare.

Tree thinnings are conducted throughout the year through timber sales. In 2005, Fort Lewis timber sales generated more than $5 million in revenue. Nearly $ 1.5 million of that was donated to Pierce, Thurston, and Clark counties for public schools and road maintenance.

# TEAM REPORTS: AIR QUALITY TEAM-STRATEGIC GOALS 1, 2, 3

## *Title V Air Operating Permit waived*

The Air Quality Team's aggressive and innovative initiatives produced a major benefit to the installation this year.

In July 2005, the Puget Sound Clean Air Agency (PSCAA) Board of Directors unanimously approved General Regulatory Order No. 9185, which allows Fort Lewis to manage air emissions as a synthetic minor rather than a major source of air emissions.

Title V Air Operating Permits cost Fort Lewis an additional $30,000 to $40,000 per year to maintain and required mandatory self-reporting of any permit violations.

This new management system gives Fort Lewis the flexibility to resolve compliance issues internally as well as streamline their documentation process so that operators can do their primary mission more effectively. The installation is still required to monitor and maintain emissions data, which is subject to inspection by the PSCAA at any time.

The Air Quality Team has taken a proactive approach instituting sustainable operations designed to go beyond compliance with regulations. Members are constantly looking for innovative ways to reduce emissions, such as converting boilers from using heavy, high-sulfur fuel oil as a back-up heating fuel to using light, clean burning, low-sulfur distillate fuel oil.

In addition, the switch to the use of chemical agent resistant coatings (CARC paint) containing low volatile organic compounds contributed to a significant decrease in air emissions.

Pictured above are three of the five types of NEV's driven on Fort Lewis

Other measures include education and outreach campaigns to curtail open burning, and increased usage of alternative fuel and neighborhood electric vehicles.

## *2005-2006 Highlights*

### *Reduce Traffic-Related Air Emissions*

* Increased percentage of alternate fuel/ dual fuel vehicles in the on-installation GSA fleet to 40%

### *Reduce Traffic Congestion*

* Increased the post rideshare program to 19 vans and 190 participants; demand has exceeded the supply of vans from local transit agencies

### *Reduce Stationary Source Air Emissions*

* Transitioned seven boilers from #4 and #6 oils to a less polluting #2 backup fuel oil. Seven transitions are complete; two additional boilers are pending funding to complete transition

* Completed a feasibility study for landfill methane gas reuse; further research is required to determine the current and potential future landfill gas emissions

Fort Lewis personnel help reduce vehicle emissions by filling their GSA vehicles with alternative fuels—E85, Biodiesel, or CNG—which are available on post.

## *Objectives for 2006 - 2007*

* Complete a business plan to determine a course of action for the public/private use Alternative Fueling Station
* Establish and implement a web page specifically for Fort Lewis personnel to learn about ridesharing and streamline registration
* Conduct a study to identify existing roads that could be dedicated to NEV, bicycle and pedestrian use only
* Continue to replace conventional fueled vehicles with alternative fueled vehicles; increase the usage of alternative fuels

# ENERGY/INFRASTRUCTURE TEAM-STRATEGIC GOALS 4, 5

## Sustainable features improve energy savings

Fort Lewis leads the Army by aggressively looking for ways to improve the economic, social, and environmental components of all current missions in an effort to achieve true sustainability.

A key component of this program is making the building environment more sustainable through the use of the Leadership in Energy and Environmental Design (LEED™) Green Building Rating System.

LEED accredited professionals with the Seattle District, US Army Corps of Engineers (USACE) have integrated themselves into the construction process for the Fort Lewis Whole Barracks Renewal (WBR) Program to continuously improve implementation of sustainability features. They work closely with the construction phase product design teams to educate and assure all LEED components are implemented during construction.

Covered bike shelters promote alternative forms of transportation

The FY04 Whole Barracks Renewal was the first at Fort Lewis to require independent verification of sustainable features through the LEED rating system. We are making consistent progress in building to LEED standards with the assistance from the Seattle District designers.

For example, the design build FY04 WBR project was able to achieve a 5% energy savings over traditional construction; the FY05 WBR Request for Proposal requires savings of 15%; and the recently completed Seattle District design for the FY06 WBR is projected to achieve more than 30% savings.

Increased performance comes from integrated design and challenging every design discipline to put forth and justify energy saving ideas early in the project.

As partners, Seattle District and Fort Lewis will continue to holistically improve the sustainability of the installation. The FY07 WBR Requests for Proposal will also be tailored to reduce energy use as well as meeting other Public Works sustainability goals and USACE Environmental Operating Principles.

We thank our partners from the Seattle District design team for their efforts in advancing LEED and sustainability in Fort Lewis construction projects.

## 2005-2006 Highlights

### Sustain All Activities Through Renewable or Self-Generated Energy

* Awarded the Department of Energy and Department of the Army 2005 Federal Energy Awards for energy efficiency and energy program management
* In 2005, designed solar wall for a logistics warehouse as a market demonstration project; construction started in Jan 06 and was completed in April 06.
* Continued energy conservation initiatives, including Direct Digital Controls and use of high efficiency condensing boilers throughout new construction
* Purchased 10% green power

### Build to LEED™ Standards

* Rainwater harvesting cistern completed in major new barracks project; rainwater is currently being used to irrigate during the summer months and for flushing toilets throughout the year, which accounts for a significant reduction in potable water usage
* Implemented a new database and tracking system to ensure LEED standards are considered in all new construction beginning with planning and throughout completion of the project; the database offers future planners a baseline for continuous improvement
* Continued incorporating LEED principles into new project designs including ground source heat pumps, use of recycled materials, day lighting, lighting controls and under floor air distribution systems
* Developed a comprehensive water conservation/irrigation plan to address sustainable watering practices; this is also part of the Water Resources team objectives

## Objectives for 2006 - 2007

* Reduce energy use by 2% in accordance with the Energy Policy Act of 2005
* Increase Fort Lewis' renewable electricity use by 5% through the use of Green Tags
* Harness the energy emitted from the Sequalitchew Creek EcoPark (old Landfill #5); specifically, use the gas to produce electricity and to lower our electrical demand from the local utility
* Continue expanding Direct Digital Controls (DDCs) throughout Fort Lewis; DDCs allow remote access to building energy systems, enhancing monitoring and energy efficiency
* Initiate a hydro project to utilize potential energy at the waste water treatment plant (WWTP); the generated electricity will be used to minimize the WWTP's electricity demand from the local utility
* Explore the possibility of wind energy generation at Fort Lewis and its subordinate commands

# PRODUCTS AND MATERIAL MANAGEMENT TEAM-STRATEGIC GOAL 6

## Team expands recycling and reuse activities

The Products and Material Team's efforts to "cycle all waste to achieve zero net waste by the year 2025, " have resulted in numerous successful initiatives and projects in 2005.

**Composting**

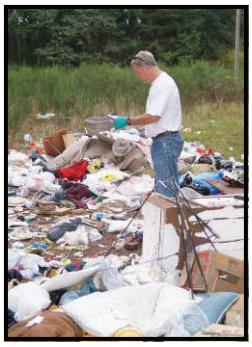
Fort Lewis is composting biosolids from the waste water treatment facility, wood waste, destructed classified document media, grass clippings, leaves and horse manure to create a soil amendment landscaping product.

**Concrete and Asphalt**

Over 9,100 tons of waste concrete and asphalt from construction projects were stockpiled at the Sequalitchew Creek Earthworks and crushed into aggregate replacement product that is now being reused for parking lot construction and road repairs. This recycling activity results in approximately $340,500 annual savings in disposal fees and the cost of purchasing similar material.

**Sustainable Interiors Showroom (SIS)**

Availability of the SIS resulted in the purchase of more than $180,000 in recyclable and/or recycle content furnishings for several Fort Lewis units and facilities including the Soldiers Readiness Processing Site and Stone Education Center. Use of recyclable carpeting squares as replacement for existing non-recyclable floor covering is now an accepted business practice for most new projects. At least 260,000 sq ft of recyclable carpeting was installed in 2005.



**Illegal Dumping Investigator**

Since April 2005, more than 1,250 illegal dump sites have been investigated and 97 have been cleaned at the owner's expense. Prevention of illegal dumping improves safety, limits disruptions to Soldier training, and reduces the post's $350,000 annual waste clean-up costs.

## 2005-2006 Highlights

### *Introduce Only Cyclable Materials*

* Hosted tours of the Sustainable Interiors Showroom (SIS), a sustainable product demonstration site displaying flooring materials, office furniture, paint, and lighting from GSA vendors in the Hazardous Materials Control Center (HMCC) administrative area at building 9669

### *Cradle-to-Cradle HM Management*

* Expansion of the Hazardous Materials Control Center delivery service continues. Service to customers has tripled over the past year totaling 265 customers and delivery of hazardous material products to 238 locations on Fort Lewis

### *Reduce Waste Stream*

* Successfully completed a composting/ bioremediation demonstration project
* Participated in the National America Recycles 2005 campaign hosting a Fort Lewis Recycles Fair, tours of the Sequalitchew Creek EcoPark and Earthworks, tours of the Sustainable Interiors Showroom, and a recycling pledge card drive
* Established new procedures to facilitate unit participation in aluminum can recycling programs. Units delivering aluminum cans to the Fort Lewis Recycle center earn revenue for their unit funds
* Conducted a public awareness campaign to prevent illegal dumping including media coverage of the clean-up at illegal dumpsites, articles in local and regional newspapers, notices in post-wide media resources, and briefings at local community meetings

### *Sequalitchew Creek EcoPark and Earthworks*

* Fort Lewis Fish and Wildlife Program supplied 1600 native plants to landscape the EcoPark entrance; Fort Lewis' Boys Scout Troop 62, Public Works staff and others participated in a Saturday morning "planting party" in Fall 2005
* Representatives from the Pierce County Master Gardeners and City of Tacoma TAGRO visited the EcoPark to explore future partnerships, resources and community outreach activities

## Objectives for 2006 - 2007

* Open a new community recycling center. Develop and promote installation-wide Affirmative Procurement Program
* Set up a Process Action Team on Green Procurement with appropriate contracting personnel
* Conduct a pilot study of lead-based paint removal from wooden buildings built during WWII. Field test equipment to remove and treat lead-based paint on-site as buildings are deconstructed allowing unlimited use of the wood materials
* Establish policy and promote procurement of rechargeable batteries through the Hazardous Materials Control Center for use in communications and electronics equipment

# SUSTAINABLE TRAINING LANDS TEAM-STRATEGIC GOALS 7, 8

## Preserving Fort Lewis training lands

The Sustainable Training Lands Team spearheaded a proactive program to prevent a potential source of future major restrictions on Fort Lewis training—the listing, under the Endangered Species Act, of four prairie dependent species which currently occur on Fort Lewis.

Oaktrees with prairie grassland

In October 2005, the Assistant Chief of Staff for Installation Management formally approved the inclusion of Fort Lewis in the Army Compatible Use Buffer (ACUB) program. The Fort Lewis Project under the ACUB program is a cooperative effort between Fort Lewis, The Nature Conservancy (TNC), and the Washington State Departments of Natural Resources (WDNR) and Fish and Wildlife (WDFW).

Under the ACUB program, Fort Lewis can manage additional prairie land in the southern Puget Lowlands acquired by private land conservation groups; restore native prairie on these lands and other, already protected prairies; and begin reintroduction of the four listed candidate species: the Mardon skipper and Taylor's checkerspot, the streaked horned lark, and the Mazama pocket gopher.

In May 2006, the US Army Environmental Center received $500,000 from the Office of the Secretary of Defense earmarked for the Fort Lewis project. Fort Lewis has prepared a cooperative agreement with the lead partner, TNC, to disburse the funds for habitat restoration and species reintroduction on ACUB land parcels. The agreement is awaiting Army and TNC approval.

TNC, with assistance from WDFW, and the US Fish and Wildlife Service, recently acquired a 127-acre prairie preserve adjacent to southern lower Weir Prairie. This property offers a nearly Scotch broom-free site that can be restored to native prairie, and it buffers a portion of the Rainier Training Area boundary from development.

Together, the ACUB program and the pending Candidate Conservation Agreement comprise a strong, proactive, regional effort to head off listing the four candidate species under the Endangered Species Act.

## 2005-2006 Highlights

### Attain Fort Lewis and Regional Land Conditions

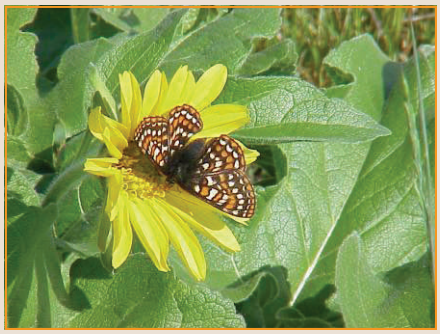
* Established a regional brush and plant removal/ replacement contract with the Seattle District Corps of Engineers in September. The contract assists Fort Lewis and regional partners in removal of Scotch broom, other invasive species and noxious weeds; it also allows for planting and/or hydroseeding of degraded training lands

### Implement Management Plans

* Continued to conduct a beta test of the Prairie Quality Ranking Protocol that was developed by Federal and State natural resource managers
* Mowed, pulled or applied herbicide to 1581 acres of scotch broom and other unwanted vegetation to enhance our training lands
* Continued Integrated Training Area Management (ITAM) greenhouse program; native seeds were collected from Fort Lewis training lands and 32,400 native plant plugs were propagated
* A total of 13,000 plugs were planted in Fall 2005 in Training Area 6 for decommissioning 1.1 miles of unneeded road
* J. Herbert Stone Nursery, a Forestry Service nursery in Medford, OR, produced 45 pounds of Roemer's Fescue seed. The nursery started the native grass lots with seeds from Fort Lewis. Some of the seeds were used to drillseed 2.75 acres in Training Area 6 and some was used for plugs in the greenhouse

### Recover Listed and Candidate Species

* The Nature Conservancy and Fort Lewis ITAM are experimenting with growing and planting native species that are host plants for rare butterflies



Taylor's Checkerspot Butterfly on a deltoid balsamroot

## Objectives for 2006 - 2007

* Develop a Cooperative Agreement between Fort Lewis and Washington State Department of Fish and Wildlife (WDFW) to allow a direct link for joint projects and plans
* Finalize the draft "A plan for the development of captive rearing and translocation methods for Taylor's checkerspot (Euphydryas editha taylori), in South Puget Sound, Washington"
* Participate in the Sequalitchew Creek EcoPark and Earthworks by simulating native prairie habitat on the earthen mounds, creating open forest and oak woodland landscapes, and creating wetland habitats

# WATER RESOURCES TEAM- STRATEGIC GOALS 9, 10, 11, 12

## *Award-winning program boosts clean-up efforts*

An array of electrodes produce electrical resistance heating to remove contaminants from groundwater at the Logistics Center site.

The Fort Lewis Environmental Restoration Program (ERP) won both the FY05 Secretary of Army and the Secretary of Defense Awards for Environmental Restoration for work involving the cleanup of designated sites on Fort Lewis and Yakima Training Center. Their ongoing efforts contribute to our Water Resources sustainability initiatives.

The Water Resources Team is continually incorporating new ways to achieve sustainability goals. One of the Water Team's sustainability goals is to contribute no pollutants to groundwater and to remediate all contaminated groundwater by 2025.

Innovative technology employed under the ERP is allowing the Water Team to achieve a major target ahead of schedule--establishing a remedy in place for contaminated groundwater at the Logistics Center. The former industrial landfill received shipments of chlorinated solvents between 1940 and 1970 that eventually contaminated the groundwater underneath the site.

Under the ERP, an on-site electrical heating technology is being used to remove contaminants, recover and destroy the solvents and other hydrocarbons. This project has prevented future groundwater contamination and reduced the project clean-up timeline.

Its success is attributed to the ERP's new environmental management strategy, which has resulted in significant cost savings; increased performance in restoring land for military missions; improved ability to successfully employ innovative technologies for site investigation and cleanup; and improved community relations and regulator acceptance.

## *2005-2006 Highlights*

### *Zero Discharge of Wastewater*

* Preparing a plan for evaluating options for wastewater discharge and reuse

### *Reduce Potable Water Consumption*

* Completed a water conservation plan for pride areas for implementation in 2006
* Implemented water conservation and storm water protection outreach plans in the Consumer Confidence Report (CCR)
* Reclaimed water pipe (purple) has been incorporated into all new whole barracks renewal projects since FY2002, allowing reuse of rainwater for facility non-potable water needs; this is also part of the Energy and Infrastructure team's LEED standards

### *Contribute No Pollutants & Remediate Contaminated Groundwater*

* Completed main post heating oil tank inventory with new standards for above ground tanks; developing a database for oil tank inventory; the inventory process is on-going as tanks become available
* Completed Phase II of the thermal remediation project at the Logistics Center
* Installed/reconfigured East Gate Disposal Yard pump and treat system to improve remedy for Upper Vashon aquifer
* Installed additional sea level aquifer monitoring wells
* Obtained "no further action" determination on approximately 10 Fort Lewis Agreed Order sites

### *Integrated Planning for Water Management* (#12)—ACHIEVED!

* Fort Lewis continues to be an active participant on all pertinent watershed planning committees
* In September, conducted a town hall meeting for Fort Lewis and surrounding communities to discuss the Murray Creek and Sequalitchew Creek Watershed management plan

## *Objectives for 2006 - 2007*

* Complete Phase III of the Thermal Remediation Project at the Logistics Center
* Complete the water reuse plan
* Develop and implement a plan to promote public awareness of the need for water conservation measures

# The Program in the Spotlight

## Accomplishments:

The Fort Lewis Environment Restoration Program (ERP) received both the **2005 Secretary of the Army** and the **Department of Defense Awards for Environmental Restoration**. The ERP used an innovative environmental management strategy to complete site investigation and remediation projects on Fort Lewis and its sub-installations. *Story on page 9*

Fort Lewis also received individual awards for Energy Program initiatives resulting in $565,000 savings in energy conservation and operations and maintenance in FY 04:

* In August 2005, Fort Lewis was recognized at the Army Energy Forum with the **27th Annual Secretary of the Army Energy and Water Management Award**
* In October 2005, The Department of Energy honored Fort Lewis with the **2005 Federal Energy and Water Management Award** for energy efficiency and energy program management
* Energy Program highlights in 2005 are on page 6

Fort Lewis' sustainability initiatives have improved the installation's ability to consistently meet and/or exceed regulatory standards and has earned additional recognition from environmental and regulatory agencies:

* August 2005, Fort Lewis was accepted into the Environmental Protection Agency's National Environmental Performance Track Program. As the first Army installation to be accepted into the program, Fort Lewis joined more than 350 members nationwide, including 10 Department of Defense facilities, in their commitment to improve environmental performance. *Story on page 2*
* July 2005, the Puget Sound Clean Air Agency (PSCAA) Board of Directors unanimously approved a measure which allows Fort Lewis to manage air emissions as a synthetic minor rather than a major source of air emissions, eliminating Title V Air Operating Permit requirements. *Story on page 5*


## Media Coverage:

The ISP and/or its individual programs were featured in radio, print and television media in Washington State and at the national level in the past year. Highlights include:

* The Olympian newspaper featured a front page article and KING, KOMO, KIRO, and Northwest Cable News ran news briefs about Fall Clean up and our efforts to prevent illegal dumping in 2005
* The US Army Environmental Center Fall 2005 issue featured stories about several Fort Lewis Sustainability initiatives— illegal dumping investigaton, the Title V Air Operating Permit Waiver, native prairie conservation, and the Sequalitchew Creek EcoPark and Earthworks
* Fort Lewis' Alternatives to Demolition workshop was featured in the December 2005 issue of the *Flagship*, the US Army Corps of Engineers Seattle District newsletter; the article is reprinted on page 4

## Outreach:

The ISP team briefed several guests on our progress and future plans of the Installation Sustainability Program (ISP).

* Senator Maria Cantwell, U.S. Rep. Norm Dicks, and U.S. Rep. Adam Smith received briefings about the ISP during regular visits to the installation.
* Ms. Kathleen Drew, Washington State Executive Policy Advisor to Governor Christine Gregoire was initially briefed on the Fort Lewis Sustainability initiatives during the September 2005 ISP team leaders meeting and continues her involvement through regular updates and subsequent visits
* A briefing to Mr. William D. Ruckelshaus, former Environmental Protection Agency Administrator and Mr. Jack Creighton, Civilian Aide to the Secretary of the Army ended with affirmation to continue the road ahead. ***"What you're doing here is wonderful, " said Mr. Ruckelshaus, "you're demonstrating how to run a military base in a sustainable way. I applaud you!"***
* The IPS team also conducted briefings and tours for several international delegations, all providing valuable information sharing and/or partnership opportunities.

**For more information on the Fort Lewis Installation Sustainability Program, please contact:**

Sustainability Coordinator - 253-966-6463
Sustainability Advocate - 253-966-6461
Outreach Coordinator - 253-966-1734
or visit www.lewis.army.mil/publicworks