McChord Air Force Base Noxious Weed Control and Restoration January-March 2006 Quarterly Activity Report

April 2006

The Nature Conservancy
SAVING THE LAST GREAT PLACES ON EARTH

McChord Air Force Base is a key military installation and an important conservation area in the Puget Trough region. The Nature Conservancy strives to assist McChord AFB in the conservation of its natural resources within the framework of the Base's military mandate. McChord AFB and The Nature Conservancy have shared interests because:

- ***Rare species recovery throughout the region reduces the burden of recovery on any single landowner or site.***
- ***Pest plants harm natural areas and reduce their suitability for military objectives.***

Background

McChord Air Force Base contains a range of natural resources with conservation concerns; especially those associated with oak woodlands, grasslands, and wetlands. This includes the federal threatened species, *Howellia aquatilis,* an aquatic plant. Oak woodlands are priority habitat for neotropical birds, a variety of butterflies, and the state threatened western gray squirrel. An Endangered Species Act candidate bird species, the streaked horned lark, nests and reproduces on the airfield. Three Candidate Research Natural Areas have been identified which capture the most significant natural features present on McChord Air Force Base.

These areas have been the focus of land management and habitat restoration efforts for several years, and habitat quality has slowly started to improve. However, without continued attention they will degrade because of significant populations of habitat destroying non-native pest plants.

Funding for the actions detailed below was provided by McChord Air Force Base through a series of contracts. Progress on each of the six contracts is reported below. Of the six active contracts during the past quarter, three expired at the end of September. Work continues for the following contracts: Aquatic Species Control, Restore 2005 and Mammal Survey.

McChord Streaked Horned Lark (TNC Budget #3830)

Work under this contract was conducted by Washington Department of Fish and Wildlife through TNC. Scott Pearson headed the project as part of a larger Streaked Horned Lark effort. The field component of this project is completed and a final report was delivered in October 2005.

This contract was initially set to end September 30, 2005. All scheduled work was completed. However, the budget was under spent by approximately $1,300 and McChord opted to extend the expiration date to April 30, 2006 and to use the residual to conduct restoration actions. Lark habitat enhancement work will be conducted in April.

McChord Aquatic Species Control (TNC Budget #3848)

The initial goal of this project was to eliminate weeds within the main channel of Clover Creek in order to enhance flow and conditions for aquatic organisms. Entrix was contracted to provide an initial plan and facilitate the permitting of the action. Entrix supplied an initial plan, JARPA, no-effects letter and a letter outlining permit strategy. The Conservancy contacted three contractors with specialties in wetland construction and restoration and toured the site with personnel from McChord. Each of the contractors voiced concerns with the potential cost of the project and likelihood of obtaining permits in time for construction. The single formal bid received exceeded the budget of the project. At that point McChord requested that TNC stop work on creek enhancement so that alternatives to the initial project could be evaluated.

It has been agreed that funds will be used to conduct riparian enhancement along Clover Creek on the west side of the runway. This includes a massive and intensive control effort of all blackberry in preparation for future planting of woody shrubs and possibly trees. The contract term was extended through September 30, 2006. If the contract can be further extended through November, it is hoped that the treated areas can be planted in fall with woody plant species.

Significant progress was made on the blackberry control effort under this contract during winter quarter. The goal for winter quarter was to complete all mechanical control to facilitate follow-up chemical control. A side-mounted boom mower tractor with a five foot deck was used to cut back the majority of the blackberry infestations. Hand held brushcutters were then used to cut smaller areas that were missed by the boom mower.

In total, 10,100 linear feet were mowed in about a 30 foot swath. This equals approximately seven acres. More than 6600 feet of Clover Creek stream bank was mowed on both the east and west sides of the airfield. West of the airfield, only the east side of Clover Creek was treated. In addition, any blackberry patches on the perimeter of Morey Pond were treated, as were a few nearby infestations. See Figure 1 below for a map of all treated areas.

At the end of spring or early summer, the re-growth of blackberry will be treated with Escort and/or Garlon 3a – both of which are permissible in riparian areas and not restricted by the recent salmon ruling. A late summer treatment with Roundup/Rodeo is planned to remove any survivors of the first treatment.

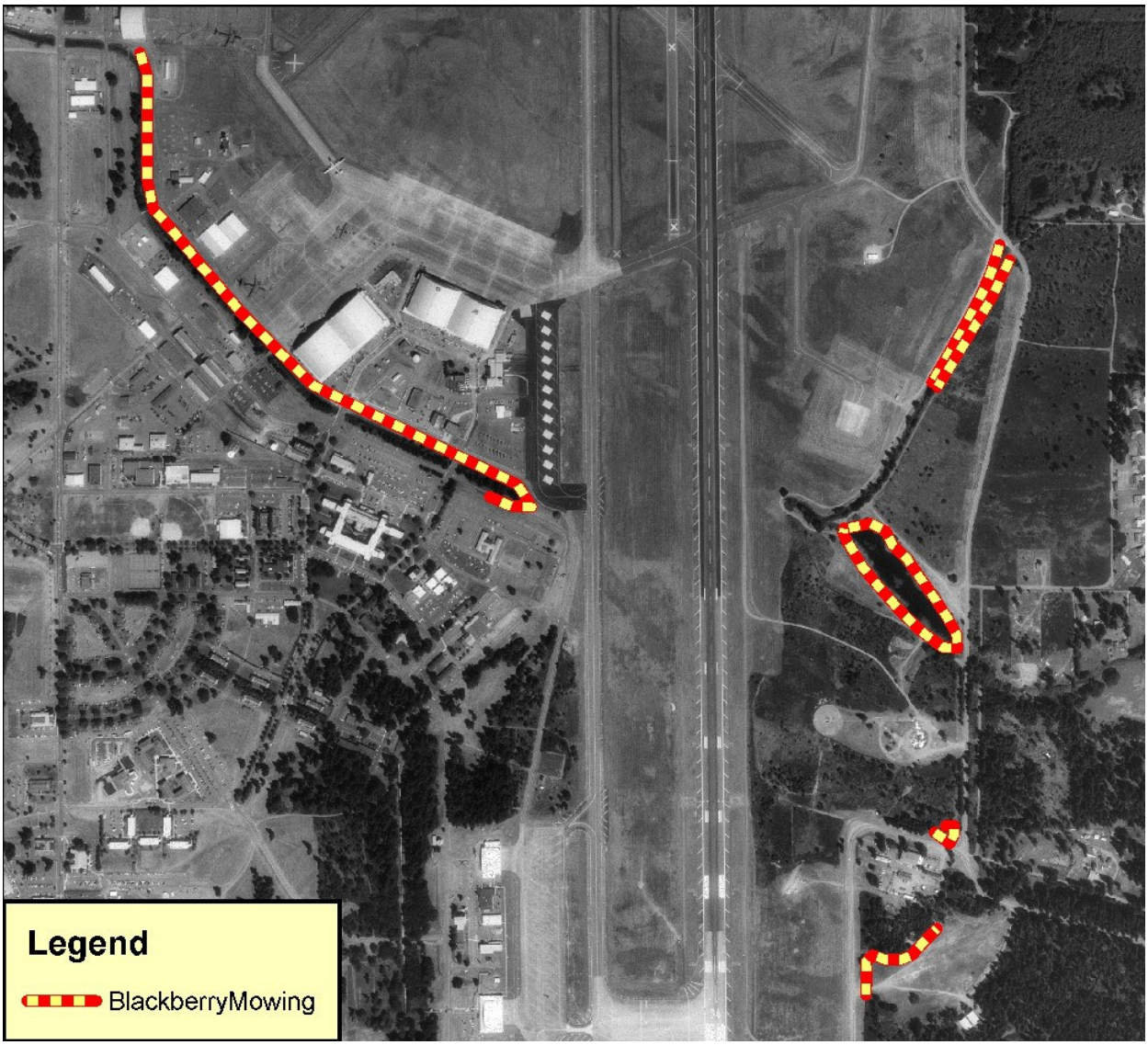

Figure 1: Map of blackberry mowing completed in winter quarter 2006.

McChord Water Howellia (TNC Budget #4810)

The purpose of this contract was to do a complete baseline survey of water howellia – a hydrophilic plant listed as threatened under the federal Endangered Species Act. There are 34 identified wetlands on McChord AFB with differing suitability for water howellia. Each of the 34 wetlands were ranked for suitability, surveyed, catalogued and monitored for howellia presence. This contract scheduled to close on September 30,

2005, but the budget was under spent by approximately $28,000 and McChord extended the grant to June 30, 2005.

An additional wetland was added to the survey in fall 2005. This wetland was evaluated and added to the report. A draft copy of the report was submitted and reviewed by McChord and a final report was submitted during winter quarter.

Approximately $25,000 remain in this budget for direct conservation related activities. These funds will be used to conduct habitat enhancement around aquatic areas and to post limited access notices on the McChord side of Bensten wetland, which is the one location of water howellia.

McChord Aquatic Survey (TNC Budget #4812)

The purpose of this contract was to develop a quantitative and qualitative description of the habitat types and aquatic species assemblages at McChord AFB. Clover Creek, Morey Pond and Carter Lake were surveyed for physical and chemical habitat conditions.

This contract was sub-awarded to Entrix and the project was completed during summer quarter. The final report was submitted on September 29, 2005. McChord reviewed report and requested resubmittal with modifications.

The contract was scheduled to close on September 30, 2005. However, the budget was under spent by $5,000 and the contract was extended through June 30, 2006. Plans for these funds are currently being developed.

McChord Mammal Survey (TNC Budget #4811)

Numerous studies in the early to mid 1990's were conducted in an effort to inventory and conserve the natural resources on McChord. These include: 1) Species of Concern; 2) Amphibians and Reptiles; 3) Wetlands and Sensitive Habitats; 4) Neotropical Migratory Birds; 5) Moths and Butterflies; and 6) Aquatic Resources (currently being completed). The purpose of this contract is to inventory one of the remaining uninvestigated classes on McChord- Mammalia. Almost 60 species are possible occupants of McChord AFB, including multiple species of conservation concern. This has been extended to August 31, 2006.

Following activities occurred during the winter quarter:

- The second survey session was conducted.
- Kelly McAllister of the WDFW was contracted to assist with technical planning and targeted trapping of fossorial mammals. His work is expected to continue through to the end of the contract.

- Targeted survey work was conducted for aquatic mammals.

Thus far in the survey, the majority of species believed to be present have been identified. Of approximately 60 species, 35 have been verified on base. Seven of nine probable bat species were identified by Greg Falxa of Cascadia Research Collective, using acoustic sampling and mist netting. Other species were identified using numerous techniques including live trapping, spotlighting, pitfall trapping, and remote camera detection. Given the contract extension, directed efforts will be focused on species that are probable but have yet to be detected. These include the mountain beaver, Western pocket gopher, water shrew, coast mole, bushy tailed woodrat, river otter, bobcat, long-tailed weasel, and western gray squirrel. Efforts will include increased surveys in associated habitats (mountain beaver, woodrat), funnel trapping (water shrew), calling (bobcat), remote camera sets (western gray squirrel, river otter), and directed live trapping (long tailed weasel). The following table depicts potential species, detected species and method of detection.

Upcoming Tasks: Targeted trapping efforts will continue for species that have a reasonable likelihood of occurrence on McChord but have yet to be confirmed. Greg Falxa will be contracted for additional bat survey work and Kelly McCalister will continue his work with fossorial mammals and other aspects of the project.

Additional enhancement work is being considered to benefit mammal habitat. The final report will be delivered in August.

Table 1- McChord Mammal Inventory Results

Species (Bold Indicates Presence)		Detection Method						
		Trapped						
Common Name	**Scientific Name**	**Small**	**Med**	**Large**	**Pitfall**	**Camera**	**Spotlight**	**Other**
Eastern cottontail	***Sylvilagus floridanus***			**X**		**X**		
European rabbit	*Oryctolagus cuniculus*							
Snowshoe hare	*Lepus americanus*							
Mountain beaver	*Aplodontia rufa*							
Townsend's chipmunk	***Tamias townsendii***	**X**	**X**			**X**		**X (visual)**
Northern flying squirrel	***Glaucomys sabrinus***	**X**	**X**				**X**	
Mazama (Western) pocket gopher	*Thomomys mazama*							
Nutria	*Myocastor coypus*							
Virginia opossum	***Didelphis virginiana***			**X**				
Dusky shrew	***Sorex obscurus***				**X**			
Montane shrew	***Sorex monticolus***				**X**			
Vagrant shrew	***Sorex vagrans***				**X**			
Water shrew	*Sorex palustris*							
Pacific water shrew	*Sorex bendirii*							
Trowbridge's shrew	***Sorex trowbridgii***				**X**			
Shrew-mole	***Neurotrichus gibbsii***	**X**			**X**			

Townsend's mole	***Scapanus townsendii***							**X (golf course)**
Coast mole	*Scapanus orarius*							
Deer mouse	***Peromyscus maniculatus***	**X**						
Northwestern deer mouse	*Peromyscus keeni*							
Bushy-tailed woodrat	*Neotoma cinerea*							
Southern red-backed vole	*Clethrionomys gapperi*							
Townsend's vole	***Microtus townsendii***	**X**						
Long-tailed vole	***Microtus longicaudus***	**X**						
Creeping vole	***Microtus oregoni***	**X**			**X**			
Muskrat	***Ondatra zibethicus***							**X (visual)**
Black rat	***Rattus rattus***		**X**					
Norway rat	*Rattus norvegicus*							
House mouse	*Mus musculus*							
Pacific jumping mouse	*Zapus trinotatus*							
Beaver	***Castor canadensis***							**X(signs on Clover Creek/Morey Pond)**
River otter	*Lutra canadensis*							
Mountain lion	*Felis concolor*							
Bobcat	*Lynx rufus*							
Porcupine	***Erethizon dorsatum***			**X**			**X**	**X (visual, reports)**
Coyote	***Canis latrans***					**X**	**X**	**X (heard, visual)**
Red fox	***Vulpes vulpes***							**X (report by Falxa)**
Black bear	***Ursus americanus***					**X**		**X (heard)**
Raccoon	***Procyon lotor***					**X**	**X**	**X (pest shop report)**
Ermine	***Mustela erminea***	**X**						
Long-tailed weasel	*Mustela frenata*							
Mink	***Mustela vison***					**X**		**X (video)**
Spotted skunk	*Spilogale gracilis*							
Striped skunk	***Mephitis mephitis***							**X (road kill; pest shop report)**
Eastern gray squirrel	***Sciurus carolinensis***			**X**		**X**		
Western gray squirrel	*Sciurus griseus*							
Douglas' squirrel	***Tamiasciurus douglasii***		**X**					**X (visual; heard)**
Elk	*Cervus elaphus*							
Columbian black-tailed deer	***Odocoileus hemionus columbianus***					**X**	**X**	**X (visual)**
Little brown myotis	***Myotis lucifugus***							**X(acoustic)**
Yuma myotis	***Myotis yumanensis***							**X(acoustic)**
Keen's myotis	*Myotis keenii*							
Long-eared myotis	***Myotis evotis***							**X(acoustic)**
Long-legged myotis	*Myotis volans*							
California myotis	***Myotis californicus***							**X(acoustic)**
Silver-haired bat	***Lasionycteris noctivagans***							**X(acoustic)**

Big brown bat	***Eptesicus fuscus***							**X(acoustic)**
Red bat	*Lasiurus borealis*							
Hoary bat	***Lasiusus cinereus***							**X(acoustic)**