



PHASE III PROPOSAL: Utah Bat Initiative: Implementation of INRMP & SWAP Goals through Protocol Validation and Bat Management Analysis at Five DoD Facilities

Abstract:

The Bonneville Basin Conservation Cooperative (B2C2), a regional group lead by Department of Defense (DoD) installation personnel includes voting members representing DoD installations, Utah Division of Wildlife Resources (UDWR), U.S. Fish and Wildlife Service (USFWS), Bureau of Land Management (BLM), and The Nature Conservancy (TNC). This group was formed following the 2007 Western States Integrated Natural Resources Management Plan (INRMP) and State Wildlife Action Plan (WAP) meeting in Arizona. In conjunction with the Utah Bat Conservation Cooperative (UBCC – a collaborative partnership with 14 individual public, private, state, federal, and commercial organizations), the B2C2 has teamed in developing this Legacy Program submittal.

In recognition of the importance of DoD lands to the conservation of bats throughout the nation, a memorandum of understanding (MOU) was signed in October of 2006 to “develop a policy of cooperation and coordination between the DoD and Bat Conservation International (BCI)”. Within the spirit and intent of this MOU, we have developed this 2009 Legacy Program funding proposal which brings together five DoD Command Groups – Dugway Proving Ground (DPG), Hill Air Force Base (HAFB), Utah National Guard (UNG) - Camp Williams and Washington County, Deseret Chemical Depot (DCD), and Tooele Army Depot (TEAD). This group of DoD land managers has coordinated with the BLM, U.S. Forest Service (USFS), USFWS, National Park Service (NPS), U.S.D.A. Natural Resources Conservation Service (USDA NRCS), UDWR, Utah Division of Oil, Gas, and Mining (UDOGM), Utah Division of Parks and Recreation, Utah State University (USU), TNC, Southern Utah State University (SUU), Rocky Mountain Power, and Kennecott Utah Copper. These partners within the B2C2 and UBCC have now initiated the process to integrate existing INRMP/WAP goals and objectives covering all 18 species of bat that occur within the State of Utah. These groups of regionally comprehensive partners are proposing to coordinate deliverables from the funding of this grant through the UBCC, B2C2, and policy level managers within the group of DoD land managers.

With the support of the 2007 and 2008 Legacy Program grants (DoD Project #07-346 and #08-346) several outstanding achievements have been made with respect to bat management and conservation in the State of Utah. Our achievements include the consolidation of existing data that was scattered among numerous federal, state, and private sources; creation of a comprehensive geodatabase (subsequently called BatBase); and completion of a draft Utah Bat Conservation Plan. Planned for completion by December of 2008 are a State of the Bats report incorporating a complete and exhaustive analysis of the consolidated bat data, a revised list of state-wide bat management and conservation objectives based on newly aggregated data and input from land managers and bat biologists throughout the state and across agencies, and a Data Collection Protocol specifically addressing these conservation and management goals. This effort to understand and interpret existing information and provide a framework for future and sustained management of bat populations has only been possible through the continued efforts of extensive partnerships between biologists, land managers, federal and state agencies, private parties, universities, and the DoD.

This 2009 proposal will serve as the third and final phase of a collaborative partnership managing 18 species of bat at the state-wide level including 100% of all DoD lands within Utah. This final phase is crucial to ensuring that the extensive efforts and achievements realized through the first two grants become integrated into an established state-wide bat management effort that will remain self-sustaining across agencies long after this project concludes.

We propose to complete the following six main objectives in this third phase. These actions will directly ensure that the WAP, INRMPs, and the Utah Bat Conservation Plan goals and objectives are implemented throughout the state.

1. Issue an extensive and exhaustive management tool titled DoD and Utah Bats – Risk Assessment and Management Plan to include specific actions to improve, sustain, or mitigate for current bat populations in and around all five military bases in Utah to ensure sustained and unrestricted mission training and testing capabilities throughout Utah;
2. Provide training for land managers, biologists, and volunteers throughout the state to ensure maximum compliance with established conservation and management goals and data collection protocols;
3. Create species specific habitat models essential for state and federal agencies conducting impact assessments designed to prevent further species decline;
4. Implement and refine data collection protocols by conducting state-wide survey efforts targeting known data gaps, the six sensitive bat species, and management objectives;

5. Integrate species models into the standardized sampling framework to further prioritize future survey efforts and balance the needs and desires of partner agencies; and
6. Continued collaboration with other western states (specifically Pat Ormsbee of the Pacific Northwest) on protocol refinement and geo-spatial database improvement advancing to a stage where the Legacy funded geo-spatial database and web-based data entry module can be shared with other western states and bat management efforts enhancing the ability of states to manage data and spread consistent bat management efforts across the west.

Background:

A small group of resource managers, sensitive species biologists, and bat enthusiasts from multiple agencies set out in late 2006 to create an outline of what bat management should look like in the state of Utah. With 30% of known species holding WAP Tier II status (species listed on the Utah Species of Concern List under sole state authority), increasing military activity on five bases across Utah, developing wind energy projects, and other economic developments throughout the state a plan for managing bats was found to be of urgent need. With limited knowledge regarding even the basic ecology of Utah's bat species including data on population dynamics and trends, roost site selection, foraging behavior, reproduction, and migration (Oliver 2000) and an overall lack of bat management in the state, this group applied for a Legacy Resource Management Program grant. To date we have received funding for and implemented phases I and II of the original outline that was put together to achieve a comprehensive and sustainable bat management approach in Utah. The Legacy Program funded projects #07-346 and #08-346 in 2007 and 2008, respectively. Below is a brief outline of the successes of these two projects.

Phase I, Legacy Program funded project #07-346 received by Dugway Proving Ground in 2007 funded a completed and recently updated geodatabase (the BatBase) that has been populated with all known bat data in Utah. Specifically 07-346- 1) identified distribution, quantity, and quality of existing data on bats in Utah within the area of responsibility of the UBCC, 2) created a geodatabase with federal, state, and private land managers that holds existing bat data collected in the state of Utah, 3) served as a foundation for future cooperative bat research and management efforts in the state, and 4) collected minimal bat species occurrence data within the 1.8 million acres of DoD managed lands supported by the UBCC and B2C2. Deliverables for this project included an inventory and short analysis of collected data, maps and GIS information showing collected data, results of the data collection efforts that occurred on DoD lands, a factsheet, and instructions on how to access the geodatabase in its current form. The BatBase has since been updated and has shown continual improvement in the effort to become a widely used system for bat data management.

Phase II, Legacy Program funded project #08-346 was a continued effort to use and apply the BatBase created in phase I to the overall concept and outline that was developed for bat management in Utah. Specifically, phase two has or will shortly- 1) work with regional and state-wide partners to integrate existing INRMPs and the WAP goals and objectives throughout the state to ensure coverage for all 18 species of bat, 2) with the help of national bat experts, create a statistically-defensible data collection protocol based on management objectives (currently lacking) that will be implemented in all regions of the state to standardize bat data collection, improve usability and comparability of data, and address future listing concerns, 3) create measurable management objectives to address data vulnerabilities identified during the data gap analysis of the Legacy funded BatBase and the risk and threats assessment in the WAP, 4) conduct an analysis of the populated BatBase from Phase I to identify data gaps potentially inhibiting development of conservation strategies for Utah's 18 species of bats, 5) update and improve upon the state's existing Important Bat Habitat Model (v 2.0, BHM) to incorporate data stored in the BatBase, and 6) cooperate with the State in integrating INRMP Range and Test Grid sustainability and management objectives within a jointly funded Utah Bat Conservation Plan . This document will be approved by the State Wildlife Board and Regional Advisory Council process in early 2009 and will contain current threats, actions, and discussion of Legacy Program funded efforts that have lead to the creation of a bat management program throughout the state. The Conservation Plan will include, as appendices or reference, the protocol outlined in point 2 above and a State of Bats report, an innovative report that addresses all known information and data vulnerabilities for each species based on the BatBase data gap analysis (point four above).

With the funding of a third and final phase, the successes of phases I and II will be integrated and improved with implementation of established management objectives guiding a state-wide protocol targeted by habitat species models and known data gaps. The continued cooperation of numerous agencies throughout the state, the support of agency managers and directors, and the exhaustive efforts of primary personnel on these Legacy projects has created a story of success and cooperation that has reached an extent that many sensitive species never realize. Completion of the objectives for phase III of this effort (this proposal) will ensure that the past two years have been well spent and become a sustainable system of management across agencies ensuring continued operation and restriction-free access to military testing and training lands.

Approach:

The six main objectives and an approach for each objective are outlined below.

1. Issue an extensive and exhaustive management tool titled DoD and Utah Bats – Risk Assessment and Management Plan to include specific actions to improve, sustain, or mitigate for current bat populations in and around all five military bases in Utah to ensure sustained and unrestricted mission training and testing capabilities throughout Utah;
2. Provide training for land managers, biologists, and volunteers throughout the state to ensure maximum compliance with established conservation and management goals and data collection protocols;
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4. Implement and refine data collection protocols by conducting state-wide survey efforts targeting known data gaps, the six sensitive bat species, and management objectives;
5. Integrate species models into the standardized sampling framework to further prioritize future survey efforts and balance the needs and desires of partner agencies; and
6. Continued collaboration with other western states (specifically Pat Ormsbee of the Pacific Northwest) on protocol refinement and geo-spatial database improvement advancing to a stage where the Legacy funded geo-spatial database and web-based data entry module can be shared with other western states and bat management efforts enhancing the ability of states to manage data and spread consistent bat management efforts across the west.

The DoD and Utah Bats – Risk Assessment and Management Plan is an attempt to consolidate, understand, and apply data and knowledge gained through Phases I and II of this Legacy project to military mission activity and land management. The plan will include sections on all five DoD facilities in Utah and will be distributed to land managers for use. Land use will be researched on each installation to include bat use and military testing and training activities. Working with Natural Resources managers, biologists, trainers, test officers, and plans and operations personnel on each base will ensure an extensive look at bat and mission interaction. Actionable management guidelines for each base will be outlined to cover the improvement and or sustainment of bat populations as well as mitigation measures for bat habitat loss due to critical mission use areas. Surrounding lands will be looked at for potential improvement or protection of habitat to ensure that military testing and training capabilities throughout Utah remain sustainable and unrestricted. Because of the extensive work that has been put into interagency cooperation through phase I and II Legacy grants, mitigation measures (if needed) can be implemented at little to no cost to DoD facilities.

Species specific habitat models will be created based on bat occurrence data and habitat needs compiled in Legacy Phase I and II. Expanding the previous Legacy deliverable, the BHM, from covering all species to individual species will help identify unique habitat needs for each species. These models account for a species' behavior, habitat use, and biological requirements to create refined maps of potential landscape use. In many cases, because site-specific bat-use data is limited, these models are coveted components of impact analyses and assessments completed by state and federal agencies in response to requests for oil, gas and mining activities, commercial and wind development, and road construction. These models will prove useful for DoD land managers during NEPA review of military mission activities as well. Species models completed through this effort will be integrated quickly into existing impact analysis infrastructure. Additionally, these species models will be incorporated into the standardized sampling framework (protocol deliverable from phase II) to further prioritize future survey efforts and balance the needs and desires of partner agencies.

Data collection protocols will be implemented throughout the state with field crews positioned in all five UDWR regions. Field crews will be tasked with identifying and then submitting for consideration field protocol refinements. Field crews will be responsible for the training of a minimum number of state and federal agency staff as well as volunteers in the proper implementation of the Utah Bat Data Collection Protocol. Volunteer training will help mitigate the effects of changing personnel within state and federal land management agencies and increase the state's ability to ensure sustained and consistent efforts to conserve and manage bats in Utah. Our goal is to maximize implementation, integration, and sustainability of bat management. Special attention will be paid to DoD testing and training lands, lands neighboring DoD lands, areas predicted by the BHM to be of high importance to bat species, and Tier II species.

Field crews will be made up of field technicians hired through the Legacy grant. Biologists and field technicians of various agencies associated with the UBCC will also assist in the collection of data and protocol refinement effort. Habitat models will be created for individual bats by Joel Diamond, a Bat Ecologist, and potential undergraduate or graduate students at local universities. The DoD Risk Management Plan will be created by Mr. Diamond as well with assistance from DoD and UDWR biologists. The UBCC is integral in the review process of all models, plans, and protocol refinement. A Microsoft PowerPoint presentation or poster will be created towards the end of 2009 to present Phases I, II, and III accomplishments in a way that can be presented at meetings or conferences.

Collaboration with other western states to include Oregon and Washington through Pat Ormsbee, USFS Bat Biologist, has led to some very productive conversations and understanding of the current Bat Grid protocol used in the Pacific Northwest. Collaboration to date has included conference calls and updates between parties on Legacy progress, training of a Utah DoD employee by Ms. Ormsbee

and her staff on Bat Grid protocols and field data collection, and commitments to further discuss and integrate protocols and database use and design. Protocol integration between Oregon, Washington, and Utah could occur through Bat Grid protocol consideration, and geo-spatial database and web-based data entry module input and potential database sharing opportunities. The Bat Grid protocol data dictionary, data elements, data queries, and relationship tables have been given to Utah Legacy Team personnel and will be reviewed and possibly integrated into the current geo-spatial database so that it may be compatible across states and used as a key piece of the Bat Grid system being used in other states. Currently BatBase data dictionaries and relationship tables have been given to the Bat Grid effort for review of current database content and capabilities. Further collaboration will continue and enhance western state's capabilities to assist DoD interests and military bases with bat management efforts.

As briefly mentioned in the Background section, Endangered Species Act (ESA) listed bat species do not occur in Utah, however 30 percent of Utah bat species are listed on the State and BLM sensitive species list (Tier II species of concern). Wildlife species of concern are defined as those species where credible scientific evidence indicates that substantial threats to continued population viability exist. It is anticipated that wildlife species of concern designations will identify species for which conservation actions are needed, and that timely and appropriate conservation actions implemented on their behalf will preclude the need to list these species under the provisions of the federal ESA (UDWR 2004 Utah Sensitive Species Publication). This six step proposal will enhance DoD's understanding of the status of 18 species of bats in Utah. This understanding coupled with the implementation of data collection protocols and a risk assessment plan for each individual military base will allow DoD land managers to make educated decisions about command liability. Understanding of regional and state-wide population health in conjunction with protocol implementation guided by conservation and management objectives will allow DoD managers to approve and support testing and training activities that will result in increasing or stable bat populations. For those species whose populations are declining, early detection, action and management of species on DoD lands will allow the continued use of testing and training areas without restrictions. Only through active state-wide bat management via the implementation of the established data collection protocols can population decline be detected in meaningful timeframes. If declining populations are managed on a state-wide level with proper coordination through state and federal agencies and members of the UBCC and B2C2, DoD activities should not have a significant impact on bat population stability.

Military Benefits:

The DoD is a major user of west desert test and evaluation lands within the state of Utah. DoD requires continued access to those lands to maintain mission readiness. Those lands support biological and chemical test and evaluation operations, munitions testing, deployment of weapon systems, and combat training exercises. The Utah Test and Training Range (UTTR) supports the evaluation of missile weapon systems and utilizes the largest joint contiguous CONUS airspace block in the U.S. to train pilots on air-based weapons systems. National Guard units conduct live fire exercises on Camp Williams and DPG ranges. In addition, these desert climates are utilized by large, mechanized, mobile training units to simulate real-time battle conditions. Throughout these lands specific landscape characteristics and intrinsic natural features are crucial to military readiness as many parts of DPG and HAFB look very much like countries in the Middle East.

Work completed through Legacy I (07-346) and Legacy II (08-346) will have a cumulative effect and impact on the above outlined military mission in Utah. The work to consolidate, evaluate and analyze bat data to gain understanding of current status and health of bat populations state-wide will lead to the protection and sustainability of training lands and the assurance that DoD will have continued access to west desert testing ranges, impact areas, and testing grids. This end will be met through Legacy III (this proposal) by standardizing sampling protocols and enacting the Utah Bat Conservation Plan (as well as WAP and INRMPs). Through Legacy funded implementation, bat management in Utah will become a self-sustaining effort leading to increased knowledge of bat ecology within Utah, which should assist land managers in stabilizing declining populations.

We believe this regional approach to managing bats within the State of Utah and specifically understanding regional trends and patterns on DoD land directly supports stewardship objectives and goals fundamental to sound land management policies within the DoD. More importantly, this proposal has a tangible benefit. It will benefit the military through the identification and description of needed data for Utah bats. Through the proposed Bat Management and Risk Assessment Plans for each individual DoD installation in Utah, land managers will have clear instruction on how to manage bats on their installation, how to mitigate for any military impact, and how to ensure continued use of testing and training ranges through state-wide bat management.

This three-phased effort has and will lead to an entire taxa of wildlife being collaboratively managed across numerous agencies and partners. As a result, DoD land managers can be assured that the BLM, USFS, UDWR, and other land owners securing property surrounding military lands are doing their part to manage for species that could affect mission and essential testing and training activities on DoD lands. If all agencies are utilizing sufficient management practices for species that could affect mission readiness then military land managers can then be assured that at some point in the future, DoD property will NOT be the sole location and oasis for ESA threatened and endangered species that so many DoD installations throughout the United States have become. This FY 2009 submittal will ensure that the efforts over the past two years will create a self-sustaining system whereby all partners and agencies in Utah collectively and efficiently manage and conserve bat populations.

As Utah DoD land managers strive to deal with the challenges of balancing land and air resources within a very high operational tempo, an understanding of the biological status on 18 species of bat is critical. Further, the overall collaborative efforts we have facilitated with 14 key stakeholders (with over 50 separate state, private, and government offices) will enhance military readiness and overall training needs to prepare the finest war fighters anywhere to meet mission needs and objectives.