

**Montana State Digital Library**  
**December 2009 to January 2010**

Prepared for the February 17, 2010 Commission meeting  
by Jennie Stapp, Digital Library Division Administrator.

This report represents accomplishments of:

Library Information Services (LIS),  
Montana Natural Heritage Program (MTNHP),  
Natural Resource Information System (NRIS).

**Goal One, Content:** MSL acquires and manages relevant quality content that meets the needs of Montana library partners and patrons.

MTNHP Zoology and Information Services staffs have added several key data sets to the state-wide point observation database housed at MTNHP. These include: (1) approximately 45,000 Christmas Bird Count (CBC) records from all of the various CBC circles in Montana over approximately the last 70 years (only about 600 of these records were previously in the database); (2) 36,625 bird point count observation records from the Avian Science Center's Land Bird Monitoring Program that were gathered during their 2007 and 2008 surveys; (3) approximately 12,000 animal observation records gathered during the course of field surveys by MTNHP zoologists; and (4) approximately 6,000 records gathered by the Rocky Mountain Bird Observatory as part of an effort to initiate a statewide effort to monitor passerine birds using point counts. The addition of bird observation records will be a focus of Zoology efforts in 2010 in preparation for the publication of the 7<sup>th</sup> Edition of P.D. Skaar's Montana Bird Distribution in early 2011. The Montana Bird Distribution database now contains 721,652 bird observation records and we are trying to reach a goal of 1 million records by the end of 2010.

MTNHP Botanist, Scott Mincemoyer, recently developed models predicting potentially suitable habitat for 90 plant species listed as Sensitive by the Bureau of Land Management. Models are expected to be completed for approximately 80% of the 353 vascular plant species listed as Montana Species of Concern by December 2010. A recently completed a project with

funding from the National Fish and Wildlife Fund added significant numbers of new observation records for globally rare plants in Montana and allowed for the review of global and state ranks for several dozen species. There are now 6,500 mapped Species Occurrences supported by 9,000 observation records in the MTNHP databases.

**Goal Two, Access:** MSL provides libraries, agencies, and its partners and patrons with convenient, high quality, and cost-effective access to library content and services.

The 2009 National Aerial Imagery Program (NAIP) Compressed County Mosaics (CCM) are now available for download from the NRIS web site -

[http://nris.mt.gov/nsdi/orthophotos/naip\\_2009.asp](http://nris.mt.gov/nsdi/orthophotos/naip_2009.asp). This is a 1m resolution air photo collection that covers the entire state of Montana. This imagery data was last collected in 2005, and that dataset is also available for download from NRIS. Originally delivered as large, countywide files, NRIS staff tiled the imagery into easily downloadable tiles to facilitate access to this data. NAIP imagery is the primary source for statewide air photos for Montana and can be seen in numerous online mapping applications including our own GIS Portal, MTNHP Tracker and the Montana Place Names Companion application (see below).

LIS continues to fulfill work-related interlibrary loan (ILL) requests for state agency employees. Client Services Technician, Marjorie Smith is responsible for processing these ILL requests and was recently acknowledged for providing literature contained in the bibliography of a state publication entitled *Weather & Wildlife*. The level of requests remains at a fairly even level averaging 87 requests per month. This service, however, tends to be used disproportionately more by some agencies than others. Some agencies do not use the service at all. LIS is considering how to balance publicizing the service while preserving our ability to fulfill an increased number of requests. Employees may make requests via the phone, email, or online.

After months of frustration working with OCLC staff to try to improve processing and accessibility of state publications in the Montana Memory Project (MMP), LIS has made the decision to move its digital state publications repository from the MMP to the Internet Archive.

The benefits of this decision are numerous: the Internet Archive makes the digital files available in numerous formats including PDFs for portability, a djvu for easy viewing online and Daisy format for those users who require screen readers; the Internet Archive archives all online content and the application performs much more quickly than the MMP. Furthermore, LIS has less worry now about how this large collection might impact performance of the MMP for other libraries. Were these print materials, LIS would simply use book carts to shift them to a new shelf. Moving the bits and bytes of digital publications, however, is accomplished by keystrokes, meetings, analysis, and new workflows. To begin with, LIS requested a download of the entire digital collection from the MMP and verified that every bit and byte uploaded to the MMP was returned. Next, LIS had to determine the technical and metadata requirements for uploading the collection to its new location. Library systems analyst and programmer, Chris Stockwell wrote at least six new scripts to process test batches of digital state publications that were created for the new depository. Recognizing that this work will necessitate changes to the URLs that display in MARC records for the state publications, LIS used to opportunity to research and implement a system to create Permanent Uniform Resource Locators (PURLs) for each item. These PURLs will point to a persistent identifier at the Internet Archive. Using PURLs will give LIS the flexibility to change digital repositories should the need arise in the future without the need to once again change URLs in the MARC record. This change will have far-reaching significance for MSL as well as all libraries that rely on the MARC records we create. To that end, LIS cataloguer Jess Tobin is working with OCLC to update its bibliographic records with the new PURLs. The final step will be to overlay the Montana Share Catalog records with the updated WorldCat records and to make batches of these updates records available to Montana depository libraries.

MTNHP updated the online Montana Field Guide, a collaborative project with the Montana Department of Fish, Wildlife, and Parks, with range maps showing the year round distribution of species in the Western Hemisphere (see the Western Hemisphere range map for the Bobolink as an example: [http://fieldguide.mt.gov/detail\\_ABPBXA9010.aspx](http://fieldguide.mt.gov/detail_ABPBXA9010.aspx)). This information allows users to put the distribution of species in Montana in the context of their overall distribution in the Western Hemisphere and, for migratory birds and bats, allows them to

easily grasp the wintering areas and migratory pathways that are important for conservation. Updates also include “under the hood” changes to improve performance over the web, accessibility for users who use web browsers other than Internet Explorer and for Macintosh users (these are currently limitations for the TRACKER application).

MTNHP released a new, simple web-based animal observation entry form that will work with slow internet connections, all web browsers, and Macintosh Computers and that is very straight forward to use (users can also enter records via iphones or droid phones, it even include map coordinates if a users has a GPS chip): <http://mtnhp.org/observationform/> This provides a full suite of observation entry options (others include the TRACKER application, several Excel Spreadsheets, and hard copy data forms) to allow users to provide information in whatever format suits them best.

**Goal Three, Consultation and Leadership:** MSL provides consultation and leadership to enable its patrons and partners to reach their goals.

Gerry Daumiller of NRIS is now the State Names Advisor for the State of Montana. The State Names Advisor works with the US Board of Geographic Names (BOGN) to determine what names the federal government recognizes for places, geographic locations, and natural features on the landscape. The BOGN will not render a decision on a name until it has received a recommendation about the name from the State Names Advisor (SNA) from the affected state. The SNA is responsible for determining if any state agency has objections to a proposed name and for contacting the county commissioners in the counties affected by name changes to determine whether there is local objection to a proposed name. If there is no consensus among these agencies, the SNA decides what the State's recommendation will be. The BOGN is not obligated to follow the recommendation of the SNA. Gerry created a page on the NRIS website to help keep the public informed about the status of proposed name changes: <http://msl.mt.gov/geonames/>

LIS coordinated with company representatives from ReferenceUSA and state agency public information officers to provide three webinars for state agency employees on our licensed database for business and residential information. The webinars allowed state agency employees to train from their desktops.

MTNHP Botanist, Scott Mincemoyer, lead the development of a Montana Lichen Committee and with the assistance of this panel of 8 experts, he completed a major review of the status of lichen species in Montana in the process of updating the Montana Plant Species of Concern List. The previous list of 109 lichen Species of Concern has now been pared down to 32 species with much better support for their inclusion. A similar major review of the status of bryophytes (mosses) is planned for 2010.

MTNHP Interim Director and Senior Zoologist, Bryce Maxell, is currently leading the effort to revise the Montana Animal Species of Concern list in collaboration with Montana Fish, Wildlife, and Parks, the U.S. Forest Service, the Bureau of Land Management and species experts at Montana State University and with the Confederated Salish and Kootenai tribes. The focus of this update is to review fish species that currently lack a state rank and to review a number of amphibian and mammal species that have recently been the focus of survey efforts and now have more up-to-date distribution and status information available.

**Goal Four, Collaboration:** MSL promotes partnerships and encourages collaboration among its partners and patrons so that their information needs can be met.

NRIS worked with the Montana Historical Society to develop "The Montana Place Names Companion." This is an online application based on the book, *Montana Place Names from Alzada to Zortman* which was published by the Montana Historical Society press earlier this year. When research for the book began in 2003 the Historical Society staff sought help from NRIS staff to develop and maintain a database that would be used to compile the research collected. At that time, it was agreed that an online version of the book should be developed. Now, thoroughly researched and written by staff of the Montana Historical Society, the book

details the origin of place names for over 1,200 geographic locations in Montana and is filled with history and anecdotes for places throughout the state. Web users can search the online "Companion" application to find information about the same places that are highlighted in the book. Search results are displayed in an online map and users can read descriptions of each place name as they appear in the book. Also included are all the photos in the book as well as the geographic location of each place. "The Montana Place Names Companion" is now freely available via the Internet at: <http://mtplacenames.org>.

The MTNHP Ecology Program, led by Linda Vance, recently completed several projects in collaboration with a number of partners. These include: Wetland and Riparian Mapping of the Yellowstone River Corridor (Army Corp of Engineers, Custer County Conservation District); Wetland Change Detection (US-EPA and MT-DEQ); Vegetation Mapping of Manning Lake (Fort Peck Tribe); Establishment of a Wetland Reference Network and Wetland Mapping for the Rocky Boys Indian Reservation (Chippewa Cree Tribe); Development of National Vegetation Classification Training Materials (USGS); Identification and Assessment of Reference Wetlands (US-EPA); A Conservation Planning Geodatabase for the Ruby River Watershed (Ruby Valley Watershed Council); and Mapping of Flowering Rush Distribution in Flathead Lake (with Peter Rice, University of Montana and the Confederated Salish College). Several other projects are described in reports on the MTNHP website <http://mtnhp.org/Reports.asp?key=4> and include:

- Wetlands of the Gallatin Valley: Change and Ecological Functions (EPA-DEQ).
- Wetlands of the Flathead Valley: Change and Ecological Functions (EPA-DEQ)
- Geographically Isolated Wetlands and Intermittent/Ephemeral Streams in Montana: Extent, Distribution, and Function (EPA)
- Assessment of the Red Rock River Subbasin and Wetlands of the Centennial Valley (BLM)
- Assessing Wetland Condition with GIS: A Landscape Integrity Model for Montana (EPA)

MTNHP Zoology and Information Services staffs have collaborated with Montana Audubon to provide web services that will support the adoption of Quarter-Quarter Latilong (QQLL) blocks by public individuals interested in birding <http://mtaudubon.org/birds/distributionQQLL.html>.

Individuals that adopt a QQLL will record bird species in these blocks during the summer and winter seasons in order to more thoroughly document the distribution and status of bird species across Montana and this information will be incorporated into existing MTNHP databases and made available through existing MTNHP web applications.

**Goal Five, Sustainable Success:** MSL is a well-run organization and a sought-after employer; it is efficient and effective (measured against partner and patron outcomes), and successfully engaged in its ongoing mission.

On November 15<sup>th</sup>, Sue Crispin, MTNHP's Director for the past 11 years, passed away after a six-year struggle with breast cancer. On December 5<sup>th</sup>, Sue's life and 29 years of service with the Natural Heritage Network were honored in a memorial service attended by family, friends, and co-workers from across North America. Sue was a leader in the development of the Natural Heritage network and leaves behind a rich legacy of conservation and stewardship of plant and animal species in both the United States and Canada. Bryce Maxell, Senior Zoologist with MTNHP for the past 5 years will serve as Interim Director, as well as the Senior Zoologist, while the technical skills, expertise, and likely future turnover of senior MTNHP science staff is evaluated to determine the best course of action for rehiring.

LIS is pleased to welcome Myrtle Humphrey as our new Digital Services Technician. Myrtle comes to us from Kalispell. She has her Masters in Library Science from the University of Arizona (go Wildcats) and has extensive experience in both corporate and academic libraries. Myrtle plays a key role as LIS resumes the state publications digitization project with the Internet Archive. She and other LIS staff are busy updating existing digitization project workflows while preparing shipments of print publications for delivery to the Internet Archive.

LIS is also sorry to lose our Natural Resources Librarian, Steve Jeffrey. Steve left the State Library to take a position as a librarian with a mining company in southern Arizona. Steve was a great asset while he was here; he reinvigorated our federal depository collection, he made great contacts with Natural Resource agencies in Montana and he worked on numerous

projects with both MTNHP and NRIS. His position will remain frozen for the foreseeable future as the agency continues to make up the required 7% vacancy savings.

The tenure of MTNHP staff has steadily grown and 10 individuals now have more than 5 years of experience in the program: Allan Cox (9 with MTNHP and 11 with NRIS), Paul Hendricks (15), Martin Miller (13), Dave Stagliano (7), Susan Lenard (7), Coburn Currier (7), Karen Walker (5), Darlene Patzer (5), Scott Mincemoyer (5), and Bryce Maxell (5).