

Montana State Digital Library

February to March 2010

Prepared for the April 10, 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's Wetland and Riparian Mapping Center <http://mtnhp.org/nwi/> has continued to make great progress mapping wetland and riparian areas in southeastern and southwestern Montana in 2010. To date, wetland and riparian habitats critical to a variety of plant and animal species have been mapped on 685 of the 1:24,000 scale USGS quadrangle map tiles. Mapped areas in Montana now total 582,963 acres of wetlands and 238,924 acres of riparian habitat. We have applied for several grants that will allow us to finish mapping these critical habitats in western Montana in the next 2 years and would like to complete mapping across Montana within the next 5-6 years. The current status of the mapping and partner contributions toward these efforts can be tracked on the MTNHP website at:

http://mtnhp.org/nwi/NWI_Status_map.asp

MTNHP's Botanist, Scott Mincemoyer, created a first edition Checklist of Montana Vascular Plants http://mtnhp.org/Docs/020210_MT_Plant_List.pdf that provides the scientific and common names, global and state status ranks, origin (native or exotic), wetland indicator status, and coefficient of conservatism for 2,559 vascular plant species. This product should be a useful tool for field biologists and resource managers tracking the presence and status of Montana's vascular plants. All species on the checklist now show up in the Montana Field Guide <http://fieldguide.mt.gov/>, but information is limited for the majority of these species.

MTNHP Biologist Coburn Carrier collaborated with Odonate enthusiasts Nate Kohler and Bob Martinka to summarize their field observations and other information in the MTNHP databases in order to create a Checklist of Montana Dragonflies and Damselflies that is now available on the MTNHP website at: http://mtnhp.org/docs/2009_odonata_checklist.pdf. The checklist includes information on each species' distribution, month of occurrence, distribution, and relative abundance. All species on the checklist show up in the Montana Field Guide <http://fieldguide.mt.gov/> and we are currently working to fully develop the text for accounts on these species.

With the hiring of a Digital Services Technician in January LIS has been able to resume digitization with the Internet Archive and plans to digitize an additional 4500 state publications by the end of June. LIS continues to work with the Internet Archive to refine the elements of documentation and metadata creation. The first box of state publications for digitization was sent in mid February to test a new documentation process designed by the Internet Archive. Subsequently 12 more boxes were sent to the New Jersey scanning center in early March. LIS has completed a third of its goal to ship 37 boxes by June 30, 2010.

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.

As a follow-up to the February Commission report, LIS successfully created Permanent Uniform Resource Locators (PURLs) for a small batch of items residing in the Montana Memory Project. WorldCat records were then modified to include these permanent identifiers while simultaneously removing their antecedent links subject to breakage. In turn, the MSC records were overlaid by these modified WorldCat records. This retroactive metadata work has been time consuming but will greatly reduce the amount of work required both for MSL and other depository libraries in the future as digital repositories change. The next challenge in this migration process is to get OCLC numbers, the basis for the PURLs and the consistent link between all access points for state publications, added to metadata records for the 8,000 plus items digitized to the Internet Archive last year. Another consequence of switching from the

Montana Memory Project is the need to incorporate the ARC files (archive file format files) originally created in the OCLC Digital Archive into the predominantly PDF digital collection maintained by the Internet Archive. LIS has arranged with the Internet Archive to bring the ARC files into our Archive-It collection, Archive Montana. Permanent identifiers can then be created from the Archive-It collection URLs. This is something that has never been attempted by the Internet Archive, but they recognize the benefit learning how to do this for us as well as other libraries and are eager to pilot this process with us.

MTNHP staff recently updated the Montana Field Guide (our collaborative application with the Montana Department of Fish, Wildlife, and Parks) to contain additional links and directed searches for articles containing information on each species on the WorldCat, Google Scholar, Google Books, and Science.gov databases. This will allow resource managers and the general public to more easily identify other sources of information on individual species as well as the repositories where they can access the articles. See the newly formatted References section at the bottom of the Black-footed Ferret species account as an example:

http://fieldguide.mt.gov/detail_AMAJF02040.aspx MTNHP Ecologists and Data Systems and Services staff are also working on a draft update to the Montana Field Guide that includes ecological systems <http://fieldguide.mt.gov:81/> This is a huge addition to the Montana Field Guide because it makes a great deal of information on Montana's habitats available to resource managers and the general public, including: photos, general descriptions, distribution information, information on dynamic process and management, and restoration considerations. Furthermore, for the first time, we have created crosswalks between individual species and the habitats that they use by listing associated species under each ecological system account and associated ecological systems under each species account. This application is scheduled to be made live to the general public in late April or early May of 2010.

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

NRIS and MTNHP staff led presentations at the Tribal Nations workshop sponsored by the Montana Land Information Advisory Council (MLIAC). There were several items emphasized at the workshop with the larger goal of informing the Native communities in Montana of MLIAC's efforts to develop Montana's Spatial Data Infrastructure (MSDI) and to encourage tribal partnership in this effort. Diane Papineau presented information about using and contributing to the Montana GIS Portal, Duane Lund and Evan Hammer presented background information and a status report on the Montana Framework Hydrography Dataset, and Evan Hammer presented information about the library's efforts to make spatial data available via Web Map Services. Linda Vance presented background information and a status report on the Montana Framework Land Cover and Wetlands Datasets.

LIS presented an online webinar for Montana librarians entitled: "Here Today, Gone Tomorrow: How to recover Montana state agency information using Archive Montana." This was part of the Library Development Division Online Conference MSL Spring Training Spotlight on Montana information.

MTNHP Botanist, Scott Mincemoyer, helped organize the 2010 Rare Plant Conference in Missoula and he and Allan Cox gave presentations on MTNHP data products and services at the conference. The conference was well attended and MTNHP has received positive feedback on our data products and data delivery devices from a number of attendees. At the conference Scott worked with a number of experts to review the status of plant species which resulted in the removal of 4 plant species from the state Species of Concern list. Scott has also taken the lead to review plant species for the Environmental Protection Agency (EPA) to create a list of Wetland Plant Obligates in EPA Region 8 for use in environmental reviews.

MTNHP Interim Director and Senior Zoologist, Bryce Maxell, organized and co-presented a workshop on predictive distribution models for Montana's animal species at the 2010 Montana

Chapter of the Wildlife Society Meetings in Helena. The workshop was attended by 30 people from federal, state, and tribal governments as well as the private sector. These models are likely to be widely used in the future and are already being used by Montana Fish, Wildlife, and Parks, (MT-FWP) the U.S. Forest Service (USFS), and the Bureau of Land Management (BLM) for land use planning. Bryce also recently gave invited presentations to: (1) the Northwest Partners for Amphibian and Reptile Conservation (PARC) meeting in Boise, Idaho on distribution and status assessments for amphibians and reptiles in Montana; (2) the Idaho Chapter of the Wildlife Society in Boise, Idaho, on baseline assessments for amphibians, reptiles, and bats in the portions of the Tongue and Powder River watersheds subject to Coal-Bed-Natural-Gas (CBNG) development; and (3) the Montana Prairie Dog Working Group in Great Falls, Montana on using the 2005 National Agriculture Imagery Program (NAIP) imagery to map the distribution of Black-tailed Prairie Dog colonies in Montana.

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

NRIS and MTNHP staff attended the MLIAC sponsored Framework Data Stewards Workshop. The purpose of this meeting was for the MSDI Framework Data Stewards to have the opportunity to meet and discuss issues common to stewards in the development of state-wide data layers and to have the opportunity to share these issues with the State Geographic Information Officer. This meeting included a primarily a report on the status of each layer and a discussion of how to best move forward to make this valuable data available to GIS users and others in the state. More regular meetings were requested (it has been more than three years since the last such meeting) and a follow up to this meeting is to occur at the Montana Association of Geographic Information Professional Intermountain Conference in April. NRIS is the Framework Data Steward for Hydrography and the co-Steward of Imagery. MTNHP is the Steward for Land Use/Land Cover.

The MTNHP Ecology Program, led by Linda Vance, is involved with a variety of collaborative projects in 2010, including: a rotating basin condition assessment of Montana wetlands (EPA);

an assessment of riparian condition along Montana's large rivers (EPA); a vegetation restoration guidebook for Montana's northern Great Plains wetlands (EPA); development of a GIS-based decision support tool for integrated restoration planning (USFS); improved vegetation classification to support identification of critical wildlife habitat areas (MT-FWP); and GIS training and outreach to support wetland map use at the county level (DEQ-EPA).

The MTNHP Zoology Program, led by Bryce Maxell, is collaborating with the MT-FWP and BLM to ground-truth the mapping of Black-tailed Prairie Dog colonies using the 2005 and 2009 NAIP imagery. MTNHP is also collaborating with MT-FWP on surveys designed to determine the distribution of American Bullfrogs along the Yellowstone River and to identify the best methods for control of this invasive species.

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.

MSL submitted our biennial Information Technology (IT) Strategic Plan. All agencies and the State as a whole must complete IT Strategic Plans as required by the 2001 Montana Information Technology Act (Montana Code Annotated: 2-17-521). The document highlights the agency's IT goals and objectives as well as strategic initiatives for the coming biennium. Any IT initiatives that may result in requests for executive funding through the Executive Planning Process must be documented in the IT Strategic Plan. MSL's single IT strategic initiative included in our strategic plan is our state publications digitization project initiative. Other goals include:

- Alignment of information system resources with MSL program and service needs;
- Development and maintenance of current and new information systems that are properly aligned with MSL program and service needs;
- Expansion and improvement of online information services;
- Development of business continuity and security programs;
- Improvement of MSL's ability to attract and retain a qualified IT workforce.

Agency plans are reviewed and approved by the Department of Administration Information Technology Services Division (ITSD). Approved agency plans are then posted on the ITSD web site. Approval is expected in June, 2010.

NRIS staff attended a two day Introduction to Geoprocessing using Python training course. To minimize training costs NRIS partnered with the Department of Environmental Quality and the Department of Revenue to bring in a trainer for on site training rather than traveling out of state for this training. The course emphasized tools for automating data processing and analysis task. Application of this training should help NRIS staff be even more productive in their day to day tasks.

LIS staff participated in OCLC online training for managing the policy directory associated with ILL requests. Maintenance of this directory makes it easier for borrowing institutions and MSL as the lender.

LIS is also documenting the effects of having two open positions. A reduction in the level of service is inevitable. The staff is trying to minimize the instances when projects, phone calls, and reference inquiries, are inadvertently dropped or left incomplete. Good documentation can be used to demonstrate the critical need for the positions currently frozen and will prepare LIS for a return to normal service levels once needed staff is hired.