

Montana State Digital Library

August to September 2010

Prepared for the October 13, 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.

MSL and Montana Fish, Wildlife & Parks jointly announced the online availability of FWP's award-winning magazine, *Montana Outdoors*. Each issue of the magazine, dating back to the first issue of its predecessor publications in 1928 is now available in its entirety for free online. The *Montana Outdoors* special collection includes more than 300 digitized issues and accounts for nearly 13,000 pages of the approximately 940,000 pages that have been digitized by LIS thus far. This collection will continue to grow; as newly published issues are added the second most current issue will be added to the online repository.

LIS held its annual serials collection development meeting to review existing EBSCO subscriptions. Some subscriptions formerly dropped were added back to the collection including online access to multiple publications of the American Fisheries Society that are in high demand by FWP staff.

The United States Geographic Survey (USGS) updated their National Hydrography Dataset (NHD) Partnership Agreement with NRIS. The USGS is providing an additional \$25,000 for NRIS to use in their efforts to improve the quality and completeness of the dataset. NRIS has proposed that this funding be used to support work with the Department of Natural Resources and Conservation (DNRC) Water Rights program. The DNRC Water Rights program has recently begun a project to index their Point of Diversion (POD) location data to the NHD features. This major undertaking will result in the addition of thousands of POD features into the NHD dataset. It will also result in much improved hydrography line work accuracy because reviewers will critically review every water feature in the state in order to properly place the POD features. The funding will primarily be used to fund NRIS staff work to compile and submit identified corrections to the federal NHD database.

MTNHP Zoologist Susan Lenard has systematically reviewed over 100,000 bird observation records since June of 2010 in order to ensure that they are mapped correctly, have been reported at the appropriate times, and that the locations reported are in appropriate habitats. This is an important part of the quality assurance and quality control for our

animal point observation databases. Over 113,000 of our 1,030,000+ animal observation records are still pending this type of final review; we hope to complete this review prior to the end of the 2010 calendar year.

In collaboration with FWP and the Macaulay Library of Natural Sounds, MTNHP has added 91 new bird calls to the Montana Field Guide (e.g., see Baltimore Oriole at http://fieldguide.mt.gov/detail_ABPBXB9190.aspx). Calls are now available for all but 9 birds that have been documented in Montana, all of which are accidental migrants that have only been observed one to a handful of occasions each.

Despite being busy with a variety of fieldwork, MTNHP's wetland photo interpreters mapped an additional 64,508 acres of wetland and riparian areas in Montana during August and September, bringing the total to 1,197,830 acres (895,032 acres of wetlands and 302,798 acres of riparian habitat). 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.

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.

NRIS signed an agreement with the DNRC to develop a set of web pages for the purpose of providing public access to the recently collected Flathead Valley LIDAR Project. (LIDAR (Light Detection And Ranging) is an optical remote sensing technology that measures properties of scattered light to find range and/or other information of a distant target.) The web pages will be hosted on the NRIS web site and will include static and interactive web maps to assist users in identifying and downloading data of interest from this project. Data that can be accessed will include aerial photography and digital elevation datasets for the study site in digital elevation model and elevation contour formats as well as high resolution imagery. The web site will also provide access to project related documentation to further enhance the value of the datasets provided. The study area for this project includes the shoreline of Flathead Lake, and includes the Flathead Valley north to Whitefish and it also includes Whitefish Lake. These web pages will be online by November 1. Evan Hammer and Gerry Daumiller have also been asked to attend public meetings in the Flathead in mid-November to demonstrate these web pages.

Led by Web Projects Manager, Dave Ratz, MTNHP released a new interactive web mapping application, the Heritage Map Viewer <http://mtnhp.org/ecology/mapviewer/>. The current version of this application allows patrons to view land cover across Montana in conjunction with a variety of other map layers, including aerial photos, topographic maps, and digital elevation models. The strength of the application is that it allows patrons to quickly create summaries of the percentage makeup of various land cover types within a variety of administrative boundaries including latitude-longitude boundaries, counties, watersheds of various sizes, townships, and sections. These report summaries link back

to accounts for various ecological systems in the Montana Field Guide (e.g., http://fieldguide.mt.gov/displayES_Detail.aspx?ES=4232) and, because of the previous work that was done to associate animal species with ecological systems, allows patrons to also create lists of animal species that are likely to occupy these administrative boundaries. This application should be a valuable tool for a variety of natural resource management agencies and MTNHP plans to move other spatially linked datasets into this application over time.

MTNHP Ecology and Data Systems and Services staff worked collaboratively to release simple map and data retrieval websites for wetland related projects funded by the EPA. The Montana Reference Wetland Network site <http://mtnhp.org/ecology/assess/state/> displays results of assessments of the condition of individual wetlands that were performed in 2008 and 2009. The Milk Marias Wetlands Assessment site <http://mtnhp.org/ecology/assess/mm/> displays wetland assessment results for the Milk Marias portion of the rotating basin wetland monitoring and assessment program that MTNHP has partnered on with EPA.

MTNHP's Karen Walker and Allan Cox collaborated to update the Montana Land Stewardship Map and released it in both PDF and GIS formats <http://mtnhp.org/stew.asp>. They also released a simple map of the location of conservation easements across Montana in Google Earth http://mtnhp.org/stew/easement_map.asp.

LIS staff created a new web page that better organizes licensed databases and lists by subject all online resources provided by LIS including eBooks, the web archive, and the digital repository for state publications. All licensed content now contains utilizes OCLC's EZproxy to make remote access easier for MSL patrons. Find Resources Online is available at: http://msl.mt.gov/For_State_Employees/Find_Resources_Online/default.asp.

LIS circulation staff recently created library cards for all Montana libraries using the standard 14-digit bar code to facilitate use of the EZproxy remote authentication system for our newly acquired Safari Tech Online books and other licensed professional library development material.

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

After coordinating surveys for freshwater mussels across Montana for the past 3 years, MTNHP Aquatic Ecologist Dave Stagliano was featured in an FWP Outdoor Report http://fwp.mt.gov/education/videoLibrary/outdoorReports/video_0112.html. The video focused on Dave's collaboration with biologists at FWP to relocate mussels that were going to be impacted by a diversion dam to streams where they had previously been extirpated.

MTNHP Botanist, Scott Mincemoyer, recently completed the last of seven wetland plant identification workshops he conducted at locations across Montana during the summer of

2010. The workshops were well attended, with approximately 150 individuals from federal and state agencies, non-government organizations, tribes, local government planners, and private consultants acquiring basic skills on identifying native and exotic wetland plant species. MTNHP received a variety of positive feedback about these workshops and consider planning additional workshops during the 2011 field season.

In collaboration with the FWP's Land Use Planning Specialist, Doris Fischer, MTNHP Systems and Services Manager, Allan Cox, provided training to the Montana Association of Planners on MTNHP and NRIS data resources and web applications that would be useful in a variety of planning efforts across Montana.

The Montana Land Information Advisory Council (MLIAC) approved the addition of Montana Geographic Names as a Montana Spatial Data Infrastructure (MSDI) Framework Layer. Gerry Daumiller, the Montana State Geographic Names Advisor has participated in an advisory group that developed a draft Geographic Names data model and a database built on that data model. MSL is preparing an application to be submitted to that State Geographic Information Officer and is expected to assume stewardship duties for this framework layer. If approved, Gerry Daumiller will be designated as the Theme Lead for this Framework. Geographic Names are critical for querying and otherwise identifying features on a map, and a standardized database is critical to activities such as efficient, rapid, coordinated emergency response activities. NRIS already maintains a Historic Place Names web mapping application and makes a Geographic Names data set available through the GIS Portal and the Montana Digital Atlas. The NHD dataset that NRIS maintains is also dependent upon the Geographic Names dataset for the names of rivers, lakes, and other water features in the state. The Geographic Names advisory committee is also very excited about the potential for the framework layer to offer alternate place names that may be legally required alternatives, Native American names, and historic names. Finally, work to maintain this framework layer supports the work of LIS to create and maintain Library of Congress authority records for Montana geographic name authorities.

Evan Hammer represents the Montana State Library as a voting member of the Montana Bureau of Mines and Geology (MBMG) Groundwater Steering Committee. The primary responsibility of this steering committee is to determine and prioritize groundwater study areas across the state. Currently the first seven sites identified have groundwater studies underway. The Groundwater Steering Committee met in August to prioritize sites for the coming year. Prioritization criteria were reviewed and modified as needed and a priority list was provided to the MBMG who then presented it to the Water Policy Interim Committee on September 9, 2010.

As part of MSL's on-going Geographic Literacy Campaign and as a Montana Library Day event, GIS Analyst Diane Papineau led a webinar introducing Montana Librarians to the basic concepts of GIS. This webinar will be followed by a workshop at the Fall Workshop led by Chris Markuson, GIS Manager for Pueblo County, Colorado. Chris will share how

providing GIS data for his local library district added to the success of several important projects.

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

MSL continues to plan for the physical move of the Base Map Service Center (BMSC) to the Library. A formal announcement of this move was made to the GIS community and other library partners in early September and has received overwhelming support. The move is tentatively planned for the week of November 15. Necessary changes to the lower level of MSL will be implemented prior to this time. One of the many advantages of this relationship is that all the state-stewarded MSDI themes will be under one roof, allowing easy interaction between the MTNHP, NRIS and BMSC as well as our in-house partners FWP and Cathy Maynard of the Natural Resources Conservation Service. Staff and management are excited about this new level of improved coordination and the many benefits this coordination will bring to the GIS community in Montana. We look forward to future opportunities for increased collaboration that will result in even more effective and efficient management of spatial data content, data access and archiving, and GIS coordination, education and outreach efforts.

LIS staff met again with the Environmental Quality Center (EQC) staff to demonstrate the LIS pilot project that leverages the Montana Environmental Policy Act (MEPA) publications managed by EQC. LIS had earlier gained permission from EQC to crawl the directory structure of their web server that houses these publications using our Archive-it subscription. LIS thus successfully captured over 17,000 MEPA publications and now provides full-text search capability for these same publications within Archive Montana. A new dedicated search interface for MEPA publications was also created: http://msl.mt.gov/For_State_Employees/Archive_Montana/MEPA.asp.

MSL participated in the Montana Library Day, September 15th activities. Posters were hung, table tents displayed, statistics were collected and 23 patron surveys were collected. The data was then published online at http://msl.mt.gov/LibraryDay/results/lib_detail.asp?libid=1051. A permanent comments box has also been put into place and will be used to solicit user feedback ongoing.

MTNHP Interim Director and Senior Zoologist, Bryce Maxell, recently coauthored scientific papers with federal, state, and university collaborators on the distribution and status of amphibian species in Montana. The papers were accepted for publication in the Proceedings of the National Academy of Sciences and the journal Diversity and Distributions:

McCaffery, R.M. and B.A. Maxell. 2010. Decreased winter severity increases viability of montane frog population. Proceedings of the National Academy of Sciences 107(19):8644-8649.

Pilliod, D.S., B.R. Hossack, P.F. Bahls, E.L. Bull, P.S. Corn, G. Hokit, B.A. Maxell, J.C. Munger, and A. Wyrick. 2010. Non-native salmonids affect amphibian occupancy at multiple spatial scales. *Diversity and Distributions* (In Press).

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.

As of September 13th, LIS filled the state publications librarian position. Shortly thereafter, LIS advertised the digital services technician position. LIS will begin screening applications October 4th with interviews expected to begin the second week of October, and hiring by the end of the month.

Jeff Dobb resigned his position as the NRIS web developer at the end of August. Since Jeff joined our staff in 2008, just to mention a few of his accomplishments, he helped NRIS recover from a cyber-attack shortly after arriving here, he led the development work for the GIS Portal Update that was released in October 2009, he was the developer of the Montana Place Names Application, he overhauled the Water Rights Query System, and he was the lead developer for the soon to be released update to the Montana Digital Atlas. All of which was accomplished at the same time as he maintained a number of aging NRIS web applications, provided database support to NRIS, and helped with the transition to a new hardware and software infrastructure. We wish Jeff much success and look forward to continued work with him as he assumes his new position as a developer for the Department of Commerce Broadband Mapping Project.

University of Montana Vice President of Research, Dan Dwyer, is initiating an open search for a permanent Director of the MTNHP. He will coordinate those efforts with MSL.

MTNHP Ecology staff, Linda Vance, Karen Newlon, Cat McIntyre, and Dave Stagliano attended and gave presentations at the Wetland Program Capacity Building workshop hosted by DEQ and EPA in Bozeman, September 21-24, 2010.

MTNHP Interim Director and Senior Zoologist, Bryce Maxell, recently attended and gave presentations at the annual Montana Bird Conservation Partnership meeting in Dillon, August 11-13, 2010.

Evan Hammer and Duane Lund recently attended the ESRI instructor led Managing Editing Workflows in a MultiUser Geodatabase training. This course provided valuable guidance for developing the types of editing workflows that will be important for providing support to users of the NHD and other data sets which will include ongoing contributions from multiple parties. This course was offered as part of the State of Montana ESRI software Enterprise License Agreement. As such the training was provided at no additional cost over the attendees annual software maintenance fees.