

Montana State Digital Library

June 2011 to July 2011

Prepared for the August 10, 2011 Commission meeting
by Jennie Stapp, Digital Library Division Administrator.

This report represents accomplishments of
Library Information Services (LIS),
Natural Resource Information System (NRIS)
& the Montana Natural Heritage Program (MTNHP).

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

LIS completed the fiscal year (FY) 2011 contract with the Internet Archive on time. Approximately 2500 publications were digitized during that period bringing the total number of publications digitized over the last three years to well over 12,000 publications. LIS and MTNHP are working with the Internet Archive to improve statistical reporting on the use of state publications made available online through the Internet Archive. As of June 30th, 2011, since the beginning of FY 2009, publications from the entire Montana state publications collection have been downloaded 580,474 times; the 316 MTNHP publications available through the Internet Archive alone have been downloaded 18,127 times. Contrasted against the 1356 print state publications that circulated in the same time period it is clear that MSL is applying its resources in a way that truly meets user demands.

LIS signed the FY 2012 contract with the Internet Archive for \$25,000 with the added provision that the vendor resolve digitization issues within a two week time frame unless a longer resolution time frame is mutually agreed upon. The total dollar amount for the FY 2012 contract is \$15,000 less than the FY 2011 contract which will significantly reduce the number of publications to be digitized this fiscal year.

LIS reviewed deselection lists of historic state publications dating from late 19th century from a Montana public library and requested numerous publications, including titles from State Board of Horticulture, the State Engineer, Board of Sheep Commissioners, and the Superintendent of Public Instruction. These items will receive priority treatment for FY 2012 digitization.

At the request of the Department of Emergency Services (DES), NRIS is hosting a digital version of the DES Flood Declarations map that is generated in response to recent flooding across the state. The map delineates counties, cities, and reservations in Montana with flood-related emergency declarations. DES asked NRIS to host the

publicly available map because in-house resources were overwhelmed with other flood related tasks and we were happy to be able to help out. The most current flood declaration map is accessible from: <ftp://nris.mt.gov/DES/CurrentMap.png>.

NRIS also updated cadastral, water rights, and Groundwater Information Center water wells data collections available from the library. More information about these data sets is available at - <http://nris.mt.gov/new/displayRelease.asp?relNum=317&referrer=whatsnew.asp>.

MTNHP was recently awarded funding from the Montana Land Information Act Council (MLIAC) to continue stewardship and GIS production for the statewide wetlands and land cover layers. As was reported in the June report, NRIS received a similar grant to support stewardship of the hydrography layer.

MTNHP completed a major update of its animal and plant Species of Concern (SOC) data and transferred the updated data to NatureServe. Regular data exchange between NatureServe and MTNHP is a core requirement in the MSL-MTNHP contract and serves to make MTNHP data available to a broader audience.

MTNHP recently completed major requirements of a grant from the US Geological Survey (USGS) to participate in the USGS Protected Areas Database US project. Requirements included an update of conservation easements in the Land Management database and its inclusion in the MTNHP MapViewer and in the Montana GIS Portal; completion of the spatial alignment of the managed areas data in our Land Management database and its placement in our MapViewer and GIS Portal; and completion of a transfer of the Land Management database to the USGS national Protected Areas database (PAD-US).

MTNHP Montana Wetland and Riparian Mapping Center (MWRMC) submitted digital wetland and riparian mapping to the U.S. Fish and Wildlife Service National Wetland Inventory for three project areas, covering the Gallatin Valley, Manning Lake Tribal Wildlife Refuge, and portions of Meagher, Broadwater, Jefferson, Gallatin, and Park counties. This digital mapping, which represents 120 USGS topographic quads, will be available via the Montana GIS Portal (<http://gisportal.msl.mt.gov/>) and web mapping services. In addition, the MWRMC completed mapping for nineteen USGS topographic quads in June and July, which resulted in an additional 26,254 acres of mapped wetland and riparian areas.

MTNHP Senior Zoologist, Bryce Maxell, and Information Services staff, Scott Blum, and Karen Walker, created or updated Species Occurrences (SOs) for 125 Montana animal SOCs. This effort added approximately 10,000 SOs, for a total of 34,552 animal SOs. The SOs can be used daily in environmental reviews conducted by government agencies, consultants, nongovernment organizations, and the general public. SOs are

viewable online to state and federal agency partners on the Natural Heritage Tracker website (<http://mtnhp.org/Tracker/NHTMap.aspx>).

MTNHP Zoologist Paul Hendricks added or significantly updated Species Accounts for the online Montana Field Guide (<http://fieldguide.mt.gov/>) for thirty-nine Montana animal Species of Concern, including one amphibian, fifteen bird, four fish, four mammal, one reptile, and fourteen invertebrates.

Nine staff members of the MTNHP Ecology Program are working on surveys for the Environmental Protection Agency as part of the National Wetlands Condition Assessment. With assistance from members of the Fort Peck Tribe and staff from the Montana Department of Environmental Quality (DEQ), MTNHP is surveying twenty-four sites in Montana.

Ute Langner of the MTNHP Spatial Analysis Lab is collaborating with Cathy Maynard of the Natural Resource Conservation Society (NRCS) to prepare a habitat suitability map for sage grouse wintering and nesting on the Crow Reservation.

MTNHP aquatic ecologist Dave Stagliano is working with WestTech, a private consulting firm, to sample aquatic insects in the Otter Creek coal tract area.

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 is reviewing and updating some of their upper level web pages. While this is still a work in progress, changes to the top level NRIS were pushed out in April. The goal of these updates was to orient the page more around core NRIS work areas and expose more useful information about what NRIS is and services NRIS offers. The site can be viewed at <http://nris.mt.gov>.

NRIS worked with the NRCS to update the water supply pages that we jointly host. These pages had become cumbersome to navigate over the years and the maps that are available did not have consistent layouts and color schemes. The updated water supply maps can be found at: <http://nris.mt.gov/Nrcs/Snowater.asp>. Of special interest are the "Monthly Maps" which provide a quick overview of almost 10 years of monthly water supply maps in a manner that makes it easy to quickly see changes over that period. These maps are used extensively during times of drought and flooding.

In mid-July, MTNHP released a beta version of animal and plant observation data (>1,000,000 point observations) in the online MapViewer. MTNHP also rolled out several enhancements and improvements for MapViewer software. These included a more user friendly front end to the application, an improved Identify tool, and new summary reports.

At the request of the NRCS, MTNHP added NRCS' Major Land Resource Areas (MLRA) to the land cover toolset in the MapViewer. MLRAs are geographically associated land units delineated by overall similarities in physiography, geology, climate, water, soils, biological resources, and land use. Identification of these large areas is important in statewide agricultural planning and has value in interstate, regional, and national planning.

MNTHP staff released a revised Montana Land Cover in an online public map service and incorporated it into the Montana GIS Portal. This new data set is a Montana-specific land cover layer modified from the Pacific Northwest ReGAP project classification based on 30 meter resolution Landsat imagery.

MTNHP staff completed work on the new reference system web based client that will enable MTNHP to better maintain its extensive reference database and more easily incorporate the reference information into its web applications. The database is completed and currently being populated with consolidated reference data from three existing MTNHP databases. A key element of the reference database is its use of OCLC numbers to both generate metadata for references and to serve as a resource for users who wish to get copies of the reference materials either online or through interlibrary loan.

In collaboration with Bryce Maxell and FWP, MTNHP Web Programmer Dave Ratz added FWP's distribution maps for fourteen game species to the Montana Field Guide. Species added include: Bighorn Sheep, Blue Grouse, Elk, Gray Partridge, Greater Sage-Grouse, Moose, Mountain Goat, Mountain Lion, Mule Deer, Pronghorn, Ring-necked Pheasant, Ruffed Grouse, White-tailed Deer, and Wild Turkey.

An updated version of the Checklist of Montana Vascular Plants by MTNHP Botanist Scott Mincemoyer was put online in early June (http://mtnhp.org/Docs/060211_MT_Plant_List.pdf). It incorporates hundreds of status and taxonomic changes made in the past year, the addition and deletion of a few species, and addition of taxonomic summaries by family and genus.

LIS rotated in twenty new Safari Tech Books Online titles in support of the professional library development collection. LIS continues to receive positive feedback from state agency employees in response to the newest additions just added to the rotating collection. Unlike print collections of tech materials which quickly becomes outdated due to the rapidly changing nature of information technology, this rotating online collection allows LIS to provide ready access to information on the most current technology trends while minimizing expense.

LIS is the beneficiary of six new computers, software, and some furniture compliments of the Broadband Technology Opportunities Program (BTOP). This equipment supports

the American Disabilities Act and will replace the existing LIS public access computers. Furthermore, this equipment will benefit MTBL patrons visiting the state library and the in-house BTOP technology trainer who will need access to similar equipment provided to other local library BTOP participants across Montana.

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

MTNHP Information Systems and Services staff worked with the US Bureau of Land Management (BLM) GIS staff in Miles City to test methods for providing SOC occurrence data directly to BLM staff's desktop GIS's via an online secure map service. The service should be completely functional by September and will provide direct access for all BLM staff across Montana to the most current SOC data from the MTNHP.

MTNHP ecologists Dave Stagliano and Steve Fernandez are collaborating with the DEQ on aquatic insect classification.

Ecologists and Project Managers Karen Newlon and Cat McIntyre conducted wetland assessment training in collaboration with DEQ for members of the Gallatin and Big Hole Watershed Groups. The training occurred outside of Manhattan, MT on June 21st.

Landscape Ecologist Meghan Burns collaborated with the Montana Department of Natural Resources and Conservation (DNRC) to conduct an introductory GIS course as part of the 2011 Montana Floodplain Resource Seminar entitled Floodplain Management and GIS. This course was held on July 22nd at the University of Montana-College of Technology in Helena and was attended by local floodplain administrators, engineers, and other professionals.

In coordination with FWP and USGS biologists, Dave Stagliano and Bryce Maxell produced a poster and brochure on American Bullfrogs as Exotic Aquatic Nuisance Species in the Billings area. These materials will be made available at locations where American Bullfrog control efforts are being undertaken along the Yellowstone River floodplain during the 2011 and 2012 summer field seasons.

The July/August issue of *Montana Outdoors*, published by FWP, contains an article entitled *Going to Bat for Bats*, in which FWP writer Tom Dickson consulted with Bryce Maxell and Paul Hendricks on the biology, conservation, and management of Montana's bat species. As a reminder, *Montana Outdoors* is made available online via the Internet Archive thanks to collaboration between LIS and FWP.

MTNHP staff members Scott Mincemoyer (Botanist) and Coburn Currier (Biologist and Project Specialist) continued surveys in the Swan Valley for Water Howellia, a federally threatened plant species.

LIS worked with trainers from InfoGroup/Government Division to promote and provide three webinars attended by forty employees from various state agencies on how to use the ReferenceUSA business/residential database to further state agency goals. One session was recorded and archived for future online availability for those unable to attend the live trainings.

LIS is participating through email and telephone calls with other institutions in an Archive-It search pilot program this summer. LIS is providing to staff at the Internet Archive, a wish list for the Archive-It software which supports Archive Montana, the web archive of Montana state agencies websites dating back to 1996. Internet Archive staff in turn will develop a working model based on participant feedback. Feedback will be exchanged throughout the fall. The Internet Archive anticipates that the new web search application to be ready by Quarter 1 of 2012.

LIS was also asked by the Internet Archive to participate in a Digital Archive pilot project with the North Carolina State Archives and State Library, Minnesota Historical Society, the New York Public Library, and the California Audio Video Preservation Program. This pilot project aims to create a comprehensive digital content management system that permanently stores data safely from external threats. LIS has a particular interest in this project because currently our digital assets are maintained in separate archives, one for text and one for webpages. The tentative pilot timeline runs from July through October 2011.

As part of our Montana Spatial Data Infrastructure (MSDI) stewardship duties, NRIS Manager, Evan Hammer (Hydrography) and GIS Analyst, Gerry Daumiller (Geographic Names) attended the June MSDI Stewards Meeting. This one day event was an opportunity for stewards to share information with other stewards about the progress they are making to develop and maintain the fourteen MSDI framework layers. Evan had an opportunity to update the other stewards on the progress of the GeoMAPP spatial data archiving project and provide some insight into how that might impact MSDI datasets. There were also discussions of metadata for MSDI layers and standards and policies that might benefit more rapid adoption of the MSDI layers for regular business use by GIS users around the state.

The Montana State Library hosted the 2011 GeoMAPP face-to-face meeting from June 20-23, 2011. Representatives from the other GeoMAPP partner states – North Carolina, Kentucky, and Utah – traveled to Montana to meet, learn about the Montana State Library and NRIS program, discuss work progress, and plan for the final six months of the project. In addition to 2.5 days of meetings, Digital Library Director, Jennie Stapp and the NRIS staff put a lot of effort into making sure the guests felt welcome with a variety of after-hours activities including a hike in the south hills, a trip to the Mining Museum in Butte, and a trip to the Lewis and Clark Interpretive center in Great Falls.

Jennie Stapp and Evan Hammer traveled to San Diego, CA to attend the ESRI International Users Conference on July 11-15. Jennie attended on behalf of the GeoMAPP program and she presented on Montana's GIS archives self-assessment at the Data Preservation Special Interest Group Meeting and also helped out with an industry outreach effort aimed at informing geospatial vendors of the need for technology to support spatial data archiving. Evan attended in support of the Hydrography Framework layer and co-presented with DNRC GIS Coordinator, Liz Murray, on the progress of a project to align Montana Water Right Point of Diversions with the state Hydrography Framework Layer. Evan also presented at a GeoMAPP session on NRIS's plans to implement suggested best practices developed by the GeoMAPP team.

Digital Library staff continues to serve in leadership positions for their respective professions. Three members of the MTNHP Ecology Program are active participants in the leadership of the Montana Association of GIS Professionals (MAGIP). Linda Vance is a past President, Meghan Burns was elected a member-at-large of MAGIP Board of Directors, and Maya Daurio was appointed Chair of the Education Committee. NRIS GIS Analyst Diane Papineau is an out-going MAGIP board member and continues as the chair of the Mentoring Subcommittee. And LIS Manager, Jim Kammerer, currently serves as the Chair of the Academic and Special Libraries Division of the Montana Library Association.

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

LIS worked with MTNHP staff to provide a definitive list of more than 300 MTNHP publications in WorldCat with PURLs created by LIS. This list also contains OCLC numbers that distinguish LIS managed catalog records from other WorldCat records for the same titled publications. MTNHP uses the LIS list for their new reference database referenced above.

State Librarian, Darlene Staffeldt served as acting chair at the June 16th MLIAC meeting. This meeting was well-attended by the Council. A significant amount of time during the meeting was devoted to discussion about the changes resulting from the recommendations of the State GIS task force endorsed by this Commission at their June meeting. Although there is some apprehension among Council members, as is to be expected at times of significant change, overall the Council believes the recommended changes will result in positive improvements for state management of GIS. In particular, the Council noted MSL's alignment with libraries as a way to further educate Montanans about this valuable information resource.

NRIS hosted a meeting of the Montana Hydrography Workgroup on June 20th, 2011. The primary purpose of this meeting was to review progress on the FY 2011 Hydrography Business plan and begin the process of updating it for FY 2012.

As mentioned above in greater detail, MTNHP is collaborating with members of the Fort Peck Tribe and DEQ to conduct surveys of twenty-four wetland sites across Montana.

MTNHP was awarded a \$10,000 grant from the Montana Department of Agriculture Noxious Weed Trust Fund to support its work adding new species information to its databases and in responding to requests for SOC information regarding weed management and mitigation projects.

At the request of NRCS, Allan Cox provided two orientation sessions in June about the MTNHP for NRCS interns.

Zoologists Paul Hendricks, Susan Lenard, Coburn Currier conducted bird point count surveys across Montana in collaboration with the BLM, FWP, and Rocky Mountain Bird Observatory. Susan and Paul also continued their collaboration with the U.S. Army Corps of Engineers and U.S. Forest Service to inventory bats at Libby Dam.

Bryce Maxell and temporary field staff conducted surveys for amphibians, reptiles, and bats on BLM lands northeast of Whitewater, within the boundaries of the Missoula Field Office of the BLM, and along the Powder River between Moorhead and Broadus. Data from these surveys will be added to central databases and made available to patrons on the Montana Field Guide and Natural Heritage Tracker and Natural Heritage MapViewer web application this fall.

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.

During their recent trip to the ESRI User Conference, Evan Hammer and Jennie Stapp participated in two training seminars. On June 9th, Roger Tomlinson (the “father of GIS”) and David Peters (ESRI’s director of System Integration) held a seminar on Planning and Managing a GIS. On the following day David Peters presented on System Architecture Design Strategies for GIS. These were both very informative seminars that should benefit MSL’s existing GIS hardware infrastructure as well as help to prepare for the integration of the Base Map Service Center.

The MTNHP Zoology Program is initiating an effort to better track its work efforts to promote efficiency and to ensure that the time needed to fulfill patron requests is properly budgeted for in the future.

The Ecology Program hired five field ecologists to assist with multiple wetland assessment projects throughout Montana.

Dr. Neil Snow began as the new Director of MTNHP on July 1st. Neil is a plant taxonomist by training and has thirty years of experience with the flora of the Rocky

Mountains. He is more widely known in the systematics community for having described several dozen new species of plants in the Myrtle family from Australia, New Caledonia, New Guinea, and Madagascar.

Meghan Burns accepted another position after serving as MTNHP's Landscape Ecologist for the past 3-1/2 years. Meghan's GIS and database skills have been greatly valued and will be missed, and the Library wishes her well in her new position. A search effort to fill this position is underway.

LIS updated its hiring documents for the cataloger and state publications librarian positions to reflect current digital depository library program requirements. July 1st and July 15th were the dates for applicants to be guaranteed consideration in the first round. Screening is complete for both positions and telephone/in-person interviews are imminent. LIS expects to fill both positions by September 1st.

Jennie Stapp continues to work with staff from the State Information Technology Services Division (SITSD) to draft an Interagency Agreement that will implement the State GIS task force recommendation to administratively transfer the staff and responsibilities of the Base Map Service Center from SITSD to the Library. The Library and SITSD are close to agreeing on the key elements of this agreement with legal review to commence the week of August 1.

MSL and the University of Montana successfully negotiated a contract for FY 2012-2013. The contract amount remains the same as the previous biennium, \$878,226 plus an additional \$25,000 for MTNHP expenses incurred by the Library. Of note, this contract puts greater emphasis on the value of information dissemination via the web as a key mission of MTNHP.