Montana State Digital Library

April and May 2008

Prepared for June 11, 2008 Commission meeting by Jennie Stapp, Digital Library Division Administrator. This report represents accomplishments of:

Natural Resource Information System (NRIS),

Library Information Services (LIS),

Montana Natural Heritage Program (NHP).

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

- NRIS continued to do its periodic updates of the Montana Water Rights database and the Department of Environmental Quality (DEQ) Remediation Division's Underground Storage Tank database.

- NRIS continued to provide monthly updates of the Montana drought status map for the Governor's Drought Committee and the Snowpack, Streamflow Prospects, and Surface Water Supply maps for the NRCS.

- Staff met with the Montana Water Quality Monitoring Workgroup to discuss updating the multi-agency water quality database available on the NRIS web site.

- NRIS put a new version of the Bureau of Land Management (BLM) Field Office Regions data on the Geographic Information Services (GIS) Clearinghouse.

- LIS created two new collections within the Montana Memory Project: "Montana State Library--Professional Library Development" and "Montana State Library—Natural Resource Information."

- LIS purchased and added its first eBook for the professional development collection.

- NHP staff processed new data from 2007 field projects into the databases, and summarized the results in a number of reports on the....

  - Aquatic habitats and invertebrates of the Big Horn Canyon, Centennial Valley and Clarks Fork of the Yellowstone (in partnership with DEQ/Environmental Protection Agency (EPA), The Nature Conservancy (TNC), and BLM);
  - Distribution, abundance and habitat models of grassland birds in northeast Montana (with BLM);
  - Watershed assessment of the Clark's Fork Yellowstone (with BLM)
  - Distribution, status and habitat models for land snails in Montana (with United States Forest Service (USFS))

- Major Heritage Program activities during the 2008 field season will focus on freshwater mussels, amphibians, reptiles, land snails, grassland birds, globally significant plant species, and wetland assessment and mapping. Most of these efforts represent statewide multi-year initiatives to systematically and authoritatively document the distribution and status of Montana's species and habitats.

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 responded to 87 mediated requests for maps, GIS data, GIS technical assistance, or general information about geography. These consisted of 34 requests from State agencies, 6 requests from federal agencies, 6 requests from local government agencies, 6 requests from educational institutions or students, and 35 requests from private agencies or citizens.

- NRIS staff began to modify the GIS Portal software to meet the functional requirements identified by the Portal Technical Committee.

- NRIS provided information about the location of Montana's geographic center to a reporter from Signature Montana Magazine. This information will be included in the magazine's premier issue in May.

- LIS provided new employee orientation about LIS services and resources on April 24th, 2008.

- LIS initiated the digitization process for the legacy State Publications Collection; 5 boxes of state publications were processed and prepared for shipment to Open Content Alliance scanning facility.

- NHP staff responded to 163 information requests so far this period, for an average of 4 requests per day.

- The Natural Heritage Tracker application received 750 person-hours of use during this period, and about 100 new observations were submitted by users.

- NHP staff continued to gather input on and work toward finalizing the new version of Tracker, which will offer major improvements in performance, search options and information resources that can be accessed. Key features include:
    - a new Identify Tool that allows users to quickly point and click to identify visible map layer and data;
    - ability to save the map display to a JPG image file or Exporting the map and reports to a Adobe PDF file for printing, etc.

- NHP staff is developing training materials to ensure that several hundred agency personnel can take advantage of these benefits, and on a press release to inform members of the public about the extensive information available through Tracker.

- NHP staff began work on new Tracker features specifically to assist local planners, which we hope to complete during the coming summer.

- NHP staff added new range maps of all Montana Animal species to the Field Guide, along with predicted habitat models for mollusks.

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

- Gerry Daumiller taught a workshop at the Intermountain GIS Conference on how to create metadata for GIS layers that complies with the Federal Geographic Data Committee's standards for GIS metadata.

- Duane Lund and US Geological Survey staff presented a workshop on using and editing the National Hydrography dataset at the 2008 Intermountain GIS Conference.

- Gerry Daumiller presented the GIS Portal to attendees of the Best Practices Exchange.

- LIS staff conducted a poster session promoting Digital Depository Libraries at MLA.

- LIS presented "Montana State Government Information from Your Desktop" at the Significant Tidings workshop at MLA.

- LIS hosted national Best Practices Exchange 2008 conference http://www.bpexchange.org/2008/ May 21-23 in Helena, MT. More than 82 attendees from 25 states. LIS staff gave presentations on (Lots of Copies Keep Stuff Safe) LOCKSS, Really Simple Syndication (RSS), and digital depository libraries.

- NHP Ecologist Linda Vance attended the Western Wetland Monitoring and Assessment Training Workshop; she gave presentations on setting goals & objectives and on identification and analysis of isolated wetlands

- Three NHP staff attended the Western Regional Natural Heritage Conference, sponsored by NatureServe; Allan Cox presented the Tracker application, and staff participated in workshops on managing observation data and ecological mapping.

- NHP staff sponsored a meeting of over 20 weed specialists to review data management needs and opportunities; weed information is currently managed at the local level, with no effective "roll-up" to a statewide database. NHP was approached to extend our biological database coverage to weeds; as a result of this meeting, a 5 person task force was formed to work with the Dept. of Agriculture on a feasibility assessment and action plan.

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

- NRIS Staff continued to update the Montana portion of the National Hydrography Dataset, the nation's official inventory of surface water features such as streams, lakes and ponds.

- NRIS Staff maintained the web site for the 2008 Intermountain GIS Conference.

- Gerry Daumiller gave a presentation of the GIS Data Portal to a meeting of local government GIS agencies in Missoula.

- NRIS staff attended the Governor's Drought Advisory Committee meeting.

- NRIS staff created a web page for state agencies to make requests for GIS training to be paid for through the State's enterprise license agreement with Environmental Systems Research Institute (ESRI), the GIS software vendor.

- NRIS staff participated in the ESRI Enterprise License Agreement (ELA) coordinating group.

- Jennie Stapp and Gerry Daumiller met with Robin Trenbeath and Stuart Kirkpatrick to learn the status of the next federal aerial photography projects in Montana and to organize a meeting to inform state agencies of the opportunity to fund improvements in the next project.

- Jennie Stapp attended the 2008 Intermountain GIS Conference

- LIS staffed registration table at Montana Library Association (MLA) conference in Great Falls, April 9-12.

- LIS and ITSD participated in two separate LOCKSS teleconferences with the Alabama Digital Preservation Network and the Arizona State Library to discuss formation of a private LOCKSS network.

- LIS participated in the Montana Shared Catalog spring members meeting in Billings, May 1-2, 2008.

- LIS staff member participated in Montana County History Initiative workshop on Tuesday, May 13, demonstrating use of the Acquisition Station product.

- The Natural Heritage Program held a meeting of the NHP Partners Committee that was attended by 17 guests representing 10 Partner agencies and organizations -- 4 state and 2 federal agencies, 2 non-profits and 2 businesses.

- NHP staff issued a joint memorandum with the Dept. of Fish, Wildlife & Parks (FWP) on how we are working together to manage data on all of Montana's animal species. Under a formal agreement signed earlier this year, NHP has the lead role in collection and management of data for nongame species, while FWP takes the lead for game species and managed nongame species (like the prairie dog).

- NHP is also cooperating with FWP to begin a statewide monitoring program for wildlife, with funding from the state wildlife grant program. Work will begin this summer.

- NHP staff presented the Tracker application at the Intermountain GIS conference in Missoula.

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.

- NRIS began the recruitment process for two GIS Analyst positions. Applications are currently being screened.

- MSL staff revised the MSL and NRIS web sites to protect their databases and user from Structured Query Language (SQL) injection attacks.

- LIS began the recruitment process for two Content Specialist positions, one for State Publications and the other for natural resource information. Interviews are currently underway

- LIS created work objectives and completed performance appraisal forms for all LIS staff for FY09.

- NHP Ecologist Greg Kudray resigned to move to Hawaii, and Ecologist Linda Vance was appointed NHP Senior Ecologist. Karen Newlon was hired as Ecologist/Project Manager focusing on wetland inventory and assessment.

- In mid May the MSL website was hit by a SQL injection that hit 1000's of websites around the world including the website of the Dept. of Homeland Security. This ultimately impacted our SQL databases. Please know that no personal data was affected as these databases contain primarily public information. Staff was able to restore the data that was corrupted but in order to continue to insure the integrity of the databases and to protect users from the virus that this injection inflicts we chose to bring the MSL website down. Staff locked down the databases and brought up only those portions of the website that do not write to the database. As of this report, the MSL website is 80+% functional with most critical applications back online. To prevent future attacks staff is adding code to all the pages of the website that write to the database. This is a very slow process; staff is currently analyzing existing applications to determine the extent of the work to be done and will make a recommendation regarding the need to bring in additional temporary staff.

  Staff consulted with ITSD several times throughout the incident. While they do not have tools that could have prevented this attack at this time, they offered us advice on how to proceed.

  Our staff responded very admirably during this process and is to be commended for their thoughtful approach to resolving the issues related to this attack as they have arisen.

Evidences of MSDL successes:

OCLC Digital Archive Access Summary
FEB-08
Institution MZB

Accessing Inst	Inst Inst Name	Location	Access Requests	Objects Accessed
MZB	MONTANA STATE LIBR	Montana	26	26
IOZ	STATE LIBR OF IOWA	Iowa	14	14
MZF	MONTANA STATE UNIV, MSU LIBR	Montana	11	11
YNX	MILES COMMUN COL LIBR	Montana	11	11
GIS	US GEOL SURVEY, NAT CTR	Virginia	6	6
KSDOT	KANSAS DEPT OF TRANS	Kansas	4	4
MTG	UNIV OF MONTANA, MANSFIELD LIBR	Montana	4	4
MZG	BOZEMAN PUB LIBR	Montana	3	3
NTE	WASHINGTON STATE UNIV	Washington	3	3
MCJ	MISSISSIPPI UNIV FOR WOMEN	Mississippi	2	2
MTC	CARROLL COL LIBR	Montana	2	2
NRZ	NATIONAL ACAD	Distr. of Columbia	2	2
CAX	CALIFORNIA STATE LIBR	California	1	1
CUH	UNIV OF CALIFORNIA, HASTINGS COL	California	1	1
IBS	BALL STATE UNIV LIBR	Indiana	1	1
INC	INDIANA COOP LIBR SERV AUTH	Indiana	1	1
KUK	UNIV OF KENTUCKY LIBR	Kentucky	1	1
OKD	OKLAHOMA DEPT OF LIBR	Oklahoma	1	1
RVE	ROCHESTER INST OF TECH LIBR	New York	1	1
TDG	VDOT RESEARCH LIBR	Virginia	1	1
TXA	TEXAS A&M UNIV	Texas	1	1
WYZ	WYOMING STATE LIBR	Wyoming	1	1
YZV	DILLON CITY LIBR	Montana	1	1
Y38	MISSOULA PUB LIBR	Montana	1	1
Public	N/A		790	790

NRIS, LIS and NHP Web Stats
(daily averages exclude robots and spiders)

• NRIS Web Statistics: nris.mt.gov averaged 1261 visitor sessions per day in April and 1928 visitor sessions per day in May.

The five most requested pages in May are:

1. NRIS Home http://nris.mt.gov – 14723
2. Data Bundler http://nris.mt.gov/gis/bundler/bundler.asp - 11327
3. Map of 2007 Montana Legislature http://nris.mt.gov/gis/legislat/2007 - 9877
4. DNRC Water Right Query System http://nris.mt.gov/dnrc/waterrights - 8912

5. Montana Geographic Information Clearinghouse http://nris.mt.gov/gis/ - 8272

The five most downloaded files in May are:

1. http://nris.mt.gov/gis/gisdatalib/downloads/hwymapmdt.pdf - 1729
2. http://nris.mt.gov/gis/gisdatalib/downloads/mtrange.pdf - 336
3. http://nris.mt.gov/gis/gisdatalib/downloads/2007_2008_mt_highway_map.pdf - 263
4. http://nris.mt.gov/gis/gisdatalib/downloads/leg2004.pdf - 224
5. http://nris.mt.gov/nsdi/nris/leg2004.pdf - 206

• LIS Web Statistics: msl.mt.gov averaged 1102 visitor sessions per day in April and 801 visitor sessions per day in May.

The five most requested pages managed by LIS at msl.mt.gov in May are:

1. For the Public http://msl.mt.gov/For_the_Public - 708
2. For State Employees http://msl.mt.gov/for_state_employees - 583
3. Find Databases http://msl.mt.gov/For_State_Employees/Find_Databases - 329
4. State Publications http://msl.mt.gov/For_the_Public/State_Publications - 326
5. Archive Montana http://msl.mt.gov/For_the_Public/databases1.asp - 265

 • NHP Web Statistics: nhp.nris.mt.gov averaged 547 visitor sessions per day in April and 558 visitor sessions per day in May.

The five most requested pages in May are:

1. Species Information http://nhp.nris.mt.gov/animal/asppinfo.asp - 5876
2. Montana Natural Heritage Program http://nhp.nris.mt.gov/ - 3046
3. Community Field Guide Report http://nhp.nris.mt.gov/community/guide_report.asp - 2913
4. Tracker http://nhp.nris.mt.gov/tracker - 2552
5. Publications http://nhp.nris.mt.gov/Reports_List.asp - 1553

The five most downloaded files in May are:

1. http://nhp.nris.mt.gov/community/community_list_2002.pdf - 623
2. http://nhp.nris.mt.gov/reports/bitterroot_change.pdf - 457
3. http://nhp.nris.mt.gov/reports/aqinvert_soc_r1.pdf - 378
4. http://nhp.nris.mt.gov/reports/mollusc_survey_and_models_2007.pdf - 328
5. http://nhp.nris.mt.gov/plants/reports/bnv_survey_cartercounty.pdf - 216