MONTANA

GIS USER DIRECTORY

December, 1989

Published by:

Natural Resource Information System

Montana State Library

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Introduction

In the Spring, 1989, the Montana Natural Resource Information System (NRIS), housed at the Montana State Library in Helena, conducted a survey of government agencies and private organizations in Montana to identify the various activities around the state related to the development of Geographic Information Systems (GIS). The survey was also designed to identify and inventory the GIS applicable data bases (e.g. digital tabular data with usable spatial coordinates) in Montana.

This first edition of the *Montana GIS User Directory* presents the results of that survey, providing agency-by-agency descriptions of GIS activities in Montana, including details about current or planned projects, the software and hardware platforms in use, the types of data generated, used or needed, and who to contact to obtain more information about each project. The *Montana GIS User Directory* is based solely on the feedback received through the survey, and is not comprehensive of all GIS activities in Montana. NRIS welcomes any information about projects and activities that should be added, and feedback on corrections. A blank form is provided on page ii. Plans are to publish a new edition of the *Montana GIS User Directory* annually in conjunction with the Montana GIS conference.

For convenient reference, a compiled list of contacts and addresses for the agencies listed in the **Directory** is provided after the last agency description. The compiled list is in alphabetical order, by agency name.

As for the inventory of GIS-applicable data bases identified in the survey, it is available on floppy diskette from NRIS. Since the **GIS Data Inventory** has been designed as a dynamic product, to be maintained and updated regularly, it will not be distributed in hardcopy format. Instead, NRIS will distribute copies of the **GIS Data Inventory** on diskette, with each electronic copy dated for reference purposes.

Both the *Montana GIS User Directory* and the *GIS Data Inventory* have been produced by the NRIS staff at the Montana State Library. The production effort has been made in support of and in cooperation with the Montana Interagency GIS Technical Working Group, which designed the survey form. The members of the Montana Interagency GIS Technical Working Group are listed on page iii.

GIS USER DIRECTORY

CO	NTACT:		PHONE: ()
AG	ENCY:		
CIT	ΓΥ:	STATE:	ZIP:
	ou don't have a current p		's current or planned GIS work. terest in GIS and the GIS User
1.)	Do you have an active GI	S project? Yes No_	
	If Yes, what is the object	ive of the project?	
	What software and hardw	vare do you use?	
	·		
	Do have all the data you	need for the project? Yes	No
			t type of coverage(s) are needed?
2.)	If you do NOT have a cufuture? Yes N	urrent project, do you anticipa lo If yes, when and	te getting into GIS work in the for what?
3.)	Do you want to be part o	f the GIS User Group? Yes	No
	If yes, what would you li	ke the user group to do for you	1?

Please return this form to NRIS, 1515 E. 6th Ave., Helena, MT 59620.

Montana GIS Interagency Technical Working Group

MEMBER AGENCIES

Montana State Library

Natural Resource Information System Geographic Information System 1515 East 6th Avenue Helena, Montana 59620 (406) 444-5357 Contact: Allan Cox

University of Montana

School of Forestry Missoula, Montana 59812 (406) 243-6456 Contact: Hans Zuuring

Montana State University

Department of Earth Sciences Bozeman, Montana 59717 (406) 994-6907 Contact: John Wilson

U.S. Soil Conservation Service

32 East Babcock Bozeman, Montana 59715 (406) 587-6833 Contact: Stan Hamilton

U.S. Forest Service

Regional Office Box 7669 Missoula, Montana 59807 (406) 329-3492 Contact: Bill Tanke

U.S. Geological Survey

Federal Building 301 S. Park Avenue Helena, MT 59626 (406) 449-5263 Contact: Mike Cannon

U.S. Fish and Wildlife Service

CMR National Wildlife Refuge Box 110 Lewistown, Montana 59457 (406) 538-8706 Contact: Randy Matchett

U.S. Bureau of Land Management

222 North 32nd St. Billings, Montana 59107 (406) 255-2953 Contact: Kathy Jewell

U.S. Environmental Protection Agency

301 South Park Drawer 10096 Helena, Montana 59626 (406) 449-5486 Contact: Lee Shanklin

U.S. Bureau of Indian Affairs

316 North 16th Street Billings, Montana 59101 (406) 657-6145 Contact: Don Luse

U.S. Department of Energy

Bonneville Power Administration Box 3621 Portland, Oregon 97208 (503) 230-3671 Contact: Steve Sherer

Montana Department of Natural Resources and Conservation, Reserved Water Rights Compact Commission

1520 E. Sixth Avenue Helana, MT 59620 (406) 444-6841 Contact: Scot Freburg

If you have any specific questions on GIS or would like to provide input to the deliberations of this group, we suggest you contact the representative and the agency that is closest or most familiar to you.

MAY, 1989

ORGANIZATION:

Bureau of Indian Affairs

CONTACT PERSON:

Don Luse Area Director

ADDRESS:

316 N. 26th Street Billings, MT 59101 PHONE:

(406) 657-6145

GIS PROJECT

STATUS:

x Active

x Needs Data

Planned

HARDWARE AND SOFTWARE:

Software: ARC/INFO

Hardware: Prime Computer

PROJECT DESCRIPTION:

Collect all relevant resource data for reservations within the Billings area---use GIS capabilities to provide any information needed in Integrated Resource Management planning and other planning efforts.

COMMENTS:

All of our resource information is not digitized.

ORGANIZATION:

Confederated Salish and Kootenai Tribe

CONTACT PERSON:

CloAnn Villegas

ADDRESS:

P.O. Box 278 Pablo, MT 59855 PHONE:

(406) 675-2700

GIS PROJECT

STATUS:

x Active

x Needs Data

Planned

HARDWARE AND SOFTWARE:

Software: ARC/INFO, TIN

Hardware: Prime computer 2755 with 2-496 MB hard disks, 8 MB memory, 1 streaming tape drive, Calcomp 1042GT plotter,

Monochrome terminals, and three printers.

PROJECT DESCRIPTION:

To develop a comprehensive integrated resource plan for the Flathead Reservation.

COMMENTS:

An alternate contact is Janet Marko, same phone.

We need information on 7.5 minute quads about soils, habitat, cultural, residential, commercial, inundation areas (from possible dam breaks), snow measurement sites, water quality data, forest insect and disease infestation areas, and road improvements where crossing streams for the Flathead Reservation.

ORGANIZATION:

Doney & Thorson Northern Lights Institute

CONTACT PERSON:

John E. Thorson

ADDRESS:

P.O. Box 1185 Helena, MT 59624 PHONE:

(406) 443-7018

GIS PROJECT

STATUS:

Active

x Needs Data

x Planned

HARDWARE AND SOFTWARE:

PROJECT DESCRIPTION:

We are gathering water resource data from the Missouri River Basin for possible compatibility with a basin-wide GIS project.

We're working for the Northern Lights Institute's Missouri River Management project.

	CONTACT INFORMATION	
Commu	ORGANIZATION: Dept. of Commerce nity Technical Assistance	ce Prog.
	CONTACT PERSON: Ann Desch	
ADDRESS: Cogswell Building Capitol Station Helena, MT 59620		PHONE: (406) 444-3646
	GIS PROJECT	
Active	STATUS: Needs Data	Planned
	HARDWARE AND SOFTWARE	•
	PROJECT DESCRIPTION:	
A Company of the Comp	COMMENTS:	n industrial and the second

	CONTACT INFORMATION	
	ORGANIZATION: Dept. of Health Water Quality Bureau	
	CONTACT PERSON: Tom Reid	
ADDRESS: Cogswell Building, Helena, MT 59620	A-206	PHONE: (406) 444-2406
	GIS PROJECT	
Active	STATUS: Needs Data	Planned
	HARDWARE AND SOFTWARE:	
	PROJECT DESCRIPTION:	
	COMMENTS:	

ORGANIZATION:

Dept. Natural Resources & Conservation Reserved Water Rights Compact Commis.

CONTACT PERSON:

Scott Freburg

ADDRESS:

1520 East Sixth Avenue Helena, MT 59620-2301

PHONE:

(406) 444-6843

GIS PROJECT

STATUS:

x Active

x Needs Data

Planned

HARDWARE AND SOFTWARE:

Software: ARC/INFO, ERDAS, Lotus

Hardware: Compaq 386/25; GTCO 36 x 48 Digitizer; Calcomp 8-pen plotter, Data Copy Video Scanner, Tektronix ink jet printer, Cartridge 150 MB Tape Backup, Cipher 9-track tape drive

PROJECT DESCRIPTION:

The Reserved Water Rights Compact Commission is authorized to conclude compacts for the equitable division and apportionment of waters between the state and its people and the several Indian tribes claiming reserved water within the state. The commission is separately authorized to conclude compacts with the federal agencies claiming federal reserved water rights in Montana.

Claims are accomplished in part by assessing the natural resources, existing and future irrigated lands and water availability of each project area.

COMMENTS:

Fort Belknap Indian Reservation: DEM Data, DLG Data Northern Cheyenne Indian Reservation: DEM Data, hydrography, transportation, utilities

ORGANIZATION:

Dept. Natural Resources & Conservation Facility Siting Bureau

CONTACT PERSON:

Tom Ring Natural & Earth Sci Coord.

ADDRESS:

1520 E. Sixth Avenue Helena, MT 59620 PHONE:

(406) 444-6785

GIS PROJECT

STATUS:

Active

Needs Data

Planned

HARDWARE AND SOFTWARE:

PROJECT DESCRIPTION:

CONTACT INFORMATION ORGANIZATION: Dept. Natural Resources & Conservation CONTACT PERSON: Greg Ames Hydrosciences Section ADDRESS: PHONE: 1520 East Sixth Avenue (406) 444-6692 Helena, MT 59620 GIS PROJECT STATUS: Active x Needs Data Planned HARDWARE AND SOFTWARE: PROJECT DESCRIPTION: COMMENTS:

ORGANIZATION:

Dept. Natural Resources & Conservation

CONTACT PERSON:

Mark Reller

ADDRESS:

1520 East Sixth Avenue Helena, MT 59620-2301

PHONE:

(406) 444-6641

GIS PROJECT

STATUS:

x Active

x Needs Data

Planned

HARDWARE AND SOFTWARE:

Software: AUTOCAD, T-Graf terminal emulator

Hardware: Compaq 386

PROJECT DESCRIPTION:

Real time basin water management. Link water rights database and adjudicated water rights with irrigation water management, priority date enforcement and specialized map making.

COMMENTS:

Soils---starting with Musselshell Hydrography---Surface and Groundwater records Weather Information---Current and Historic

ORGANIZATION:

Dept. Natural Resources & Conservation Water Rights Bureau

CONTACT PERSON:

Jim Kindle Records Section

ADDRESS:

1520 East Sixth Avenue Helena, MT 59620 PHONE:

(406) 444-6621

GIS PROJECT

STATUS:

Active

x Needs Data

x Planned

HARDWARE AND SOFTWARE:

PROJECT DESCRIPTION:

Integration with water right mainframe database. Possible use with other data and our water rights data via field office PC.

ORGANIZATION:

Dept. Natural Resources & Conservation Water Resources Division

CONTACT PERSON:

Tim Byron Soil Scientist

ADDRESS:

1520 East Sixth Avenue Helena, MT 59620 PHONE:

(406) 444-6642

GIS PROJECT

STATUS:

x Active

x Needs Data

x Planned

HARDWARE AND SOFTWARE:

Software: Access to an ARC/INFO system. AUTOCAD irrigation designs can be transferred to ARC/INFO and modifications made as development occurs.

Hardware: Compaq 386 with T-Graph terminal emulation linked through multiplexer.

PROJECT DESCRIPTION:

The project locates and tracks future irrigation development in the Missouri River Basin proposed through the Water Reservation process. Applications for these Water Reservations will be submitted by 25 Conservation Districts. Project Designs are entered using AUTOCAD software and can be transferred to ARC/INFO.

A study to test methodology for inventorying irrigated acres in Montana. Satellite reflectance data would be classified to outline irrigated areas within selected drainage basins. This work would begin by April 1990. Areas would be separated by irrigation method, crop type, water source.

COMMENTS:

Area is the Missouri River Basin; Coverages are Conservation District boundaries (County boundaries in most cases); Soil map unit delineations (SCS survey line); Hydrography: Major rivers, tributaries, perennial streams, reservoirs, stream gage locations. An alternate contact person is Bill Grieman.

ORGANIZATION:

Dept. Natural Resources & Conservation

CONTACT PERSON:

Chuck Dalby

ADDRESS:

1520 East Sixth Avenue Helena, MT 59620 PHONE:

(406) 444-6644

GIS PROJECT

STATUS:

x Active

x Needs Data

x Planned

HARDWARE AND SOFTWARE:

Software: AUTOCAD at present; possible conversion to ARC/INFO

Hardware: IBM PS2, Compaq 386, Zenith 386, Kurta IS-1 and IS-3

digitizing tablets

PROJECT DESCRIPTION:

Assessment of temporal and spatial distribution of irrigated land in Powder River watershed over 1950-85 period; develop database for water balance, salinity and return flow modeling.

A possible future project involves use of Landsat imagery for seasonal monitoring of irrigated lands.

COMMENTS:

We need data which can only be derived from aerial photography in successive years.

ORGANIZATION:

Dept. Natural Resources & Conservation

CONTACT PERSON:

John Tubbs Economist

ADDRESS:

1520 East Sixth Avenue Helena, MT 59620 PHONE:

(406) 444-6832

GIS PROJECT

Active

STATUS: x Needs Data

x Planned

HARDWARE AND SOFTWARE:

PROJECT DESCRIPTION:

Coverages such as Land Ownership; Electric Power Distribution; NOAA Weather Station locations and associated attribute data; Land Use; Reservoir Site locations, functions, and capabilities; FERC Hydropower License sites; and Irrigated Lands retrievable by water source are needed.

The above mentioned coverages would aid in mapping water requirements for hydro-power and agriculture across the state. The timing of a specific project or study depends somewhat on legislative action and is difficult to determine.

We have a Compaq 386 with T-Graf emulator system that is capable of tying into ARC/INFO software.

ORGANIZATION:

Dept. Natural Resources & Conservation Water Management Bureau

CONTACT PERSON:

Mark Shapley

ADDRESS:

1520 East Sixth Avenue Helena, MT 59620 PHONE:

(406) 444-6636

GIS PROJECT

Active

STATUS:

x Needs Data

x Planned

HARDWARE AND SOFTWARE:

PROJECT DESCRIPTION:

The time is undetermined at this point. Within the next year, the WMB will be initiating efforts to integrate a variety of existing hydrogeologic information on a drainage basin scale (e.g., the Flathead Valley) with the eventual objective of developing regional ground-water flow models suitable for management purposes. Organization of spatially distributed data will be a key part of this effort. We will be promoting the collection of new field data that may be suitable for GIS manipulation, as well as looking for better ways to organize and work with existing databases such as the ground-water information center's files. Spatially arranged data describing aquifer flow characteristics and ground-water quality come to mind.

ORGANIZATION:

Dept. Natural Resources & Conservation Water Management Bureau

CONTACT PERSON:

Denise DeLuca Hydrologist

ADDRESS:

1520 East Sixth Avenue Helena, MT 59620 PHONE:

(406) 444-6790

GIS PROJECT

STATUS:

Active

x Needs Data

x Planned

HARDWARE AND SOFTWARE:

PROJECT DESCRIPTION:

Coverages are needed for the Missouri River watershed---headwater through eastern state border. Hydrologic, climatic, topographic, land use, geographic, vegetative, water quality, and groundwater quality, etc.

I would like to see someone use GIS for water availability modeling and related water reservations work in the Missouri River basin.

CONTACT INFORMATION ORGANIZATION: Dept. Natural Resources & Conservation CONTACT PERSON: Larry Cawfield ADDRESS: PHONE: 1520 East Sixth Avenue (406) 444-6640 Helena, MT 59620 GIS PROJECT STATUS: Active x Needs Data x Planned HARDWARE AND SOFTWARE: PROJECT DESCRIPTION: Would like to have irrigated area, precipitation isohyetes, basin and subbasin boundaries, average basin elevation, and water rights information accessible via GIS. COMMENTS:

Envi	ORGANIZATION: ronmental Quality Counc	il
	CONTACT PERSON: Deborah Schmidt	
ADDRESS: Capitol Station Helena, MT 59620		PHONE: (406) 444-3742
	GIS PROJECT	
Active	STATUS: Needs Data	Planned
1	HARDWARE AND SOFTWARE:	
	PROJECT DESCRIPTION:	
	COMMENTS:	

ORGANIZATION:

Gallatin County Planning

CONTACT PERSON:

Bill Murdock

ADDRESS:

P.O. Box 1905 Bozeman, MT 59715 PHONE:

(406) 585-1465

GIS PROJECT

STATUS:

x Active

x Needs Data

Planned

HARDWARE AND SOFTWARE:

PROJECT DESCRIPTION:

Ken Weaver, John Wilson and Judy Mathre of the Montana State University's Local Government Program (Wilson Hall, Bozeman) have applied for a U.S. West grant to develop a GIS for Gallatin County. They already have the hardware and software---please direct specific questions to them on these matters---but the grant proposal is to design a useful GIS for the county and assemble a database.

COMMENTS:

Any information on Gallatin County would be appreciated.

ORGANIZATION:

Great Divide Graphics

CONTACT PERSON:

Ed Madej

ADDRESS:

324 Fuller, C-3 Helena, MT 59601 PHONE:

(406) 442-3559

GIS PROJECT

STATUS:

x Active

x Needs Data

Planned

HARDWARE AND SOFTWARE:

Software: MAPMAKER, ADOBE ILLUSTRATOR ff, PAGEMAKER 3.0

Hardware: MacIntosh II computer with Graphics tablet,

Laserwriter IINT, 70 MB hard disk

PROJECT DESCRIPTION:

Project 1: Wildlife mapping of the Glacier/Bob Marshall ecosystem

Project 2: Natural resource mapping of the Greater Yellowstone

ecosystem

ORGANIZATION:

GeoResearch, Inc.

CONTACT PERSON:

Douglas Richardson

ADDRESS:

2815 Montana Ave Billings, MT 59101

PHONE:

(406) 248-6771

GIS PROJECT

STATUS:

x Active

x Needs Data

x Planned

HARDWARE AND SOFTWARE:

Hardware: 3 SUN Workstations--Networked together with IBM ATS. DEC VAX 11-780. Trimble GPS recievers. Geolink (TM) interface between EPS and GIS. ARC/INFO GIS software on workstations and PCs. CalComp Digitizers and wide Bed Color Plotters.

PROJECT DESCRIPTION:

- 1) Agricultural Management
- 2) Environmental Data Base development & impacts analysis
- 3) Air Quality permitting
- 4) Hazardous Waste-Spill Clean-up Monitoring

Many Future projects planned

COMMENTS:

Alternate contact is: Clarence Chan, same phone.

We have the data for above projects but could use more data on mineral sources.

CONTACT INFORMATION ORGANIZATION: Historical Society CONTACT PERSON: David Schwab Archeologist PHONE: ADDRESS: (406) 444-7715 225 N. Roberts Helena, MT 59620 GIS PROJECT STATUS: x Planned Active x Needs Data HARDWARE AND SOFTWARE: PROJECT DESCRIPTION: Looking toward statewide coverage in GIS to accommodate management of cultural resource data for the state of Montana. Coverage needed includes flora, fauna, geology, water, elevational topography, landforms, etc. These data would be incorporated in predictive models of cultural resource site locations. COMMENTS:

ORGANIZATION:

Lewis & Clark County Planning

CONTACT PERSON:

Robert Rasmussen

ADDRESS:

P.O. Box 1725 Helena, MT 59624 PHONE:

(406) 443-1010 ext. 374

GIS PROJECT

STATUS:

Active x Needs Data

x Planned

HARDWARE AND SOFTWARE:

PROJECT DESCRIPTION:

A specific time frame has not been established. I expect a phased development period of three to five years, involving several county agencies. Applications would be in county land planning with emphasis on urban development. Specific areas of application may include: transportation planning, community demographics, public school facilities mapping, parcel mapping, floodplain management, hazard mitigation, police and fire protection services, capital improvements planning, data management, etc. Local databases will need to be developed; however, it is hoped that other databases from the USGS, Census Bureau, State Library, State Department of Revenue, and other sources can be utilized.

ORGANIZATION:

Lewis & Clark County Planning

CONTACT PERSON:

Robert Rasmussen

ADDRESS:

P.O. Box 1725 Helena, MT 59624 PHONE:

(406) 443-1010 ext. 374

GIS PROJECT

STATUS:

Active x Needs Data

x Planned

HARDWARE AND SOFTWARE:

PROJECT DESCRIPTION:

A specific time frame has not been established. I expect a phased development period of three to five years, involving several county agencies. Applications would be in county land planning with emphasis on urban development. Specific areas of application may include: transportation planning, community demographics, public school facilities mapping, parcel mapping, floodplain management, hazard mitigation, police and fire protection services, capital improvements planning, data management, etc. Local databases will need to be developed; however, it is hoped that other databases from the USGS, Census Bureau, State Library, State Department of Revenue, and other sources can be utilized.

CONTACT INFORMATION ORGANIZATION: Lewistown Planning CONTACT PERSON: Elly Walkowiak Director PHONE: ADDRESS: (406) 538-9046 Fergus County Courthouse 712 West Main Street Lewistown, MT 59457 GIS PROJECT STATUS: x Planned Active x Needs Data HARDWARE AND SOFTWARE: PROJECT DESCRIPTION: We cannot plan a GIS project in the near future due to cost restraints, etc. In the mean time, we would like to be informed of active GIS projects. Project: Lewistown, Montana; Comprehensive Land Use Plan COMMENTS:

ORGANIZATION:

Missoula County Surveyor's Office

CONTACT PERSON:

Douglas Burreson

ADDRESS:

Missoula, MT 59802

PHONE:

(406) 721-5700 ext. 279

GIS PROJECT

STATUS:

x Active

Needs Data

x Planned

HARDWARE AND SOFTWARE:

Software: AUTOCAD, MICROSURVEY

Hardware: 386 DOS based PCs.

PROJECT DESCRIPTION:

We are currently converting to an electronic base map for Missoula County. It will be used to fulfill a rural addressing program contract with Mountain States Telephone and possibly as the base for future endeavors.

In one to five years, for county administration (i.e. land planning, taxation and assessment, facilities management, demographics)

ORGANIZATION:

MT Dept. of Fish, Wildlife, and Parks Wildlife Division

CONTACT PERSON:

Bob Martinka

ADDRESS:

PHONE:

Fish, Wildlife and Parks Building

(406) 444-3677

Helena, MT 59620

GIS PROJECT

STATUS:

x Active

Needs Data

x Planned

HARDWARE AND SOFTWARE:

Software: Forest Service software

Hardware: Forest Service hardware

PROJECT DESCRIPTION:

Data analysis on Grizzly Bear research project---using FS hardware, software, and topo/geographic data.

Expanded use of GIS capabilities is being reviewed at this time.

COMMENTS:

Alternate contacts are: Terry Lonner, 8-126-6363 (FTS)

Henry Jorgensen, 994-6363 Sandy Fiance, 444-2612 John Weigand, 444-2612 Bill Hoskins, 8-126-4042 Dan Stinson, 444-3755

ORGANIZATION:

MT Legislative Council

CONTACT PERSON:

Robert Person Executive Director

ADDRESS:

State Capitol Room 138 Helena, MT 59620 PHONE:

(406) 444-3064

GIS PROJECT

STATUS:

Active

x Needs Data

x Planned

HARDWARE AND SOFTWARE:

PROJECT DESCRIPTION:

For supporting the activities of the Districting and Apportionment Commission.

This support involves analyzing alternative legislative districts, preparing maps and data for public presentation, and finally preparing maps and data for final submission of a plan. Work begins Spring 1991 and ends Winter 1993.

	ORGANIZATION: Montana Power Com	pany
	CONTACT PERSON Mike Leary	:
ADDRESS: 40 East Broadway Butte, MT 59701		PHONE: (406) 723-5421 ext. 22
	GIS PROJECT	
Active	STATUS: x Needs Data	x Planned
	HARDWARE AND SOFT	WARE:
	PROJECT DESCRIPT	ION:
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Facilities mapping	PROJECT DESCRIPT	ION:
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ORGANIZATION:

Montana Power Company

CONTACT PERSON:

Paul J. Bauer

ADDRESS:

1903 Russell Street Missoula, MT 59801 PHONE:

(406) 549-2301 ext. 4179

GIS PROJECT

STATUS:

x Active

x Needs Data

x Planned

HARDWARE AND SOFTWARE:

Software: "In-House" written DSM

Hardware: Prime Mainframe, Terminals

H.P. 7580 Plotter

PROJECT DESCRIPTION:

To provide automated mapping, electrical load analysis modeling, facilities inventory and maintenance scheduling.

A PC based facilities mapping system for gas and electric facilities.

COMMENTS:

We would like detailed data for all urban areas ideally; anywhere that gas and electric transmission and distribution lines go.

CONTACT INFORMATION ORGANIZATION: Montana Power Company CONTACT PERSON: Mike Bausch ADDRESS: PHONE: (406) 723-5421 ext. 2293 40 East Broadway Butte, MT 59701 GIS PROJECT STATUS: Active x Needs Data x Planned HARDWARE AND SOFTWARE: PROJECT DESCRIPTION: Hopefully sometime between April 1990 and October 1990---management of our transmission and distribution system. COMMENTS:

ORGANIZATION:

Montana State University
Geographic Information & Analysis Ctr.

CONTACT PERSON:

Dr. John P. Wilson Professor

ADDRESS:

Earth Science Department Montana State University Bozeman, MT 59717 PHONE:

(406) 994-6907 FTS 126-3331

GIS PROJECT

STATUS:

x Active

Needs Data

Planned

HARDWARE AND SOFTWARE:

Software: ARC/INFO, Soil Survey Information System (SSIS), IDRISI

Hardware: Zenith 386 PCs, CalComp digitizers, CalComp 8-color pen plotter

PROJECT DESCRIPTION:

Numerous projects; objectives vary with source of funding and/or subject matter of funded grants.

ORGANIZATION:

Montana State University Department of Plant and Soil Science

CONTACT PERSON:

Jerry Neilson Professor

ADDRESS:

PHONE:

Department of Plant and Soil Science (406) 994-5075 Montana State University

Bozeman, MT 59717

GIS PROJECT

STATUS:

x Active

Needs Data

Planned

HARDWARE AND SOFTWARE:

Software: In-house MAPS (Montana Agricultural Potentials

System).

Hardware: VAX

PROJECT DESCRIPTION:

MAPS---Montana Agricultural Potentials System. We have divided the state of Montana into rectangles measuring about 8 square miles. Each of these rectangles contains data on several dozen land and climatic characteristics such as geology, soils, precipitation, land use, elevation, vegetation, consumptive use of water, etc.

COMMENTS:

Alternate contacts are: Cliff Montagne, Joe Caprio, Bob Snyder, and Ginger Schmid. An alternate phone number is: 994-4601.

	ORGANIZATION:	
MT E	Sureau of Mines and Geo	logy
	CONTACT PERSON: Robert N. Bergantino	
ADDRESS: West Park Street Butte, MT 59701	aona 2 il E.	PHONE: (406) 496-4150
	GIS PROJECT	
	STATUS:	
Active	x Needs Data	x Planne
Probably 1990; digi		o ror goorogro maps
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ORGANIZATION:

MT Dept. of Agriculture Environmental Management Division

CONTACT PERSON:

Phil Johnson Botanist

ADDRESS:

PHONE:

Sixth and Roberts Agriculture/Livestock Building Helena, MT 59620

(406) 444-5427

GIS PROJECT

STATUS:

x Active

x Needs Data

Planned

HARDWARE AND SOFTWARE:

PROJECT DESCRIPTION:

In 1984, the MDA received a grant from the U.S. EPA to study possible groundwater contamination by pesticides. The database contains information on wells sampled by MDA and the results of chemical analysis for each well.

CONTACT INFORMATION ORGANIZATION: MT Dept. of Administration Information Services Division CONTACT PERSON: Randy Holm ADDRESS: PHONE: Mitchell Building (406) 444-2824 Room 24 Helena, MT 59620 GIS PROJECT STATUS: Active Needs Data Planned HARDWARE AND SOFTWARE: PROJECT DESCRIPTION: COMMENTS:

CONTACT INFORMATION ORGANIZATION: MT Dept. of Highways Engineering Division CONTACT PERSON: Robert S. Custer PLS PHONE: ADDRESS: (406) 444-6020 2701 Prospect Avenue Helena, MT 59620 GIS PROJECT STATUS: x Planned Active x Needs Data HARDWARE AND SOFTWARE: PROJECT DESCRIPTION: Will provide densification of the National Geodetic Network as a database for GIS-LIS systems, will provide LIS data on new highway locations. INTERGRAPH hardware and software will be used. COMMENTS:

ORGANIZATION:

MT Dept. of Highways

CONTACT PERSON:

Don Cromer Rural Planning Section

ADDRESS:

2701 Prospect Avenue Helena, MT 59620

PHONE:

(406) 444-6103

GIS PROJECT

STATUS:

x Active

x Needs Data

Planned

HARDWARE AND SOFTWARE:

Software: INTERGRAPHS World Mapping System (WMS), Distributed Graphics Software (DGS)

Hardware: INTERGRAPHS Interview 220 C dual screened work station with a backlighted 48" x 60" digitizing table.

PROJECT DESCRIPTION:

Have the ability to display graphically the data stored on our Mainframe and PCs.

COMMENTS:

We are contemplating the purchase of U.S.G.S. Digital Line Graphs (DLG) and possibly some Digital Elevation Models (DEM) for the entire state.

We have all the data for the GIS projects we are currently working on, but we do not have all the data for other GIS projects we will be working on.

ORGANIZATION:

MT Dept. of State Lands Reclamation Division

CONTACT PERSON:

Bonnie Lovelace Strip Mining Bureau

ADDRESS:

1625 11th Avenue Helena, MT 59604 PHONE:

(406) 444-2074

GIS PROJECT

STATUS:

x Active

x Needs Data

Planned

HARDWARE AND SOFTWARE:

Software: ARC/INFO, AUTOCAD

Hardware: IBM compatible PC's linked to Prime via modem.

PROJECT DESCRIPTION:

Assemble coal area environmental data to use for cumulative hydrologic impact assessments related to coal mining.

COMMENTS:

We need data for the Powder River area/Eastern Montana. Data gaps are not fully identified.

ORGANIZATION:

MT Dept. of State Lands Forestry Division

CONTACT PERSON:

Brian Long

ADDRESS:

2705 Spurgin Road Missoula, MT 59801 PHONE:

(406) 542-4323

GIS PROJECT

STATUS:

x Active

x Needs Data

Planned

HARDWARE AND SOFTWARE:

Software: PAMAP

Hardware: IBM PS/2 Model 80

PROJECT DESCRIPTION:

To evaluate forest resource management alternatives.

COMMENTS:

Swan River State Forest in Lake County. We need the following digitized layers: section lines, roads, streams, lakes, ownership, contour lines, soil association and geology.

ORGANIZATION:

National Park Service Glacier National Park

CONTACT PERSON:

Carl H. Key

ADDRESS:

Glacier National Park West Glacier, MT 59936 PHONE:

(406) 888-5441

GIS PROJECT

STATUS:

x Active

x Needs Data

Planned

HARDWARE AND SOFTWARE:

Software: UNIX, GRASS, SAGIS, MS DOS, dBASE III +, In-House Software for digitizing, plotting, vector file manipulations, VICAR/IBIS

Hardware: SUN 386i, IBM PC, IBM 3090-200

PROJECT DESCRIPTION:

Multi-layered geographic data base available for interagency use and capable of addressing diverse resource issues on parkwide and regional scales.

COMMENTS:

The area covered is approximately 113 degrees to 114 degrees 45 minutes longitude, 48 degrees 10 minutes to 49 degrees latitude.

We meed information on soils, geology, DEM (have DMA) elevation, any Landsat TM or SPOT imagery, post 1980 aerial photography.

ORGANIZATION:

Natural Resource Information System Geographic Information System

CONTACT PERSON:

Allan Cox GIS Coordinator

ADDRESS:

1515 East Sixth Avenue Helena, MT 59620 PHONE:

(406) 444-5357

GIS PROJECT

STATUS:

x Active

x Needs Data

Planned

HARDWARE AND SOFTWARE:

Software: ARC/INFO, TIN Module, ERDAS

Hardware: 2 Tektronix 4111 graphic terminals, Compaq 386 PC with a hi-resolution monitor, a Zenith PC with Tektronix Terminal Emulation, PRIME 2755 mini-computer, CalComp 9100 Digitizing Table, CalComp 1044 8-pen plotter, Tektronix 4696 Ink-Jet Printer, Tektronix 4235 Workstation

PROJECT DESCRIPTION:

- 1) Provide GIS support for state and federal project managers on the Clark Fork Superfund sites.
- 2) Develop GIS capabilities for the Water Quality Bureau in the Montana Department of Health and Environmental Sciences.

COMMENTS:

An alternate contacts is Gerry Daumiller, phone 444-5357.

We need large scale DLGs & DEMs for the Clark Fork River.

CONTACT INFORMATION ORGANIZATION: Oikos Work CONTACT PERSON: Steven R. Holloway PHONE: ADDRESS: (406) 542-0535 Box 8412 315 South Fourth East Missoula, MT 59807 GIS PROJECT STATUS: x Active x Needs Data x Planned HARDWARE AND SOFTWARE: In transition to another system PROJECT DESCRIPTION: Wildlife, land ownership, and rare/endangered habitat(s) Map and determine land in important habitat to wildlife, habitat, etc. COMMENTS: Rocky Mountain Front and Greater Yellowstone Ecosystem.

ORGANIZATION:

University of Montana School of Forestry

CONTACT PERSON:

Hans Zuuring

ADDRESS:

University of Montana GIS Laboratory Missoula, MT 59812 PHONE:

(406) 243-6456

GIS PROJECT

STATUS:

x Active

Needs Data

Planned

HARDWARE AND SOFTWARE:

Software: PAMAP GIS software, FoxBASE+ DBMS, DOS 3.3 operating system

Hardware: 10 MHz 80286 and 25 MHz 80386 AT business PC, EGA or VGA display cards, multisync color monitors, 150 MB hard disks, 60 MB cartridge tape backup units, 12" x 12" digitizing tablets, and dot matrix printers. Additionally, a Calcomp 1043GT plotter and a Calcomp 95360 digitizing table.

PROJECT DESCRIPTION:

The main objective of the project is to develop an operational GIS-based management and analysis system for the School of Forestry's Lubrecht Experimental Forest. In addition, the system will be used to teach graduate level courses in GIS technology and applications, and to complement existing courses in integrated resource management and natural resource planning.

CONTACT INFORMATION ORGANIZATION: University of Montana Dept. of Anthropology CONTACT PERSON: Thomas A. Foor PHONE: ADDRESS: University of Montana (406) 243-2693 Department of Anthropology Missoula, MT 59806 GIS PROJECT STATUS: x Active Planned Needs Data HARDWARE AND SOFTWARE: Software: ODYSSEY Hardware: VAX PROJECT DESCRIPTION: Provide a comprehensive Atlas and Index of Montana prehistoric and historic sites COMMENTS:

ORGANIZATION:

University of Montana School of Forestry

CONTACT PERSON:

Dr. Steven W. Running

ADDRESS:

University of Montana Missoula, MT 59801 PHONE:

(406) 243-6311

GIS PROJECT

STATUS:

x Active

Needs Data

Planned

HARDWARE AND SOFTWARE:

Software: ERDAS 1024 Image Processing System

Hardware: Compaq 38 PC with Tapedrive (6250 bpi), Digitizing

Tablet, and Video Digitizer

PROJECT DESCRIPTION:

Modelling and mapping forest growth at regional scales, particularly in Western Montana.

ORGANIZATION:

U.S. Bureau of Land Management

CONTACT PERSON:

Kathie Jewell

ADDRESS:

222 N 32nd Street Billings, MT 59107 PHONE:

(406) 255-2953

GIS PROJECT

STATUS:

x Active

x Needs Data

Planned

HARDWARE AND SOFTWARE:

Software: MOSS

Hardware: Prime Computer, Altek Tablets, Graphon and Pericon Terminals, Calcomp Plotters.

PROJECT DESCRIPTION:

Resource Management Plan (RMP) - analysis as access to public lands
Oil and Gas Field Maps
Allotment Management
Coal Tract Analysis
Riparian Analysis

COMMENTS:

We need various themes based on the different projects that we are currently working on.

ORGANIZATION:

U.S. Bureau of Mines Western Field Operations Center

CONTACT PERSON:

Larry Reigel

ADDRESS:

East 360 Third Avenue Spokane, WA 99202

PHONE:

(509) 353-2735

GIS PROJECT

STATUS:

x Active

x Needs Data

Planned

HARDWARE AND SOFTWARE:

Software: ARC/INFO, Version 3.2.1; dBASE III + for text input

Hardware: DELL System 310 with external tape drive (40 MB), 3.5 in 1.44 drive 5.5 in 360 KB drive, 20 MHE, 322 MB hard drive, 4 MB RAM, 2400 BAUD HC MODEM, CALCOMP 1044 Plotter, ALTEK DATATAB Digtizer with AC40 controller.

PROJECT DESCRIPTION:

Inventory of Federal Mineral Land in the eleven Western States and Alaska to determine their availability for mineral exploration and development.

PROJECT NAME: Inventory of Land Use Restraints Program

ACRONYM: ILURP

COMPLETION DATE: Currently end of FY 90 (could change)

COMMENTS:

We need the following information for the entire state: Digitized Public Land Survey (PLS) to section level; Political Boundaries; Land Management Themes (Federal---e.g. WSA's, ACEC's, Critical wildlife habitat withdrawals, Environmentally sensitive areas)

ORGANIZATION:

U.S. Bureau of Reclamation Environmental Affairs Division

CONTACT PERSON:

Dan Jewell

ADDRESS:

PHONE: (406) 657-6870

Great Plains Regional Office 316 North 26th Street Billings, MT 59101

GIS PROJECT

STATUS:

x Active

Needs Data

Planned

HARDWARE AND SOFTWARE:

Software: ARC/INFO

Hardware: PC, Compaq 386/20, Calcomp 9100

PROJECT DESCRIPTION:

Analyze distribution of contaminants at Anaconda Smelter NPL Site.

ORGANIZATION:

U.S. Bureau of Reclamation
Land & Environmental Resource Branch

CONTACT PERSON:

Larry Todd

ADDRESS:

Montana Projects Office 2525 4th Avenue North Billings, MT 59101 PHONE:

(406) 657-6688

GIS PROJECT

Active

STATUS:

x Needs Data

x Planned

HARDWARE AND SOFTWARE:

PROJECT DESCRIPTION:

By early FY90, we will have archeological inventories, irrigation project facilities, easements, ownerships, etc.

We are in the process of acquiring a PC with ARC/INFO & a 386-based PC.

We'll be covering the Milk River Service Area.

ORGANIZATION:

U.S. Dept. of Agriculture Soil Conservation Service

CONTACT PERSON:

Kristin Gerhart

ADDRESS:

PHONE:

10 East Babcock, Room 438 Bozeman, MT 59715

(406) 587-6968

GIS PROJECT

STATUS:

x Active

x Needs Data

x Planned

HARDWARE AND SOFTWARE:

Software: GRASS

Hardware: AT&T 386 based computers

PROJECT DESCRIPTION:

Build state soils layer as soon as possible.

1:250,000 "STATSGO" soils maps for entire state are being digitized by M.S.U. for SCS.

1:24,000 detailed soil maps are being digitized by other state and federal agencies.

Fall 1989---STATSGO and detailed soils (1:24000) are priority layers

---acreage counts and highly erodible land determinations are priority projects

COMMENTS:

Eventually, we want to obtain data layers from other agencies, providing the exchange mechanism(s) are in place.

ORGANIZATION:

U.S. Environmental Protection Agency

CONTACT PERSON:

Lee Shanklin

ADDRESS:

PHONE:

Federal Building

(406) 449-5486

301 S. Park Ave, Rm 292, Drawer 10096 Helena, MT 59620

GIS PROJECT

STATUS:

x Active

x Needs Data

Planned

HARDWARE AND SOFTWARE:

Software: ARC/INFO, ERDAS

Hardware: VAX mini computer with a variety of "Sun Tektronix" terminal and workstations.

Additional information can be obtained from the EPA EMSC-LV Lab; AMS Division in Las Vegas, Nevada.

PROJECT DESCRIPTION:

To create a GIS Information Management System for the Blackfoot River watershed to incorporate watershed level impact model results in that system to demonstrate the use of this Information Management System to support the resource management decision process.

COMMENTS:

Primarily soils digitized for 20 7.5 minute quads in the Blackfoot Watershed.

ORGANIZATION:

U.S. Forest Service Northern Region Headquarters

CONTACT PERSON:

Dick Roullier Director

ADDRESS:

200 East Broadway P.O. Box 7669 Missoula, MT 59801 PHONE:

(406) 329-3593

GIS PROJECT

STATUS:

x Active

x Needs Data

x Planned

HARDWARE AND SOFTWARE:

Software: SPATIAL; Software is currently being installed (April 1989), or will be advertized for in the next 18 months

Hardware: Currently being installed or advertised for in next 18 mos.

PROJECT DESCRIPTION:

To implement GIS technology at the Ranger District levels.

Project level implementation is occurring on a number of Ranger Districts.

Early 1991 with both software/hardware.

COMMENTS:

Currently gathering data from different sources and also doing some scanning and digitizing for individual projects. i.e. Grizzly cumulative effects, Park Ranger District EIS, etc.

ORGANIZATION:

U.S. Fish and Wildlife Service C.M. Russell Wildlife Refuge

CONTACT PERSON:

Randy Matchett

ADDRESS:

Box 110

Airport Road

Lewistown, MT 59457

PHONE:

(406) 538-8706

GIS PROJECT

STATUS:

x Active

x Needs Data

x Planned

HARDWARE AND SOFTWARE:

Software: MOSS, should be receiving EPPL-7 and ARC/INFO soon.

Hardware: IBM PCs, Prime

PROJECT DESCRIPTION:

Wildlife management, Prairie Dogs, Prairie Black-footed Ferrets, big game, refuge management, waterfowl management

Ongoing Projects related to Prairie Dogs, Blackfooted Ferrets, Sharp-tailed Grouse ecology, Waterfowl enhancement and management, and livestock grazing management

COMMENTS:

We have data from 47 degrees, 109 degrees (SW) to 49 degrees, 104 degrees (NE) --- Everything, but basically vegetation, wetlands, wildlife, elevation, land ownership, land use, roads, etc

	CONTACT INFORMATION	
	ORGANIZATION: U.S. Geological Survey	
	CONTACT PERSON: Mike Cannon	
ADDRESS: 301 S. Park Avenue Drawer 10076 Helena, MT 59626		PHONE: (406) 449-5263
	GIS PROJECT	
Active	STATUS: Needs Data	Planned
	HARDWARE AND SOFTWARE:	
	PROJECT DESCRIPTION:	
	COMMENTS:	
	COMMENTS:	
	COMMENTS:	

CONTACT INFORMATION ORGANIZATION: Yellowstone County Planning Dept. CONTACT PERSON: Bill Arnold ADDRESS: PHONE: 510 North Broadway (406) 657-8246 Fourth Floor Billings, MT 59101 GIS PROJECT STATUS: Active x Needs Data x Planned HARDWARE AND SOFTWARE: PROJECT DESCRIPTION: GIS proposal currently being researched---hope to have system underway by June 1990. Expect GIS to better manage property information and improve comprehensive planning by combining natural resource and other information. COMMENTS:

Index of GIS Contacts in Montana

Following is a compiled list of the names, addresses, and phone numbers of the contacts included in this Directory. The list is in alphabetical order, by agency name.

Bureau of Indian Affairs Luse, Don, Area Director 316 N. 26th Street Billings, MT 59101 (406) 657-6145

Confederated Salish and Kootenai Tribe CloAnn Villegas P.O. Box 278 Pablo, MT 59855 (406) 675-2700

Doney & Thorson Northern Lights Institute Thorson, John E. P.O. Box 1185 Helena, MT 59624 (406) 443-7018

Dept. of Commerce Community Technical Assistance Prog. Desch, Ann Cogswell Building, Room C-211 Capitol Station Helena, MT 59620 (406) 444-3646

Dept. of Health Water Quality Bureau Reid, Tom Cogswell Building, A-206 Helena, MT 59620 (406) 444-2406

Dept. Natural Resources & Conservation Reserved Water Rights Compact Commis. Freburg, Scott 1520 East Sixth Avenue Helena, MT 59620-2301 (406) 444-6843

Dept. Natural Resources & Conservation Facility Siting Bureau Ring, Tom, Natural & Earth Sci Coord. 1520 E. Sixth Avenue Helena, MT 59620 (406) 444-6785

Dept. Natural Resources & Conservation Ames, Greg, Hydrosciences Section 1520 East Sixth Avenue Helena, MT 59620 (406) 444-6692

Environmental Quality Council Schmidt, Deborah Capitol Station Helena, MT 59620 (406) 444-3742

Gallatin County Planning Murdock, Bill P.O. Box 1905 Bozeman, MT 59715 (406) 585-1465 Dept. Natural Resources & Conservation Reller, Mark 1520 East Sixth Avenue Helena, MT 59620-2301 (406) 444-6641

Dept. Natural Resources & Conservation Water Rights Bureau Kindle, Jim, Records Section 1520 East Sixth Avenue Helena, MT 59620 (406) 444-6621

Dept. Natural Resources & Conservation Water Resources Division Byron, Tim, Soil Scientist 1520 East Sixth Avenue Helena, MT 59620 (406) 444-6642

Dept. Natural Resources & Conservation Dalby, Chuck 1520 East Sixth Avenue Helena, MT 59620 (406) 444-6644

Dept. Natural Resources & Conservation Tubbs, John, Economist 1520 East Sixth Avenue Helena, MT 59620 (406) 444-6832

Dept. Natural Resources & Conservation Water Management Bureau Shapley, Mark 1520 East Sixth Avenue Helena, MT 59620 (406) 444-6636

Dept. Natural Resources & Conservation Water Management Bureau DeLuca, Denise, Hydrologist 1520 East Sixth Avenue Helena, MT 59620 (406) 444-6790

Dept. Natural Resources & Conservation Cawfield, Larry 1520 East Sixth Avenue Helena, MT 59620 (406) 444-6640

Great Divide Graphics Madej, Ed 324 Fuller, C-3 Helena, MT 59601 (406) 442-3559

GeoResearch, Inc. Richardson, Douglas 2815 Montana Ave Billings, MT 59101 (406) 248-6771 Historical Society Schwab, David, Archeologist 225 N. Roberts Helena, MT 59620 (406) 444-7715

Lewis & Clark County Planning Rasmussen, Robert P.O. Box 1725 Helena, MT 59624 (406) 443-1010374

Lewistown Planning Walkowiak, Elly, Director Fergus County Courthouse 712 West Main Street Lewistown, MT 59457 (406) 538-9046

Missoula County Surveyor's Office Burreson, Douglas Missoula, MT 59802 (406) 721-5700279

MT Dept. of Fish, Wildlife, and Parks Wildlife Division Martinka, Bob Fish, Wildlife and Parks Building Helena, MT 59620 (406) 444-3677

MT Legislative Council Person, Robert, Executive Director State Capitol Room 138 Helena, MT 59620 (406) 444-3064

Montana Power Company Leary, Mike 40 East Broadway Butte, MT 59701 (406) 723-54212298

Montana Power Company Bauer, Paul J. 1903 Russell Street Missoula, MT 59801 (406) 549-23014179

Montana Power Company Bausch, Mike 40 East Broadway Butte, MT 59701 (406) 723-54212293

Montana State University Geographic Information & Analysis Ctr. Wilson, Dr. John P., Professor Earth Science Department Montana State University Bozeman, MT 59717 (406) 994-6907FTS 126-3331

Montana State University
Department of Plant and Soil Science
Neilson, Jerry, Professor
Department of Plant and Soil Science
Montana State University
Bozeman, MT 59717
(406) 994-5075

MT Bureau of Mines and Geology Bergantino, Robert N. West Park Street Butte, MT 59701 (406) 496-4150

MT Dept. of Agriculture Environmental Management Division Johnson, Phil, Botanist Sixth and Roberts Agriculture/Livestock Building Helena, MT 59620 (406) 444-5427

MT Dept. of Administration Information Services Division Holm, Randy Mitchell Building Room 24 Helena, MT 59620 (406) 444-2824

MT Dept. of Highways Engineering Division Custer, Robert S., PLS 2701 Prospect Avenue Helena, MT 59620 (406) 444-6020

MT Dept. of Highways Cromer, Don, Rural Planning Section 2701 Prospect Avenue Helena, MT 59620 (406) 444-6103

MT Dept. of State Lands Reclamation Division Lovelace, Bonnie, Strip Mining Bureau 1625 11th Avenue Helena, MT 59604 (406) 444-2074

MT Dept. of State Lands Forestry Division Long, Brian 2705 Spurgin Road Missoula, MT 59801 (406) 542-4323

National Park Service Glacier National Park Key, Carl H. Glacier National Park West Glacier, MT 59936 (406) 888-5441

Natural Resource Information System Geographic Information System Cox, Allan, GIS Coordinator 1515 East Sixth Avenue Helena, MT 59620 (406) 444-5357

Oikos Work Holloway, Steven R. Box 8412 315 South Fourth East Missoula, MT 59807 (406) 542-0535 University of Montana School of Forestry Zuuring, Hans University of Montana GIS Laboratory Missoula, MT 59812 (406) 243-6456

University of Montana Dept. of Anthropology Foor, Thomas A. University of Montana Department of Anthropology Missoula, MT 59806 (406) 243-2693

University of Montana School of Forestry Running, Dr. Steven W. University of Montana Missoula, MT 59801 (406) 243-6311

U.S. Bureau of Land Management Kathie Jewell 222 N 32nd Street Billings, MT 59107 (406) 255-2953

U.S. Bureau of Mines Western Field Operations Center Reigel, Larry East 360 Third Avenue Spokane, WA 99202 (509) 353-2735

U.S. Bureau of Reclamation Environmental Affairs Division Jewell, Dan Great Plains Regional Office 316 North 26th Street Billings, MT 59101 (406) 657-6870

U.S. Bureau of Reclamation Land & Environmental Resource Branch Todd, Larry Montana Projects Office 2525 4th Avenue North Billings, MT 59101 (406) 657-6688

U.S. Dept. of Agriculture Soil Conservation Service Gerhart, Kristin 10 East Babcock, Room 438 Bozeman, MT 59715 (406) 587-6968

U.S. Environmental Protection Agency Shanklin, Lee Federal Building 301 S. Park Ave, Rm 292, Drawer 10096 Helena, MT 59620 (406) 449-5486

U.S. Forest Service Northern Region Headquarters Roullier, Dick, Director 200 East Broadway P.O. Box 7669 Missoula, MT 59801 (406) 329-3593 U.S. Fish and Wildlife Service C.M. Russell Wildlife Refuge Matchett, Randy Box 110 Airport Road Lewistown, MT 59457 (406) 538-8706

U.S. Geological Survey Cannon, Mike 301 S. Park Avenue Drawer 10076 Helena, MT 59626 (406) 449-5263

Yellowstone County Planning Dept. Arnold, Bill 510 North Broadway Fourth Floor Billings, MT 59101 (406) 657-8246