Compiled Submittals
from the
2003 North Idaho GIS Users Meeting

September 4 & 5, 2003

City of Hayden

Submitted by: Donna Phillips [dphillips@cityofhayden.com]

Here is a synopsis of activities the city is involved in this year.

City of Hayden Yearly Update

The City GIS Department has been actively working with the other city departments on a variety of projects. Most of these projects once built will be on-going in their maintenance and upkeep and some of the projects are still in the development stages. Following is a list of active projects:

Projects that are being updated yearly:

* Street Map
* Zoning Map
* Water District Map
* Snow Plow Routes
* Comprehensive Land Use

Projects Currently Being Built:

* History of City Annexations and Deannexations
* (Non) Built Parcels
* Tree Inventory
* Street Asset Inventory
* Sewer Connection Inventory

Projects in Development:

* A Centralized Location for Historical Documents for Particular Parcels
* Tracking Business Licenses
* Tracking Pretreatment Issues
* Tracking Complaints

Bennett Lumber

We a forest products company that owns 60,000 acres of timberland and two sawmills. Our land base stretches from the south end of Coeur d'Alene Lake south (and east) to almost the Lochsa River and west into the Blue Mountains near Dayton, WA. We attempt to maintain a reasonnably accurate (24K) and up-to-date GIS covering the entire area. Most of the GIS is simply road networks, stream networks, public land survey, and elevation data cobbled together from a variety of sources such as USGS DLGs and DEMs, GCDBs, USFS CFFs, Potlatch Corp, IDL, IDWR and Washington DNR. We've also incorporated other types of data (ownership, vegetation, soils, windpower, etc) from University of Idaho, Couer d'Alene Tribe, NRCS, ICBEMP, Latah County and the NREL.

We tend to accumulate a fair amount of DOQs, mainly those obtained from Potlatch Corp, USGS and Washington DNR but have received some 5 meter panchromatic satellite based images as well. Currently cooperating with USFS, Univ of Idaho to obtain LIDAR data for Moscow Mtn area, having been flown in the past few weeks.

Besides our own forest management use, i.e. managing our land and looking for other sources of wood, we get involved in some emergency response work in Latah County, providing rural fire, ambulance crews and IDL firefighters with map books, and other community projects, such as recreations plan for Moscow Mtn. We've been involved in mapping statewide land exchanges, tussock moth spray programs, fires, fire redistricting and numerous other small projects.

We've got fairly full ArcView and ArcGIS capabilites, including most extensions, fairly up-to-date equipment (with the exception of our plotter), two GIS staff people who do many non-GIS things, one of which is feeling a bit run down at the moment.

Hope to see you Friday.

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Nez Perce County

Submitted by: Bill Reynolds billr@co.nezperce.id.us

Data Layers:

Roads w/ address
Railroad
Trails
Lewiston, Lapwai, Culdesac, Peck centerlines
Parcels polygons w/ AS400 linkage
Parcel polylines
Structures and Access points
Snake River addressing features
Streams
Lakes
Asotin County centerlines – cleaned up
Tiger File
Countywide DEM
Countywide DOQ's (IDL provided MrSid StatePlane 83)
Countywide DRG's (IDL provided in UTM NAD 27)
Avista / Lewiston area 6" orthoimagery
Election Precinct Boundaries
Landslide Geographical Terrain Units
Zoning
Historical Markers
Cemeteries
Billboards
Fire Risk map (developed by Northwest Management, RC&D project)
Reservation boundary
Municipal boundaries
County boundary
Postal area (Zip Code) boundaries
PLSS layer based off GCDB
Emergency Service Zones
Telephone Exchange boundaries
Vegetation Layers 30 GAP analysis layer, and 10 Meter ASTER analysis layer
NRCS Soils layer
Tax Code Areas
School District boundaries
Lewiston schools
State Ownership
WMD buffers / critical locations
Census blocks & Tracts (2000)
Cell Towers / Antennae

Projects:

Maintenance of layers especially addressing and roads (MSAG)
Transportation Plan including T2/LHTAC project with Doug Moore to collect countywide asset data
All Hazards Grant:

- Landslide - development of ordinance / policy
- Flood – Georeference FIRM and Floodway maps, creation of GIS layers, evaluation of map accuracy.
- Fire – RC&D finishing mitigation plan materials
- Earthquake – methods to be determined IGS?

Finish addressing Snake River to Hells Canyon Dam. (beyond NPC)
Ongoing assistance/data provided to State and Local agencies for map/parcel data and info
Map Template development – Parcels, elections, postal areas, emergency services
Wireless 911 data enhancement (cell towers)
Boat docks and ramps layer development
Weed mapping
Farming – NRCS, Crops, chemicals, fertilizer, animals
Emergency Management – WMD Targets, Emergency mapping (training), Shelters, CERT planning, mitigation, preparedness, grants
Hazardous Chemicals, Building Layouts
Special Populations – elderly, medical, criminal
Valley Transit – routes
Snowmobile trail mapping

County mappers are evaluating workflow procedures in processing deeds, surveys, and recordings. Recommendations for elected officials, STC, IAC, IGUM, dedicated mapping fee on all recordings . . .

Future Projects:

Shared Intranet ArcIMS between Nez Perce County and City of Lewiston
Evaluation of datamodels, changes in processes for parcel mapping, application development
GCDB enhancements
Countywide orthoimagery project – spring 2005
Conversion of 3.2 apps to 8.3 apps
Road / Railroad right of way
Evaluate census boundaries/ precinct boundaries

City Coeur d'Alene

Submitted by FRISBIE, DEBBIE [DEBBIET@cdaid.org]

GIS Projects Overview for 2003

Information and Technology — Debbie Frisbie/Kirk Johnson

City of Coeur dAlene has requested more involvement with IT staff with GIS issues. IT has increased the network infrastructure and bandwidth of its internal network to make central file and project sharing more feasible for departments and individuals outside of city hall.

Project Management — Janet Turnipseed-Flerchinger

This year was the first year for the CDA Ironman Completion. Our project managers mapped out the entire course with some GPS critical points of interest. Emergency medial attention stations were noted. Maps were sent to various agencies and organizations involved in this event.

Renata Mcleod

Educational Corridor project is still in the planning stages. Most uses of the overviews have been with presentation to council. Maps have been pdf'd and sent to various landscape architects and entities involved with this project.

Waste Water John Daley

Maps and projects helping engineering and the building department with locating meters and sewer stubs. This project shows the location of the water meters, sewer stubs, manholes and mains. The depths of the manholes and the size of the pipes. The distance between the stubs and the manhole. This has helped the building division with construction issues.

Crime Analysis-Intervention Project Liz Peterson

The Coeur d'Alene Police Department has received three years of grant funding for our Crime Analysis Intervention Project. This project will use GIS and our police department database to plot and analyze incidents of crime throughout the City of Coeur d'Alene. The information gathered will be used for several purposes such as:

- To analyze crime trends and work with other agencies to design interventions to reduce crime and assess the results.
- To inform the public of crime trends through Internet crime maps posted on our website and e-mail newsletters.
- To create Neighborhood Watch groups.
- To provide mapping services to such agencies as Probation & Parole to track people on probation; prosecutors to create courtroom map displays and the court system to enhance drug sentences occurring in drug free school zones.

Engineering and Planning Marlene Musch

Hillside District map: This shows the Hillside District area of impact and the average slope of a given lot and its contours. Considerable development regulations apply. The purpose of such data is to make sure these regulations are adhered to before the permitting process begins.

Idaho Department of Lands

Submitted by: Derek McNamara [DMcNamara@idl.state.id.us]

Cumulative Watershed Effects Program GIS

The Forest Practices Act of 1974 (FPA), (Idaho Code §38-13) has made the Idaho Department of Lands (IDL) responsible for developing and enforcing forest practice minimum standards, known as Best Management Practices (BMPs). In 1991, the FPA was amended to include a process and procedures for assessing adverse conditions from two or more forest practices within any given watershed. This process, known as Cumulative Watershed Effects (CWE) analysis, addresses the cumulative effects forest practices might have on water quality and/or associated beneficial uses.

ESRI ArcGIS 8.3 and ArcView 3.2 software are essential to the CWE Program and are used to perform spatial analysis and as a means of storing and displaying data pertinent to the CWE program. Specifically, the above software, along with readily available data sets, are used to predict the inherent risk of a watershed to erosion and mass failures, calculate road lengths, calculate area of canopy removal in a watershed and along streams, create field maps for CWE Resource Technicians to bring in the field, and display and organize data collected during a CWE

assessment. Data collected/derived during a CWE assessment include: canopy removal estimates, surveyed roads, skid trails, mass failures, significant management problems, culverts, and hazard ratings. Spatial representations of the above data are stored as Arc/Info vector coverages and attribute information is stored in a linked Microsoft Access 2000 Database for 2003 data and Microsoft Excel spreadsheets for data collected before 2003. The MS Access database is linked to ArcView 3.2 via an Open Database Connectivity connection to allow for quick retrieval of data, transfer of data between ArcView 3.2 and MS Access, and to help maintain the integrity of the data. For more information on the specific analysis procedures involved in a CWE analysis see *Forest Practices Cumulative Watershed Effects Processes for Idaho*, (IDL, 2000).

CWE assessments have been conducted on 249 6th level hydrologic unit codes throughout Idaho as of 2002 and 42 more watersheds will have had a CWE assessment conducted by the end of 2003. The CWE data is used by the Idaho Department of Environmental Quality to develop Sub-basin assessments and Total Maximum Daily Load calculations as well as providing local watershed advisory groups, IDL, and private landowners with information to develop Cumulative Watershed Effects Management Practices (CWEMPs) designed to alleviate identified adverse conditions. Written reports of CWE results, once reviewed and finalized, are made available via the IDL website.

The IDL CWE Program is in the process of developing Federal geographic Data Committee compliant metadata for CWE coverages using ArcCatalog. In addition, we are examining the possibility of transferring our existing data sets to the ESRI Geodatabase Model to provide a more stable link between MS Access and a GIS as well as more accurately modeling the real world conditions. Also, we are examining more efficient ways of delivering data to interested parties through ArcIMS and the World Wide Web. Finally, as 10m DEMs become available we will be using these in our erosion and mass failure calculations.

Ascent GIS, Spokane Washington

Submitted by: Mike McGuire mmcguire@ascentgis.com

It's been an interesting year to say the least. There have been many changes at Ascent GIS, Inc. mostly with vender product line changes and major break through on the USAREC Map & Data Standardization project. Most of our clients are going through software transition. It's a slow process but most are seeing the value in a geo-database and realizing advances in cartographic capabilities and products they can produce. The most exciting new products added to the Ascent GIS suite are Mapping Science's GeoJP2 Compression and GeoJP2 Server Software.

Leica GeoSystems and ESRI now fully support JPEG2000. JPEG2000 is a non-proprietary compression format that supports world files that super cedes the old JPEG image quality. Based on the JPEG2000 standard, this product utilizes advanced wavelet compression algorithms and related techniques to produce fully lossless (bit for bit) and/or visually lossless data -- while retaining pixel size, position and georeferencing. NIMA, NATO and the USGS have all adopted the JPEG2000 specification for image compression, as the open standard nature of the spec is preferred over proprietary formats.

By the time you read this letter, the GeoJP2 Server will be released. This easy to install server product will display your raster project data on your intranet/internet for quick access by anyone in your organization. There is No plug in/viewer required! Ascent GIS views this low cost technology as an excellent addition to IMS sites or a stepping-stone to an IMS site. In other words, build it and they will come. Capabilities include panning, zooming and printing.

Problems, bad, inconsistent national data sets and absent or inconsistent data update procedures. Specifically with national school data and the absence of unique 'school type" identifiers. Any resources or contacts that could help us locate, people, agencies or new programs dealing with Education data would be much appreciated.

Changes: ESRI does not carry the ArcView / ArcGIS Image Analysis Extension. Leica Geosystems now sells this extension.

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Map Metrics, Kettle Falls Washington

Submitted by: Joseph Barreca, Owner: 509-738-6155, info@mapmet.com

Fall 2003 Status Report

Main Products:

- Road Atlases of
  - Ferry County, Washington
  - Okanogan County, Washington
  - Pend Oreille County, Washington
  - Stevens County, Washington
  - Bonner County, Idaho

  These emergency-service-quality books are used by fire, police and ambulance services as well as other state and federal agencies, realtors and the public. They are sold in retail outlets as well as over the Internet and by phone. They are published directly from our GIS in small batches and updated before each run with information from county planning departments.
- Map CDs – Map CDs include all of the map layers used in our books. They can be searched for an exact address location, etc. and zoomed to any level for custom maps.
- Road Centerline Data: We offer current road centerline data in Master Street Address Guide format to navigation mappers and data resellers.

Major Experience:

- Master Street Address Guide preparation for 911 dispatch systems
- Parcel Mapping and Assessors land records/appraisal systems
- Short-run, full color publishing

Current Projects:

- Bonner County Road Maintenance segmentation
- Bonner County Road Atlas and addressing
- Bonner County Wildland Urban Interface Mapping
- Boundary County GIS development

Research and Development:

- Internet map-based search site for local historical information: Data so far includes special pages for old towns, links to cemetery listings, newspaper articles from 1907 to 1920, origins of place names and historical photos and stories.
- GPS and map-based audio tours using interviews with local residents

Contacts:
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Meg Decker, GIS Technician: 509-447-3051, sparky@povn.com
Ron Frostad, AutoCAD and ArcGIS Technician: 509-738-2898, frostrl@plix.com
Bob Ravet, Web Master: 509-684-0805, bob.ravet@newisp.com

Idaho Geospatial Data Clearinghouse

Submitted by: Lily Wai Lily Wai [lwai@uidaho.edu], Bruce Godfrey [bgodfrey@uidaho.edu]

- Over the past year, we have been working diligently to make additional data sets available through the clearinghouse. Since last year's North Idaho GIS User's Meeting, the following data sets have been made available through the clearinghouse:

  - Tax Districts & Tax Code Areas for 2003 produced by the Idaho State Tax Commission. (http://www.insideidaho.org/geodata/istc/index.htm).

  - Water & air quality related data sets produced by the Idaho Department of Environmental Quality. (http://www.insideidaho.org/geodata/IDEQ/index.htm).

  - Seventy-eight Landsat images. These were provided by USGS (Tracy Fuller) and are from the MRLC2000 effort. The Landsat archive now contains 218 total images. (http://www.insideidaho.org/geodata/Landsat/).

  - Daily climate data records. The database is updated monthly with records provided by Idaho State Climate Services. The database now contains 675,839 records for 259 weather stations. (http://www.insideidaho.org/asp/liststations.asp).

  - Digital Soil Survey data. These data are no longer provided in IDTM projection by the Idaho NRCS office. The survey data are now being linked to through the National NRCS web site. (http://www.insideidaho.org/geodata/NRCS/index.htm).

  - Local Government and countywide data sets. An access point for local government data has been established. To date, one local government (Kootenai County) is providing access to their publicly available data sets through the clearinghouse. These data are provided through the clearinghouse in a distributed fashion whereby they are linked to via an FTP site at Kootenai County.
  - (http://www.insideidaho.org/geodata/LocalGovt/). Additionally, data sets spatially organized by county have been given their own access point. This interface allows users to view countywide data sets produced by Local, State, and Federal governments. (http://www.insideidaho.org/geodata/countywide/)

  - Digital Orthophoto Quadrangles. Additional DOQ's are being added to the site as they are contributed by USGS (Tracy Fuller). By the end of the year we hope to have all DOQ's for the state available through the clearinghouse.

- The clearinghouse has been awarded an FGDC CAP 2003 Grant. The grant is in Category 3: "Don't Duck Metadata:" Metadata Outreach Assistance. Funding in this category is for organizations with robust metadata programs to extend their programs and assist other organizations with resources and staff in innovative approaches to the implementation and

service of metadata. This will allow the clearinghouse to extend its program to four county governments, two state agencies, and one higher education institution in Idaho.

- The University of Idaho will be hosting GIS Day activities on November 19, 2003. Detail concerning the event will be posted on the clearinghouse 'Events' listing. (http://www.insideidaho.org/whatsnew/whatsnew.htm#Events).

- Lastly, in early 2003, a voluntary Clearinghouse Steering Committee was formed to provide policy guidance on the direction and development of the statewide Geospatial Data Clearinghouse. The membership is made up of eight members: the INSIDE Idaho Administrator (Chair), the Idaho Geospatial Committee Chair, the State GIS Coordinator, the Federal Framework Coordinator, and four other members recommended by IGC to ITRMC for final approval. The members are:

    - Hal Anderson, Idaho Department of Water Resources
    - Mike Ferguson, Division of Financial Management
    - Nancy Szofran, Idaho State Board of Education
    - Ann Joslin, Idaho State Library
    - Nathan Bentley, Idaho GIS Coordinator
    - Tracy Fuller, USGS Federal Framework Coordinator
    - Jonathan Perry, Idaho Bureau of Disaster Services (IGC Chair)
    - Lily Wai, INSIDE Idaho Administrator

In addition to the normal ongoing operations of data acquisition, management, distribution, and coordination INSIDE Idaho identified the following strategic initiatives for 2003: finalization of the data sharing MOU, development of a business plan, and funding. The MOU has been finalized and is available here: http://www2.state.id.us/itrmc/committees/igc/mou_insideidaho.pdf. A business plan has been written and is currently in draft form undergoing review by the steering committee. In addition to the drafting of a business plan, a four-page booklet has been created to provide information about the clearinghouse. The booklet provides an overview of the clearinghouse and outlines the importance of this resource. The clearinghouse is exploring funding scenarios at the direction of the steering committee. This initiative will carry over into 2004 and beyond. A stable, cyclical funding source for the clearinghouse must be identified if it is to exist in the future.

Kootenai County

Contacts:
GIS Department – Dave Christianson (dchristianson@kcgov.us)
Assessor's Office Mapping Department – Dave Williamson (dwilliamson@kcgov.us)

Shared Data:
Public GIS Data – available for download from FTP site (ftp://www.co.kootenai.id.us/gisdata/) in shapefile format in zipfiles, with metadata and projection files, updated nightly, also (most) data sets available as .pdfs:

Cadastral – Sections, Elevation – 40' Contours, Facilities – Airports, Governmental Units – CompPlan, Zoning, Ambulance, Fire, Law Enforcement, Emergency Medical, Quick Response Units, Herd Districts, Voter Precincts, Polling Places, Tax Code Areas, Zip Code Areas, Hydrography – Lakes and Rivers, Streams, Natural Resources – Rathdrum Acquifer, Transportation – Roads, Structures, Driveway Access, Railroads, Mileposts, Common Places.

Public Assessor's Office Data:

Tax# Descriptions (numbers assigned to metes and bounds descriptions for ease of assessment - ftp://www.co.kootenai.id.us/TaxNos/

Plat Information (subdivision plat submittal, review and recording information) - ftp://www.co.kootenai.id.us/PlatData/
Assessor's Parcel Maps (in AutoCAD dwg format) - http://www.co.kootenai.id.us/departments/mapping/assessor/

Restricted Access Assessor's Office Data:
Parcel Ownership and Property Improvement Valuation (point shapefile & database .mdb format) – by written request with data use waiver required, per each request/update

Public Recorder's Office Data:
Recorded Surveys (tif image format) - http://www.co.kootenai.id.us/departments/mapping/recorder/searchsurveys.asp
Recorded Subdivision Plats (tif image format) – http://www.co.kootenai.id.us/departments/mapping/recorder/searchps.asp
Recorded Corner Perpetuation and Filing records (tif image format) – http://www.co.kootenai.id.us/departments/mapping/recorder/searchcpfs.asp

GIS Projects:

- Completed 5+ year implementation of E911 program
- Developed FTP data distribution site with metadata and automatic posting of updates, coordinated with Inside Idaho clearinghouse.
- Internal ArcIMS service for viewing GIS data, parcel/address search, orthoimagery, etc.
- Map Book of county roads (color and B&W), w/address ranges, for E911 and public.
- Developing county Parcel (polygon) Data model, with ArcGIS tools and user interface for facilitating general use and maintenance, including "document processing" wizard.

Collaboration:

- On-going collaboration efforts with "Kootenai County GIS Consortium" (KCGIS) for local data sharing.
- Communication and technical assistance with Bonner and Boundary counties.
- Dock identification and addressing project with Idaho Department of Lands (somewhat on hold)
- Orthoimagery processing projects with USGS
- RW Mapping maintenance project with Associated Highway Districts of Kootenai County (just starting)
- Hosted 7th Annual Intermountain GIS Conference!

Shoshone County

Submitted by Kenny Hicks [planning@co.shoshone.id.us]

Shoshone County has come a long way since the first GIS Conference (the first annual North Idaho GIS Users meeting in 2001), however we recognize that we still have a long way to go.

We spent the first year assembling a GIS Committee and compiling hardware and software to move forward with a GIS for the county. During theat first year we started "data mining" at every available source we could locate just to get some data to start with. Once we had some data we immediately recognized the value in a formally trained GIS Tech/Specialist. We hired Phil Tanimoto (Resource Cartographics) to reproject and assign a coordinate system to create a basic (crude Base Map. The base map data's in the beginning were UTM NAD83.

In the second year we brought Phil back to conduct in house training for GIS and AutoCAD to GIS conversions, create some grids and to work with us on some polygon conversions, also at that time we converted all data's to ID State Plane Feet. In June of this summer (03) the Public Works Dept. hired an intern from U of I (Jim Myers) to build a RW layer for that department. Time

was spent populating the tables to create a multi-use road layer, which contains the right-of-way information also.

At this point we have a functional map which has greatly improved the appearance of the maps for the county, however, we recognize that it is still art. Our next step in the map will be to bring in survey grade control to tie data to. Also, this year we will be upgrading the Assessor's database (ProVal) and linking the GIS. We will continue the cogo work in AutoCAD, this will take several years to draw every parcel and import them into the GIS, but we still believe this is the best way to go.

There are so many sources I need to mention and thank for their help and effort in this project, but Dave said "a one page report". But I must specifically thank Bruce Godfrey (Inside Idaho), Frank Roberts (CDA Tribe), Jason Ren and Randi Rich (Avista) and Ben Bailey(Terra Graphics).

In closing I would like to mention that the poorer municipality's within this region can start building their GIS, it won't be the great product that the software is capable of, but it will greatly improve your mapping capabilities. And as time and money come the GIS will grow and become more accurate.

Thank you
Kenny Hicks
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Worley Highway District

Submitted by Barb Whittaker [worleyhd@imbris.net]

Overview of Recent Work:

The Worley Highway District, in conjunction with the Associated Highway Districts of Kootenai County, is in Phase II of our GIS Implementation Transportation Plan. Research and retrieval of right-of-way documents (within Kootenai County) is complete and we are in the process of integrating the information into a right-of-way model.

After completion of the RW model, we are interested in providing staff with a simplified GIS Viewer and Deed Reporter. The application would allow staff to scroll through a minimal number of menus to locate RW. The Viewer would come "packaged" with County and individual Highway District data, including the attributed RW model (polygon) with supporting deed files, to support the viewing and retrieval of the RW deed information.