

**Montana NRIS Advisory Committee**  
Issue Action Form

For Meeting date 03/13/02

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Provide a brief action statement:

**The NRIS Advisory Committee supports NRIS' continued role in coordinating the development of and acting as custodian for selected data layers of use to the GIS community, including certain framework data layers. The Committee recognizes the value of the framework data layers to the NRIS mission and the value of the NRIS clearinghouse approach to framework data dissemination; the Committee therefore supports NRIS' role as the Montana clearinghouse for all Montana framework data layers.**

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Provide a brief narrative describing the issue:   X   See Attached

\_\_\_\_\_  
Signature of Submitter

\_\_\_\_\_  
Signature of Member if different than submitter

\_\_\_\_\_  
Date

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**This portion to be completed by the Chair**

Committee Action:

voted to approve  
 no action

voted to deny  
 other (describe below)

Signed \_\_\_\_\_

Date \_\_\_\_\_

## The Role of the Natural Resource Information System regarding Montana Framework Data

A Policy Discussion and Proposal for NRIS Advisory Committee Action  
March 13, 2002

### Introduction

The Montana Geographic Information System (GIS) community is an active, productive, and cooperative one. Participants from all sectors interact in the various interagency coordinating groups, user groups, and annual user conferences. The sharing of ideas, technical advice and GIS data development efforts have been key components in building the strong GIS infrastructure that the state currently enjoys.

There is still much work to be done however, and in late 2000 a new interagency effort was begun to further the development of *FGDC Framework Data layers*. These seven key layers have been identified by the FGDC as critical in state GIS development and use and are viewed as the basic foundation on which powerful GIS data applications can be built. The Montana GIS community has expanded this set with the addition of four more data layers, bringing Montana's total to eleven (see attachment "A"). Working cooperatively, the GIS Interagency Technical Working Group (ITWG), the Montana Local Government GIS Coalition (MLGGC) and the Montana Geographic Information Council (MGIC) have begun a process of synthesizing information on these layers (current status, cost to complete, priority, custodian, etc.) and starting a planning process to complete the Montana Framework data layers. Work is now underway to form Implementation Teams (I-Teams) to work together on prioritizing, coordinating, cost sharing, etc.; essentially developing an implementation plan to complete each layer.

### Coordination, Custodianship, & Clearinghouse Functions

While forming I-teams and developing implementation plans is a critical step in the ultimate completion of framework layers, it is really only the beginning step of a process that must then be followed by an integrated approach to development, maintenance and distribution of the data layer. These three components can be characterized as *Coordination, Custodianship, & Clearinghouse Functions*.

- **Coordination** - To date, this has been the key goal and purpose driving the formation of I-teams and framework development data plans. Coordination of work efforts and planning by all interested parties helps to maximize Montana's investment in GIS data development, avoid duplication of effort, and develop and adhere to standards that make the data useful to all. This effort is well underway in Montana and has been 'institutionalized' by MGIC in the formal adoption and sanction of I-teams following the recommendations of ITWG/MLGGC. I-Teams are lead by a data layer "champion" (a person representing the agency that has assumed responsibility for

ensuring that the planning process takes place) and are made up of interested persons from all aspects of the GIS community.

- ***Custodianship*** - Once framework data layers are completed they must be managed and maintained in an active manner or they will quickly become dated and unreliable. While some layers will require significantly more time and effort to maintain in the long term, it is critical that the Montana GIS community officially adopts, endorses, and supports custodians for all framework data layers. Again, as with coordination, some layers have 'natural' custodians; SSURGO soil data for example, is a program and project of the NRCS; NRCS is the obvious custodian of this framework layer. Other layers however, are not so clear cut; transportation, for example, includes many multi-jurisdictional data developers and maintainers. It will be critical for the success of these framework layers to designate and support a statewide custodian.
- ***Clearinghouse*** - In order to be effectively utilized, framework data layers must be easily located, provided in standard formats that serve user needs, and made available on demand when and where needed. Government agencies that produce data often do not have a mandate to disseminate their data widely or have limited resources for dissemination. While primary custodians may well provide access to their data, this access may not be standardized or readily available. More importantly, providing access to framework data only through custodian agencies would require users to go to many locations to get a comprehensive set of data they need for a particular purpose. A single, statewide clearinghouse for all framework data would clearly benefit the Montana GIS community by providing a 'one-stop' shop for all framework data in a standardized, integrated, and well documented fashion.

## Role of NRIS

### *Coordination*

NRIS has played a coordination role relating to many data sets, including several that are now on the list of FGDC/Montana framework data layers. For example, NRIS negotiated an agreement with USGS whereby NRIS will help complete and eventually house the National Hydrography Dataset (NHD), one of the FGDC framework data layers. NRIS has coordinated efforts of several state and federal agencies to assimilate a comprehensive set of DOQQs for the state, another framework layer. This coordinating role has not historically been singled out and formally recognized as being separate and distinct from NRIS' role in assimilating and disseminating geospatial data. However, in light of the designation of certain data layers as framework layers, NRIS has formalized its coordination role by becoming the champion of five I-Teams (four relating to data development and one relating to data access and dissemination).

### *Custodianship*

NRIS commonly has the role of "secondary" custodian for geospatial data layers, including framework data layers. NRIS secondary custodian role for certain data layers

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may include adding value to the primary version, such as keeping a seamless version of the coverage updated and maintained or re-projecting the native data, as is the case with the Elevation and Bathymetry layer. NRIS also acts as the primary custodian in selected cases. For example, NRIS has a formal agreement with USGS to maintain and update the National Hydrography layer in Montana.

### *Clearinghouse*

NRIS is Montana's statutorily designated clearinghouse for natural resource information (90-15-301 MCA) and has been a leader in the field of geospatial and natural resource information dissemination for over 15 years. NRIS has housed and provided access to most of the framework data layers long before the concept of framework layers or the Montana Spatial Data Infrastructure was originated. Seven of the eleven framework data layers are clearly natural resource in nature. The others (by definition providing the "framework" within which geospatial data are utilized) provide context for locating, viewing, and analyzing natural resource data in a geospatial environment.

In addition to housing geospatial data layers, NRIS has developed data access, display and dissemination tools that provide government agencies, consultants and other businesses, and Montana citizens the means to select datasets and view them on-line or download them in various formats. NRIS has developed a sophisticated infrastructure integrating GIS, database and Internet technologies to accomplish its mission.

Formally including all Montana framework data layers in the NRIS clearinghouse will provide users knowledge of where to obtain the data as well as a standard set of data access tools with which to view, select and access the data layers.

### **Summary**

The continued development, maintenance, and deployment of framework data is critical for the GIS community in Montana. Establishment of the NRIS role regarding *coordination, custodianship, and clearinghouse* functions relating to the framework data layers is a natural, logical, and cost effective component of NRIS' ongoing mission.

**NRIS Advisory Committee Action: The NRIS Advisory Committee supports NRIS' continued role in coordinating the development of and acting as custodian for selected data layers of use to the GIS community, including certain framework data layers. The Committee recognizes the value of the framework data layers to the NRIS mission and the value of the NRIS clearinghouse approach to framework data dissemination; the Committee therefore supports NRIS role as the Montana clearinghouse for all Montana framework data layers.**

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**Attachment A - National Spatial Data Infrastructure (NSDI) Framework Data Layer Status in Montana and at NRIS**

The National Spatial Data Infrastructure (NSDI) is a means to assemble geographic data nationwide to serve a variety of purposes. The NSDI provides an environment with which organizations and technology interact to foster activities for using, managing, and producing geographic data.

The Federal Geographic Data Committee (FGDC) is leading the nationwide **Framework** that forms the backbone of the NSDI. The **Framework** has 3 aspects: data, procedures and technology for building and using the data, and institutional relationships and business practices to support the environment.

The **Framework** is necessary to provide a reliable, standardized source for commonly needed geographic data themes. Its implementation in Montana has encouraged cooperation, cost sharing, and coordination in data development, fostered effective data dissemination and sharing of **Framework** data layers and assisted in the development of long term partnerships for ongoing management and maintenance of **Framework** data.

There are seven FGDC framework layers: Cadastral, Orthoimagery, Elevation and Bathymetry, Geodetic Control, Governmental Units, Hydrography, and Transportation. Montana added four additional ones to its work effort. Currently Montana has established Implementation Teams (I-teams) to document, plan, and prioritize for the coordination, custodianship, and clearinghouse activities for each layer. The table below summarizes the layers and the current data holdings that NRIS maintains.

| <b>FGDC Framework Layer</b> | <b>Description</b>   | <b>Primary Contact / Agency Champion</b>   | <b>Current NRIS data holdings</b>   |
|-----------------------------|--|--|---|
| 1. Cadastral                | Provides information about the rights and interests in real property.  | Stewart Kirkpatrick, MT DOA/ISD; Heritage Program maintains statewide stewardship layer                              | Distribute 'snapshot' of cadastral data provided by ITSD. NHP hosts and maintains statewide land 'stewardship' layer. |
| 2. Orthoimagery             | Provides a positionally correct photographic image of the earth.   | Duane Anderson, MT State Library/NRIS  | Maintain and distribute statewide DOQQ coverage, 80% complete.  |
| 3. Elevation & Bathymetry   | Provides information about terrain and topology.   | Duane Anderson, MT State Library/NRIS  | Maintain and distribute USGS National Elevation dataset (NED)   |
| 4. Geodetic Control         | Provides a common reference system for establishing the coordinate positions of all geographic data.   | R.J. Zimmer, Lewis & Clark County/City of Helena   | NA at this time   |
| 5. Governmental Units       | Provides information on administrative boundaries including state, county, incorporated places and cities, Indian reservations, and legal minor civil divisions. | TBD. Components may be incorporated into cadastral layer. Currently data is provided from Census <i>Tiger</i> files. | Distribute all Census 2000 Tiger line data defining these administrative boundaries                                   |
| 6. Hydrography              | Provides information about surface waters and includes lakes, ponds, streams and rivers, canals, etc.  | Duane Anderson, MT State Library/NRIS  | Maintain and distribute USGS/EPA National Hydrography Dataset (NHD)   |
| 7. Transportation           | Provides major common transportation features such as roads, trails, railroads, bridges, etc.  | Transportation Working Group-Coord. position @ ITSD  | Distribute Census 2000 and early versions of road data. Currently only statewide layer avail.                         |
| Geology*                    | Provides information about major geological formations   | Pat Kennelly, MT Bureau of Mines & Geology   | NA at NRIS. MBMG currently hosts and distributes data.  |
| Hydrologic Units*           | Provides information about nationally standard watershed delineation units.  | Duane Anderson, MT State Library/NRIS  | NRIS maintains 5 <sup>th</sup> code coverage, actively working on completion of 6 <sup>th</sup> .                     |
| Land Cover*                 | Provides information about vegetation cover and land use   | Roland Redmond, UM   | NRIS maintains USGS land cover dataset, distributes UM GAP data.  |
| Soils*                      | Provide information and interpretations of soil composition.   | Duane Anderson, MT State Library/NRIS, Cathy Maynard NRCS  | NRIS distributes NRCS SSURGO soil data and companion tools  |

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\*Indicate Montana Priority Datasets