Montana Department of Fish, Wildlife & Parks

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Kalispell, MT 59901
(406) 752-5501
FAX (406) 257-0349
Ref: GB51.91
March 21, 1991

Dear Madam or Sir:

Enclosed please find the results of the Montana Rivers Information System's (MRIS) 1990 Users Evaluation. The purposes of the evaluation were to determine who our users were, to assess how well MRIS met user's needs, and to prioritize our update and improvements needs for the next few years.

The results of the survey strongly support continuation of MRIS, but many users feel MRIS should contain more detailed and updated information. Users also supported many system enhancements such as GIS and data standards among agencies.

We were very satisfied with a nearly 60 percent return rate from our questionnaire. The results of this survey have been incorporated into our plans for updating and improving the system during 1991.

If you have any questions about the survey or other MRIS activities, please give us a call.

Sincerely,

Gael Bissell
MRIS Wildlife Biologist

Janet Decker-Hess
MRIS Project Manager

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MRIS Recreation Specialist

PRELIMINARY RESULTS OF 1990 MRIS USERS EVALUATION

March 1991

BACKGROUND

The Montana Rivers Information System (MRIS) was created in 1985 for the Bonneville Power Administration (BPA) for use in analyzing the effects of future hydroelectric power development on natural resources. The system was computerized and housed for public use in late 1986 at the Natural Resource Information System (NRIS) in Helena. Original plans for MRIS included its conversion to the EPA River reach system and its update every 5 years. Prior to updating the data bases in 1991, MRIS staff decided to survey all MRIS users to get a better understanding of who its users are and what are their opinions/suggestions for changes or improvements in the system. Specific objectives of the 1990 Users Evaluation were to determine:

1. Who uses MRIS, how often and for what reasons?
2. How well do the MRIS data bases meet users' needs?
3. What, if any, problems have users encountered with MRIS or its data?
4. What improvements/enhancements would be most helpful to MRIS users?

RESULTS

A. USER PROFILE

Since 1986, NRIS has maintained a log of all data requests and their responses to these requests. We used this data base as the source of information to identify MRIS users and to mail the 1990 Users Evaluation forms.

1. Who Are MRIS Users?

Since 1986, 120 individuals have made 198 data requests to NRIS that have been filled by MRIS data as well as other water resource information. In addition, during 1989 and 1990, MRIS was installed in at least 17 federal and state locations across the state including each Department of Fish, Wildlife & Parks (FWP) regional office and most Bureau of Land Management (BLM) Resource Area Offices.

Of the 120 users, state agencies and private consultants comprised the largest user groups (37% each) (Fig. 1). Among state agencies, the Departments of Natural Resources

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and Conservation (DNRC) and FWP logged the highest number of users. Federal agencies comprised 19% of all users with miscellaneous entities such as local governments, schools, tribes and others made up 7% of the user profile. Among the federal agencies, the Forest Service (USFS) had the greatest number (13) of users followed by the BLM with 5 users.
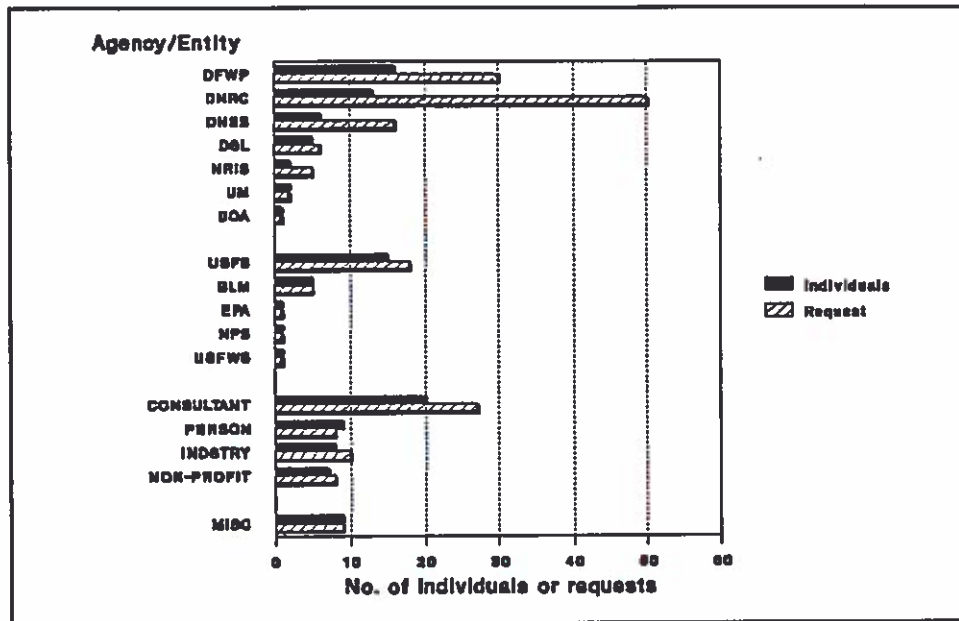

Fig. 1. Users of MRIS by agency/entity from 1986-1990 expressed both by individual user and by individual request.

The frequency of MRIS requests has increased substantially over the years. During 1986-1987, NRIS received 1 or 2 requests/month. Since 1988, NRIS has received an average of 4-5 requests/month.

2. Which data bases are queried the most?

Approximately 2/3 of the data requests are general by nature. Of the data base-specific requests, the most common request is for fisheries data (32%) followed by natural features (25%), recreation (18%), and geologic features or wildlife (10% each).

B. VALUE OF MRIS DATA TO YOU (PART I QUESTIONNAIRE)

The MRIS Users Evaluation form was mailed to 103 users with reliable addresses. We received 59 responses by January 28 for a 57% return rate. To facilitate the process, we included a summary of each individual's data requests since 1986 with the questionnaire. A copy of the Evaluation form is attached.

1. How well did MRIS data meet your needs?

One hundred four data requests were made by the 59 respondents (Table 1). Of these, MRIS data bases met users' needs 49% of the time, some of their needs 34% of the time, and few or no needs 15% of the time. Calculated in terms of individuals requesting

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information, MRIS met most needs and some needs equally (40% each) and no needs 20% of the time.

Table 1. Number (%) of responses to how well system met users needs by number of users and requests.

ANALYSE BY:	MOST ALL NEEDS	SOME NEEDS	FEW NEEDS	TOTAL ANSWERS	NO ANSWERS
USERS	22 (40)	22 (40)	11 (20)	50 (100)	4
DATA REQUEST	51 (51)	34 (34)	15 (15)	100 (100)	4

2. Why data may not have met your needs?

Of the 104 data requests which have been made by respondents, 23% contained no problems. Most data problems were that MRIS information was too general (37%) or out-dated (17%). Minor concerns included "not correct geographical area" (i.e. no coverage for area requested) (7%) and unreliable or inaccurate data (6%).

3. Comments on problems with MRIS

Nearly 70% (41) of the respondents provided a comment. Many users noted how useful and satisfied they were with the system particularly for general or overview uses. The major concerns (for 22 individuals) were the need for more specific data, the need for more frequent updates, and better geographic coverage (more streams added to the data base). Only a few individuals had trouble understanding the rating system or the query system. Other constructive comments included: provide reach maps; put rivers in a GIS; include specific reports, references, and citations; add stream characteristics data such as ephemeral, intermittent and perennial; and add access information.

4. and 5. Did you find data inaccuracies in MRIS? If so, what kind? Please comment.

Most respondents (83%) found no data inaccuracies. Ten respondents (17%) found errors with 1 or more data bases as follows: 7 for fish, 2 wildlife, 2 natural features, 1 geologic features, 1 recreation and 2 cultural. Users which cited data inaccuracies felt the problems were due primarily to outdated information.

6. Rate how useful the sub-value and final value classification system (i.e. Class 1= Outstanding; Class 2 = Substantial; Class 3= Moderate etc.) was to you.

Many respondents (27%) chose not to answer this question probably because they did not need or use the ratings. Of those which answered the question, 60% felt the ratings were of moderate value, 28% felt they were of high value and only 12% felt they were of low value.

C. FUTURE ROLE OR SUGGESTIONS FOR MRIS (PART II QUESTIONNAIRE)

7. How often would you suggest MRIS be updated?

The answers ranged from continuously to 10 years with 2 years selected most frequently (34%) followed by 5 or more years (26%) (Figure 2). When update frequency categories are lumped into 2 groups (0-2.9 and 3.0>5), the first group (0-2.9) received only slightly more than half (53%) of the responses. Therefore, there seems to be a split among those who prefer a continuous to 2 year update frequency and those in the 3-5 year frequency. Several people commented that certain data bases like fish and wildlife may need to be updated more frequently than perhaps geological or cultural features.
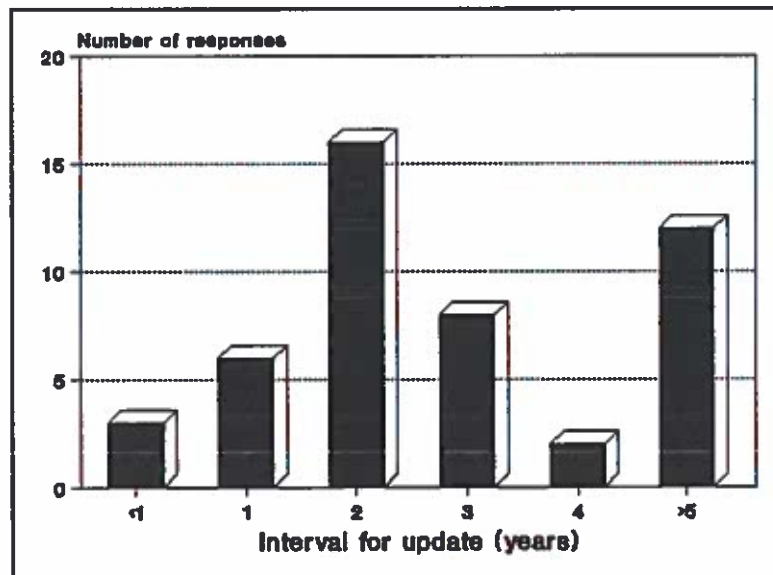

Figure 2. Recommended MRIS update intervals (< 1 year refers to continuous updates of data bases).

8. What priority do you feel MRIS should place on computerizing or accessing the following kinds of river-related data?

The final rankings show strong support for many of the potential update item. Water Use was clearly most important followed by Riparian Habitat Quality, Riparian Site or Habitat Types, Physical Characteristics and Land Uses. Lower priority items included Riparian Dominant Species, Old Growth, Recreation Sites, and Economic Data (Figure 3).
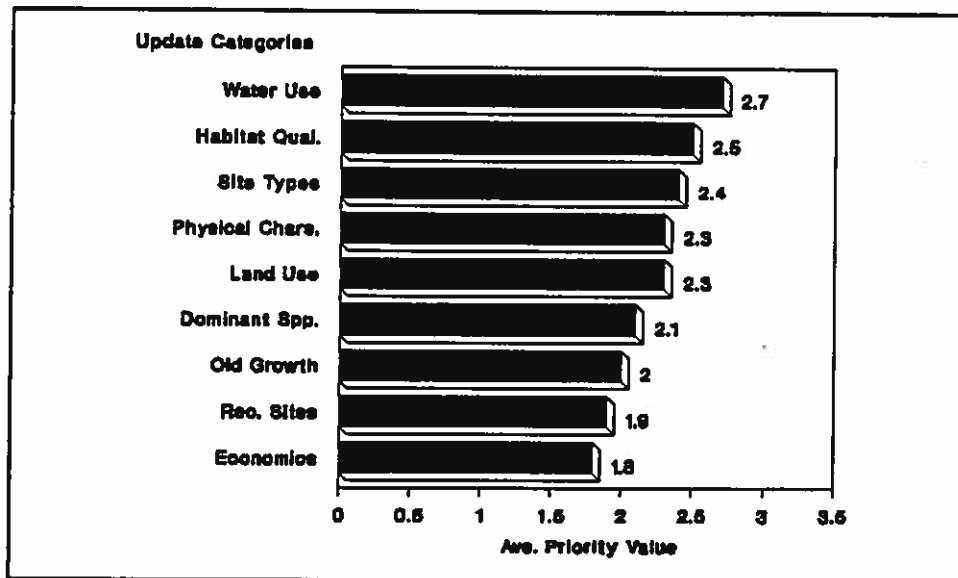
Figure 3. Ranking of potential update items by average priority value calculated from all respondents.

Other suggestions for new data included:

Water Uses:

a. drinking water sources
b. proposed stream development activities (i.e. dams, irrigation, channelization)
c. dewatering problems

Hydrologic Information:

d. normal and flood stage water levels
e. flow data
f. water quality
g. return flows

Fish, Wildlife, Natural and Geologic Features:

h. threatened and endangered species and potential habitat
i. percent forage/hiding cover
j. aquatic and terrestrial plant and animal species which need protection
k. locations of rare plants
l. more fisheries data (e.g. fish/mi)
m. soil types, specifically soil erodibility

9. What priority should the following MRIS improvements have?

The 2 highest ranked improvements were: encouraging data standards among agencies and making MRIS GIS compatible (Figure 4). The next most important improvements addressed the need for more streams in the data base (the choice for all headwater streams was just slightly ahead of the choice for only streams with resource values). Installing MRIS, allowing its use by modem, and sending an MRIS newsletter all received a moderate rating (2.0 pts). Improvements to the ad hoc query system and manual received the least support.

Several respondents emphasized the need for the MRIS data base and reach system to become GIS compatible; this improvement would allow maps to be generated and make it possible for users to load the data into their own GIS systems for analyses.
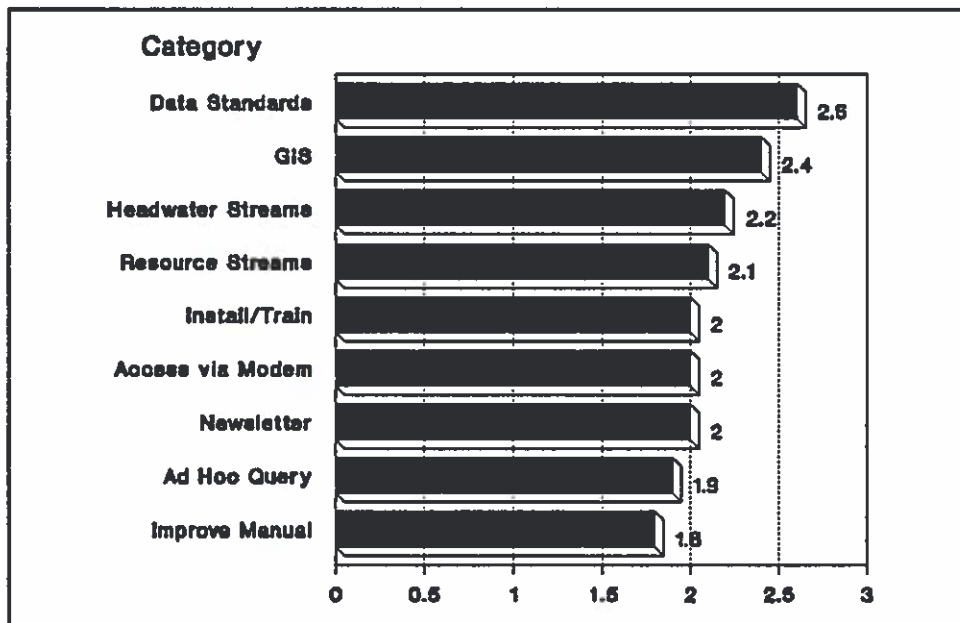
Figure 4. Ranking of potential MRIS improvement items by average priority value calculated for all respondents.

10. Assuming MRIS is updated and improved, how strongly do you feel MRIS should be continued?

The response to this question was overwhelmingly in support for the continuation of MRIS with 62% of those who responded (n=55) strongly in favor and another 34% in moderate support. Only 4% were not very strongly in support of MRIS's continuance.

SUMMARY

1. MRIS has been used by a minimum of 120 users making nearly 200 data requests during the last 5 years.

2. Although users include a diversity of state, private, and federal sectors, the state and private consultants have made most of the data requests.

2. Most of the MRIS users query the system for general purposes; MRIS has met some or all needs of 83% of the users to date.

3. MRIS users would like to see the system updated at least every 2 years and no more than 5 years.

4. Priority additions or enhancements to MRIS data bases which rated the highest included adding more information on water uses, habitat characteristics (physical and habitat quality), vegetation and land use.

5. Priority improvements to MRIS system which rated the highest included assisting in the development of data standards among agencies, making MRIS useable in a GIS, and including more streams.

6. MRIS users overwhelmingly supported continuation of MRIS with 62% strongly supporting continuance and another 34% in moderate support.

CONCLUSIONS

The 1990 MRIS Users survey was considered a success with a 57% return rate. The results of the survey will be useful in planning and undertaking our update of the fish, wildlife, habitat and recreation data bases during 1991 and into the future. We sense we have the support for continuation of the system by its users and feel if we make the recommended enhancements and improvements, MRIS will be a success.

Reflecting the recommendations of our users, our priorities for 1991 include:

1. Converting the system to the MRIS EPA river reach system which adds many more reaches and makes it compatible with a GIS.

2. Adding new habitat and land ownership data for each reach.

3. Adding new detailed fish, wildlife, and recreation data to the system.

4. Adding citations and cross-reference codes to resource data bases.

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MONTANA RIVERS INFORMATION SYSTEM 1990 USERS EVALUATION

PART I. VALUE OF MRIS DATA TO YOU

On the enclosed white sheet is a list of data requests you have made over the last three years. Use this list as a reference for questions 1 and 2. The number of your request (on the white sheet) refers to the request number in the first column of the table below.

1. In Section 1 of the MRIS Users Evaluation Table, rate how well you believed the data met your needs.

2. In Section 2, circle the letter which best describes why the data were unable to meet some or all of your needs.

MRIS USERS NEEDS EVALUATION TABLE

	Section 1			Section 2					
Request Number	How well did the data meet your needs?			Why data may not have met your needs?					
	Most All Needs	Some Needs	Few or No Needs	No Data Problems	Too General	Out-dated	Not Correct Geographic Area	Difficult to Understand	Unreliable or Innacurate Data
1.	1	2	3	a	b	c	d	e	f
2.	1	2	3	a	b	c	d	e	f
3.	1	2	3	a	b	c	d	e	f
4.	1	2	3	a	b	c	d	e	f
5.	1	2	3	a	b	c	d	e	f
6.	1	2	3	a	b	c	d	e	f
7.	1	2	3	a	b	c	d	e	f
8.	1	2	3	a	b	c	d	e	f
9.	1	2	3	a	b	c	d	e	f
10.	1	2	3	a	b	c	d	e	f

3. Use this space to explain more specifically how MRIS data may not have met your needs:

_____
_____
_____

4. Did you find data inaccuracies in MRIS? If so, what kind?

a. Incorrect location/identification information
b. Incorrect or unrealistic subvalues or final values (value classes 1,2,3, 4.).
c. Incorrect resource information. If so, which resource areas? (Circle those that apply.)

Fish   Wildlife   Natural Features   Geologic Features   Recreation   Cultural

d. other: _____

5. Use this space to describe any specific data innaccuracies you may have found.

_____
_____

		High Value	Moderate Value	Low Value
6.	Rate how useful the sub-value and final value classification system (i.e. Class 1,2, 3) was to you.			
		1	2	3

PART II. FUTURE ROLE/SUGGESTIONS FOR MRIS

7. How often would you suggest MRIS be updated?
   Every: 1   2   3   4   5 or _____ years?

		High Priority	Moderate Priority	Low Priority
8.	There are many types of river-related natural resource information not readily available or accessible. What priority do you feel MRIS should place on computerizing or accessing the following kinds of river-related data?			
	a. riparian dominance species	1	2	3
	b. riparian site/habitat types	1	2	3
	c. stream classifications (Rosgen, other)	1	2	3
	d. riparian habitat quality or condition	1	2	3
	e. old growth	1	2	3
	f. physical characteristics of streambed	1	2	3
	g. recreation sites (campgrounds, fishing access)	1	2	3
	h. economic data for each resource area	1	2	3
	i. land uses (i.e. urban, grazing, timber, etc.)	1	2	3
	j. water uses (i.e. irrigation, hydropower, etc.)	1	2	3
	k. other: _____	1	2	3

		High Priority	Moderate Priority	Low Priority
9.	What priority should the following MRIS improvements have:			
	a. include only streams with resource data	1	2	3
	b. include all headwater streams (even 1st and 2nd order)	1	2	3
	c. make MRIS GIS compatible	1	2	3
	d. install system and train users in your agency	1	2	3
	e. make system available by modem	1	2	3
	f. send newsletter on recent activities, plans, etc.	1	2	3
	g. make ad hoc query system easier to use	1	2	3
	h. improve users manual by:_____	1	2	3
	i. encourage data standards among agencies	1	2	3
	j. other:_____	1	2	3

		Very Strong	Moderate Strong	Not Very Strong
10.	Assuming MRIS is updated and improved, how strongly do you feel MRIS should be continued?			
		1	2	3