Northwest Power and Conservation Council

January 12. 2004

MEMORANDUM

TO: Council Members

FROM: Peter Paquet, Manager Wildlife and Resident Fish

SUBJECT: **Reallocation of Subbasin Regional Technical Assistance Funding**

Proposed Action

Approve the reallocation of funds from within the existing subbasin master contract from Level II to Level III. This action would reallocate $100,000 from the Montana portion of the Level II subbasin planning funds back to regional technical assistance (Level III).

Background

During the initial budgeting process for subbasin planning $120,000 of the Level 3 Regional Technical Assistance funds were shifted to the Idaho Level 2 planning budget. This action would reallocate $100,000 of Montana Level 2 funds back to Level 3 Regional Technical budget. This proposal was discussed with the Regional Coordination Group at its January 13, 2004 and met with no objections. This memo presents an evaluation of the need for regional technical support for subbasin planning and our ability to provide this support. The essential conclusion is that while the demand for wildlife technical support will largely be met, demand for both fish assessment and GIS technical support exceeds current resources.

Summary

This section provides an overview of the anticipated need for technical support. The need is in four areas:

1. Implementation of the Ecosystem Diagnosis and Treatment (EDT) methodology for anadromous fish. Technical support for EDT is being provided by Mobrand Biometrics, Inc. (MBI).

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2. Implementation of the Qualitative Habitat Assessment (QHA) methodology for resident fish and, in one case, anadromous fish. Technical support for QHA is being provided by Mobrand Biometrics, Inc. (MBI).

3. Implementation of the Interactive Biological Information System (IBIS) methodology for wildlife. Technical support for IBIS is being provided by ther Northwest habitat Institute (NWHI).

4. Preparation of geographic information system (GIS) products used to analyze and illustrate fish, wildlife, and integrated results. Technical support for EDT is being provided by Bonneville and, for a pilot project in the Yakima, Tetra-Tech.

Table 1 presents an overview of the need for regional technical support. Columbia Basin provinces and subbasins are listed in the rows. Columns list the 4 types of technical support listed above. Subbasins that are using EDT are indicated with an "X" in the EDT column. Following the X is an indication of the future need that each subbasin will have for regional technical support in completing the EDT analysis, rated on a scale from high to none. Those subbasins using QHA and IBIS are similarly indicated. Cells that are left blank indicate that either some other method is being used, or for some other reason this evaluation is not applicable. Dashes indicate subbasins where plans are already in place or are not being prepared.

Subbasins where the need for regional assistance with GIS has been specifically expressed are indicated by a "yes" in the GIS column. Subbasins where funds have been set aside for GIS or otherwise will not need assistance are indicated by a "no". A "?" in the GIS column means that the need is underdetermined.

Province	Subbasin	EDT	QHA	IBIS	GIS
Columbia River Estuary	Col. Est.				?
	Elocoman	X none			No
	Greys	X none			No
Lower Columbia	Cowlitz	X none			No
	L. Columbia	X none			No
	Kalama	X none			No
	Lewis	X none			No
	Sandy	--	--	--	--
	Washougal	X none			No
	Willamette	X high		X high	Yes
Columbia Gorge	Big White	X high		X high	Yes
	Col. Gorge				?
	Hood	X high		X moderate	Yes
	Fifteenmile	X high		X high	Yes
	Klicitat	X high		X high	Yes
	Little White				?
	Wind	X none			No
Columbia Plateau	LM Col.			X low	?
	Crab			X low	?
	Deschutes	X high		X moderate	Yes

Province	Subbasin	EDT	QHA	IBIS	GIS
	John Day	X high		X moderate	Yes
	Palouse			X low	?
	L. Snake	X none		X low	?
	Tucannon	X none		X low	?
	Walla Walla	X none		X low	?
	Umatilla	X high		X low	yes
	Yakima	X none		X low	yes
Columbia Cascade	UM Col.		X none	X high	?
	Entiat	X moderate		X high	yes
	L. Chelan				?
	Methow	X high		X high	yes
	Okanogan	X high		X high	yes
	Wenatchee		X high	X high	yes
Blue Mountain	Asotin	X none		X low	?
	G. Ronde	X high			yes
	Imnaha		X low		no
	Hells Can				no
Intermountain	Coeur D.		X low	X low	no
	U Col.		X low	X low	no
	Pend O.		X low	X low	no
	San Poil		X low	X low	no
	Spokane		X low	X low	no
Mountain Snake	Clearwater	--	--	--	--
	Salmon		X med	X none	no
Mountain Columbia	Bitterroot	--	--	--	--
	Blackfoot	--	--	--	--
	Clark Fork	--	--	--	--
	Flathead		X med	X none	no
	Kootenai		X med	X none	no
Middle Snake	Boise		X med	X low	no
	Bruneau		X low		no
	Burnt		X low		?
	Malheur		X moderate		?
	Owyhee		?		?
	Payette		X med	X low	no
	Powder		X low		?
	LM Snake				?
	UP Snake				?
	Weiser		X med	X low	no
Upper Snake	Snake Head.			X high	no
	Snake Up			X high	no
	Snake Close			X high	no

Table 1. Status of analysis and indication of need for regional assistance.

Fish Assessments

As referenced above, fish assessment technical support is being provided through a contract with MBI. This is authorized under Master Contract Level III task 2.6. In order to evaluate the continued need for fish assessment technical assistance from MBI staff extracted from table 1 all subbasins where either EDT or QHA are being used and where there will be at least some need for continued technical support from MBI. Staff also identified the specific types of technical support that might be necessary and, in consultation with MBI, determined the amount of time that each would take to perform. We then created two tables, one for EDT, the other for QHA, that array, on one axis, the applicable subbasins, and, on the other, the types of support. We then estimated the number of days (1 person for 8 hours) that would be needed to provide a given type of technical support in a given subbasin. Time was based on the average time estimates supplied by MBI adjusted for unique circumstances in the various subbasins.

Table 2 presents a projection of the amount of technical support that each subbasin will require from MBI to complete EDT analysis.

In this table training refers to training for subbasin planners in the use of EDT. Data entry refers to assistance in applying the Stream Reach Editor tool. Model set-up involves porting environmental data, defining life histories, setting up trajectories, etc. Model run involves running the model, checking for errors, and producing products. Interpret results refers to assistance to subbasin planners after they receive model outputs. Numbers are expressed as 8-hour days.

Note that this table includes time for the Klickitat and White Salmon. Until recently it was not certain whether plans (and assessments) would be prepared for these subbasins. However, the Yakama Indian Nation and the WA Department of Fish and Wildlife have agreed to prepare these plans and are moving ahead aggressively to do so. Environmental data for EDT analyses in these two subbasins is now scheduled for completion in January. Original estimates of EDT technical support have been adjusted accordingly.

Subbasin	Training	Data entry	Model set-up	Model run	Interpret results	Total
L. Willamette	0	0	2	1	1	4
Clackamas	0	0	2	1	1	4
McKenzie	0	0	3	1	1	5
Hood	0	1	3	2	1	7
Fifteen-mile	0	1	3	2	1	7
White Salmon	0	1	2	2	1	6
Klickitat	0	1	3	2	1	7
Deschutes	0	1	3	2	1	7
John Day	0	1	3	2	1	7
Umatilla	1	1	3	2	1	8
Grande Ronde	1	1	3	2	1	8
Entiat	0	1	3	2	1	7
Methow	0	1	3	2	1	7
Okanogan	0	1	3	2	1	7

Salmon	0	0	0	0	1	1
Totals	2	11	39	25	15	92

Table 2. Projected need for technical support in conducting EDT analysis.

Table 3 presents a projection of the amount of technical support that each subbasin will require from MBI to complete QHA analysis. Again, numbers refer to days. Training includes instruction in use of the methodology and revision of the user's guide. This is needed to provide the ISRP with documentation of the methodology. Customize program refers to incorporating additional biological factors at the request of subbasin planners. Lakes refers to assistance in creating a lakes version of the QHA model.

Subbasin	Training	Customize program	Table set-up	Interpret/ revise	Lakes	Total
Flathead	0	1	0	2	1	4
Kootenai	0	1	0	2	1	4
Boise	0	0	1	.5	0	1.5
Payette	0	0	1	.5	0	1.5
Weiser	0	0	1	.5	0	1.5
Salmon	0	0	0	1	0	1
Wenatchee	1	2	1	0	0	4
Others[1]	3	0	1	1.5	0	5.5
Totals	4	4	5	8	2	23

Table 3. Projected need for technical support in conducting QHA analysis.

Table 4 provides a summary of the resources needed to complete EDT and QHA analyses in the various subbasins. Costs are calculated by applying daily personnel rates to the total number of days from tables 2 and 3.

	Total days	Days @ 1,000	Cost @ 1.000	Days @ 600	Cost @ 600	Travel, misc.	Total
EDT	92	62	62,000	30	18,000	5,000	85,000
QHA	23	16	16,000	7	4,200	2,000	22,600
Totals	115	76	78,000	24	22,200	7,000	107,200
Funds in existing contract as of November 1, 2003							$72,315
Shortfall							$34,885

Table 4. Cost summary for EDT and QHA.

As the above tables indicate, there is a significant shortfall in the funds available to complete fish assessments. It is also apparent that there is only one entity, MBI, that can fill the need. If funds are not located for this need the Council will be faced with three options: (1) setting priorities on the subbasins that will be served, recognizing that this will mean that approximately 7-9 subbasins where assistance is needed will not receive assistance, (2) scale back approximately 25% on the amount of services that can be offered to any one subbasin. At least in the case of EDT this may result in products not being produced, or (3) stop all assistance to the 17 subbasins

[1] Imnaha, Bruneau, Owyhee, Intermountain, Malheur

using QHA. The other option is to reallocate funds and/or find new funds in the amount of $35,000.

Wildlife Assessment

Wildlife assessment work under master Contract task 2.8 is being conducted by the NWHI with assistance from Dr. Bruce Marcot of the U.S. Forest Service. The wildlife data development task is progressing on schedule. Left to be completed, in order of sequence and priority are:

1. Preparation of the basic IBIS package for the Lower Columbia Province (This includes the Willamette, which is considerably more involved due to the availability of finer scale vegetation data).
2. Preparation of the basic IBIS package for the Upper Snake Province (Anticipated to be completed by December 20).
3. Reconfiguration of data for the Yakima and associated subbasins.
4. Preparation of the basic IBIS package for the Columbia Estuary Province.
5. Miscellaneous subbasin-level assistance and Q&A.
6. Participation in the development of graphic output strategies.

As of November 1, 2003 approximately $25,000 remained in the NWHI contract. The NWHI and USFS contracts need to be amended to add $15,000 to each. With these funds, there would appear to be sufficient funds to complete anticipated work. The possible exceptions are:

1. If there are a higher number of requests for miscellaneous requests than has been anticipated, for example, by subbasin planners who need assistance in interpreting results.

2. If there are additional needs for development of product integration

GIS

When subbasin plan contracts were originally developed it was assumed that each subbasin would determine its own GIS needs. While many subbasin planning teams originally planned to prepare GIS products, funds for this have, in many locations, been consumed, either through development of GIS data that took longer than anticipated, or use of funds originally slated for GIS for other critical activities.

As subbasin planning proceeds it is becoming abundantly clear that this is a complex undertaking and that communicating complex concepts to decision-makers, the public, the ISRP, or, for that matter, anyone not intimately familiar with the subbasin planning process, will be problematic. One of the best ways to do this is through graphics and, especially, maps. So, even as the funds have evaporated for GIS products, the GIS is becoming increasingly more apparent.

Recently the Council initiated discussions with subbasin planners regarding the development of sample subbasin plan graphic products. A pilot was then initiated using the Yakima. Tetra-Tech was contracted with to assist with this pilot. The cost of this contract was $20,000. The initiation of this pilot has focused increased attention among subbasin planners of the value of -- and need for -- GIS products.

As depicted in table 1 above, there are 14 subbasins where there is a perceived need for additional GIS services, 26 where there is either no need or this is being covered through other sources, and 18 subbasins where the need is unclear. Note that perceived need was ascertained through ad hoc discussions with planners. No effort was made to systematically gauge need. Had this been the case it is certain that the interest would be far greater.

There is the emerging opinion in many quarters that it would be most efficient to develop GIS strategies, and possibly products, at a multiple subbasin level. This presupposes that (1) subbasin teams are communicating with each other, (2) outputs are similar, and (3) there is a coordinated approach to GIS product development. There are several locations where, based on similarity of methods and/or administrative links, the opportunity for multi-subbasin products appears possible. These include:

1. the Columbia Cascade Province, the Yakima, Klickitat and (possibly) Big White Salmon subbasins,

2. the Oregon anadromous subbasins (or, at the least, the eastside Oregon anadromous subbasins),

3. the Lower Columbia WA subbasins (Wind River subbasin to coast),

4. the Mountain Columbia Province, and

5. the Intermountain Province.

As indicated in table 1, the last three of these likely will not need additional GIS assistance. The first two, however, do have need. The cost to provide GIS services depends on what is produced, both the number of products and the relative complexity and accuracy of each. A GIS product template has been prepared for the Yakima. Based on this template we estimate that a full suite of GIS products for each subbasin would cost in excess of $10,000.

Existing regional funding for GIS is very limited. Bonneville is able to provide assistance up to approximately $10,000 a month. This amount covers a range of activities beyond subbasin-level technical assistance but a significant portion of this could arguably be reallocated to technical assistance.[2] The Tetra-tech funds will cover only the initial needs of the Yakima. This is due to the fact that much of this money went to concept development rather than product production.

If additional GIS assistance is to be provided in WA it would be logical to do this through Tetra-Tech. This is based on Tetra-tech's (1) familiarity with WA subbasin planning concepts, (2) involvement with and exposure to subbasin planners in WA subbasins, and (3) physical proximity. Bonneville is probably better positioned to provide assistance in Oregon for essentially the same reasons.

[2] Past Bonneville GIS assistance to subbasin planning has included (1) development of an Internet-based GIS system (IMS) whereby subbasin planners can download necessary data, (2) development of data for the IMS, and (3) assistance in the development of environmental data in Oregon.

The cost of Bonneville participation can be covered through the existing Council-Bonneville agreement. Cost in Washington, assuming 10 subbasins would be $100,000, clearly more than can be expended. The options are: (1) cut back on the number of subbasins, i.e., focus on the Yakima and Columbia Cascade, or (2) cut back rather drastically on the number and sophistication of the products that would be produced. While only a rough and unverified estimate, the cost would be somewhere in the $35,000 range, a far more approachable figure than the $100,000 suggested above.

Summary and Options

The departure point for any recommendation must be the realization that (1) there is real, tangible need for increased technical support, and (2) whatever technical support is to be provided must be in place within the next several weeks.

Here is a summary of the need for technical support:

1. Fish assessment -- $35,000 (MBI)
2. Wildlife assessment -- $15,000 NWHI
   $15,000 USFS (Marcot)
3. GIS -- $35,000 (Tetra-Tech)

The total unmet need is, therefore, $100,000

Here are options for dealing with this:

1. Do nothing. That is, allocate the existing technical support services based on a combination of need and preparation. In essence, this means that those who are prepared now for the assistance get first priority. To implement this strategy the Council would need to send a memo to planners making it clear that additional support will not be forthcoming.

2. Fund just the MBI tasks, not the GIS. (This assumes that EDT is the higher need. A strong case can be made for this. Essentially, if the EDT work is not completed there will be diminished need for the GIS work.) Reallocate funds from existing level III sources to pay for the additional MBI work.using the following formula: $9,000 from 2.2 – out-of-subbasin effects, $16,000 from 2.12 – BPA GIS, and $10,000 from 2.14 – StreamNet Library. Note that any of these reallocations would result in some other work not getting accomplished. This is not, therefore, the preferred option.

3. Reallocate $9,000 from task 2.2, reallocate $60,000 from unspent level II administrative funds from Montana.

4. Provide funds to pay for the anticipated $100,000 need through reallocating unspent level II and other administrative funds.

Staff recommends that option #4 be viewed as the preferred option, followed by #3 and then #2. Option #1 should be adopted only if the others are not feasible.