

LEMHI RIVER MONITORING PROGRAM JULY 10 to JULY 14

The monitoring technical team met on Monday the 10th to discuss and finalize the monitoring procedure for the Lemhi River. In attendance were reps from U.S. Forest Service, BLM, Fish and Game, Model Watershed and Lemhi Watermaster. We completed a data sheet to be filled out in the field by the technician. A separate data sheet was developed for use by the screen tenders in order to identify possible problem areas along the Lemhi River. Placement of HOBO temperature units along the Lemhi River were marked on a topographical map. Bruce Smith of the U.S. Forest Service has placed HOBO's approximately every ten miles from the beginning of the Lemhi River, near Leadore, Idaho, to the mouth of the Lemhi River where it meets the Salmon River. There are several sites that have more than one unit in close proximity. The Fish and Game has placed several units in both the Lemhi and Salmon Rivers. The BLM Salmon Field Office has also deployed several HOBO units that will be examined as they become available.

A new screw trap has been installed in the Lemhi River under the North Saint Charles bridge in Salmon. It is located one-quarter mile upstream from the mouth. It will be used to sample the downstream movement of the Chinook juveniles. It will be monitored daily and all species found in the trap will be recorded.

The reach from L6 to L3a has been surveyed for hold-over pools. Each site was pinpointed using GPS and a brief description of each pool was documented. Thirteen pools were found to be adequate for hold over of adult Chinook salmon between L6 and L3a. Five other pools were documented as possible hold over pools.

A HOBO unit under the North Saint Charles bridge was discovered vandalized. That unit was replaced with a STOWAWAY temperature unit on July 11th.

The North Saint Charles fish trap and the trap located near the mouth of Hayden Creek, are being monitored daily. The screw trap sites have recorded the following data:

Lower Trap Site

SPECIES	7/10	7/11	7/12	7/13	7/14	
				0	0	0
				1	0	2
				0	0	0
				0	0	0
				11	12	8
				0	0	0
				25	13	36
				4	16	16
				11	12	3
				27	33	63
				8	8	7
				90	94	133

Upper Trap Site

SPECIES	7/10	7/11	7/12	7/13	7/14
	0	0	0	1	
	1	0	0	5	
	0	0	0	0	
	0	0	0	0	
	0	0	0	0	
	0	0	0	0	
	1	1	0	0	
	0	0	0	0	
	0	0	0	0	

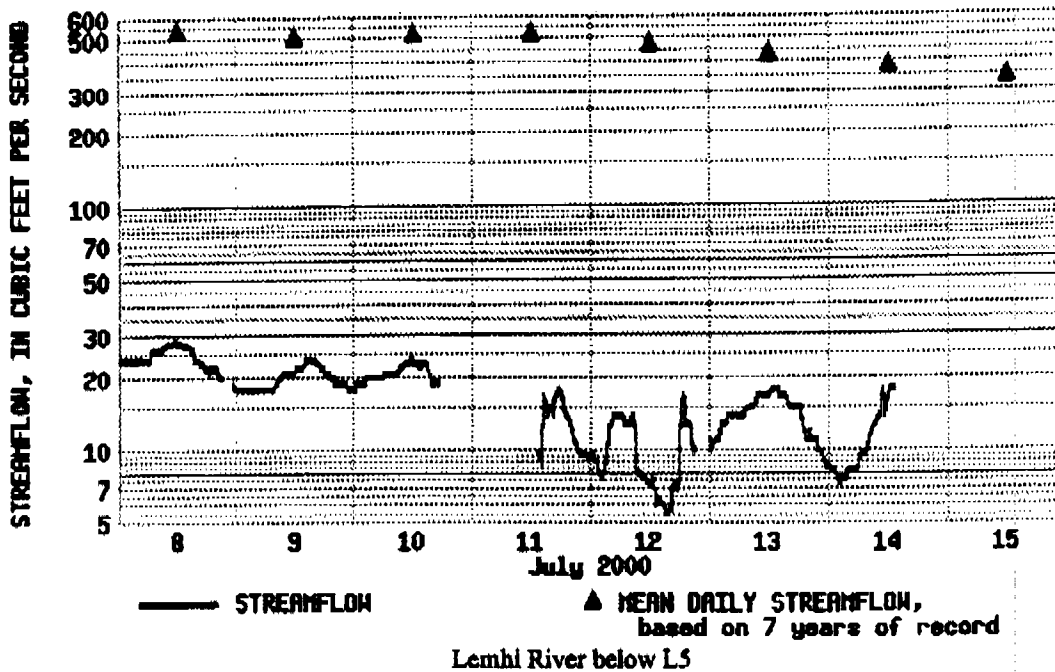
Post-It® Fax Note 7671	Date 7-18-00 From Bob Foster Co. Phone # Fax #	To Skip FYI Co./Dept. Phone # Fax #	# of pages 3
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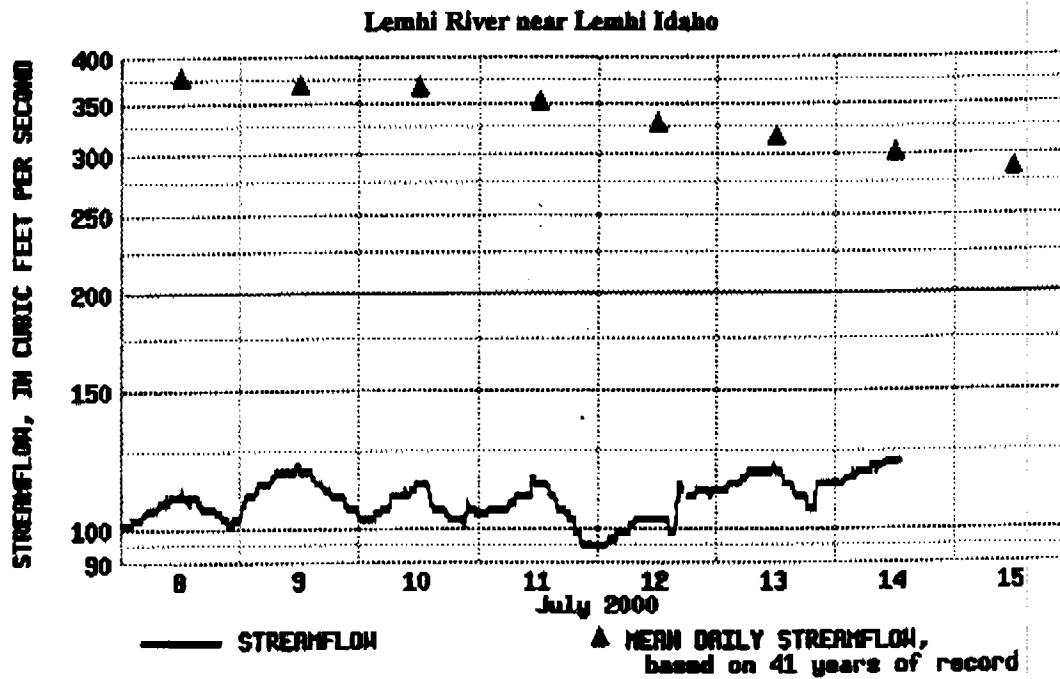
	3	9	7	4			
	0	0	0	0			
	5	10	7	10			

The temperature of the Lemhi River is being monitored by both the HOBO and STOWAWAY temperature recording devices. These units will be downloaded at the end of the season and processed into graphs. Daily temperatures (C) are being taken at both L6 and North Saint Charles Bridge to get an instantaneous recording as to the effects of the river as it fluctuates throughout the season. The records show as follows.

DATE	N. S. BRIDGE	
7/8	No data	No data
7/9	No data	No data
7/10	No data	No data
7/11	No data	No data
7/12	16	17
7/13	12	12
7/14	12	15

The flow of the Lemhi River is being measured by the USGS flow monitoring stations. One is located at L5 and the other is located near Lemhi, Idaho. The following graphs are taken directly from the USGS web page at www.idaho.wr.usgs.gov.





The technical team has asked the screen tenders to record any areas that they feel could be a possible problem spot. The technician has examined each diversion that was viewed as a possible problem by the screen tenders. None of the following diversions, after examination, were found not to be problem for either adult or juvenile chinook salmon: L-08a, L-09, L-11, L-13, L-19, L-20, L-21, L-22, L-22A/23, L-44. As a technical team, we will continue field visiting and reviewing each circumstance as it occurs with in the Lemhi River.

On 7/14, the lower fish trap under the North Saint Charles bridge was found to be inoperative. A wheel mechanism was repaired and the trap appeared to again function properly. Neither the malfunction nor repair were detrimental to fish safety.

MODEL WATERSHED TECHNICAL TEAM

LEMHI RIVER MONITORING PROGRAM JULY 15 to JULY 21

The technical team met on Monday, July ²¹17 to review the previous week and to discuss what needed to be done the remainder of this week. We spoke of the L6 diversion and what can be done to make it for fish friendly and easier to manage. The Lemhi fluctuates enough that it is difficult for the Lemhi Watermaster to keep the river at a consistent level. There will be more discussion with the engineer who developed the diversion as how to change it to be more easily maintained. The monitoring of the L3a diversion needs to continue to insure fish passage.

JUVENILE CHINOOK

There have been several chinook smolts that have passed through the Hayden Creek screw trap that have been tagged. At this point we have seen one smolt in the North Saint Charles bridge trap. The following data is from both the Hayden Creek and North Saint Charles bridge.

North Saint Charles Trap Site

TRAP	7/15	7/16	7/17	7/18	7/19	7/20	7/21
							1
3							
2			1	5	2	1	
22			5	13	12	17	12
6				2	1		
11							
22			19	18	54	35	17
16			6	6	7	3	
83			31	44	76	56	30

On 7/16, the trap was not working. When the catch basin was unlocked and opened, there were no fish. The single chinook smolt on 7/21, appeared healthy and had not been pit tagged.

Hayden Creek Trap Site

TRAP	7/15	7/16	7/17	7/18	7/19	7/20	7/21
							1
1							
		1		2	1	1	
4		11	4	3	6	14	8
5		12	4	5	7	15	9

No fish were killed in the traps.

Post-It* Fax Note	7671	Date	7-25-00	# of pages	6
To	Skip / Ron FYI	From	Bob Postrom		
Co./Dept.	Eastern	Co.	Salmon		
Phone #		Phone #			
Fax #		Fax #			

ADULT CHINOOK

We have been actively searching for Chinook salmon throughout the Lemhi River. On July 15, an angler recounted seeing a pair of adult Chinook salmon approximately 100 yards up stream from the L6 diversion. This, however, has not been confirmed by any of the technical team members. We are continuing to search in order to verify the sighting. On July 11th, the Idaho Department of Fish and Game transplanted 72 hatchery raised chinook salmon (51 - Females, 21 - Males) into Big Springs Creek near Leadore Idaho. It is hoped that they will successfully spawn.

On 7/18, three technicians walked from L3a to the mouth. The purpose was to again look for diversions and more importantly, adult chinooks. Several pictures were taken of L3a and L3. Several large holes were snorkeled and no adult or juvenile chinooks were found.

WATER TEMPERATURE

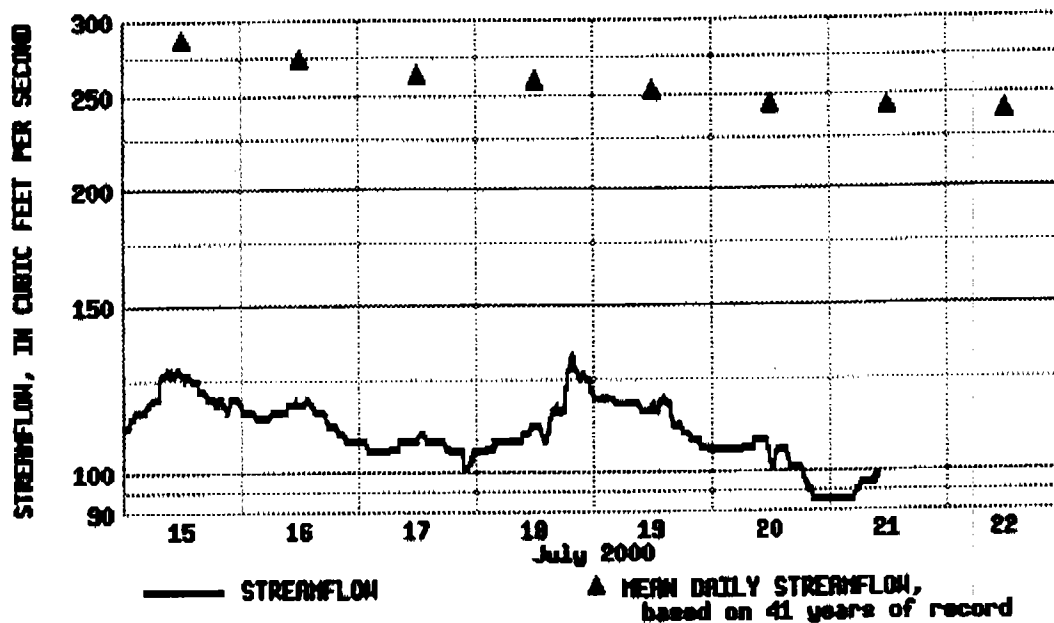
Water temperatures are being taken at North Saint Charles Bridge and L6, as well as several intermittent places during walking surveys down river.

DATE	TEMP		
7/15	0800	14	15
7/16	0800	14	14
7/17	0800	15	15
7/18	0800	15	14
7/18	0900	18	18
7/19	0815	14	14
7/19	0900	18	18
7/20	0815	14	14
7/21	0815	21	20
7/21	0900	14	14
7/22	0800	20	20

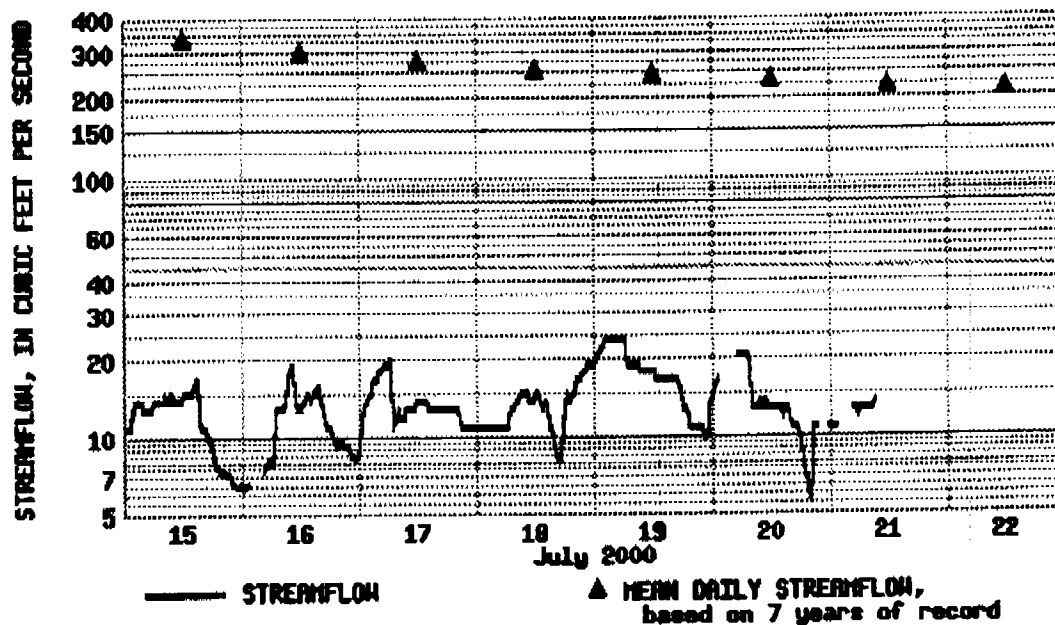
RIVER CONDITIONS

The river condition continues to become more difficult for both fish and ranchers due to the lack of precipitation. We are trying to assure that there is sufficient water for passage of juvenile and adult Chinook salmon. The flows are as follows:

LEMHI RIVER NEAR LEMHI, IDAHO



LEMHI RIVER BELOW LS DIVERSION



POSSIBLE PROBLEM AREAS

As the river levels continue to drop, we are closely monitoring the Lemhi River with the assistance of the screen tenders. There are several areas that the screen tenders have mentioned that will be visited by the technician next week.

SNORKELING

The ShoBan Tribe, under the direction of Jeff Anderson, snorkeled from L3a to L6. The total number of pools snorkeled was 24 along with 10 runs. They observed reidside shiners, long nosed dace, sculpin, suckers and rainbow and cutthroat trout. Their data shows that 19 chinook smolts were observed. The smolts were observed in various pools and runs throughout the study reach. The snorkel team did mention several areas that may be a possible problem. These areas have already been GPS'd and the technician has been monitoring them for several weeks now.

An attempt was made on 7/19 to snorkel the mouth of the Lemhi River to determine if there were any adults waiting to go up the river, or any smolts holding up. The river, however, was still slightly murky due to the previous days rainstorms and as a result no data was collected. Another attempt will be made next week.

MISCELLANEOUS

There was a discussion at the technical team meeting of continuing a fence on Blair Kauer's place near Leadore, Idaho. This project would be important for fish habitat and bank stabilization.

Several ranchers near Leadore, Idaho, have voiced desire to build fence located in close proximity to excellent chinook spawning grounds. These are being further discussed as to the cost of the jack rail fence.

A summer position was filled by Model Watershed to assist the technician in field duties.

Rick Sager, the Lemhi Water Master, has been working extremely hard to keep water in the Lemhi. He has been in constant communication with several technical team members to keep abreast of the situation. He has taken flow and temperature measurements at five separate location throughout the Lemhi River.

Location	River Flow (cfs)	Temperature (F)	Diversion Flow
Barracks Lane RM 8.7	73	67.7	
L7 Diversion RM 7.9			30
L6 Diversion RM 7.5			46
L5 Gauge Station RM 7.0	13		
Steel Bridge RM 5.2	42	64.8	

The Water Master measured 73 cfs at Barracks Lane (RM8.7), a total of 76 cfs was being diverted at diversions L-7 and L-6, therefore it appears that this reach gained about 16 cfs. The 2.2 mile reach between L-5 and the Steel Bridge gained 29 cfs. Most recharge takes place near RM 5.6, which is just above L-3a. The reach between Barracks Lane and the Steel Bridge is approximately 3.5 miles, temperatures in this reach decreased by 2.9 F.

RM 8.7 to RM 7.0 flows decreased by 82 %

RM 7.0 to RM 5.2 flows increased by 31 %



Figure 1. L-6 diversion on Lemhi River.
USGS Gauging Station 13305310, Lemhi River Below L-5 Diversion Near Lemhi reading 14 cfs.



Figure 2. L-6 diversion on Lemhi River.
USGS Gauging Station 13305310, Lemhi River Below L-5 Diversion Near Lemhi reading 14 cfs.



Figure 3. Downstream from L-6 diversion on Lemhi River.
USGS Gauging Station 13305310, Lemhi River Below L-5 Diversion Near Lemhi reading 14 cfs.



Figure 4. Fish bypass for L-6 diversion fish screens on Lemhi River.
USGS Gauging Station 13305310, Lemhi River Below L-5 Diversion Near Lemhi reading 14 cfs.

MODEL WATERSHED TECHNICAL TEAM

LEMHI RIVER MONITORING PROGRAM JULY 22 to JULY 28

Juvenile Chinook

There appears to be little movement of the smolts through the Lemhi River system.

North Saint Charles Trap Site

SPECIES	7/22	7/23	7/24	7/25	7/26	7/27	7/28
	1	2	1	1		2	1
	6	8	8	4	1	5	17
			1				
		3	1				
	48	9	20	17	4	11	11
	3	2	4	1		3	2
	58	24	37	25	5	22	31

7/26 Substrate had moved slightly and pinned the rotating drum.

Hayden Creek Trap Site

SPECIES	7/25	7/26	7/27	7/28	7/29	7/30	7/31
		1	1	2			5
		1		1			
			1		1		
		1					
					1		
	7	8	18	3	16	20	10
	7	11	20	6	18		15

Adult Chinook

The reach of L6 to L3a was walked on 7/25. No adults were observed. Special consideration was given to possible problem areas.

On the morning of 7/26, there was a single report of a "large fish" above L1. Approximately one half mile above the LY diversion and 200 meters below the same diversion were walked to find and identify the fish. No salmon were found.

L3a to the mouth was walked on 7/27. This was to look for adult chinooks based on the report of a fish the previous day. No adults were observed.

Post-It® Fax Note 7671		Date	8-2-00	# of pages	4
To	Skip/Ron FYI	From	Bob Foster		
Co./Dept.		Co.			
Phone #		Phone #			
Fax #		Fax #			

Water Temperature

DATE	TIME	TEMPERATURE	TEMPERATURE
7/22	0744	14	14
7/22	1330	20	19
7/23	0730	15	15
7/24	1600	20	20
7/24	0720	14	14
7/25	1600	19	19
7/25	0845	14	15
7/26	1606	22	22
7/26	0800	14	14
7/27	1627	20	20
7/27	0800	14	14
7/28	1630	20	20
7/28	0800	15	15
7/28	1500	21	21

During a walk from L6 to L3a, several hand measurements were taken between 0900 to 1100. They are as follows: L6= 15°, L5= 15°, Pool= 14°, Pool=14°, Old L4= 15°, L3a= 15°.

Temperatures taken while snorkeling the Salmon River on 7/25 are as follows:

- Time: 1606
- Salmon River: 21°
- Lemhi River: 22°

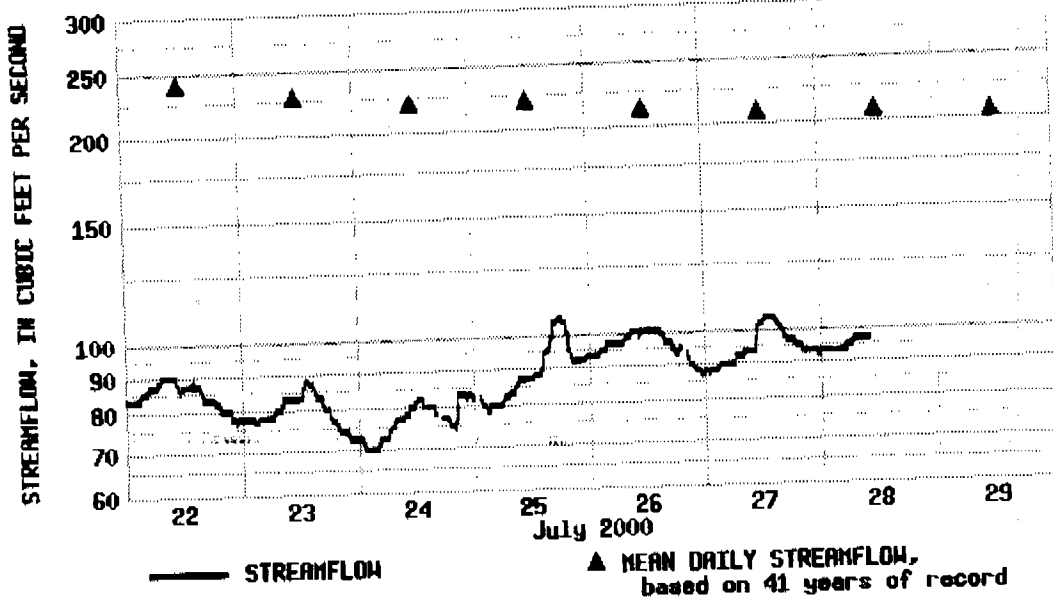
Salmon River

DATE	TIME	TEMPERATURE
7/22		
7/23		
7/24		
7/25	1606	21
7/26	1627	20
7/27	1630	20
7/28	1500	21

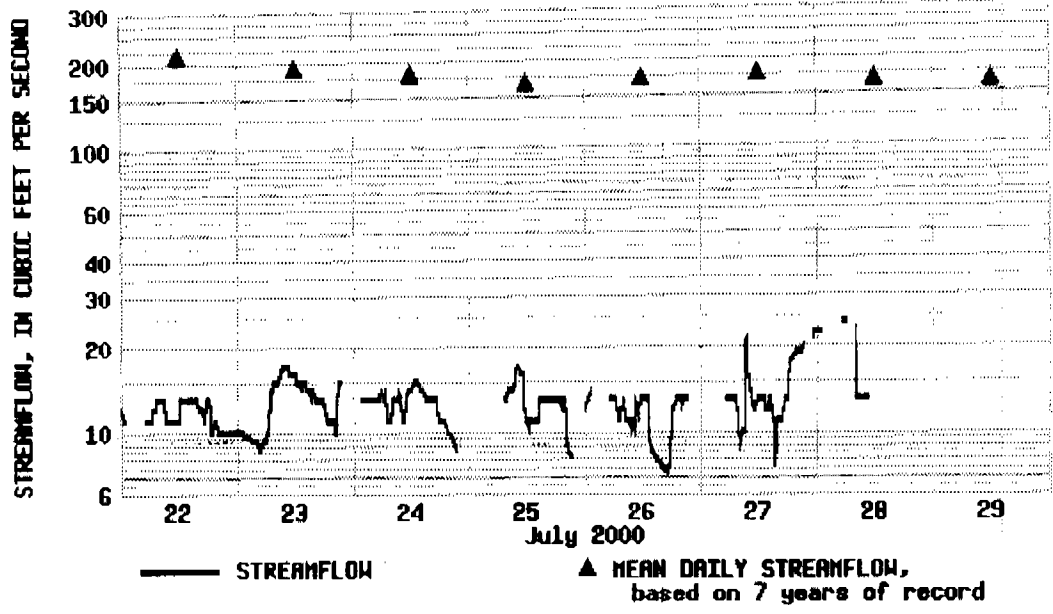
During a observation walk from L3a to L6 on 7/27, several temperatures were taken. L3a= 16°, Pool=16°, Pool=16°, L3= 18°, L2=19°, Bridge behind Steel&Ranch =20°

CFS Changes

Lemhi River near Lemhi, Idaho



Lemhi River at L5



Possible Problem Areas

There is a continued effort by all involved to identify possible problem area and to quickly produce a solution to the problem.

Snorkeling

On 7/25, approximately 300 meters of the Salmon River, known as the Lemhi Hole, were snorkeled. Four transects, each length wise to the Salmon River, began 150 meters above the mouth of the Lemhi River and concluded 150 meters below the mouth. The purpose was to visually confirm whether or not any adult chinook salmon were holding up in the Salmon River waiting to enter the Lemhi River. Suckers, Squaw Fish, Whitefish, Rainbow, and Dace were found. **NO CHINOOK OBSERVED**

Miscellaneous

Two potential barriers were located on the Lemhi River. A plan has been formulated to use water bladders to concentrate water flows between pools and aid fish migration in these areas. The bladders are 24" high and 44" wide when inflated with water and come in 50', 100', and 200' lengths. This would merely be a temporary measure in low water years. The structures would be monitored to gauge their effectiveness.

The L6 diversion has been modified slightly. A board with a notch in the middle was placed at the main spillway to concentrate the water. This helps with water fluctuation problems.

MODEL WATERSHED TECHNICAL TEAM

LEMHI RIVER MONITORING PROGRAM July 29 to August 4

Juvenile Chinook

There appears to be little movement of the smolts through the Lemhi River system.

There were 33 chinook smolts counted during a snorkel session from L3a to L6 on 7/31. The Tribes, Fish and Game and Model Watershed were involved. The smolts appeared healthy and active.

North Saint Charles Trap Site

SPECIES	7/29	7/30	7/31	8/1	8/2	8/3	8/4
CHINOOK			1	1			1
STARRING							
CUTTLEFOAT							
BULLTROUT							
WHITEFISH	3	1			1		
BROOK							
SUCKER	7	8	7	8	8	3	11
SALMON					1	1	13
CHUMMOUTH	1	1					6
DAZE	1	8	7	16	14	6	2
RENSSELAINE	1	1	5	2	1	1	2
TOTAL	13	19	20	27	25	11	35

Hayden Creek Trap Site

SPECIES	7/29	7/30	7/31	8/1	8/2	8/3	8/4
CHINOOK	2			1	1		
STARRING	3	1	1			1	1
CUTTLEFOAT							
BULLTROUT							
WHITEFISH	1						
BROOK							
SUCKER			3	2			
SALMON							
CHUMMOUTH							
DAZE	14	15	14	8	14	11	8
RENSSELAINE							
TOTAL	20	16	18	11	15	12	9

Adult Chinook

No adults have been observed.

Post-it® Fax Note	7671	Date	8-10	# of pages	7
To	SK.p / Ron FIS	From	Bob Foster		
Co./Dept.	Eastern	Co.	Salmon		
Phone #		Phone #			
Fax #		Fax #			

Water Temperature

DATE	TIME	N. S. C. (F)	L6
7/29	1000	16	16
	1900	22	22
7/30	0700	15	15
	1900	21	21
7/31	0800	16	16
8/1	0800	15	15
	1600	21	21
8/2	0800	15	16
	1515	23	23
8/3	0800	15	15
	1500	21	21
8/4	0900	14	14

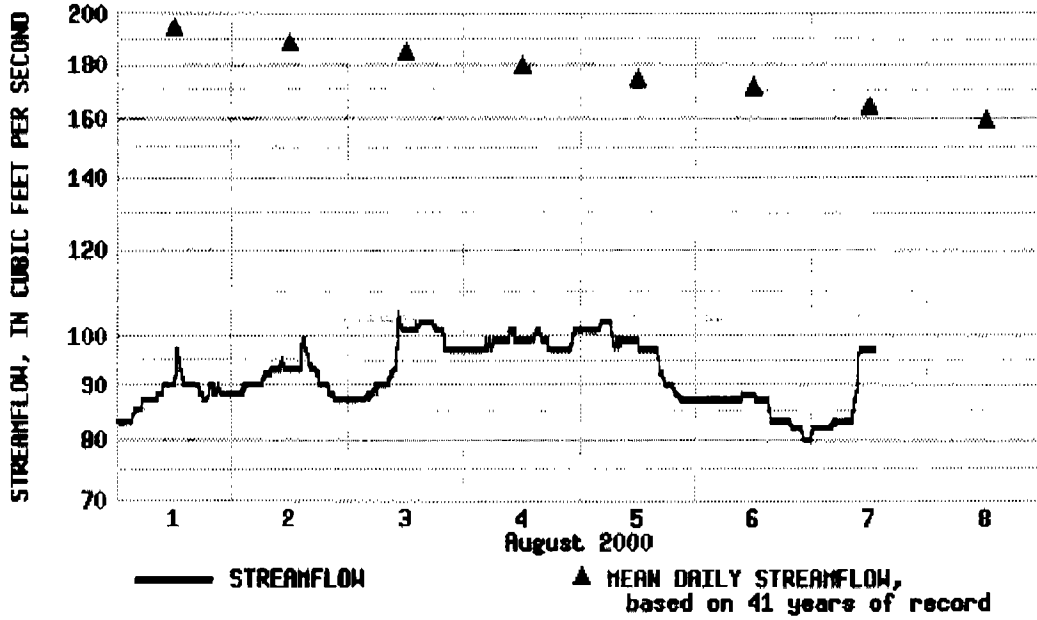
Salmon River

DATE	TIME	TEMPERATURE
7/29	1930	21
7/30	1900	21
8/1	1600	21
8/2	1515	23
8/3	1500	21
8/4		

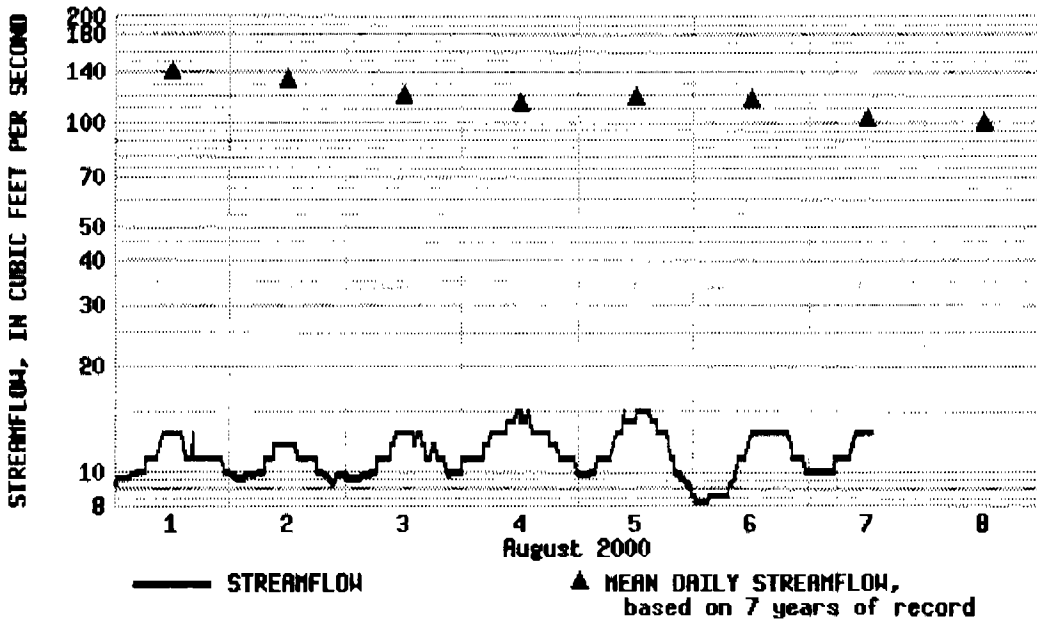
Please the attachment of the temperatures throughout the Lemhi River.

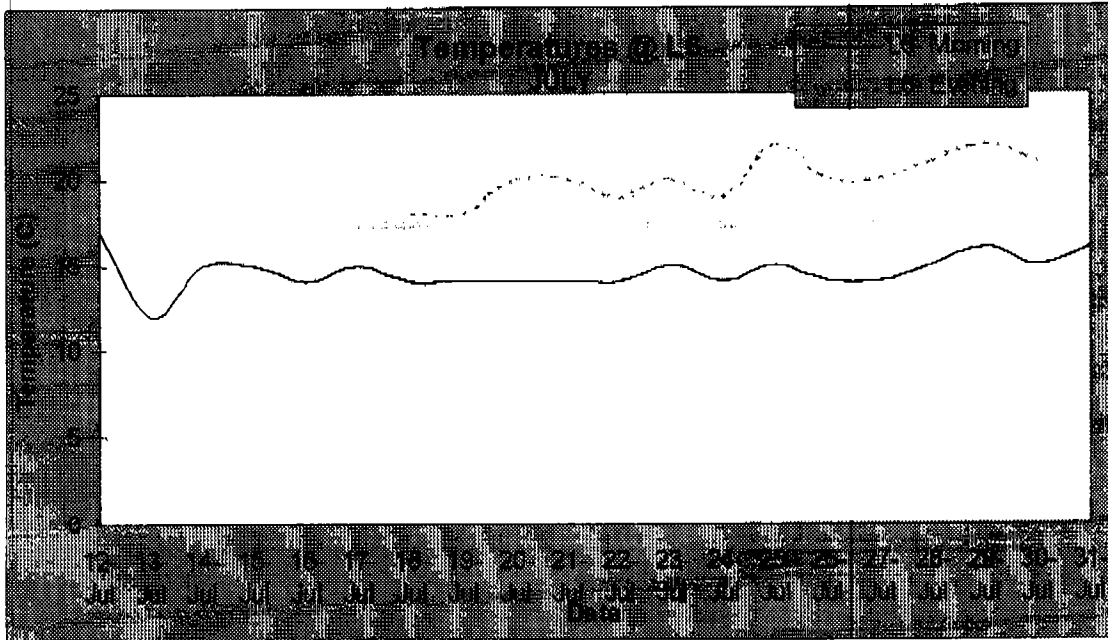
CFS Changes

Lemhi River near Lemhi, Idaho



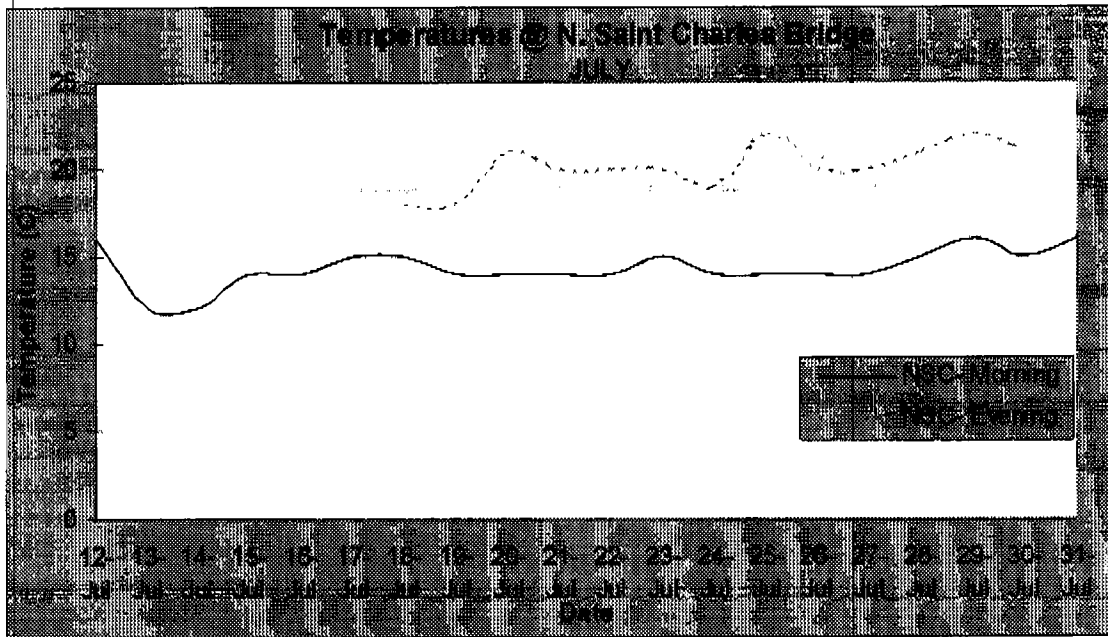
Lemhi River below L5 Diversion





Average Morning Temp: 14.4° C

Average Evening Temp: 20.2° C



Average Morning Temp: 14.6° C

Average Evening Temp: 20.0° C

Possible Problem Areas

Hayden Creek, which is the main tributary to the Lemhi River, had a spot that was identified by the screen tenders. After the diversion was studied, it was determined to not be a problem for fish passage.

Snorkeling

On 7/31, the ShoBan Tribe, Fish and Game, and Model Watershed snorkeled from L3a to L6. We were reexamining several problem spots and counting chinook smolts. There were two snorkelers and three data collectors. A total of 33 smolts were observed. All appeared healthy and active.

Miscellaneous

There are two areas of concern along the Lemhi River. Both areas had natural structures that could inhibit both adult and juvenile chinook. The temporary use of water structures, water filled tubes, was determined to be the best choice of action. Please see attachment for details on project of using coffer dams

Model Watershed Project hosted a tour for Don Dixon (State Director of Agriculture for U.S. Senator Mike Crapo), Georgia Dixon (Regional Assistant U.S. Senator Larry Craig), Rayola Jacobson (Northwest Power Planning Council) and interested public. The low water situation on the Lemhi River and possible long and short term solutions were discussed. Some of the long term solutions included transferring water from the Salmon River into the L-6 Ditch, converting flood irrigation systems of willing landowners below L-6 to sprinkler systems and dedication water saved to the lower Lemhi River. We also discussed possible funding sources for these projects.



Figure 1 . Pre-project photo, approximately 13 cfs of flow, downstream from old L-5 diversion.



Figure 2. Water bladder installed, still at 13 cfs, water depth doubled in artificial channel.

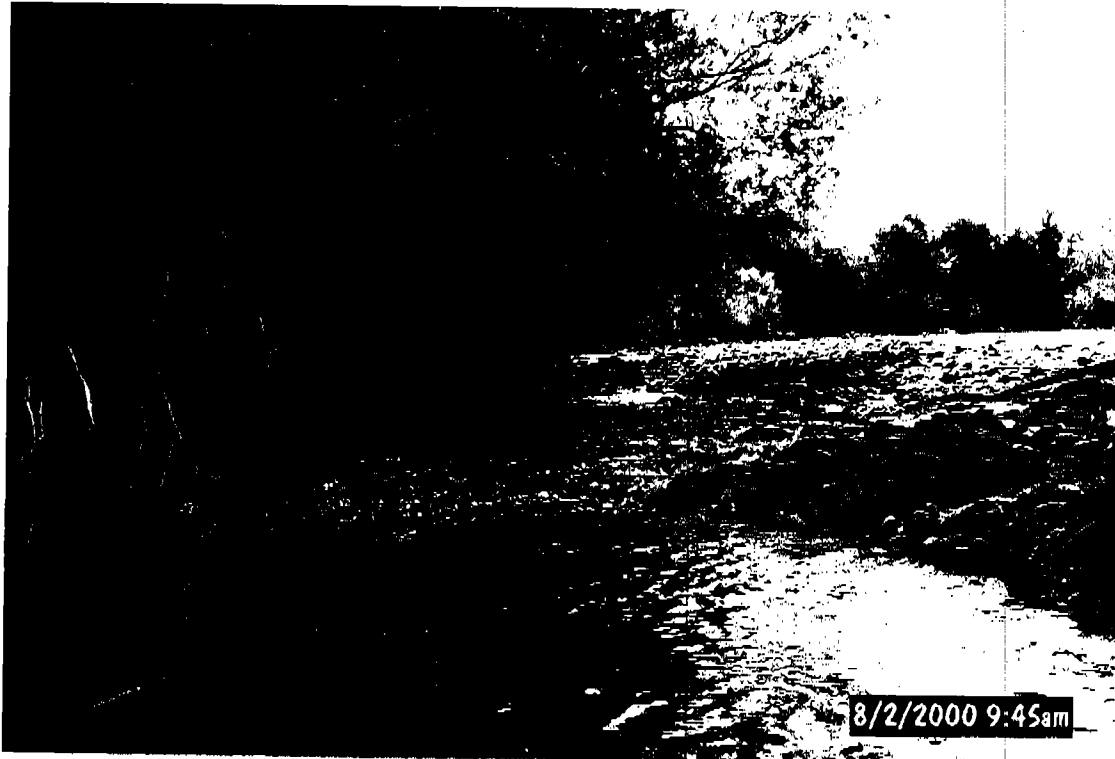


Figure 1. Gravel bar considered possible fish migration barrier

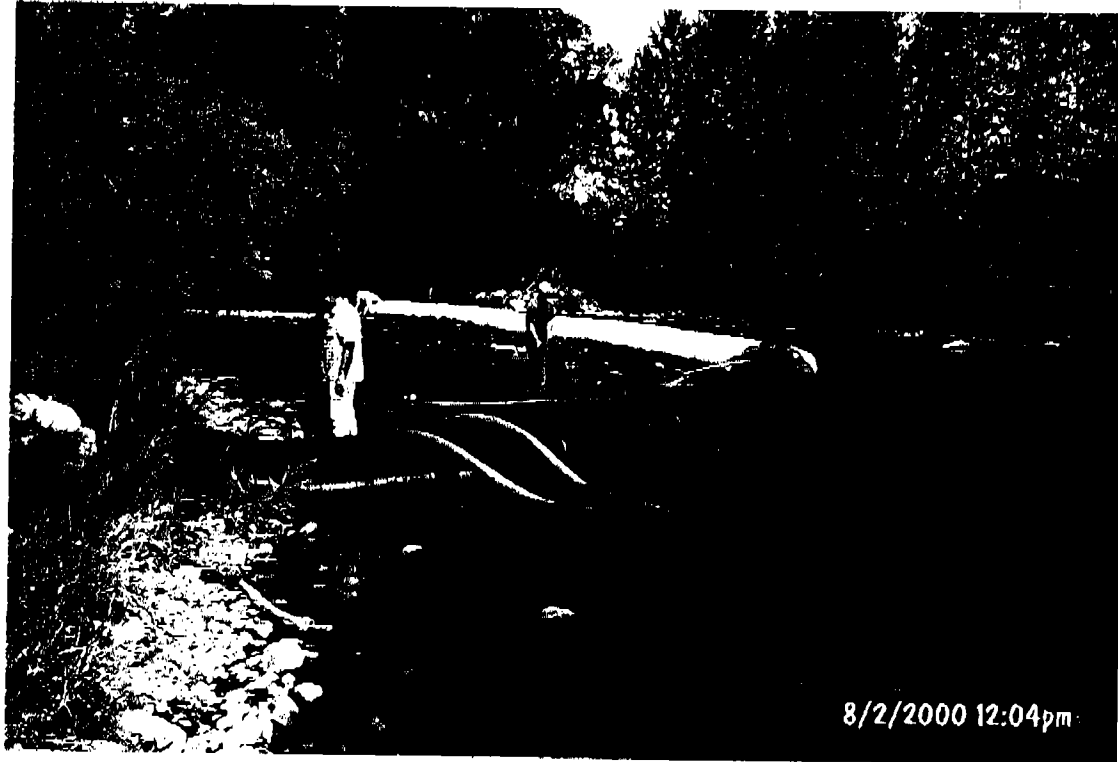


Figure 2. Installed water bladder in Lemhi River ¼ mile upstream from L-3a.



State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, P.O. Box 83720, Boise, Idaho 83720-0098

Phone: (208) 327-7900 FAX: (208) 327-7866

DIRK KEMPTHORNE
GOVERNOR

KARL J. DREHER
DIRECTOR

July 28, 2000

Texas and Big Timber Creek Water Users

Re: Texas and Big Timber Creek Diversions – Enforcement of Order Requiring Measuring Devices

Dear Water User,

The Department has been advised of some diversions on Texas and Big Timber Creeks that are not in compliance with measuring device requirements established by the Department's order dated November 10, 1999. This order required measuring devices to be installed on all diversions from Texas and Big Timber Creeks by July 1, 2000.

The purpose of this letter is to provide notice to all users with diversions on the two main creeks that measuring devices must be installed and satisfactorily maintained. Attached to this letter is a copy of a letter from the Department to the watermaster, Dan Smith, providing some direction about regulation of diversions where measuring devices are either not installed or are inadequate. The Department has directed the watermaster to regulate diversions immediately. The direction at this time is limited to measuring device concerns and does not include regulation of diversions for failure to install headgates.

Please direct questions concerning this matter to the watermaster or Department staff including Bob Foster, IDWR Salmon Office, Harold Jones, IDWR Eastern Region or Tim Luke, IDWR State Office.

Sincerely,

A handwritten signature in black ink that reads "Tim Luke". The signature is written in a cursive style.

Tim Luke
Water Allocations

Cc: Dan Smith, Watermaster
Bob Foster, Salmon Field Office
Harold Jones, Eastern Region



State of Idaho

DEPARTMENT OF WATER RESOURCES

1301 North Orchard Street, P.O. Box 83720, Boise, Idaho 83720-0098

Phone: (208) 327-7900 FAX: (208) 327-7866

DIRK KEMPTHORNE
GOVERNOR

KARL J. DREHER
DIRECTOR

July 28, 2000

Dan Smith, Watermaster
Water District 74-W
PO Box 22
Leadore, ID 83464

Re: Enforcement of Measuring Device Order

Dear Dan,

It is apparent based on discussions with you, Eva Selleck and Steve Clark this week that some users on Texas and Big Timber Creeks have not complied with the Department's order requiring measuring devices and headgates. To ensure further compliance, the department directs you to immediately take the following action:

- 1) Diversions with no measuring devices.
 - Any diversion without a measuring device must be regulated immediately. Please contact any user on the main stem of Texas and Big Timber Creeks who has not installed a measuring device and advise them that the diversion will be shut off. Any diversion with a measuring device that is either washed out or incapable of providing any reasonable measurement estimate shall be considered a diversion with no measuring device. Allow approximately one-day before shutting the diversion off. Water may be re-delivered to these diversions upon installation of an adequate measuring device.
 - Any excess water gained to the creek as a result of shutting off diversions with no measuring devices should be re-distributed to users with junior priority rights who have installed measuring devices.
- 2) Diversions with measuring devices that require some maintenance.
 - Please contact the owner of any main stem Texas or Big Timber Creek diversion with a measuring device that requires maintenance and instruct them to repair the devices in ten days. If maintenance is not accomplished within the ten-day period, cut back the diversions as necessary in order to deliver as many water rights as possible to diversions with adequate measuring devices.
 - Users who may have questions regarding any necessary maintenance should visit with you to receive clarification about the type of maintenance needed. Users may also call Bob Foster, Skip Jones or myself if the required maintenance is the same as what was documented by Bob and Skip when they inventoried the diversions with you last fall.

3) Texas and Big Timber Tributaries.

- Tributary diversions do not need to be regulated immediately for failure to install measuring devices since the Department's order did not specifically address tributary diversions. However, tributary diversions must still be regulated in accordance with priority rights. In other words, you should cut back or shut off tributary diversions to deliver senior priority rights downstream. The exception to this is a futile call scenario. If in any case the priority regulation of a tributary diversion does not result in water reaching or benefiting any downstream diversions, then the junior priority tributary diversion may be delivered again.
- The Department will likely amend the existing order to require installation of measuring devices for tributary diversions.

4) Headgates.

- No additional regulation is required at this time for failure to comply with the headgate requirement of the order. IDWR will re-evaluate with you the need for headgates and may amend the order to provide additional time or other action as may be necessary.

Any user who tampers with your settings of control works or headgates and diverts water without a measuring device shall be immediately reported to the Department and subject to a Notice of Violation and Cease and Desist Order. Such orders will include civil penalties for failure to comply with the Department's measuring device order.

Please contact me or Bob Foster if you have further questions concerning this guidance.

Sincerely,



Tim Luke
Water Allocations

Cc: Bob Foster, IDWR Salmon
Harold Jones, IDWR Eastern Region