

Van Bussum, Monica

From: Keith C. Wilson [kwilson@rockymountainenvironmental.com]
Sent: Friday, June 17, 2011 2:10 PM
To: Van Bussum, Monica
Subject: RE: Water Supply Bank rental - Knife River Corp.
Attachments: ESPA-Binder.pdf

Monica,
I ran the analysis with 43.8 afa (12.5 ac) and found that 14.0 afa (4.0 ac) would result in no additional mitigation required. I realize that the application is for 2.9 afa but just in case our client needs additional volume could the consumptive volume of 9.6 afa [(4.0 acres) x (2.4 ac-ft/ac/season)] be the limit?

I'll be using the Mitigation Analysis Tool as soon as I have figured it out. In the tool there are cells that say Read Me but when I click on the cell there is nothing. Is there supposed to be something to read or are there functions that did not come across in the emailed Excel spreadsheet?

So far I have not been able to find the page that you sent.

Enter First Time Step of Transfer: SPR 2010								
Match: 112			Match: 456					
	AtR	HtS	StNB	NBtN	NtM	DWtB	BtTS	TS
Preexisting Effects @ SS (Last Time Step):	0.10	0.12	0.85	1.80	0.04	0.04	0.02	0.01
Steady State - Value of Dep. @ Last Time Step:	0.21	0.33	1.14	1.23	0.03	0.03	0.01	0.01
Preexisting Effects @ Transient State (Max Value Timestep):	0.10	0.12	0.85	1.80	0.04	0.04	0.02	0.01
Transient State - Max. Value of Dep. After Transfer:	0.21	0.33	1.14	1.80	0.04	0.04	0.02	0.01
Steady State Change:	0.11	0.21	0.29	-0.57	-0.01	-0.01	0.00	0.00
Transient State Change:	0.11	0.21	0.29	0.00	0.00	0.00	0.00	0.00

I appreciate your assistance.

Keith C. Wilson
Senior Water Rights Analyst
kwilson@rockymountainenvironmental.com

From: Van Bussum, Monica [mailto:Monica.VanBussum@idwr.idaho.gov]
Sent: Friday, June 17, 2011 12:10 PM
To: Keith C. Wilson
Subject: RE: Water Supply Bank rental - Knife River Corp.

Hi Keith,

I've been thinking about it and I don't think you need a new analysis because we can still limit the rental volume to 2.9 AF. It seems like that's all your client needs anyway, so that's all we'd be moving. I can just put that the rental is for 43.8 AF and limit it to actual annual diversion of 2.9 AF. What do you think?

Monica

From: Keith C. Wilson [mailto:kwilson@rockymountainenvironmental.com]
Sent: Friday, June 17, 2011 9:05 AM
To: Van Bussum, Monica
Subject: RE: Water Supply Bank rental - Knife River Corp.

They need the diversion rate also. I'll do the analysis and send it to you.

Keith C. Wilson
Senior Water Rights Analyst
kwilson@rockymountainenvironmental.com

From: Van Bussum, Monica [mailto:Monica.VanBussum@idwr.idaho.gov]
Sent: Thursday, June 16, 2011 4:14 PM
To: Keith C. Wilson
Subject: RE: Water Supply Bank rental - Knife River Corp.

Hi Keith,

I got your model analysis and that looks fine. There is one thing to note about the application. In it, your client is applying for 0.25 cfs and 2.9 AF. The right that will be rented is an irrigation right, so we are looking at a change in nature of use. 22-7336 is authorized for 1.64 cfs and 287 AF on 82 acres. That is 0.02 cfs per acre, meaning for each acre rented, only 0.02 cfs/ac comes with it.

For your client, the 2.9 AF they want equates to renting 1.2 acres and getting 0.02 cfs as the diversion rate. They would also have to rent the full field headgate requirement of 3.5 AFA but would be limited to the consumptive requirement. In this case, your client would have to rent 4.2 AF (1.2 acres times 3.5 AFA) but would be limited to 2.9 AF. To summarise, this rental allows 0.02 cfs and 2.9 AF. The cost of this rental is \$58.80.

However, if the flow rate is important for your client, then they will have to rent more volume. For your client to get the full 0.25 cfs requested, they would have to rent 12.5 acres and 43.8 AF. The cost of this rental is \$613.20.

Please let me know which way you and your client want to go. Thanks!

Monica

From: Keith C. Wilson [mailto:kwilson@rockymountainenvironmental.com]
Sent: Thursday, June 16, 2011 3:16 PM
To: Van Bussum, Monica
Subject: RE: Water Supply Bank rental - Knife River Corp.

Monica,
I've attached the ESPA Analysis for the Knife River – St Anthony Project.

The volume of 2.9 afa is a Consumptive Use Volume so the Volume of 22-7336 is also a consumptive use Volume. I made the assumption that the crop has been Alfalfa – Less Frequent Cuttings.

Please let me know if you need any additional information.

Keith C. Wilson
Senior Water Rights Analyst
kwilson@rockymountainenvironmental.com

From: Van Bussum, Monica [mailto:Monica.VanBussum@idwr.idaho.gov]
Sent: Wednesday, June 15, 2011 12:14 PM
To: Keith C. Wilson
Subject: RE: Water Supply Bank rental - Knife River Corp.

Hi Keith,

That email I sent with the Mitigation Analysis Tool was quite large and I just want to confirm you received it. Thanks!

FYI – the Knife River – Idaho Falls rental approval should go out tomorrow or Friday for signature and payment.

Monica

From: Keith C. Wilson [mailto:kwilson@rockymountainenvironmental.com]
Sent: Wednesday, June 15, 2011 11:04 AM
To: Van Bussum, Monica
Subject: RE: Water Supply Bank rental - Knife River Corp.

Monica,

Thanks. I get that done and hopefully sent to you by the end of the day.

In your previous email you referenced ***Mitigation Analysis Tool***. I would appreciate a copy of this tool & instructions on how it is used, and how it differs from the ESPA Analysis.

Thanks,
Keith C. Wilson
Senior Water Rights Analyst
kwilson@rockymountainenvironmental.com

From: Van Bussum, Monica [mailto:Monica.VanBussum@idwr.idaho.gov]
Sent: Wednesday, June 15, 2011 10:52 AM
To: Keith C. Wilson
Subject: RE: Water Supply Bank rental - Knife River Corp.

Hi Keith,

You'll be looking at using 22-7336 as the "from well" for the model run for the Knife River-St. Anthony rental. The entirety of 22-7336 is in the Bank and available for rental.

Monica

From: Keith C. Wilson [mailto:kwilson@rockymountainenvironmental.com]
Sent: Tuesday, June 14, 2011 10:27 AM
To: Van Bussum, Monica
Subject: RE: Water Supply Bank rental - Knife River Corp.

Monica,
I've attached the ESPA Analysis for the **Knife River – Idaho Falls** plant just in case Kristin did not include one with the Water Bank Application.

I am assuming that you will run the ESPA Analysis for the the **Knife River – St. Anthony** plant since I do not have the information as to what water rights in the Water Bank that could be leased from the Water Supply Bank.

Keith C. Wilson
Senior Water Rights Analyst
kwilson@rockymountainenvironmental.com

From: Van Bussum, Monica [mailto:Monica.VanBussum@idwr.idaho.gov]
Sent: Monday, June 13, 2011 4:02 PM
To: Keith C. Wilson
Cc: Kristin Moore
Subject: RE: Water Supply Bank rental - Knife River Corp.

Hi Keith,

Thanks for providing this clarification. As mentioned in my last email, we will need ESPA model runs (and the Mitigation Analysis Tool if required to be run) for each application within 14 days. Please let me know if you have any questions.
Thanks!

Monica

From: Keith C. Wilson [mailto:kwilson@rockymountainenvironmental.com]
Sent: Monday, June 13, 2011 9:46 AM
To: Van Bussum, Monica
Cc: Kristin Moore
Subject: RE: Water Supply Bank rental - Knife River Corp.

Monica,

There are two Bank Rental applications:

A. Knife River – **Idaho Falls** plant: Plant location (S½NE¼ & N½SW¼ Sec 36, T02N, R37E)

Transfer 3 acres of water right 35-7310A

Knife River will be requesting a rental from the Bank for the same 3 acre Transfer.

The Bank Application was sent with the cover letter dated 06/09/2011.

So it is likely that you will receive the application either today or tomorrow.

will talk with Kristin Moore about getting:

1) the data entry, 2) graphs, 3) calculated effects tab and 4) mitigation analysis tool if mitigation would be required

B. Knife River – **St. Anthony** plant: (Plant location SE¼SE¼ Sec 11, T07N, R40E approximately 42 miles North of *Knife River – Idaho Falls plant*)

No Water Right Transfer needed

Lease water from the Water Bank for two years.

Hopefully this will clear up any confusion.

Keith C. Wilson
Senior Water Rights Analyst
kwilson@rockymountainenvironmental.com

From: Van Bussum, Monica [mailto:Monica.VanBussum@idwr.idaho.gov]
Sent: Friday, June 10, 2011 4:50 PM
To: Keith C. Wilson
Cc: Cefalo, James
Subject: Water Supply Bank rental - Knife River Corp.

Hi Keith,

I've received the Knife River Corporation rental application to the Water Supply Bank and have identified a possible leased right to use. However, this will need the ESPA model run and, of course, mitigation may be required. We have been requesting that consultants run the model because of IDWR staffing levels. Would you mind running the model and sending me PDFs of 1) the data entry, 2) graphs, 3) calculated effects tab and 4) mitigation analysis tool if mitigation would be required?

I spoke with James Cefalo, who is Watermaster for Water District 100 and one of our IDWR Eastern Regional Office staff, and he said your office had filed a transfer application stating that a Bank application had been filed to rent 35-7310A. I don't see 35-7310A mentioned on the rental application and that is a possibility to rent but of course we would need a model run. It does seem a little counterintuitive to move such a small amount of 35-7310A all the way from Basin 35 to Basin 22, however.

Another possible candidate for the rental is 22-7336, which is located much closer to the proposed rental POU. Would you want to use that right instead?

Either way, we will need you to submit a model run with the required data. When you run the model, please model only the period anticipated for the Bank rental. I can give you 14 days to provide the model run, but please call me if you have questions or might need extra time. Thanks!

Monica

MONICA VAN BUSSUM

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Coordinator, State Water Supply Bank
Idaho Department of Water Resources
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Boise, ID 83720-0098
(208) 287-4907
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Knife River – St. Anthony – Water Bank

ESPA Attachment (Page 1 of 9)

ESPA Ground Water Rights Transfer Spreadsheet Data Summary

TRANSFER NO: Water Banking
TRANSFER NAME: Knife River - St Anthony

PREPARED BY: Keith C. Wilson - Rocky Mountain Environmental
DATE: 6/17/2011
Transfer Tool Version 3.1

BLUE CELLS ARE SET UP FOR
USER ENTRIES

WATER RIGHTS INVOLVED:

Group 1		Group 2	
Transfer Rights	Additional Mitigation Rights	Transfer Rights	Additional Mitigation Rights
Right No.	Priority Date	Right No.	Priority Date
22-7336	10/22/1980		

HISTORIC BENEFICIAL USE:

Trans/Mit Rights (group no.)	Acres to Dry Up (ac)	Beneficial Use (af/yr)	Total (af/yr)
22-7336	12.5	3.5	43.75
			0
			0
			0

MODEL CELL LOCATIONS:

	TO WELL	FROM1 WELL	FROM2 WELL	FROM3 WELL
ROW	54	61	0	0
COLUMN	190	184	0	0

MITIGATION NOTES:

Calculation.....
Diversion Rate = 0.25 cfs.....
Acres 22-7336 for 0.25 cfs.....
Ac= 0.25 cfs/0.02 cfs/ac = 12.5 ac
Vol. 12.5 ac @ 3.5 ac/af = 43.8 afa
New Place of Use.....
Transfer of 4.5 ac @ 15.75 afa.....
= 5.25 ac/1 trimester

TO Well (Projected Use)	Start Date		End Date		Water Use		Acres Authorized (acres)	Notes
	Season	Year	Season	Year	Annual (af/yr)	Trimester (af/trimester)		
	Spring	2011	Spring	2130	16.8	5.6	4.8	
FROM1 Well (With Transfer)	Summer Spring	1980 2011	Winter Spring	2010 2130	43.75 0	14.6 0.0	12.5 0.0	
FROM1 Well (Without Transfer)	Summer	1980	Spring	2130	43.75	14.6	12.5	

Calculations:

The Knife River – St. Anthony Project Application Requests a Diversion Rate of 0.25 cfs and a Volume of 2.9 afa. Determine how much of Water right 22-7336 is needed:

$$\begin{aligned} \text{Water Right 22-7336} & \quad - \text{Crop Consumptive Use} = 2.38 = 2.4 \text{ ac-ft/ac/season} \\ 1.64 \text{ cfs} & \quad 287 \text{ afa} \quad \text{for} \quad 82.0 \text{ ac} \quad = 0.02 \text{ cfs/ac} \\ = 0.02 \text{ cfs/ac} & \quad = 3.5 \text{ ac-ft/ac/season} \end{aligned}$$

$$\text{Consumptive use} = 2.4 \text{ ac-ft/ac/season}$$

$$\text{Project requires a Consumptive Use Volume} = 2.9 \text{ afa}$$

$$\text{Acres needed to provide Consumptive Volume of 2.9 afa:}$$

$$\begin{aligned} \text{Acres} &= (\text{Project Consumptive Volume}) \div (\text{Consumptive Volume 22-7336}) \\ &= (2.9 \text{ afa}) \div (2.4 \text{ afa}) = 1.208 \text{ ac} = 1.21 \text{ acres} \end{aligned}$$

$$\text{Diversion rate of 22-7336 associated with 1.21 acres}$$

$$\begin{aligned} \text{Diversion Rate} &= (1.21 \text{ acres}) \times (0.02 \text{ cfs/ac}) \\ &= 0.0242 \text{ cfs} \end{aligned}$$

Project requires a Diversion Rate of 0.25 cfs. Calculate acres of 22-7336 needed for 0.25 cfs:

$$\begin{aligned} \text{Acres} &= (\text{Product Diversion Rate}) \div (\text{Diversion Rate/acre}) \\ &= (0.25 \text{ cfs}) \div (0.02 \text{ cfs/ac}) = 12.5 \text{ acres} \end{aligned}$$

$$\text{Volume for 12.5 acres} = (12.5 \text{ acres}) \times (3.5 \text{ af/ac/season}) = 43.75 \text{ afa} = 43.8 \text{ afa.}$$

Proposed Project requires a diversion rate of 0.25 cfs. To provide the diversion rate of 0.25 cfs requires leasing 43.8 afa of Water Right 22-7336

ESPA Analysis indicates that of the transfer of 43.8 afa (12.5 ac) to the New Place of Use results in only 14.0 afa (4.0 acres) being available for the Project.

ET_{Idaho} 2009: Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho

Rexburg Ricks College (NWS --107644)

Data as 06-15-2011

Alfalfa - less frequent cuttings															
Precipitation Deficit															
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Growing Season ^a	Non Growing Season ^b	Annual
Mean	mm/day												mm		
Monthly ^c	-0.31	-0.25	0.20	0.70	3.54	5.33	4.60	4.97	3.42	1.40	-0.37	-0.38	726	-36	708

Irrigation Consumption Crop =	Alfalfa (Less Frequent Cuttings)
Precipitation Deficit P_{Def} (mm) =	726
Mean Irr. Requirement (ac-ft/ac/seas.) =	2.38 ac-ft/ac/seas.

ESPA Analysis Data entry

ENTER STARTING DATE FOR SIMULATION. THEN PUSH "UPDATE DATES" BUTTON		TRANSFER NO:			
YEAR		1980		TRANSFER NAME	
SEASON		SUMMER		Knife River - St Anthony	

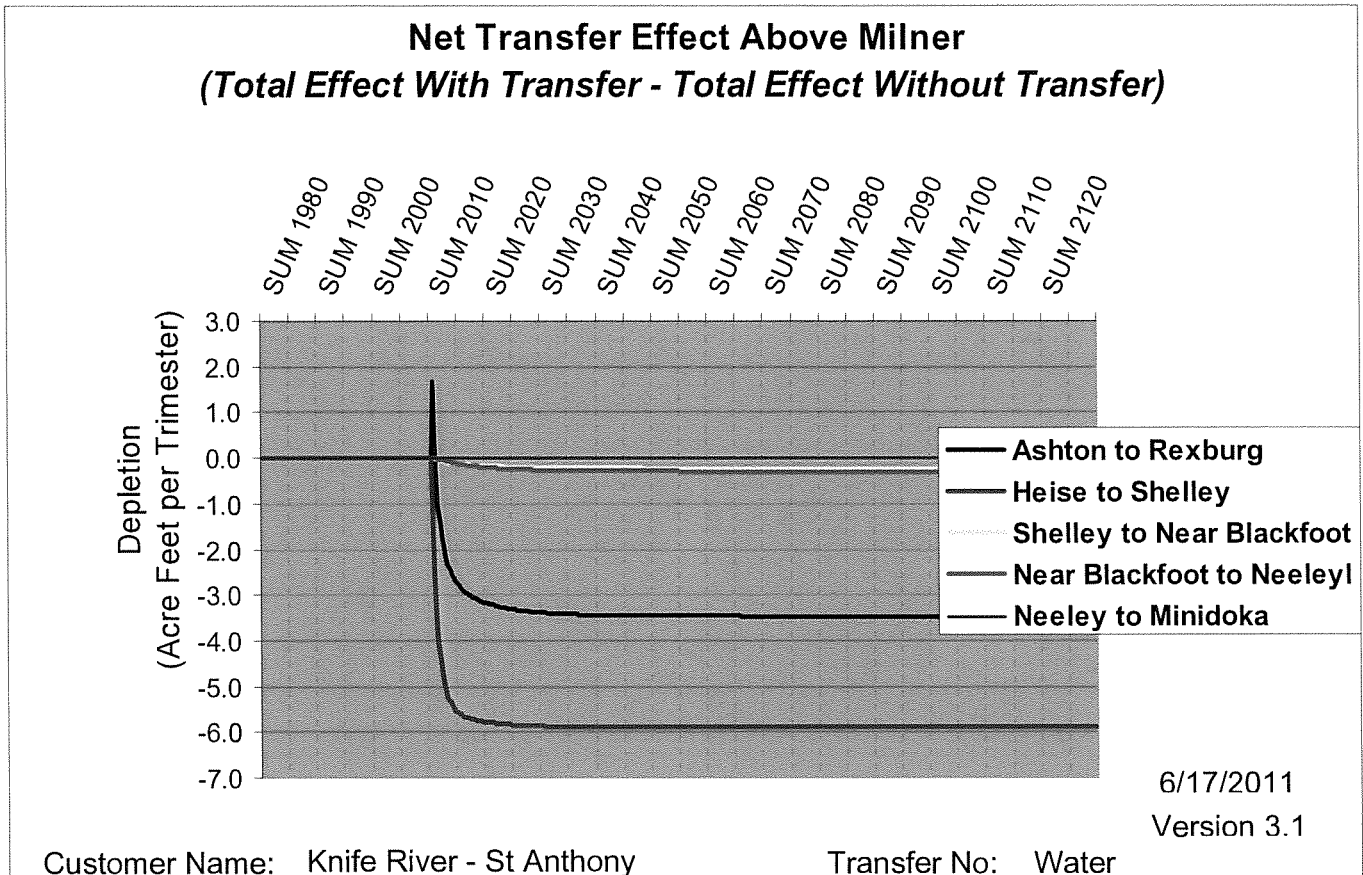
ENTER CELL LOCATIONS:					
	'TO' CELL	'FROM1' CELL	'FROM2' CELL	'FROM3' CELL	
ROW	54	61	0	0	
COLUMN	190	184	0	0	

TRIMESTER OF ACTIVITY	TO WELL	FROM1 WELL		FROM2 WELL	
	Projected Use AF/TRIMESTER	With Transfer AF/TRIMESTER	Without Transfer AF/TRIMESTER	With Transfer AF/TRIMESTER	Without Transfer AF/TRIMESTER
SUM 1980	0	15	15	0	0
WIN 1980	0	15	15	0	0
SPR 1981	0	15	15	0	0
SUM 1981	0	15	15	0	0
WIN 1981	0	15	15	0	0
SPR 1982	0	15	15	0	0
SUM 1982	0	15	15	0	0
WIN 1982	0	15	15	0	0
SPR 1983	0	15	15	0	0
SUM 1983	0	15	15	0	0
WIN 1983	0	15	15	0	0
SPR 2010	0	15	15	0	0
SUM 2010	0	15	15	0	0
WIN 2010	0	15	15	0	0
SPR 2011	5	0	15	0	0
SUM 2011	5	0	15	0	0
WIN 2011	5	0	15	0	0
SPR 2127	5	0	15	0	0
SUM 2127	5	0	15	0	0
WIN 2127	5	0	15	0	0
SPR 2128	5	0	15	0	0
SUM 2128	5	0	15	0	0
WIN 2128	5	0	15	0	0
SPR 2129	5	0	15	0	0
SUM 2129	5	0	15	0	0
WIN 2129	5	0	15	0	0
SPR 2130	5	0	15	0	0

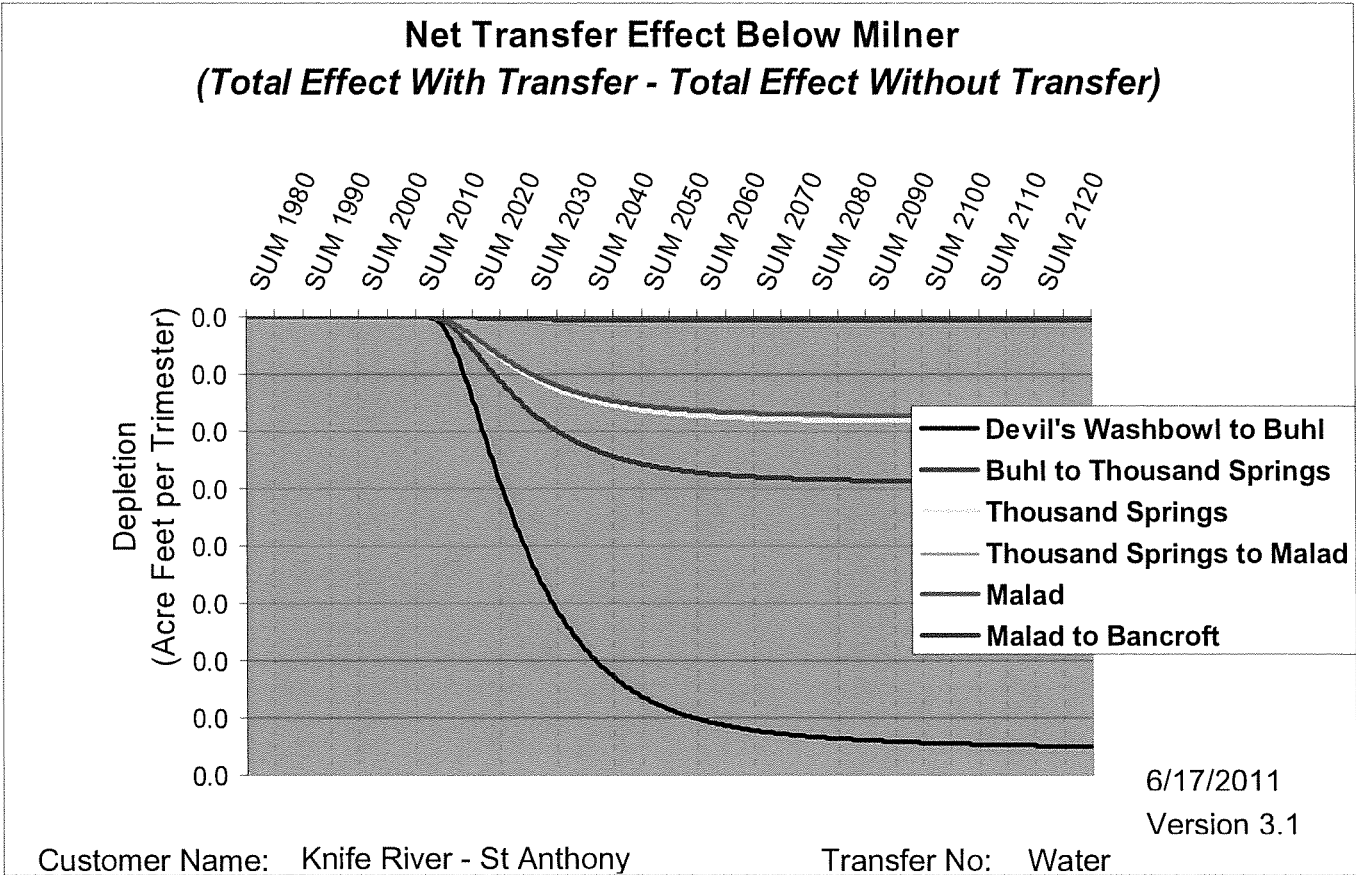
Value = 5.25 ac-ft/trimester

Value = 14.58 ac-ft/trimester

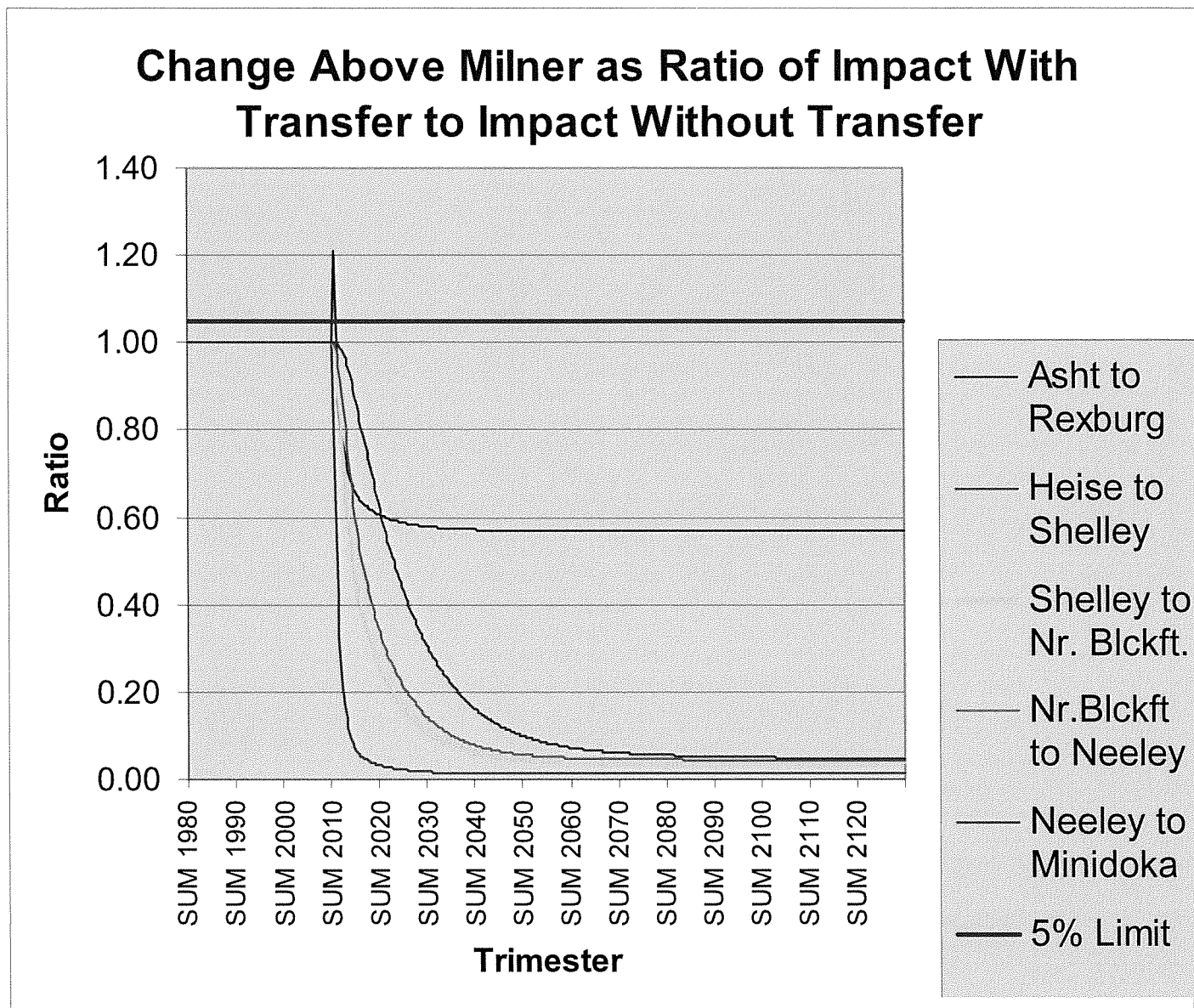
Net Transfer Effect



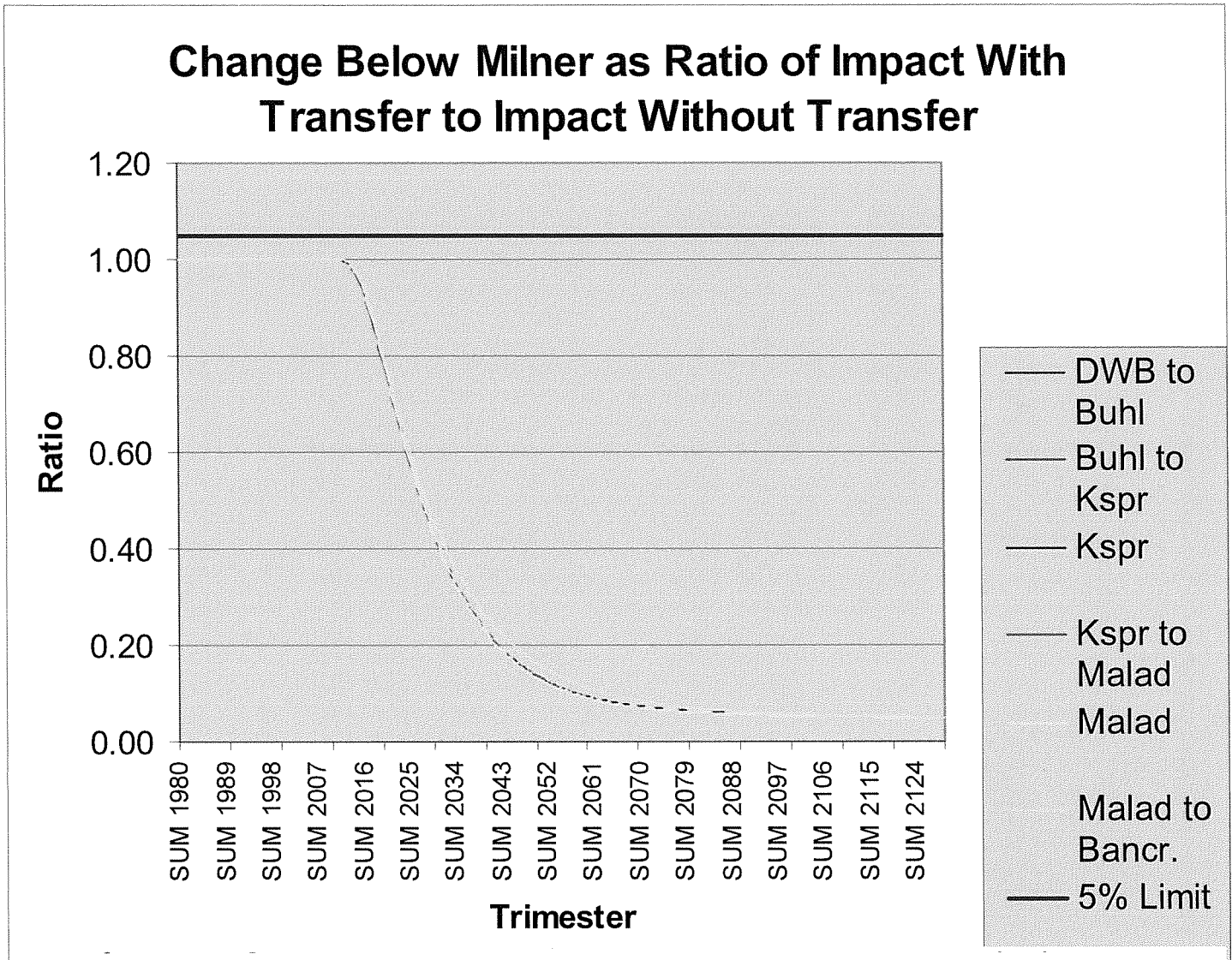
Net Transfer Effect



Change Ratio Graph – Above Milner



Change Ratio Graph – Below Milner



Change Ratio Chart

period	Asht to Rexburg	Heise to Shelley	Shelley to Nr. Blickft.	Nr.Blickft to Neeley	Neeley to Minidoka	DWB to Buhl	Buhl to Kspr	Kspr	Kspr to Malad	Malad	Malad to Bancr.
SPR 2010	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	100.0%
SUM 2010	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	100.0%
WIN 2010	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	100.0%
SPR 2011	1.21	0.77	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	100.0%
SUM 2011	1.05	0.57	0.97	0.99	1.00	1.00	1.00	1.00	1.00	1.00	100.0%
WIN 2011	0.94	0.43	0.93	0.97	1.00	1.00	1.00	1.00	1.00	1.00	100.0%
SPR 2012	0.87	0.33	0.88	0.95	0.99	1.00	1.00	1.00	1.00	1.00	100.0%
SUM 2012	0.82	0.26	0.83	0.91	0.99	1.00	1.00	1.00	1.00	1.00	100.0%
WIN 2012	0.78	0.20	0.77	0.88	0.98	1.00	1.00	1.00	1.00	1.00	99.9%
SPR 2124	0.57	0.01	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	5.1%
SUM 2124	0.57	0.01	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	5.1%
WIN 2124	0.57	0.01	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	5.1%
SPR 2125	0.57	0.01	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	5.1%
SUM 2125	0.57	0.01	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	5.1%
WIN 2125	0.57	0.01	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	5.1%
SPR 2126	0.57	0.01	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	5.1%
SUM 2126	0.57	0.01	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	5.1%
WIN 2126	0.57	0.01	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	5.1%
SPR 2127	0.57	0.01	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	5.1%
SUM 2127	0.57	0.01	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	5.0%
WIN 2127	0.57	0.01	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	5.0%
SPR 2128	0.57	0.01	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	5.0%
SUM 2128	0.57	0.01	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	5.0%
WIN 2128	0.57	0.01	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	5.0%
SPR 2129	0.57	0.01	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	5.0%
SUM 2129	0.57	0.01	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	5.0%
WIN 2129	0.57	0.01	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	5.0%
SPR 2130	0.57	0.01	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05	5.0%

The most affected and the only reach to exceed the allowable 1.10 or 10.0%, is the Ashton to Rexburg Reach.

Calculated Effects Chart

	Net Transfer Effect (AF/four months)										
	Ashton to	Heise to	Shelley to	Nr Blckft T	Neeley to	Dev. Wbl.	Buhl to	Kspr	Kspr to	Malad	Malad to
	Rexburg	Shelley	Nr Blckft	Neeley	Minidoka	Buhl	Kspr		Malad		Bancroft
SPR 2010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUM 2010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WIN 2010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPR 2011	1.7	-1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUM 2011	0.4	-2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WIN 2011	-0.5	-3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPR 2012	-1.1	-4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUM 2012	-1.5	-4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WIN 2012	-1.8	-4.7	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPR 2013	-2.0	-5.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUM 2013	-2.2	-5.1	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WIN 2013	-2.3	-5.2	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPR 2014	-2.4	-5.3	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUM 2014	-2.5	-5.4	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WIN 2014	-2.6	-5.5	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPR 2125	-3.5	-5.9	-0.2	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUM 2125	-3.5	-5.9	-0.2	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WIN 2125	-3.5	-5.9	-0.2	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPR 2126	-3.5	-5.9	-0.2	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUM 2126	-3.5	-5.9	-0.2	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WIN 2126	-3.5	-5.9	-0.2	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPR 2127	-3.5	-5.9	-0.2	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUM 2127	-3.5	-5.9	-0.2	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WIN 2127	-3.5	-5.9	-0.2	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPR 2128	-3.5	-5.9	-0.2	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUM 2128	-3.5	-5.9	-0.2	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WIN 2128	-3.5	-5.9	-0.2	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPR 2129	-3.5	-5.9	-0.2	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUM 2129	-3.5	-5.9	-0.2	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WIN 2129	-3.5	-5.9	-0.2	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPR 2130	-3.5	-5.9	-0.2	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0

The first year (2011) produces the Maximum Calculated Effect in the Ashton to Rexburg Reach. All reaches are less than the allowable 2.0 ac-ft/trimester so no additional mitigation is required.

Van Bussum, Monica

From: Van Bussum, Monica
Sent: Thursday, June 16, 2011 4:14 PM
To: 'Keith C. Wilson'
Subject: RE: Water Supply Bank rental - Knife River Corp.

Hi Keith,

I got your model analysis and that looks fine. There is one thing to note about the application. In it, your client is applying for 0.25 cfs and 2.9 AF. The right that will be rented is an irrigation right, so we are looking at a change in nature of use. 22-7336 is authorized for 1.64 cfs and 287 AF on 82 acres. That is 0.02 cfs per acre, meaning for each acre rented, only 0.02 cfs/ac comes with it.

For your client, the 2.9 AF they want equates to renting 1.2 acres and getting 0.02 cfs as the diversion rate. They would also have to rent the full field headgate requirement of 3.5 AFA but would be limited to the consumptive requirement. In this case, your client would have to rent 4.2 AF (1.2 acres times 3.5 AFA) but would be limited to 2.9 AF. To summarise, this rental allows 0.02 cfs and 2.9 AF. The cost of this rental is \$58.80.

However, if the flow rate is important for your client, then they will have to rent more volume. For your client to get the full 0.25 cfs requested, they would have to rent 12.5 acres and 43.8 AF. The cost of this rental is \$613.20.

Please let me know which way you and your client want to go. Thanks!

Monica

From: Keith C. Wilson [mailto:kwilson@rockymountainenvironmental.com]
Sent: Thursday, June 16, 2011 3:16 PM
To: Van Bussum, Monica
Subject: RE: Water Supply Bank rental - Knife River Corp.

Monica,
I've attached the ESPA Analysis for the Knife River – St Anthony Project.

The volume of 2.9 afa is a Consumptive Use Volume so the Volume of 22-7336 is also a consumptive use Volume. I made the assumption that the crop has been Alfalfa – Less Frequent Cuttings.

Please let me know if you need any additional information.

Keith C. Wilson
Senior Water Rights Analyst
kwilson@rockymountainenvironmental.com

From: Van Bussum, Monica [mailto:Monica.VanBussum@idwr.idaho.gov]
Sent: Wednesday, June 15, 2011 12:14 PM
To: Keith C. Wilson
Subject: RE: Water Supply Bank rental - Knife River Corp.

Hi Keith,

That email I sent with the Mitigation Analysis Tool was quite large and I just want to confirm you received it. Thanks!

FYI – the Knife River – Idaho Falls rental approval should go out tomorrow or Friday for signature and payment.

Monica

From: Keith C. Wilson [mailto:kwilson@rockymountainenvironmental.com]
Sent: Wednesday, June 15, 2011 11:04 AM
To: Van Bussum, Monica
Subject: RE: Water Supply Bank rental - Knife River Corp.

Monica,

Thanks. I get that done and hopefully sent to you by the end of the day.

In your previous email you referenced ***Mitigation Analysis Tool***. I would appreciate a copy of this tool & instructions on how it is used, and how it differs from the ESPA Analysis.

Thanks,
Keith C. Wilson
Senior Water Rights Analyst
kwilson@rockymountainenvironmental.com

From: Van Bussum, Monica [mailto:Monica.VanBussum@idwr.idaho.gov]
Sent: Wednesday, June 15, 2011 10:52 AM
To: Keith C. Wilson
Subject: RE: Water Supply Bank rental - Knife River Corp.

Hi Keith,

You'll be looking at using 22-7336 as the "from well" for the model run for the Knife River-St. Anthony rental. The entirety of 22-7336 is in the Bank and available for rental.

Monica

From: Keith C. Wilson [mailto:kwilson@rockymountainenvironmental.com]
Sent: Tuesday, June 14, 2011 10:27 AM
To: Van Bussum, Monica
Subject: RE: Water Supply Bank rental - Knife River Corp.

Monica,
I've attached the ESPA Analysis for the **Knife River – Idaho Falls** plant just in case Kristin did not include one with the Water Bank Application.

I am assuming that you will run the ESPA Analysis for the the **Knife River – St. Anthony** plant since I do not have the information as to what water rights in the Water Bank that could be leased from the Water Supply Bank.

Keith C. Wilson
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kwilson@rockymountainenvironmental.com

From: Van Bussum, Monica [mailto:Monica.VanBussum@idwr.idaho.gov]
Sent: Monday, June 13, 2011 4:02 PM
To: Keith C. Wilson
Cc: Kristin Moore
Subject: RE: Water Supply Bank rental - Knife River Corp.

Hi Keith,

Thanks for providing this clarification. As mentioned in my last email, we will need ESPA model runs (and the Mitigation Analysis Tool if required to be run) for each application within 14 days. Please let me know if you have any questions. Thanks!

Monica

From: Keith C. Wilson [mailto:kwilson@rockymountainenvironmental.com]
Sent: Monday, June 13, 2011 9:46 AM
To: Van Bussum, Monica
Cc: Kristin Moore
Subject: RE: Water Supply Bank rental - Knife River Corp.

Monica,

There are two Bank Rental applications:

A. Knife River – **Idaho Falls** plant: Plant location (S½NE¼ & N½SW¼ Sec 36, T02N, R37E)

Transfer 3 acres of water right 35-7310A

Knife River will be requesting a rental from the Bank for the same 3 acre Transfer.

The Bank Application was sent with the cover letter dated 06/09/2011.

So it is likely that you will receive the application either today or tomorrow.

will talk with Kristin Moore about getting:

1) the data entry, 2) graphs, 3) calculated effects tab and 4) mitigation analysis tool if mitigation would be required

B. Knife River – **St. Anthony** plant: (Plant location SE¼SE¼ Sec 11, T07N, R40E approximately 42 miles North of *Knife River – Idaho Falls plant*)

No Water Right Transfer needed

Lease water from the Water Bank for two years.

Hopefully this will clear up any confusion.

Keith C. Wilson

Senior Water Rights Analyst

kwilson@rockymountainenvironmental.com

From: Van Bussum, Monica [mailto:Monica.VanBussum@idwr.idaho.gov]

Sent: Friday, June 10, 2011 4:50 PM

To: Keith C. Wilson

Cc: Cefalo, James

Subject: Water Supply Bank rental - Knife River Corp.

Hi Keith,

I've received the Knife River Corporation rental application to the Water Supply Bank and have identified a possible leased right to use. However, this will need the ESPA model run and, of course, mitigation may be required. We have been requesting that consultants run the model because of IDWR staffing levels. Would you mind running the model and sending me PDFs of 1) the data entry, 2) graphs, 3) calculated effects tab and 4) mitigation analysis tool if mitigation would be required?

I spoke with James Cefalo, who is Watermaster for Water District 100 and one of our IDWR Eastern Regional Office staff, and he said your office had filed a transfer application stating that a Bank application had been filed to rent 35-7310A. I don't see 35-7310A mentioned on the rental application and that is a possibility to rent but of course we would need a

model run. It does seem a little counterintuitive to move such a small amount of 35-7310A all the way from Basin 35 to Basin 22, however.

Another possible candidate for the rental is 22-7336, which is located much closer to the proposed rental POU. Would you want to use that right instead?

Either way, we will need you to submit a model run with the required data. When you run the model, please model only the period anticipated for the Bank rental. I can give you 14 days to provide the model run, but please call me if you have questions or might need extra time. Thanks!

Monica

MONICA VAN BUSSUM

Sr. Water Resource Agent
Coordinator, State Water Supply Bank
Idaho Department of Water Resources
322 East Front Street
PO Box 83720
Boise, ID 83720-0098
(208) 287-4907
Fax: (208) 287-6700

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Sent: Thursday, June 16, 2011 3:16 PM
To: Van Bussum, Monica
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Attachments: ESPA-Binder.pdf

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Sr. Water Resource Agent

Coordinator, State Water Supply Bank

Idaho Department of Water Resources

322 East Front Street

PO Box 83720

Boise, ID 83720-0098

(208) 287-4907

Fax: (208) 287-6700

Knife River – St. Anthony – Water Bank

ESPA Attachment (Page 1 of 9)

ESPA Ground Water Rights Transfer Spreadsheet Data Summary

TRANSFER NO: Water Bank
TRANSFER NAME: Knife River - St. Anthony

PREPARED BY: Keith C. Wilson Rocky Mountain Environmental
DATE: 16-Jun-11
Transfer Tool Version Version 3.1

BLUE CELLS ARE SET UP FOR
USER ENTRIES

WATER RIGHTS INVOLVED:

Group 1		Group 2	
Transfer Rights	Additional Mitigation Rights:		
Right No	Priority Date	Right No	Priority Date
22-7336	10/22/1980		

HISTORIC BENEFICIAL USE:

Trans/Mit. Rights (group no.)	Acres to Dry Up (ac)	Beneficial Use (af/yr)	Total (af/yr)
22-7336	1.5	2.4	3.6
		Consumptive Use Volume	

MODEL CELL LOCATIONS:

	TO WELL	FROM1 WELL	FROM2 WELL	FROM3 WELL
ROW	54	61	0	0
COLUMN	190	184	0	0

TO Well (Projected Use)	Start Date		End Date		Water Use		Acres Authorized (acres)	Notes
	Season	Year	Season	Year	Annual (af/yr)	Trimester (af/trimester)		
	Spring	2011	Spring	2130	3.6	1.2	0.0	1/3 Spring Trimester = 1.2 af/tri... 2/3 Summer Trimester = 2.4 af/tri... Winter Trimester = 0.0 af/tri
FROM1 Well (With Transfer)	Summer Spring	1980 2011	Winter Spring	2010 2130	3.6 0	1.2 0.0	1.5 0.0	1/3 Spring Trimester = 1.2 af/tri... 2/3 Summer Trimester = 2.4 af/tri... Winter Trimester = 0.0 af/tri
FROM1 Well (Without Transfer)	Summer	1980	Spring	2130	3.6	1.2	1.5	

MITIGATION NOTES:
All Volumes are Consumptive Use

Calculations:

Volume for The Knife River – St. Anthony Project of 2.9 afa is a consumptive use volume so it is necessary to determine the amount of Water Right 22-7336 needed to provide a consumptive use volume:

1. Consumptive Use Values of Water Right 22-7336 = 2.4 ac-ft/ac/season
2. Acres of 22-7336 to provide 2.9 afa = 1.21 acres
3. To facilitate calculations round acres to the next half acre = 1.5 acres
4. Consumptive use Volume for 1.5 ac = 3.6 afa
5. Volume Spring Trimester = 1.2 ac-ft/trimester
6. Volume Summer Trimester = 2.4 ac-ft/trimester
7. Volume Winter Trimester = 0.0 ac-ft/trimester

ET_{Idaho} 2009: Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho

Rexburg Ricks College (NWS --107644)

Data as 06-15-2011

Alfalfa - less frequent cuttings Precipitation Deficit															
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Growing Season ^a	Non Growing Season ^b	Annual
Mean	mm/day												mm		
Monthly ^c	-0.31	-0.25	0.20	0.70	3.54	5.33	4.60	4.97	3.42	1.40	-0.37	-0.38	726	-36	708

Irrigation Consumption Crop =	Alfalfa (Less Frequent Cuttings)
Precipitation Deficit P_{Def} (mm) =	726
Mean Irr. Requirement (ac-ft/ac/seas.) =	2.38 ac-ft/ac/seas.

Water Right 22-7336 - Crop Consumptive Use = 2.38 = 2.4 ac-ft/ac/season
 1.64 cfs 287 afa for 82.0 ac
 = 3.5 ac-ft/ac/season

Acres of Water Right 22-7336 to provide the 2.9 ac-ft/ac/season with a 2.4 ac-ft/ac/season consumptive use:

Acres = (2.9 ac-ft/ac/season) ÷ (2.4 ac-ft/ac/season) = 1.21 acres
 Round 1.21 acres up to next half acre:

Total Acres = 1.5 acres of Water Right 22-7336

Consumptive Volume for 1.5 acres @ 2.4 ac-ft/ac/season:

Volume = (1.5 ac) x (2.4 ac-ft/ac/season) = 3.6 afa

Volume Spring Trimester = (3.6 afa) X (1/3) = 1.2 ac-ft/trimester

Volume Summer Trimester = (3.6 afa) X (2/3) = 2.4 ac-ft/trimester

ENHANCED GROUND-WATER R

UNIVERSITY OF IDAHO - IDAHO WATER RESOURCES RESEARCH INSTIT

Cells this color are
set up for user entries

ENTER STARTING DATE FOR
SIMULATION. THEN PUSH
"UPDATE DATES" BUTTON
YEAR 1980
SEASON SUMMER
TRANSFER NO:
Water Bank
TRANSFER NAME
Knife River - St. Anthony

ENTER CELL LOCATIONS:

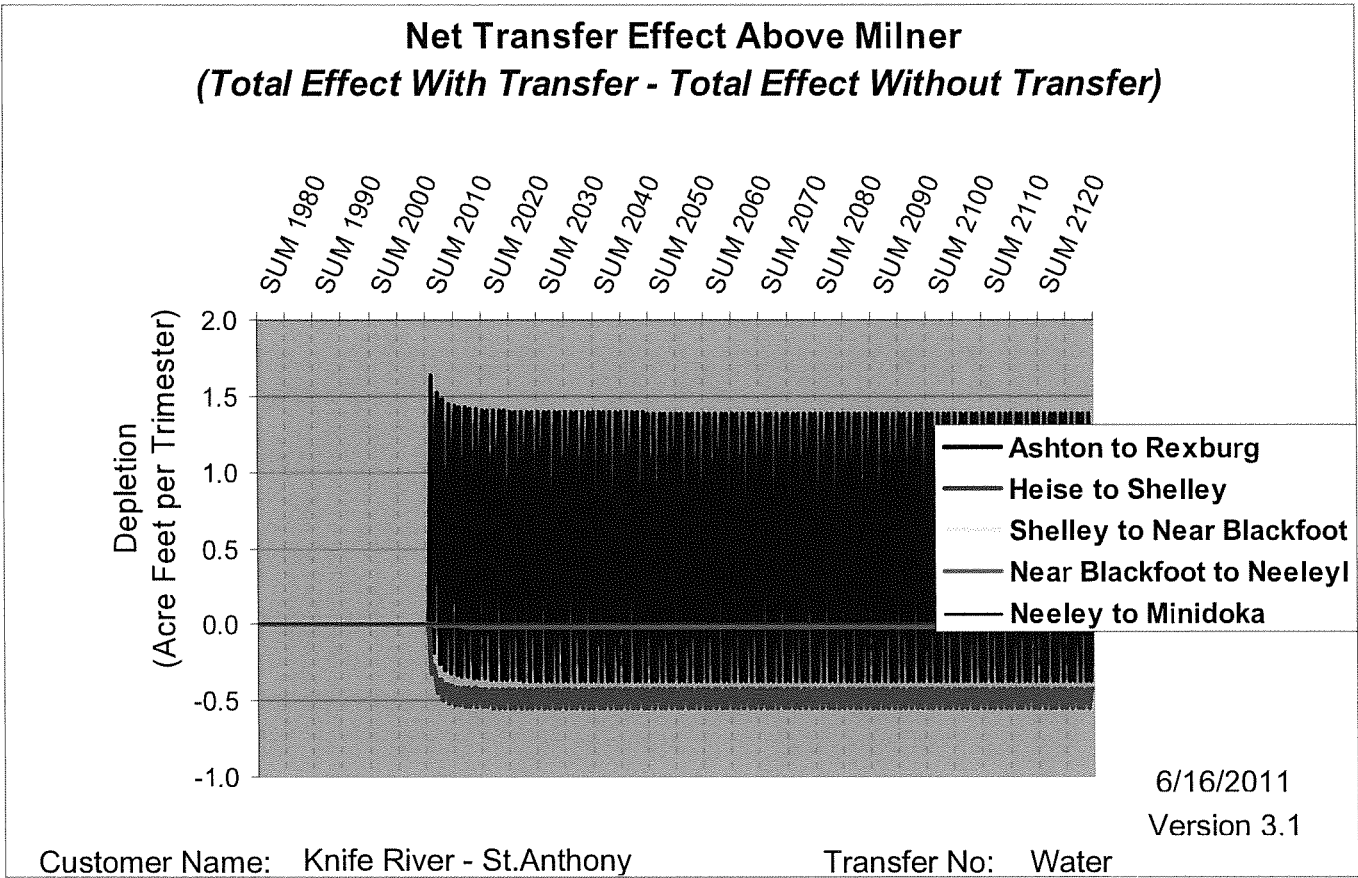
	'TO' CELL	'FROM1' CELL	'FROM2' CELL	'FROM3' CELL
ROW	54	61	0	0
COLUMN	190	184	0	0

TRIMESTER OF ACTIVITY	TO WELL	FROM1 WELL		FROM2 WELL	
	Projected Use AF/TRIMESTER	With Transfer AF/TRIMESTER	Without Transfer AF/TRIMESTER	With Transfer AF/TRIMESTER	Without Transfer AF/TRIMESTER
SUM 1980	0	2	2	0	0
WIN 1980	0	0	0	0	0
SPR 1981	0	1	1	0	0
SUM 1981	0	2	2	0	0
WIN 1981	0	0	0	0	0
SPR 1982	0	1	1	0	0
SUM 1982	0	2	2	0	0
WIN 1982	0	0	0	0	0

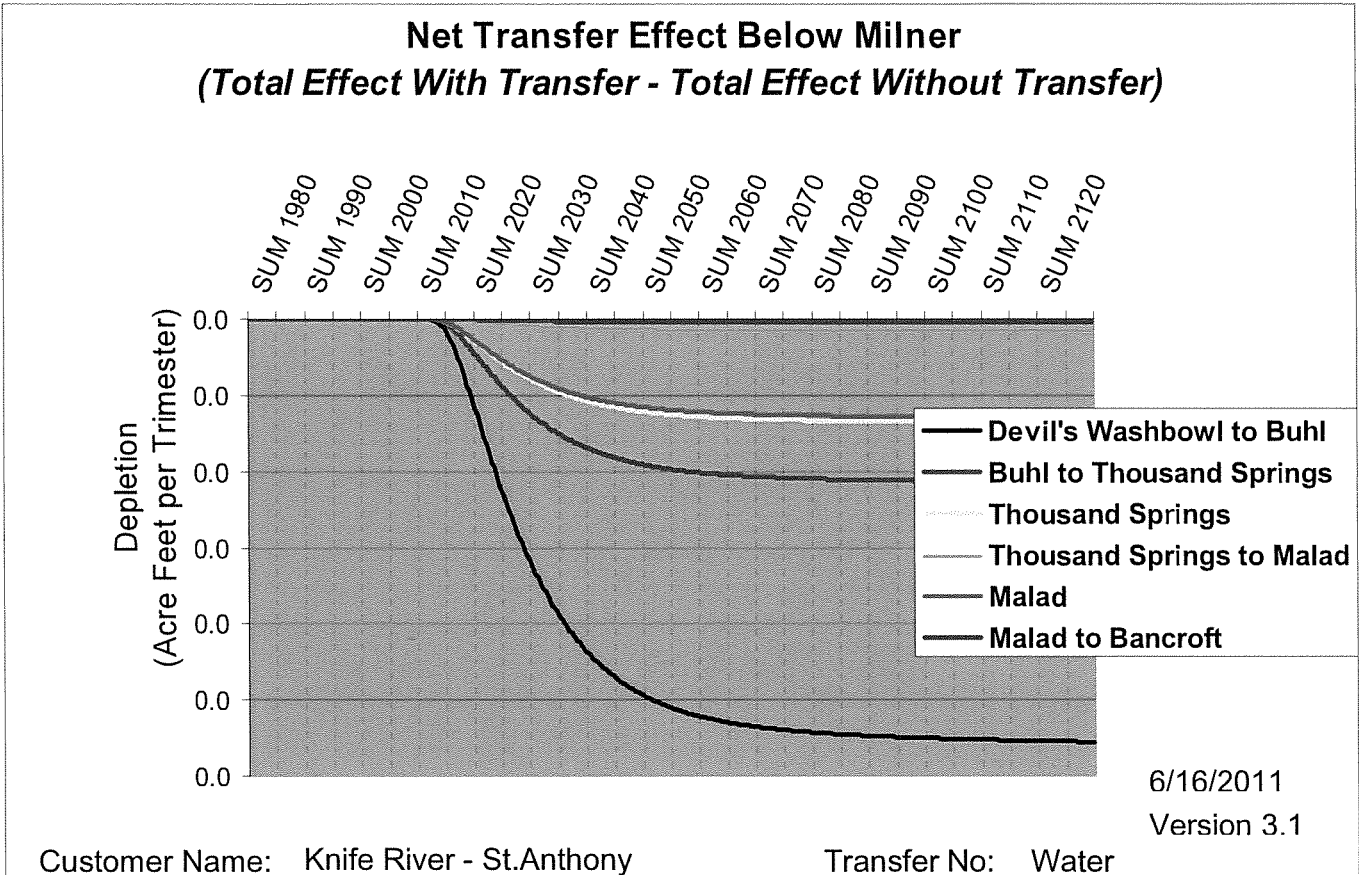
SUM 2010	0	2	2	0	0
WIN 2010	0	0	0	0	0
SPR 2011	1	0	1	0	0
SUM 2011	2	0	2	0	0
WIN 2011	0	0	0	0	0
SPR 2012	1	0	1	0	0
SUM 2012	2	0	2	0	0
WIN 2012	0	0	0	0	0

SPR 2128	1	0	1	0	0
SUM 2128	2	0	2	0	0
WIN 2128	0	0	0	0	0
SPR 2129	1	0	1	0	0
SUM 2129	2	0	2	0	0
WIN 2129	0	0	0	0	0
SPR 2130	1	0	1	0	0

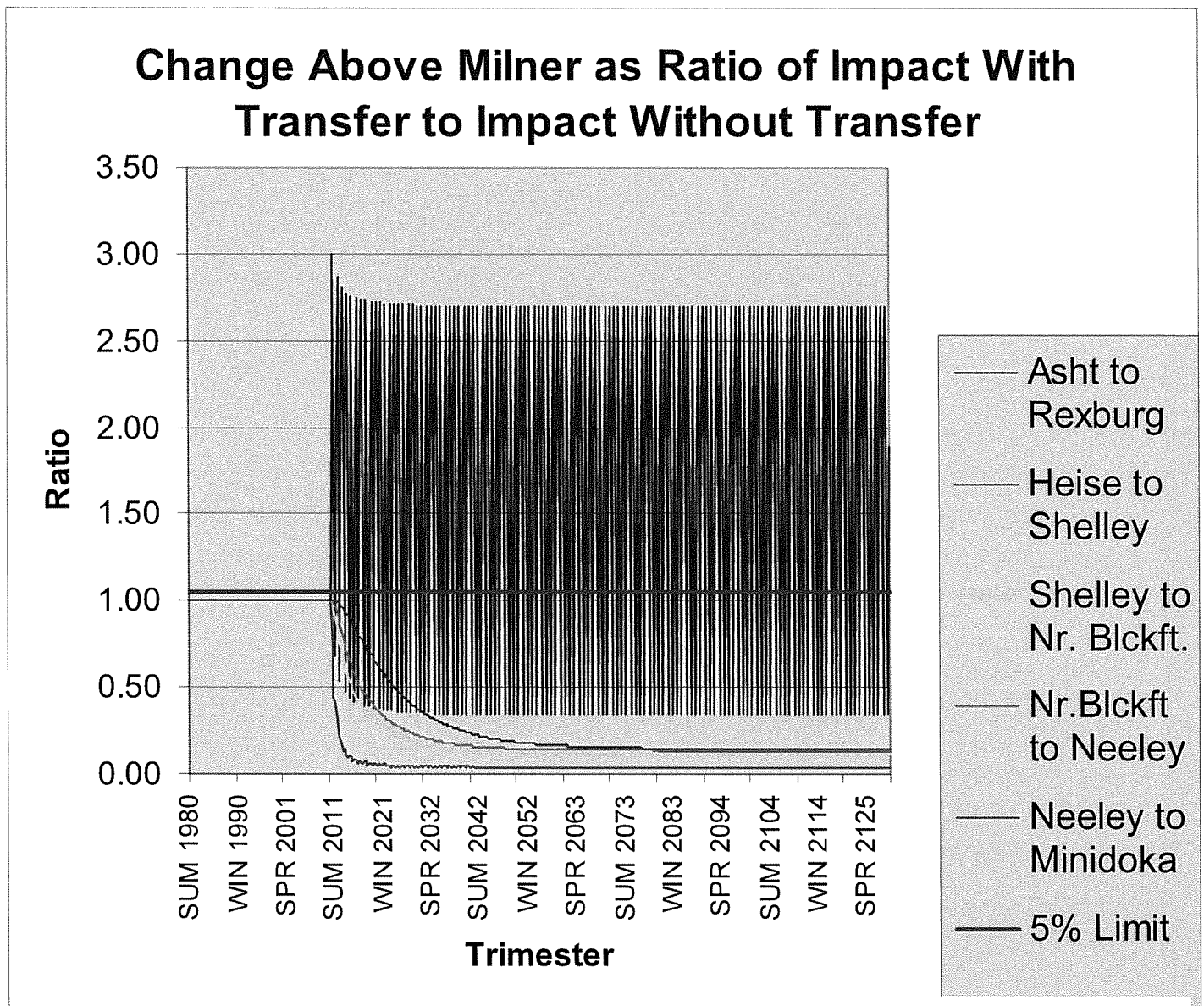
Net Transfer Effect



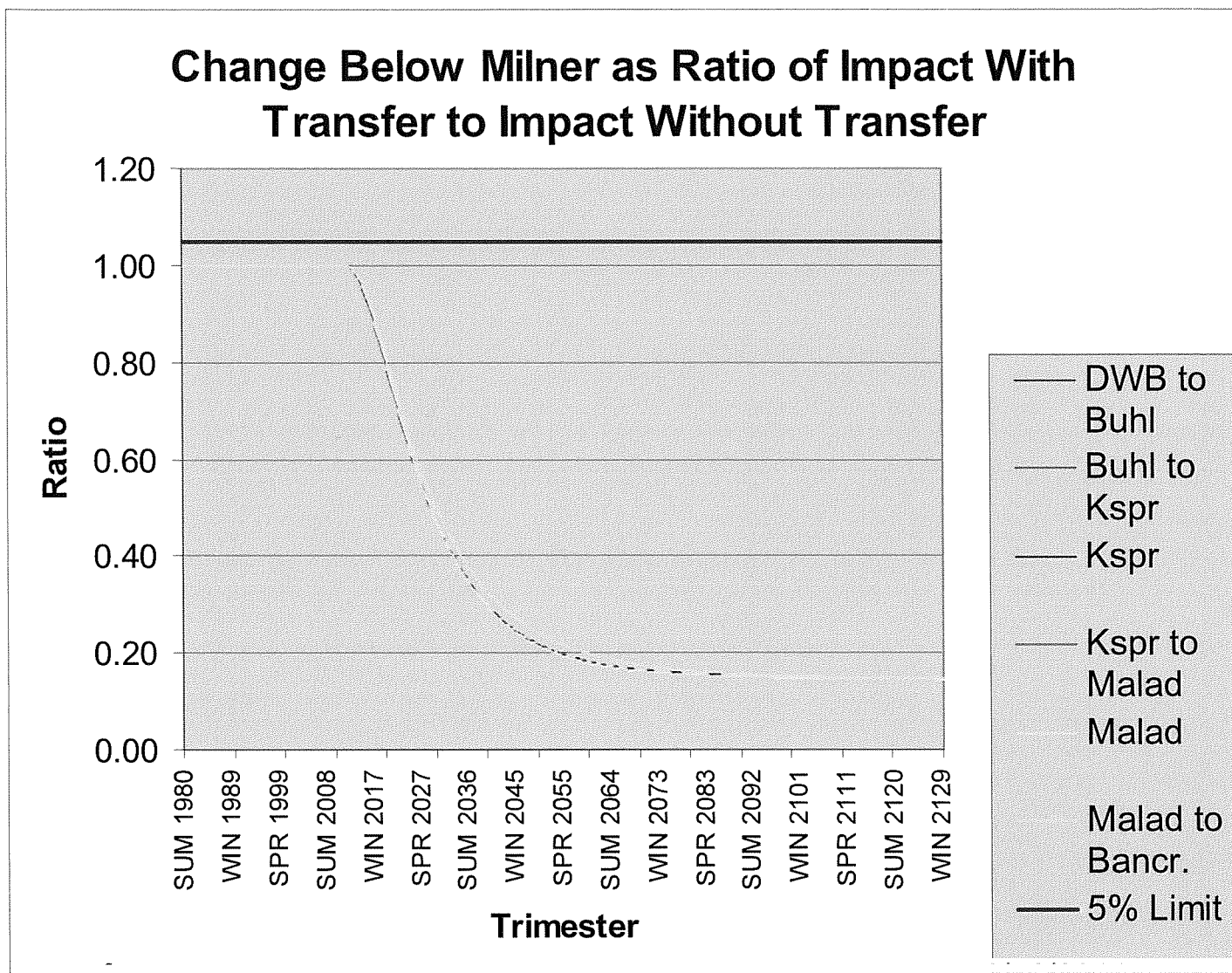
Net Transfer Effect



Change Ratio Graph – Above Milner



Change Ratio Graph – Below Milner



Change Ratio Chart

period	Asht to Rexburg	Heise to Shelley	Shelley to Nr. Blckft.	Nr. Blckft to Neeley	Neeley to Minidoka	DWB to Buhl	Buhl to Kspr	Kspr	Kspr to Malad	Malad	Malad to Bancr.
SPR 2010	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	100.0%
SUM 2010	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	100.0%
WIN 2010	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	100.0%
SPR 2011	2.43	0.75	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	100.0%
SUM 2011	3.00	0.44	0.96	0.99	1.00	1.00	1.00	1.00	1.00	1.00	100.0%
WIN 2011	0.68	0.42	0.91	0.97	1.00	1.00	1.00	1.00	1.00	1.00	100.0%
SPR 2012	2.16	0.33	0.86	0.94	0.99	1.00	1.00	1.00	1.00	1.00	100.0%
SUM 2012	2.86	0.21	0.81	0.91	0.99	1.00	1.00	1.00	1.00	1.00	100.0%
WIN 2012	0.54	0.22	0.76	0.87	0.98	1.00	1.00	1.00	1.00	1.00	99.9%
SPR 2013	2.06	0.18	0.71	0.83	0.97	1.00	1.00	1.00	1.00	1.00	99.8%
SUM 2013	2.81	0.13	0.67	0.79	0.96	1.00	1.00	1.00	1.00	1.00	99.7%
WIN 2013	0.48	0.14	0.63	0.76	0.95	0.99	0.99	0.99	0.99	0.99	99.4%
SPR 2031	1.90	0.04	0.17	0.21	0.34	0.45	0.45	0.45	0.45	0.45	47.8%
SUM 2031	2.70	0.04	0.17	0.20	0.34	0.44	0.44	0.44	0.44	0.44	47.1%
WIN 2031	0.35	0.04	0.17	0.20	0.33	0.44	0.44	0.44	0.44	0.44	46.4%
SPR 2032	1.90	0.04	0.16	0.20	0.33	0.43	0.43	0.43	0.43	0.43	45.7%
SUM 2032	2.70	0.04	0.16	0.20	0.32	0.42	0.42	0.42	0.42	0.42	45.0%
WIN 2032	0.35	0.04	0.16	0.20	0.32	0.42	0.41	0.41	0.41	0.41	44.3%
SPR 2033	1.90	0.04	0.16	0.19	0.31	0.41	0.41	0.41	0.41	0.41	43.7%
SUM 2033	2.70	0.04	0.16	0.19	0.31	0.40	0.40	0.40	0.40	0.40	43.0%
WIN 2033	0.35	0.04	0.16	0.19	0.30	0.40	0.39	0.39	0.39	0.39	42.4%
SPR 2126	1.89	0.04	0.12	0.14	0.14	0.15	0.15	0.15	0.15	0.15	14.6%
SUM 2126	2.70	0.03	0.12	0.14	0.14	0.15	0.15	0.15	0.15	0.15	14.6%
WIN 2126	0.35	0.04	0.12	0.14	0.14	0.15	0.15	0.15	0.15	0.15	14.6%
SPR 2127	1.89	0.04	0.12	0.14	0.14	0.15	0.15	0.15	0.15	0.15	14.6%
SUM 2127	2.70	0.03	0.12	0.14	0.14	0.15	0.15	0.15	0.15	0.15	14.6%
WIN 2127	0.35	0.04	0.12	0.14	0.14	0.15	0.15	0.15	0.15	0.15	14.6%
SPR 2128	1.89	0.04	0.12	0.14	0.14	0.15	0.15	0.15	0.15	0.15	14.6%
SUM 2128	2.70	0.03	0.12	0.14	0.14	0.15	0.15	0.15	0.15	0.15	14.6%
WIN 2128	0.35	0.04	0.12	0.14	0.14	0.15	0.15	0.15	0.15	0.15	14.6%
SPR 2129	1.89	0.04	0.12	0.14	0.14	0.15	0.15	0.15	0.15	0.15	14.6%
SUM 2129	2.70	0.03	0.12	0.14	0.14	0.15	0.15	0.15	0.15	0.15	14.6%
WIN 2129	0.35	0.04	0.12	0.14	0.14	0.15	0.15	0.15	0.15	0.15	14.6%
SPR 2130	1.89	0.04	0.12	0.14	0.14	0.15	0.15	0.15	0.15	0.15	14.6%

The most affected and the only reach to exceed the allowable 1.10 or 10.0%, is the Ashton to Rexburg Reach.

Calculated Effects Chart

	Net Transfer Effect (AF/four months)										
	Ashton to	Heise to	Shelley to	Nr Blckft T	Neeley to	Dev. Wbl.	Buhl to	Kspr	Kspr to	Malad	Malad to
	Rexburg	Shelley	Nr Blckft	Neeley	Minidoka	Buhl	Kspr		Malad		Bancroft
SPR 2010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUM 2010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WIN 2010	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPR 2011	0.8	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUM 2011	1.6	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WIN 2011	-0.2	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPR 2012	0.7	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUM 2012	1.5	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WIN 2012	-0.3	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPR 2013	0.6	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUM 2013	1.5	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WIN 2013	-0.3	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPR 2014	0.6	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUM 2014	1.5	-0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WIN 2014	-0.3	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPR 2061	0.5	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUM 2061	1.4	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WIN 2061	-0.4	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPR 2062	0.5	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUM 2062	1.4	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WIN 2062	-0.4	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPR 2125	0.5	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUM 2125	1.4	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WIN 2125	-0.4	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPR 2126	0.5	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUM 2126	1.4	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WIN 2126	-0.4	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPR 2127	0.5	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUM 2127	1.4	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WIN 2127	-0.4	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPR 2128	0.5	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUM 2128	1.4	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WIN 2128	-0.4	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPR 2129	0.5	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SUM 2129	1.4	-0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WIN 2129	-0.4	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SPR 2130	0.5	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

The first year (2011) produces the Maximum Calculated Effect in the Ashton to Rexburg Reach. All reaches are less than the allowable 2.0 ac-ft/trimester so no mitigation is required.