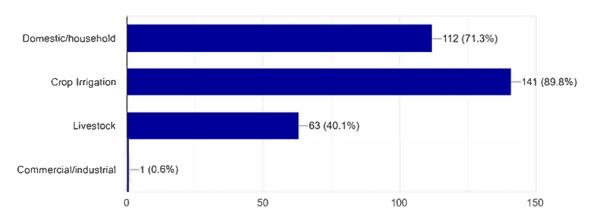
# Tri-Basin NRD Little Blue Basin Water User Survey

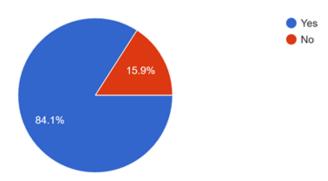
143 responses

**Publish analytics** 

1. Which of the following ways do you use groundwater (select all that apply)? 157 responses

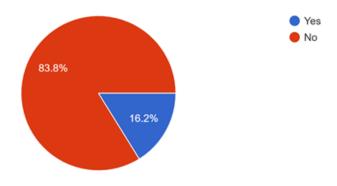


2. Are you aware that groundwater levels in portions of the Little Blue basin are declining?  $157 \, \mathrm{responses}$ 



3. If you answered "Yes" to #2, are you affected in any way by these declines (e.g., irrigation wells surge)?

130 responses

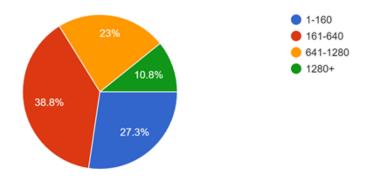


Comments

Question 3. Flow meters and upcoming restrictions. late season

# 4. If you are an irrigator, approximately how many irrigated acres do you farm within the Little Blue Basin?

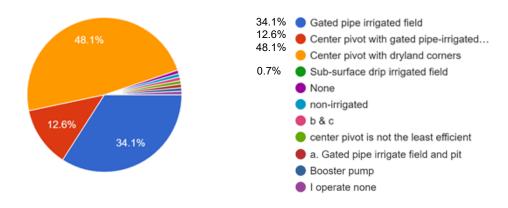
139 responses



### Comments

Question 4 to my knowledge there is none.

# 5. What is the least efficient irrigation system that you operate within Little Blue Basin? 135 responses



Comments Question 5

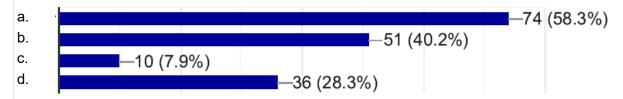
also marked center pivot with gated pipe-irrigated pivot corners. "least efficient" -?? Not a good question. going to be switching to (b.) hopefully

6. Based on #5, approximately how many irrigated acres do you irrigate this way?

## 114 responses

No Answer	29 responses	390	1 response
450	4 responses	350	1 response
160	4 responses	333	1 response
135	4 responses	320	1 response
650	3 responses	297	1 response
300	3 responses	280	1 response
260	3 responses	265	1 response
150	3 responses	250	1 response
130	3 responses	246	1 response
120	3 responses	240	1 response
65	3 responses	211	1 response
60	3 responses	210	1 response
50	3 responses	200	1 response
All	2 responses	185	1 response
2000	2 responses	161-640	1 response
1200	2 responses	160	1 response
640	2 responses	154	1 response
270	2 responses	151	1 response
134	2 responses	137	1 response
100	2 responses	132	1 response
70	2 responses	131	1 response
40	2 responses	124	1 response
20	2 responses	122	1 response
7	2 responses	118	1 response
1000 pivot, 50 corner	1 response	110	1 response
2500	1 response	102	1 response
1700	1 response	90	1 response
1400	1 response	83	1 response
1000	1 response	80	1 response
900	1 response	79.3	1 response
880	1 response	72	1 response
850	1 response	63	1 response
765	1 response	30	1 response
700	1 response	21 gravity acres	1 response
655	1 response	14	1 response
635	1 response	0	1 response
528	1 response	None	1 response
440	1 response	0 – NOW	1 response
400	1 response		F

- 7. Which of the following actions do you think would help stop groundwater declines in the Little Blue Basin? (select all that apply)
- a. Require flowmeters and annual water use reporting basinwide
- b. Limit water use (allocation of pumping)
- c. Require reduction of irrigated acres
- d. Require soil moisture sensors or other technology to improve irrigation efficiency
- e. Other \_\_\_\_\_



#### e. Other Responses

eliminate gravity irrigation.

Water storage to help water table.

Meters are a must if you want to help water declines.

Incentivize more efficient irrigation technologies other than gated pipe & furrow irrigation.

1. Restrict water use on lawns 2. Limit across entire Tri-Basin & in fact all NRD's.

Work with the LBNRD.

Education on crop water use and timing

a) how do you manage something you don't measure

Important to Require flow meters basin wide.

Limit water use within reason

Pivot to replace gravity

More in Formation on Deficit irrigation strategy

HAVE CONTROLS IN OTHER NRDS TO OUR EAST.

offer incentives to switch gravity to pivots

Flowmeters/reporting DISTRICT wide and the same for LBNRD - pumping from the same source

Stop Adams County from adding new irrigated acres

Put restrictions on pivot users, use only May to October

Follow Adams County

STOP Adams County from drilling wells

More help when one wants to convert from gravity to pivot

d. in problem areas

Turning off pivots when it's raining!

If the aquifer sand/gravel layers can't re-charge quickly enough to keep up with what is pumped out, then you have to back off the amount pumped out. That will vary from area to area based on the aquifers structure from one area to another area.

Pray for Rain.

Have Adams County start control on their irrigated acres.

#### 7. Continued

Stop Development of Irrigated Acres In ADAMS County!! We Should All Be Playing by The Same Rules.

Require Adams County, Little Blue NRD be Restricted. I know you can't make them. But a lawsuit would Bring it to their Attention.

Cover crops, Increase Biology, Infiltration, Majority of Rainfall is Ran off, Never Soaking in Because of Poor Management of crop ground and Greed of Farmers.

Education on soil water holding capacity.

Already do 1st answer. We already can't drill wells - that's enough!! don't know.

Restrict water use by recently developed acres in Adams County.

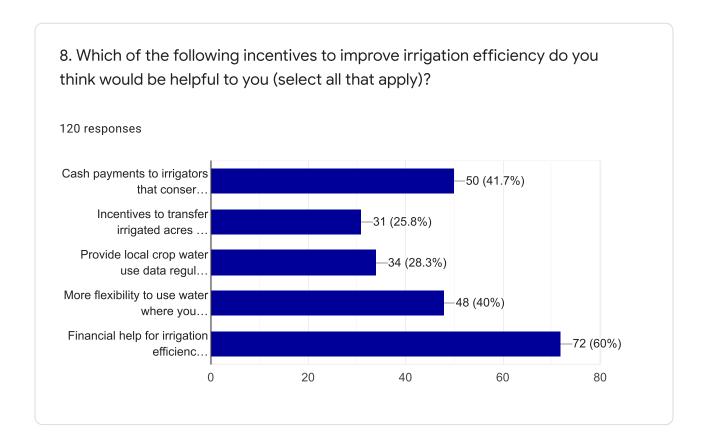
Limit how much water is used on sandy soils. Some of my neighbors pump 2x the amount used on heavy soils.

Question left blank 16 responses

#### Comments

Question 7. "would" - SB could, "stop" - No guarantees.
Already use flow meters & report

[Require reduction of irrigated acres] with a buy out option on irrigated acres perhaps, especially the sandy farms. [other] I'm not sure we can stop the declines without limiting water use in Adams County townships across the county line. Not all townships in the L.B. Basin in Tri-Basin NRD are losing ground in terms of water table level. Saving water west of Grant & May townships would help also.



#### Comments

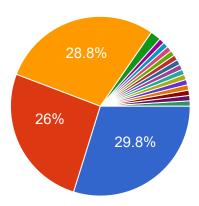
Question 8. c. Rainfall amounts and other inform.

a. needs to be more then \$5/ac in

Put water meters on every irrigation well. Have a penalty fee to those who go over their allotted water.

9. What do you think would be appropriate triggers for TBNRD to use to decide whether to limit pumping, if that becomes necessary?

104 responses



- 29.0% a. Compare current three-year average of groundwater levels to 1981-85 levels (current TBNRD rules)
- 26.0% b. Compare current spring groundwater levels to 2016 spring groundwater levels (Little Blue NRD rule)
- 28.8% c. Compare current thickness of the aquifer (saturated thickness) to saturated thickness in the past
  - e. Other
- 1.0% not sure
- 1.0% A & C
- 1.0% Have Adams County quit drilling wells
- 1.0% Do not limit pumping!! Educate & Monitor
- 1.0% more study on cause and affect
- 1.0% LBNRD rule is completely unrealistic
- 1.0% Little Blue rules are too lax
- 1.0% MAKE ALL BASINS (COUNTIES) HAVE EQUAL STATUTES
- 1.0% NONE
- 1.0% none
- 1.0% see question 10
- 1.0% The farmer should make his own decision
- 1.0% Require Crop Rotation, Less Water demanding Crops
- 1.0% Lake Level at Big Mac
- 1.0% 7-year average of 10" in a year

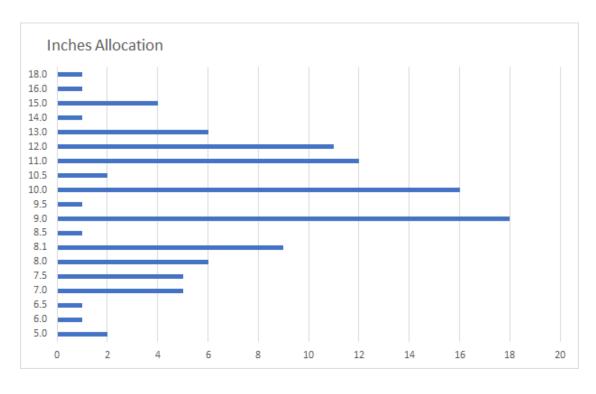
#### Comments

Question 9. a. "three" - five

also marked [Compare current spring groundwater levels to 2016 spring groundwater levels (Little Blue NRD rule)] and said he would have to compare the two options.

Use all not just one to make a limit on pumping.

10. Water use data from irrigators in the Little Blue Basin in Kearney County indicates that average water use is 8.1 per acre per year. If Tri-Basin NRD has to limit pumping, what do you think is an appropriate annual pumping limit inches per acre per year)



2 responses	5	15 responses	10
1 response	6	2 responses	10" - 12"
1 response	6 - 7"	1 response	10.5
5 responses	7	9 responses	11
5 responses	7.5	1 response	11.0 to start with - Entire TBNRD same limit.
6 responses	8	10 responses	12
7 responses	8.1	1 response	12 inches (36 over 3 years)
1 response	8.1 (40.5 over 5 years)	6 responses	13
1 response	8.1 if using pivot irrigation	1 response	14
1 response	8.5	4 responses	15
16 responses	9	1 response	16
1 response	9" average 45" over 5 years w/ bank.	1 response	18
1 response	9" with a 5-year bank (the bank is not optional)	1 response	32 over 3 years
1 response	9"-10"	1 response	45" over 5 years
1 response	9"-11"	33 responses	Blank
1 response	9, I really like the way LRNRD is limiting us!!! 45" over 5 years with a max 5" carried forward.	1 response	Depends on the year
1 response	9"/45"-5 years. With a carryover/water bank	1 response	Don't Know
1 response	9.5 inches per acre	1 response	X

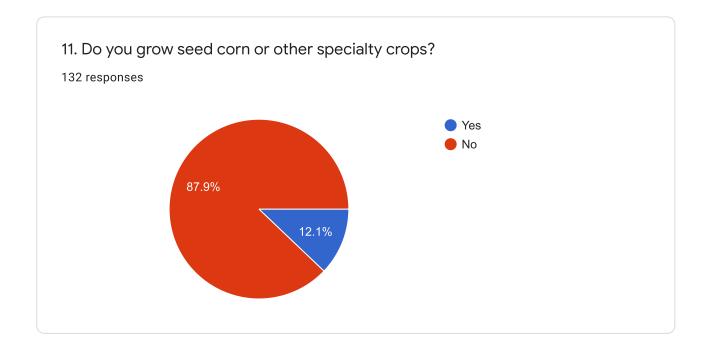
#### Comments

Question 10. Do what the Republican Valley does, it works!! Great corn can be grown on 9 inches.

Would match Lower Republican and less than to their east & west.

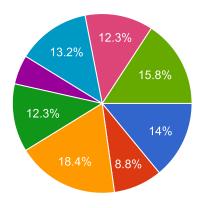
In Franklin County we had to convert from gravity irrigated to pivots with low pressure to stay under 9"

Depends on year, naturally hope to conserve on years of rain and draw more on drought years.



# 12. Where are the majority of the irrigated acres that you farm in the Little Blue Basin located?

114 responses



- 14% Sherman Township (5N-15W)
- 8.8% Hayes Township (6N-15W)
- 18.4% Cosmo Township (5N-14W)
- 12.3% Lincoln Township (6N-14W)
- 5.3% Liberty Township (7N-14W)
- 13.2% Grant Township (5N-13W)
- 12.3% May Township (6N-13W)
- 15.8% Eaton Township (7N-13W)

Question 12. (Multiple Townships Marked)

3 Responses May Township 2 Responses Cosmo Township

1 Response Eaton Township Grant Township Liberty township Hayes Township 13. Do you have comments or ideas for the Tri-Basin NRD Board of directors to consider regarding the issue of groundwater management?
78 responses

I have neighbors now that run water constantly, even after a rain. I don't think if there are allocations on how much can be used that they can go off of past recorded amount used, because they already were overusing. That would reward them for their overuse in the past. Everyone should get the same amount.

Get your head out of your ass and have the counties around us do what we are starting to have to do to conserve water.

Do NOT limit pumping!! But if you do have a bank!! Flow meters and Monitor first!

Conservation of Little Blue irrigation water use must be curtailed in western Adams County to deter further depletion of water levels. we have observed farmers in bother eastern Kearney County and western Adams County starting pivots as soon as they leave the field with planting equipment. This is wasteful misuse of water resources. Irrigation drilling must cease in western Adams County to further subdue proliferation of this problem as they use what we conserve!!

Convert gravity to pivot.

I can't help much as our irrigated ground is in Franklin County.

The truth is until the Little Blue NRD takes action to, at a minimum, conserve the shared resource, any action taken by Tri-Basin is futile

We all want to maintain a good water table. Everyone should do what they can to use the water wisely. Every usage draws on the supply. Educate all users on what can be done to use their water at only what is needed. For sure no near large wells put in. Keep studying how water table works. Have more than one water ed event per year. Note: There is more than one hole in the dam. Keep trying and be ready for "subject to change."

I question the 8.1"/A. I would like to know how that is determined - is everyone reporting? - No. This is a district-wide and LBNRD issue - not just Grant and May. Stakeholders came to you in good faith w/ a "45 over 5" allocation - knowing full well it would be costly to them in some way (income/value depletion) - what a great mindset/leadership they (we) set forth to attempt finding a solution to a problem that is much bigger than Grant and May Townships. Pressure on LBNRD is essential. And is probably too late. Will they reverse what they've done? Unfortunately, I see state involvement. As for Tri-Basin - we ALL need to be responsible.

- 1) The worst farm I have is gravity irrigated and it's sandy soil. The landowner doesn't want a pivot. Limited water on a though year and this farm would burn up.
- 2) There are several water hogs in the area, it should start with them! 3) Our area is affected by instigators from the west part of Tri-Basin as well as instigators directly east of Tri-Basin. It's not fair to limit just us.

Use a 5-year allocation with the ability to pool water between farms.

If you want good accountability of water use meter all wells in NRD. Why does the board still live in the dark ages when managing water? Perhaps state should control your job.

I truly think education is the key. I see farmers turning pivots on 4 or so days after a 3- or 4-inch rain in August and it's not necessary. I thin knowledge of how much water is actually in the soil at that point would help discourage water use. Also, I think guys sometimes turn pivots on too soon in June (especially in soybeans before they really need it)

No irrigated acres in these townships.

Farm 0 acres in LB Basin

The whole little blue basin in tri basin needs managed the same. Also, the lack of district wide meters is ridiculous.

You paid to dig reuse pits & now you're filling them in, keep the water at home? Sell the water to Texas if we're not smart enough to keep it at home. Tell the game and parks department to get a job, fish or family?

What good does it do to regulate Kearney County from water when Little Blue Basin in Adams County doesn't restrict use.

Do nothing as long as Adams County pumps freely.

Work with LBNRD. We are not the problem. Water is going East.

We can restrict water use all we want but if our neighboring NRD continues as they are the point will be mute. Our next step should be taking legal action of some sort with them.

Appropriate inch allocation for a 5-year term with the ability to bank a portion of the allocation for use during the 5 years.

#### HAVE SOME LIMITS ON ADAMS COUNTY WATER USE

No, but my acres are in Mirage Township.

Leave us alone!!

Require flow meters only when they hit triggers 81-85 levels. Give additional 5" before allocations are set. Higher allocations for sand. Other NRD's have no allocations based strictly on water levels but on saturated thickness.

I don't think the counties which are 1/2 mile east of me should be putting down wells. I am in Grant Township.

Rent farms out.

Irrigated acres are already capped. The ground water levels rise and fall from year to year. Leave us alone!

All of the Little Blue Basin should be 1 unit. You cannot limit water usage in 1 or 2 townships and expect the water table to increase.

The lack of consistent rules and guidelines throughout the Little Blue Basin is the root of the problem. Anything short of that is a policy failure.

Soil moisture probes have helped me become more efficient with my water.

Retired and don't do much with it.

No - Not at this time.

Cost Share Pivots for gravity irrigated.

If water levels continue to drop limiting pumping will probably be needed. continue to work with neighboring NRD;s for some uniformity of regulations.

Regarding question #10, a rolling usage over a period of 5 years is the only acceptable way to manage water restrictions for a farm operator. I'm not sure why water meters aren't required across the district. How can you manage what you aren't measuring?

9" per year on a 5-year average period. With no carry over, and severe penalty on next 5 year for overuse. If levels go up or down adjust inches per year. Same as LRNRD.

Allocation of 11 inches/year over 3 years with a base of 5" is what I would be comfortable with. Also, if our goal basin-wide is water management I believe that starts with every well in the basin having flow meters for the standpoint of record keeping.

good luck!

Groundwater management will be one of the largest issues for farmers in the next 30 years. I don't like the idea of limits on pumping per year. Average of 4-5 years possibly.

May Township - does not irrigate.

Please consider removing the observation well in Section 1 of Grant Township and add another location. In my opinion we are benefiting from better levels in Cosmos Township. Limiting Cosmo would help Grant also. Also consider making Grant, May and Heartwell area a transition zone to Adams County. Any savings we accrue will be used up by the framers there (in Adams County) in my opinion.

Educate users on consequences of declining groundwater levels. Suggest alternative crops that use less water and have greater ROI.

I Farm and Live in Franklin Co. I Irrigate Kearney County the same as Franklin with Restriction.

All Tri-Basin NRD need to have the same rules. Adams County rules are terrible.

I see it year after year. Some people turn on their pivots and walk away. The pivot is still running after an inch or more of rain. This has to stop. They need to be metered and penalized with a dollar amount.

Require everyone to be a wise steward of our groundwater. Do not reward those misusing right now with their over sue of irrigation and set the limit the same for everyone appropriate to the type of irrigation being used.

Declining Soils, Declining Biology, will keep increasing Runoff of water, keep increasing water usage. If more yield was beneficial, why are we expending our soil for an industrial product that costs taxpayers money to use?

In Lowell Township - 8-13 let us add irrigated acres but can limit water use to 10.5 inches/year

Create a reward system of some type to incentivise water usage at a lower rate. Maybe that's a payment towards well or pivot upgrades. This could be more beneficial than mandating.

Your re-use dams are idiotic. The cost of these dams for the small area that they potentially recharge the ground water is ridiculous. That you would even consider this is an insult to your intelligence.

Needs to be limits District wide, with allocations over a 5-year period to be able to grow a crop that uses less water for 1 year if you go over allocation. Everyone across the Tri-Basin needs to be regulated!!!!

More pressure needs to be applied to LB users in Adams County to reduce pumping and new drilling. Everyone needs to pull together to protect resources or the state should get involved if local control can't make hard decisions.

I like the 5 years idea or possibly 6 years due to I change pivots (rotate corn/beans). Also to combine water use where I have one gravity - 2 pivots. OR incentives to possibly put up another pivot but then need option to move acres around to fit pivot on that Farm.

Stop allowing Adam's County to add Irrigated acres.

Appreciate what the board is trying to do. Have always been proactive which is good. However, the policies of the NRD southeast of our area is causing problems, and you have no control over that.

If recharge in an area can't keep up, allocations are necessary, but let the producer decide how to allocate the water. Example: 5-year allocation period of 55 inches, but not tied to 11 inches per year. Maybe allow up to 15 inches in a year, but then must be lowered to less than 15 till deficit is made up. (maybe 9 in. max allocation for a few years.)

Talk to LRNRD, been on restrictions on most of our acres for 15 years or so. Don't like restrictions but it makes you a better irrigator and not wasteful. We have lowered populations on corners that are gravity and invested in pivot corner pivots that I installed myself to make it more affordable.

Dam up Sand Creek to keep the water in Kearney County. Encourage ponds and pits to be built.

Need meter all wells in Tri-Basin or don't do anything.

Make adjoining areas of Adam's county use the same water use requirements as adjoining Kearney county areas.

No

Just above recommendations

You put in meters & limit the pumping amount. You penalize the violators severely!

9 inches should be the minimum if restrictions are applied. I have a sister in the Lower Republican and that is what they are at and they are able to carry forward inches not used from year or so before.

Stop gravity irrigation of pivot corners, it is very inefficient. Help lead gravity irrigators to converting to pivot or drip through EQIP programs etc...

Farming mostly in the lower Republican, I have been limited on water. It has made me a better irrigator. I use those same methods on my Tri-Basin acres as well.

Continued work with stakeholders.

Everyone has their own agenda but you will never solve the problem on a township allocation. It has to be district wide. If its proven we can grow crops on 8", why can't everyone. Some will say their groundwater is too high and need to pump more. It sucks to have ground that isn't perfect. I have limited water next guy has sand, and you have too much water. Only way to conserve is by reducing everyone.

### Tri-Basin NRD Little Blue Basin Water User Survey

Introduction: The purpose of this survey is to provide feedback to the Tri-Basin NRD Board of Directors about management of groundwater in the Little Blue Basin in Kearney County. Groundwater levels have been declining in eastern Kearney County for several years. Tri-Basin NRD is trying to determine the most effective way to address this problem.

### Digital Option: go to www.tribasinnrd.org/little-blue

1.	Which of the following ways do you use groundwater (circle all that apply)?  a. Domestic/household  b. Crop Irrigation  c. Livestock  d. Commercial/industrial
2.	Are you aware that groundwater levels in portions of the Little Blue basin are declining OYes ONo
3.	If you answered "Yes" to #2, are you affected in any way by these declines (e.g., irrigation wells surge)? OYes No
4.	If you are an irrigator, approximately how many irrigated acres do you farm within the Little Blue Basin?  a. <160  b. 161-640  c. 641-1280  d. >1280
5.	What is the least efficient irrigation system that you operate within Little Blue Basin?  a. Gated pipe irrigated field  b. Center pivot with gated pipe-irrigated pivot corners  c. Center pivot with dryland corners  d. Sub-surface drip irrigated field  e. Other
6.	Based on #5, approximately how many irrigated acres do you irrigate this way?
7.	Which of the following actions do you think would help stop groundwater declines in the Little Blue Basin? (circle all that apply)  a. Require flowmeters and annual water use reporting basinwide  b. Limit water use (allocation of pumping)  c. Require reduction of irrigated acres  d. Require soil moisture sensors or other technology to improve irrigation efficiency  e. Other

8.	Whic	h incentives to improve efficiency would be h	ielptul to	o you	(circle all that ap	oply)?		
	a.	a. Cash payments to irrigators that conserve water						
		b. Incentives to transfer irrigated acres out of areas of decline						
		Provide local crop water use data regularly of						
		More flexibility to use water where you want		_		ore		
	u.	than you have historically (ability to irrigate		-		101 C		
	•				iliu)			
	e.	Financial help for irrigation efficiency impro	vements	•				
9.	What	What would be appropriate triggers for TBNRD to use to decide whether to limit						
	pump	oing, if that becomes necessary?						
	a.	Compare current three-year average of grou	ndwater	level	s to 1981-85 leve	els		
		(current Tri-Basin NRD rules)						
	b.	Compare current spring groundwater levels t	to 2016 s	spring	groundwater lev	els		
		(Little Blue NRD rule)						
	с.	Compare current thickness of the aquifer (sa	aturated	thick	ness) to saturate	d		
		thickness in the past			,	-		
	d.	Other						
. •	avera what	er use data from irrigators in the Little Blue Bage water use is 8.1" per acre per year. If Tri do you think is an appropriate annual pumping inches per acre per year	i-Basin N	NRD ha	•			
11	. Do y	ou grow seed corn or other specialty crops?	○Ye	es	○No			
12	Wher	re are the majority of irrigated acres that you	ı farm in	the I	ittle Blue Basin l	ocated?		
12		Sherman Township (5N-15W)			ry Township (7N-			
		Hayes Township (6N-15W)			Township (5N-13	•		
		Cosmo Township (5N-14W)			ownship (6N-13W	•		
		• ` ` '	_	-	• `	,		
	a.	Lincoln Township (6N-14W)	n.	Eaton	Township (7N-13	5 VV )		
13	. Do yo	ou have comments or ideas for the Tri-Basin N	IRD Boar	d of d	lirectors to consi	der		
	regar	ding the issue of groundwater management?						

WE NEED TO KNOW YOUR IDEAS AN OPINIONS! Once you have completed your survey, please return it in the stamped, self-addressed envelope provided (if you received this survey by mail) or you can scan it and email it to <a href="mailto:jthorburn@tribasinnrd.org">jthorburn@tribasinnrd.org</a>, deliver it to the USDA-NRCS office in Minden (there is a drop box in the lobby) or fax it to 308 995-6992. THANK YOU for your time!