CONSENT NUMBER:

Questionnaire Water Sharing Project:
Ruataniwha Water User Group

The Ministry for the Environment and Hawke's Bay Regional Council have made funding available to investigate the potential and practicalities of water sharing in the Ruataniwha and Ngaruroro irrigation areas.

Page Bloomer Associates has been contracted to survey consent holders and make recommendations for a water sharing arrangement to be trialled over the 2010-2011 season.

In association with the Ruataniwha Water User Group Committee, we are calling for your help. To assist us with finding out what your irrigation intentions and sharing preferences are, can you please fill in the following survey and return to Page Bloomer Associates using the FREEPOST envelope provided.

The survey needs to be **completed by FRIDAY 10th SEPTEMBER** so we can have recommendations ready for a Water User Group meeting on 23 September. If you have **more than one consent**, only complete Sections 1, 2 and 3 once. Please **complete Section 4 for each Consent** separately.
The information you provide will be essential in determining the scope and options for water sharing. *The more information you provide, the better we can understand your preferences and opinions about water sharing.*
Please note, your individual details will be sighted only by Page Bloomer Associates.

Thank you for helping with this project.

Section 1: General Irrigation Information

1. What is the land use of the area being irrigated? *(tick all that apply and indicate ha)*

1☐Sheep/Beef: |__|__|__|__|__|ha 2☐Dairy: |__|__|__|__|__|ha 3☐Cropping: |__|__|__|__|**ha**
4☐Vineyard: |__|__|__|__|__|ha 5☐Orchard: |__|__|__|__|__|ha 6☐Other (specify) |__|__|__|__|ha

2. Which land use do you give highest priority for irrigation at times of restriction? *(rank 1=highest, 2=next etc)*

1Sheep/Beef: |__| 2Dairy: |__| 3Cropping: |__|
4Vineyard: |__| 5Orchard: |__| 6Other (specify) |__|

3. What type of irrigation system do you use? *(tick all that apply)*

1☐ Pivot 2☐ Linear 3☐ Boom 4☐ Gun
5☐ Pods 6☐ Micro spray 7☐ Drip 8☐ Other (specify) _____

Section 2: Water Sharing

4. Do you support some form of Water Sharing agreement for the Ruataniwha area? *(tick answer)*

1☐ Yes 2☐ No 3☐ Don't Know 4☐ Don't know, keen to learn more about water sharing

5. Do you think irrigator support for a Ruataniwha Water Sharing agreement is widespread*? (tick answer)*

1☐ Yes 2☐ No 3☐ Don't Know

6. What benefits do you think you would gain from a water sharing agreement*? (tick answer)*

1☐ Reduced duration of restrictions or bans
2☐ Keep at least some irrigation going
3☐ Allow access to others' share of resource in times of need
4☐ Allow others to access your share of resource in time of need
5☐ No benefits
6☐ Don't Know
7☐ Other (please state) _____
_____

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7. What disadvantages do you think you would have with a water sharing agreement? *(tick answer)*

1☐ Increased time and costs of implementing the system
2☐ Increased compliance demands and audited self management costs
3☐ Cost of adapting irrigation infrastructure to handle varying flow rates
4☐ Cost of accessing others' share of resource to others in time of need
5☐ No disadvantages
6☐ Don't Know
7☐ Other (please state) _____

8. AT TIMES OF LOW FLOW: Do you think RATIONING & ROSTERING has overall benefits for irrigators?

1☐Yes 2☐No 3☐ Don't Know 4☐ Don't know, keen to learn more about rationing and rostering

9. AT TIMES OF LOW FLOW: What arrangement for RATIONING would you prefer? *(circle your preferences)*

RATIONING: Percentage reduction in TAKE RATE (Litres /second) Reduced flow available constantly	*Preferred*	*Moderately preferred*	*Least preferred*	*Not acceptable*
RATIONING: Reducing TAKE RATE (L/s) managed by User Group Committee	*Preferred*	*Moderately preferred*	*Least preferred*	*Not acceptable*
RATIONING: DAILY reduction in TAKE VOLUME (m3 /day) Constant Take Rate for reduced hours	*Preferred*	*Moderately preferred*	*Least preferred*	*Not acceptable*
RATIONING: WEEKLY reduction in TAKE VOLUME (m3 /week) Constant Take Rate for reduced hours	*Preferred*	*Moderately preferred*	*Least preferred*	*Not acceptable*
ROSTERING: (Constant Take Rate) Permitted Hours for taking specified by User Group Committee	*Preferred*	*Moderately preferred*	*Least preferred*	*Not acceptable*
Other (please state) _____				

10. THROUGHOUT THE SEASON: Do you think SHARING ALLOCATIONS has overall benefits for irrigators?

1☐Yes 2☐No 3☐ Don't Know 4☐ Don't know, keen to learn more about sharing at other times

11. What arrangement for SHARING ALLOCATIONS would you prefer? *(circle your preferences)*

Allow COUNCIL APPROVED CONSENT HOLDERS to pool their allocations and share as they choose	*Preferred*	*Moderately preferred*	*Least preferred*	*Not acceptable*
Allow COUNCIL APPROVED SUB-GROUPS to pool their allocations and share as they choose	*Preferred*	*Moderately preferred*	*Least preferred*	*Not acceptable*
APPROVE ALL CONSENT HOLDERS to pool their allocations and share AS USER COMMITTEE allows	*Preferred*	*Moderately preferred*	*Least preferred*	*Not acceptable*
Council sets minimum flows - USER COMMITTEE manages take rates and volumes for all users	*Preferred*	*Moderately preferred*	*Least preferred*	*Not acceptable*
Other (please state) _____				

12. Would you like to be involved in a trial of RATIONING and ROSTERING in the Ruataniwha area for the 2010-2011 irrigation season? *(tick answer)*

1☐ Yes 2☐ No 3☐ Maybe - need more information

13. Would you like to be involved in further investigating SHARING ALLOCATIONS in the Ruataniwha area for the longer term? *(tick answer)*

1☐ Yes 2☐ No 3☐ Maybe - need more information

14. General Comments regarding Water Sharing options in the Ruataniwha area: *(write in answer)*

_____

_____

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Section 3: Irrigation Efficiency

15. What do you do to maximise irrigation efficiency? *(tick all that apply)*

1☐ Monitor soil moisture
2☐ Calibrate irrigation system
3☐ Regular system maintenance
4☐ Maximise rainfall capture
5☐ Maximise soil structural condition
6☐ Other (please state) _____

16. What methods do you use to determine <u>when</u> irrigation is required? *(tick all that apply)*

1☐ Visual check to see how dry the soil is
2☐ Soil moisture probes
3☐ Irrigation water budget
4☐ Irrigation scheduling consultant
5☐ Irrigate on a roster system with little room for flexibility
6☐ Other (please state) _____

17. What methods do you use to determine <u>how much</u> irrigation is <u>required</u>? *(tick all that apply)*

1☐ Visual check to see how dry the soil is
2☐ Soil moisture probes
3☐ Irrigation water budget
4☐ Irrigation scheduling consultant
5☐ Irrigate on a roster system with little room for flexibility
6☐ Other (please state) _____

18. What methods do you use to determine how much irrigation has been <u>applied</u>? *(tick all that apply)*

1☐ Soil moisture probes
2☐ Water meter
3☐ Irrigation duration records
4☐ Irrigation scheduling consultant
5☐ Rain gauge
6☐ Other (please state) _____

19. How do you currently manage irrigated crops during irrigation ban periods? *(tick all that apply)*

1☐ Rely on soil water holding
2☐ Use off-river storage in farm dam
3☐ Use alternative groundwater supplies
4☐ Plan crops to minimise risk
5☐ Suffer drought stress losses
6☐ Other (please state) _____

20. Do you feel improving on farm irrigation practices would reduce risk of restrictions? *(tick answer)*

1☐ Yes 2☐ No 3☐ Don't Know

21. Please comment on how improvements would reduce the risk of restrictions *(write in response)*

_____

_____

_____

22. Please comment if there are any areas of irrigation that you are interested in finding out more about e.g. system maintenance, scheduling, auditing system performance etc *(write in response)*

_____

_____

_____

Section 4: Irrigation Intentions for 2010-2011 Season

For each separately managed irrigation area, (e.g. crops or irrigators) please fill in one column. (copy this page if extra columns are required) NOTE: If your programme for 2010-2011 is the same as last year, your 2009-2010 water use records may give good guidance for the coming season.

Irrigation Area			1	2	3	4	5	6
Consent Number								
Area(ha)								
Irrigation Flow Rate (L/s)								
Crop Type								
Soil Type								
Irrigation Interval in Summer(days)								
			IRRIGATION APPLICATION EXPECTATIONS *State Units: i.e. hours/wk, mm/wk, m3/wk*					
Week Begin	Est. PET (mm/wk)	Est RAIN (mm/wk)	1 ( )	2 ( )	3 ( )	4 ( )	5 ( )	6 ( )
13-Oct	24	14						
20-Oct	26	14						
27-Oct	28	14						
3-Nov	29	11						
10-Nov	31	11						
17-Nov	33	11						
24-Nov	35	11						
1-Dec	35	18						
8-Dec	36	18						
15-Dec	37	18						
22-Dec	37	18						
29-Dec	37	15						
5-Jan	38	12						
12-Jan	38	12						
19-Jan	37	12						
26-Jan	36	12						
2-Feb	34	14						
9-Feb	31	14						
16-Feb	28	14						
23-Feb	26	14						
2-Mar	25	16						
9-Mar	24	16						
16-Mar	22	16						
23-Mar	21	16						
30-Mar	20	16						
6-Apr	18	16						
13-Apr	16	16						
20-Apr	13	16						
27-Apr	11	16						
4-May	10	16						
11-May	9	16						
Total	845	453						

* Estimated PET and Rainfall shown above are Hawke's Bay average values derived from Lincoln University data.