

# Connecting Canefarmers



## Progress Report: June 2018

### Project Summary

The Connecting Cane farmers to Their Local Wetlands Project aims to connect cane farmers with their local wetlands through on-farm water quality monitoring and one-on-one extension activities. We will be recording Rainfall and Irrigation Runoff events as well as testing the water running into the paddock. The test parameters include Nitrogen, Chemical Oxygen Demand, Total Suspended Solids, and Electrical Conductivity (i.e. Salt in the water)

### Progress to date

Date:	Sample Type	Nitrogen- NO3-N (mg/L)	Phosphate phosphorus as P	Chemical Oxygen Demand	Total Suspended Solids (NTU)	EC (µS)
22/08/2017	Water In- Bore	0.24	-	84.49	73.62	-
22/08/2017	Irrigation Runoff	0.69	0.624	108.53	156.83	-
27/09/2017	Water In	0.38	-	15.1	34.71	-
28/09/2017	Irrigation Runoff	0.68	-	17.9	46.68	-
18/10/2017	Rain Runoff	8.18	-	0	76.5	-
13/11/2017	Water In- Maybe bore	0.59	-	36.15	46.72	293
13/11/2017	Runoff- Grab	0.84	-	32.11	70.03	249
14/11/2017	Irrigation Runoff	0.87	0.716	27.42	120.77	263
20/11/2017	Knacka Drain	0.64	0.798	34.07	43.27	400
20/11/2017	Irrigation Runoff	0.62	0.577	29.73	72.73	418
2/12/2017	Irrigation Runoff	0.44	-	0.0	160.74	720
2/12/2017	Water In	0.0	-	4.48	102.68	687
14/12/2017	Water In – Mix	0.72	-	27.08	102.71	301
14/12/2017	Irrigation Runoff	1.24	-	26.7	104.52	330
20/12/2017	Irrigation Runoff	0.49	-	30.49	93.37	253
20/12/2017	Water in-Mixture	0.63	-	39.53	45.82	264
10/01/2018	Water in- Channel	0.57	-	32.95	62.03	308
10/01/2018	Irrigation Runoff	0.57	-	31.84	125.67	309



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16/01/2018	Rain Runoff	7.34	2.89	50.72	259.42	293
29/01/2018	Irrigation Runoff	0.77	-	21.05	56.4	1102
21/02/2018	Rain Runoff- Small event	0.76	-	9.44	88.12	234
5/03/2018	Rain Runoff	2.93	-	70.43	417.99	-



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Discussion- Your target goal in 2017/2018 was to trial mill mud and Bio-Dunder and examine phosphate levels in your runoff.

NO<sub>3</sub>-N (Nitrate-Nitrogen)- The average nitrate level in your irrigation runoff is below the average level in your area. A contributing factor to this may be your use of banded mill mud. In the 2018/2019 trial site you buried your mill mud and should continue to see reduced nitrogen loss. The average nitrate in your rainfall runoff was driven up do to unseasonal rain in October following fertilizer application as well as a large rainfall event in January.

PO<sub>3</sub> (Phosphate)- Your average PO<sub>3</sub> level in your irrigation runoff was 0.679 mg/L. In the rainfall event we collected on January 16<sup>th</sup>, 2018 the PO<sub>3</sub> level was 2.89 mg/L. The average PO<sub>3</sub> runoff in farms in your area last year was 1.3 mg/L.

#### Data Graphs-

Note\*\* All graphs are in chronological order and reflect the same order as the data table. The graphs include the analysis of:

- **Nitrogen or NO<sub>3</sub>- N-** NO<sub>3</sub>-N means 'nitrate-nitrogen'. It refers to the amount of nitrogen (N) in solution due to nitrates. It leaves out the three oxygen atoms (O<sub>3</sub>) in NO<sub>3</sub>; that is why it is a smaller value.
- **Electrical Conductivity or EC-** Electrical conductivity (EC) is measured by passing an electric current between two metal plates in the water sample and measuring how readily current flows between the plates. The more dissolved salt in the water, the stronger the current flow and the higher the EC.
- **Total Suspended Solids (TSS)-** Solids in water that can be trapped by a filter. TSS can include a wide variety of material, such as silt, decaying plant and animal matter, industrial wastes, and sewage. High concentrations of suspended solids can cause many problems for stream health and aquatic life.
- **Chemical oxygen demand (COD)-** A measure of the capacity of water to consume oxygen during the decomposition of organic matter and the oxidation of inorganic chemicals such as Ammonia and nitrite. Chemical Oxygen Demand is an important water quality parameter because it provides an index to be able to tell how wastewater will have on the receiving environment. If the COD gets to low, it can create an anaerobic (no oxygen) environment.



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**Graph Key:**

Irrigation Runoff	Rain Runoff	Water Source/ Water In
"IRO"	"RRO"	"IN"







