

Hydrometric Network Review Progress Report – September 2020

This is DELWP's second annual report on progress implementing a program to improve the availability and quality of water information from surface water and groundwater resources (Basin Compliance Compact action 3.11)

DELWP completed a review of its hydrometric network of surface water gauges, groundwater bores and climate (rainfall and evaporation) stations in June 2019 as required under the Basin Compliance Compact (action 3.10). The review identified a program to improve its surface water, climate sites and groundwater bores to ensure that they were fit for purpose.

The review identified 4 actions:

1. To close 16 surface water (water quality) sites – **fully complete**;
2. To install 42 new climate sites – **fully complete**;
3. To modify 37 surface water sites – **almost complete, one site remaining**; and
4. To modify 133 bores – **93 per cent complete**.

The following tables provides an update on Victoria's progress in completing these actions.

Action 1 – To close 16 surface water sites

Completed all surface water sites that needed to be closed.

Site Number	Site name	Description	Approximate timeline	Progress September 2020
402203A	Kiewa River @ Mongans Bridge	Cease spot water quality monitoring	Dec 2019	Completed
402204A	Yackandandah Ck @ Osborne Flat	Cease spot water quality monitoring	Dec 2019	Completed
402222A	Kiewa River @ Kiewa	Cease spot water quality monitoring	Dec 2019	Completed
402223A	Kiewa River West @ u/s Offtake	Cease spot water quality monitoring	Dec 2019	Completed
402231A	Kinchington Creek @ Osborne's Flat	Cease all monitoring	Dec 2019	Completed
403213A	15 Mile Ck @ Greta South	Cease spot water quality monitoring	Dec 2019	Completed
405231A	King Parrot Ck @ Flowerdale	Cease spot water quality monitoring	Dec 2019	Completed
405237A	Sevens Ck @ Euroa	Cease spot water quality monitoring	Dec 2019	Completed
405240A	Sugarloaf Ck @ Ash Bridge	Cease spot water quality monitoring	Dec 2019	Completed
405246A	Castle Ck @ Acadia	Cease spot water quality monitoring	Dec 2019	Completed

Progress Report – September 2020

Site Number	Site name	Description	Approximate timeline	Progress September 2020
405251A	Brankeet Ck @ Ancona	Cease spot water quality monitoring	Dec 2019	Completed
406224A	Mt Pleasant Ck @ Runnymede	Cease spot water quality monitoring	Dec 2019	Completed
407220A	Bet Bet Ck @ Norwood	Cease spot water quality monitoring	Dec 2019	Completed
407221B	Jim Crow Ck @ Yandoit	Cease spot water quality monitoring	Dec 2019	Completed
407236B	Mount Hope Ck @ Mitiamo	Cease spot water quality monitoring	Dec 2019	Completed
415601A	Lake Albacutya @ Rainbow	Cease spot water quality monitoring	Dec 2019	Completed

Action 2 – To install 42 new climate (surface water) sites

Completed 41 out of 42 sites installed; remaining site not needed.

New site	Approximate Timeline	Progress September 2020
Rainfall radar site at Rainbow	December 2019	Completed
20 rainfall gauging sites for the Rainbow radar site	June 2020	Completed
20 rainfall gauging sites for the upgraded Mildura radar site	June 2021	Completed
Flood forecasting site at Warracknabeal	December 2020	Not needed

Action 3 – To modify 37 surface water sites

This action is **almost complete** with 36 out of 37 sites upgraded.

Site number	Site Name	Description	Approximate timeline	Progress September 2020
402205A	Kiewa River @ Bandiana	New multi water quality probes for continuous DO and Turbidity	Prior to Dec 2019	Completed
403241A	Ovens River @ Peechelba	New multi water quality probes for continuous DO and Turbidity	Prior to Dec 2019	Completed
404216A	Broken River @ Caseys Weir	New multi water quality probes for continuous DO, Turbidity and EC	Prior to Dec 2019	Completed
407285A	Nine Mile Ck @ Coads Road	Replace Mindata logger with a Campbells logger	Prior to Dec 2019	Completed
407286A	Wandella Ck @Fairley	Replace Mindata logger with a Campbells logger	Prior to Dec 2019	Completed

Progress Report – September 2020

Site number	Site Name	Description	Approximate timeline	Progress September 2020
407289A	Nine Mile Ck @ Serpentine Ck offtake	Replace Mindata logger with a Campbells logger	Prior to Dec 2019	Completed
407302A	Venables Ck Boort Durham Ox Road	Replace Mindata logger with a Campbells logger	Prior to Dec 2019	Completed
408209A	Avoca River @ Sandhill Lake Road	Replace Mindata logger with a Campbells logger	Prior to Dec 2019	Completed
408213A	Avoca River @ Trescoe outfall	Replace Mindata logger with a Campbells logger	Prior to Dec 2019	Completed
408203B	Avoca River @ Quambatook	New multi water quality probes for continuous DO and Turbidity	Prior to Dec 2019	Completed
408213A	Avoca River @ Trescoe outfall	Replace Mindata logger with a Campbells logger	Prior to Dec 2019	Completed
	Mildura radar site	Upgrade Mildura radar site	Prior to Dec 2021	Progressing
414212A	Lindsay River @ Offtake	Replace Mindata logger with a Campbells logger	Prior to Dec 2019	Completed
414213A	Lindsay River @ u/s Mullaroo Ck	Replace Mindata logger with a Campbells logger	Prior to Dec 2019	Completed
414214A	Mullaroo Creek @ u/s Lindsay River	Replace Data Logger, Replace Shaft Encoder with Self Purge Level Sensor & Orifice, Install slide and conduit for EC sensor, Install small step at base of well to enable safer access to hut, Replace Battery & Install Battery Box, Replace Staff Gauges , Install Next G telemetry and upgrade power supply.	Prior to Dec 2019	Completed
414215A	Lindsay River @ Lindsay Point	Replace Mindata logger with a Campbells logger	Prior to Dec 2019	Completed
414218A	Lindsay River @ u/s Lake Wallawalla	Orifice to be relocated to stand alone, Replace Data Logger, Replace HS40/3100, Install small step at base of well to enable safer access to hut, Replace existing battery & install logger box, Install Ladder bracket on edge of roof to enable safe access to solar panel, Install Next G telemetry and upgrade power supply.	Prior to Dec 2019	Completed
414219A	Murray River @ Wemen	Replace Mindata Logger (includes logger box & cabinet fit out), Replace Wet Level Sensor with Dry Gas Sensor & Orifice, Cabinet Requires Replacement, Replace Battery & Install Solar Power, Replace Gauges, Install Next G telemetry and upgrade power supply.	Prior to Dec 2019	Completed
414702A	FMIT North East Drain @ Bruce's Bend	Replace Data Logger, Replace Shaft Encoder, Replace existing battery & install battery box, replace weir plate with V-Notch	Prior to Dec 2020	Completed

Progress Report – September 2020

Site number	Site Name	Description	Approximate timeline	Progress September 2020
		to increase sensitivity, Install Next G telemetry and upgrade power supply. Reconfigure structure (see comments)		
414703A	Red Cliffs Drain No. 1 @ Blount Road	Replace Data Logger, Replace Shaft Encoder, Replace EC Sensor, Replace existing battery & install battery box, Consider installing ladder bracket to brace ladder for safe access for cleaning solar panel, Install Next G telemetry and upgrade power supply. Reconfigure structure (see comments)	Prior to Dec 2020	Completed
414705A	Drain No. 10 @ Red Cliffs	Replace Data Logger, Replace OTT CBS with Shaft Encoder (including new float/weight/beaded wire), Replace EC Sensor, Replace Solar Regulator, Install concrete measuring section downstream Weir for gauging, Replace existing battery & install battery box, Consider installing ladder bracket to brace ladder for safe access for cleaning solar panel, Install Dampener in stilling well to reduce surge from pipe discharge, Install Next G telemetry and upgrade power supply. Reconfigure structure (see comments)	Prior to Dec 2020	Completed
414706A	Merbein North West Drain @ u/s outfall to Murray	Replace Data Logger, Replace Shaft Encoder, Installation of rock spalls on downstream apron of control, Replace existing battery & install battery box, Consider installing ladder bracket to brace ladder for safe access for cleaning solar panel, Install Next G telemetry and upgrade power supply.	Prior to Dec 2020	Completed
414712A	Red Cliffs Drain 3/4 @ Woolrang	Replace Data Logger, Replace OTT CBS, Install concrete measuring section downstream Weir for gauging, Consider replacing battery and installing battery box, Install Next G telemetry and upgrade power supply. Reconfigure structure (see comments)	Prior to Dec 2020	Completed
414714A	Red Cliffs Drain No. 8 @ Stewarts Road	Replace existing V-Notch with stainless weir plate, Install concrete measuring section downstream Weir for gauging, Placement of rock spalls downstream control to reduce potential erosion, Consider replacing battery and installing battery box, Install Next G telemetry and upgrade power supply. Reconfigure structure (see comments)	Prior to Dec 2020	Completed
414716A	Robinvale No. 4 System Outfall @ Pethard Road	Replace Data Logger, Replace Encoder, Replace EC Sensor, Consider replacing battery and installing battery box, Install	Prior to Dec 2019	Completed

Progress Report – September 2020

Site number	Site Name	Description	Approximate timeline	Progress September 2020
		Solar Panel, Install Next G telemetry and upgrade power supply.		
414717A	Robinvale No. 6 System Outfall @ Malaya Road	Replace Data Logger, Replace Encoder, Replace EC Sensor, Consider replacing battery and installing battery box, Install Solar Panel, Install Next G telemetry and upgrade power supply.	Prior to Dec 2019	Completed
414721A	Nangiloc-Colignan Drain @ Hewitt's Road	Consider replacing battery and installing battery box, Install Next G telemetry and upgrade power supply. If Telemetry is installed recommend to install new cabinet and small mast to house all equipment and solar panel	Prior to Dec 2020	Completed
414722A	Nangiloc-Colignan Drain @ Doerings Basin	Replace Wet Level Sensor, Replace EC sensor, Replace Weir Plate (Consider installation of V Notch), Replace battery and install battery box, Install Next G telemetry and upgrade power supply. If Telemetry is installed recommend to install new cabinet and small mast to house all equipment and solar panel	Prior to Dec 2020	Completed
414723A	Kulkyne Outfall Drain @ Mansell's Pump	Replace Wet Level Sensor, Replace EC sensor, Replace battery and install battery box, Install Next G telemetry and upgrade power supply. If Telemetry is installed recommend to install new cabinet and small mast to house all equipment and solar panel	Prior to Dec 2020	Completed
414724A	Nangiloc Colignan Drain @ Nangiloc	Replace Weir Plates, Replace Cabinet, Replace gauge with stainless steel or marine grade aluminium gauge plate, Install Next G telemetry and upgrade power supply.	Prior to Dec 2020	Completed
414725A	Nangiloc-Colignan Drain @ Hillview Outfall	Install Next G telemetry and upgrade power supply.	Prior to Dec 2020	Completed
414728A	Brown's Group Drainage Area @ Brown's Road	Replace Logger, Install Logger Box, Install Next G telemetry and upgrade power supply.	Prior to Dec 2020	Completed
414730A	Psyche Bend Lagoon @ Connecting Drain	Decommission site and replace with a PALS unit		Completed
414731A	Bum Bang Drain Outfall @ Murray River	Install Logger Box, Consider cabinet replacement, Consider battery replacement and installation of battery box, Consider installation of solar power for redundancy, Install Next G telemetry and upgrade power supply.	Prior to Dec 2019	Completed
414732A	Tol Tol Drain Outfall @ Murray River	Install Logger Box, Consider cabinet replacement or installation additional cabinet, Consider battery replacement and installation of battery box,	Prior to Dec 2019	Completed

Progress Report – September 2020

Site number	Site Name	Description	Approximate timeline	Progress September 2020
		Install Next G telemetry and upgrade power supply.		
414733A	Boundary Bend Drain Outfall @ Murray River	Install Logger Box, Replace EC Sensor, Consider cabinet replacement, Consider battery replacement and installation of battery box, Install Next G telemetry and upgrade power supply.	Prior to Dec 2019	Completed
414734A	Boundary Bend @ Drainage Dam	Install Logger Box, Consider cabinet replacement, Consider battery replacement and installation of battery box, Consider installation of solar power for redundancy, Install Next G telemetry and upgrade power supply.	Prior to Dec 2019	Completed
415200D	Wimmera River @ Horsham	New multi water quality probes for continuous DO and Turbidity	Prior to Dec 2019	Completed

Action 4 – To modify 133 groundwater bores

This action is in progress with 124 sites out of 133 sites completed, and an additional 20 new sites added to the scope.

Site number	Description	Approximate timeline	Progress September 2020
36401	Install telemetry	June 2020	Completed
42810	Install telemetry	June 2020	Completed
46147	Install telemetry	June 2020	Completed
46190	Refurbish bore	December 2019	Completed
46198	Refurbish bore	June 2020	Completed
46199	Refurbish bore	June 2020	Completed
47247	Refurbish bore	June 2020	Completed
47250	Refurbish bore	June 2020	Completed
47251	Refurbish bore	June 2020	Completed
47255	Refurbish bore	June 2020	Completed
48554	Refurbish bore	December 2019	Completed
48559	Refurbish bore	December 2019	Completed
50789	Install telemetry	June 2020	Completed
51001	Refurbish bore	December 2019	Completed
51640	Refurbish bore	December 2019	Completed
51738	Refurbish bore	June 2020	Completed

Progress Report – September 2020

Site number	Description	Approximate timeline	Progress September 2020
51740	Refurbish bore	June 2020	Completed
51844	Refurbish bore	June 2020	Completed
51845	Refurbish bore	June 2020	Completed
52367	Refurbish bore	December 2019	Completed
54342	Refurbish bore	June 2020	Completed
54380	Install telemetry	June 2020	Completed
54981	Refurbish bore	June 2020	Completed
58526	Refurbish bore	December 2019	Completed
60128	Install telemetry	June 2020	Completed
60131	Refurbish bore	June 2020	Completed
60132	Install telemetry	June 2020	Completed
60136	Refurbish bore	December 2019	Completed
60187	Install telemetry	June 2020	Completed
60623	Refurbish bore	June 2020	Completed
61684	Install telemetry	June 2020	Completed
62036	Refurbish bore	December 2019	Completed
62592	Refurbish bore	December 2019	Completed
62605	Refurbish bore	June 2020	Completed
62863	Refurbish bore	December 2019	Completed
64281	Refurbish bore	December 2019	Completed
65875	Refurbish bore	June 2020	Completed
66514	Refurbish bore	December 2019	Completed
66595	Install telemetry	June 2020	Progressing
67750	Install telemetry	June 2020	Completed
67829	Refurbish bore	June 2020	Completed
67847	Refurbish bore	December 2019	Completed
67847	Install telemetry	June 2020	Completed
67907	Refurbish bore	June 2020	Completed
68434	Refurbish bore	June 2020	Completed
68434	Install telemetry	June 2020	Progressing
68436	Refurbish bore	December 2019	Completed
69462	Refurbish bore	December 2019	Completed
71062	Refurbish bore	December 2019	Completed
73504	Refurbish bore	June 2020	Completed

Progress Report – September 2020

Site number	Description	Approximate timeline	Progress September 2020
73833	Refurbish bore	June 2020	Completed
73833	Install telemetry	June 2020	Completed
75651	Refurbish bore	December 2019	Completed
75795	Refurbish bore	December 2019	Completed
77030	Refurbish bore	December 2019	Completed
79278	Refurbish bore	December 2019	Completed
79279	Refurbish bore	December 2019	Completed
79327	Refurbish bore	June 2020	Completed
79655	Refurbish bore	December 2019	Completed
81069	Refurbish bore	December 2019	Completed
81071	Refurbish bore	December 2019	Completed
82095	Refurbish bore	June 2020	Completed
82095	Install telemetry	June 2020	Completed
82751	Refurbish bore	December 2019	Completed
82757	Refurbish bore	December 2019	No work required - Previous PVC reline
82778	Refurbish bore	June 2020	Completed
82796	Refurbish bore	June 2020	Completed
84796	Install telemetry	June 2020	Progressing
86774	Refurbish bore	June 2020	Not completed. Bore has collapsed, refurbishment not possible
88000	Refurbish bore	December 2019	Completed
88009	Refurbish bore	June 2020	Completed
89576	Refurbish bore	December 2019	Completed
89584	Refurbish bore	December 2019	Completed
89586	Refurbish bore	June 2020	Completed
89888	Refurbish bore	December 2019	Completed
92793	Install telemetry	June 2020	Completed
93378	Refurbish bore	June 2020	Completed
93383	Refurbish bore	June 2020	Completed
95513	Refurbish bore	December 2019	Completed
95758	Install telemetry	June 2020	Progressing
97151	Install telemetry	June 2020	Completed
97857	Refurbish bore	June 2020	Completed

Progress Report – September 2020

Site number	Description	Approximate timeline	Progress September 2020
98305	Refurbish bore	December 2019	Completed
98349	Refurbish bore	June 2020	Completed
98350	Refurbish bore	December 2019	Completed
98352	Refurbish bore	December 2019	Completed
98873	Refurbish bore	June 2020	Completed
99102	Refurbish bore	June 2020	Completed
100500	Refurbish bore	December 2019	Completed
100500	Install telemetry	June 2020	Completed
100503	Install telemetry	June 2020	Completed
100504	Install telemetry	June 2020	Completed
102828	Refurbish bore	December 2019	Completed
102873	Refurbish bore	June 2020	Completed
104272	Refurbish bore	June 2020	Completed
108158	Refurbish bore	December 2019	Completed
108201	Install telemetry	June 2020	Completed
108203	Install telemetry	June 2020	Completed
109356	Refurbish bore	December 2019	Completed
109462	Install telemetry	June 2020	Completed
110088	Refurbish bore	June 2020	Completed
110151	Refurbish bore	December 2019	Completed
110162	Refurbish bore	December 2019	Completed
110163	Refurbish bore	December 2019	Completed
110739	Install telemetry	June 2020	Completed
111204	Refurbish bore	June 2020	Completed
111543	Install telemetry	June 2020	Completed
112182	Install telemetry	June 2020	Completed
112185	Refurbish bore	December 2019	Completed
112185	Install telemetry	June 2020	Progressing
112459	Install telemetry	June 2020	Completed
112708	Refurbish bore	December 2019	Completed
112708	Install telemetry	June 2020	Completed
113247	Refurbish bore	December 2019	Completed
113695	Install telemetry	June 2020	Completed
138651	Install telemetry	June 2020	Completed

Progress Report – September 2020

Site number	Description	Approximate timeline	Progress September 2020
138652	Install telemetry	June 2020	Completed
139328	Install telemetry	June 2020	Completed
302296	Install telemetry	June 2020	Completed
8003872	Install telemetry	June 2020	Progressing
8003873	Install telemetry	June 2020	Progressing
8003892	Install telemetry	June 2020	Completed
8003893	Install telemetry	June 2020	Completed
8003930	Install telemetry	June 2020	Completed
8003931	Install telemetry	June 2020	Completed
WRK053413	Install telemetry	June 2020	Completed
WRK053492	Install telemetry	June 2020	Completed
WRK053498	Install telemetry	June 2020	Completed
WRK054466	Install telemetry	June 2020	Completed
WRK054545	Install telemetry	June 2020	Completed
WRK952850	Install telemetry	June 2020	Completed
WRK952858	Install telemetry	June 2020	Progressing
WRK952860	Install telemetry	June 2020	Progressing
48282	Refurbish bore	Added to scope	Completed
87806	Refurbish bore	Added to scope	Completed
87807	Refurbish bore	Added to scope	Completed
102827	Refurbish bore	Added to scope	Completed
102831	Refurbish bore	Added to scope	Completed
87808	Refurbish bore	Added to scope	Completed
48051	Refurbish bore	Added to scope	Completed
53661	Refurbish bore	Added to scope	Completed
57539	Refurbish bore	Added to scope	Completed
62037	Refurbish bore	Added to scope	Completed
62208	Refurbish bore	Added to scope	Completed
62595	Refurbish bore	Added to scope	Completed
65874	Refurbish bore	Added to scope	Completed
70027	Refurbish bore	Added to scope	Completed
93379	Refurbish bore	Added to scope	Completed
93382	Refurbish bore	Added to scope	Completed
101708	Refurbish bore	Added to scope	Completed

Progress Report – September 2020

Site number	Description	Approximate timeline	Progress September 2020
104104	Refurbish bore	Added to scope	Completed
104271	Refurbish bore	Added to scope	Completed
110943	Refurbish bore	Added to scope	Completed



Progress Report – September 2020