

Flood Plain Harvesting (FPH)



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Certified Storage meter Installer & Validator (CSV)

Groundwater Imaging Pty Ltd offer a water storage meter installation service as well as stock of replacement parts at Dubbo NSW.

We use **TOIP FPH telemetry equipped loggers – ML417M1**. If these loggers are affected by lightning strikes or any other common problem then spare logger circuits carried by installers can be loaded with the failed logger's configuration **ON SITE**. Alternate loggers may leave your storage legally un-fillable while waiting for a broken logger to be sent to and returned from the manufacturer.

An aluminium sun deflector keeps the logger sun and heat protected. Standard installation includes a long external 7dBi antenna suitable for poor signal areas. A more than adequate solar panel, integral 12V power supply, and batteries ensure reliability even when operating more power hungry sensors such as radar.

Government is restricting loggers to basic essential legal operation at first but as they permit more options, these loggers can facilitate more with simple configuration changes. Satellite data transfer, transmission to farmers' own portals and logging of additional data can help, especially when conducting legal negotiation or water saving optimization. Add-in sensors may include on-site weather stations, redundant radar and/or pressure water level sensors and salinity sensors that separate evaporation loss from seepage loss in accurate water balances. Pipe flow meters on the storages can also be logged.

Groundwater Imaging can also offer certified **Gauge Boards** & accurate survey of reservoir volumes at various water levels using our **PlatypusUSV unmanned survey vessel**. Also, **seepage** loss studies can be done in layers to as deep as 6m below the bed with a PlatypusUSV. PlatypusUSV can also be used to install tamper-evident water level meters in reservoirs full of water using a method we have devised.



Certified water level sensors come in two types – **Submersible** (which use water pressure) and **Radar** (which reflect a beam off the water surface). Submersible sensors need regular maintenance (replace desiccant on their vent tubes) and can be affected by sediment movement. Radar sensors need a raised walkway for installation and have trouble with floating trash collection and waves. Neither alone can correct for wind drag on water.

Certified sensors we recommend and can supply are:

- STS (Sirnach Switzerland) PTM/M/SDI-12 Water pressure
- Keller-Druck 36XiW-CDT: Water pressure and salinity (used to separate seepage from evaporation in a water balance at little extra cost)
- Keller-Druck 36XiW: Water pressure
- In Situ Level TROLL: Water pressure plus independent logger
- Vega VegaPuls C 21: Radar (option suitable if there is a walkway)

Radar or pressure sensors can be installed from walkways. Pressure sensors can be installed via conduit away from walkways and pipe intakes. Gauge Boards or independent sensors are required as secondary gauges.

News: As of February 2022 the TOIP ML417M1 telemetry equipped logger (LID) is now approved and certified for NSW FPH use, being the first to reach approval. We are still waiting for certification of proposed efficient installation methodology, noting that, at present, for storages without walkways but containing water, there is no permitted solution. Presently we can offer to either install on a walkway or to help you meet the legal requirement to 'work towards compliance' should you have water in a reservoir with no walkway.

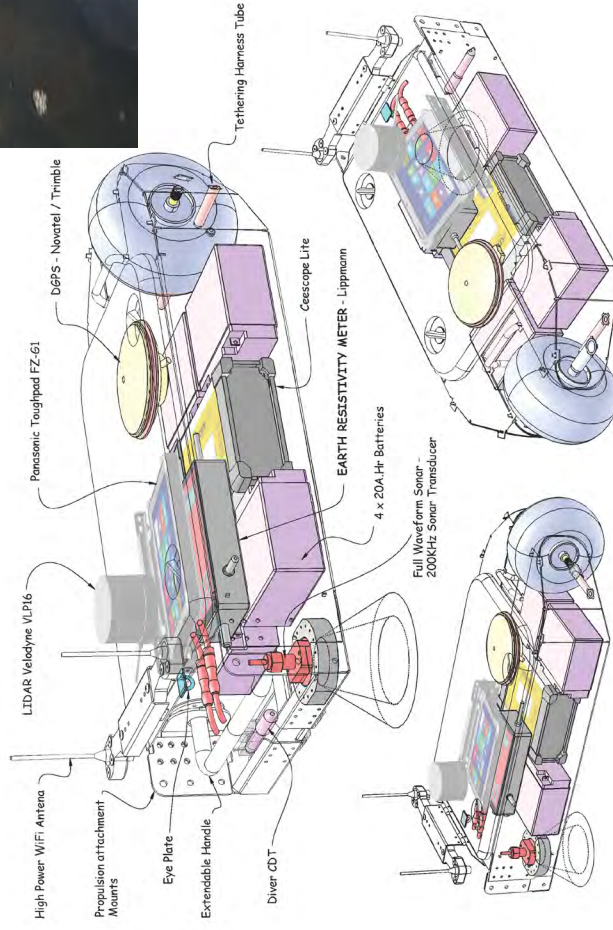
Hydrographical Electrical Resistivity & Bathymetry Imager



Version 5 -
Platypus



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