• Rebar rod driven into stream bed but PVC case could not be firmly secured with steel cable.

• To prevent most movement, hose clamps were attached around case and rod.

• Initially thought PVC case would only “wiggle” under high flows.

• Also assumed the site would not accumulate gravel, sediment, or debris.
Upon return visit we discovered that high flows would actually push the PVC case around to back side of rebar rod.

Also bottom of case that during installation was above stream bed had been buried in approximately 1 inch of sand/gravel.

Sensor end of unit on bottom, so change of location & technique was made.
TIME TO GIVE UP ON REBAR!!!

- We thought we were driving rod down into substrate, but only bending the rod itself.
- Bedrock and boulder dominant stream only allowed rod to follow the groove between immovable substrates.
- Rod never was truly stable nor driven deep enough into stream to use as desired in above slides.
50+ POUND LEVEL LOGGER ANCHOR 😞

- Installed in deep protected pool.
- Idea was that such a heavy object could not be moved by high flows.
- Inquisitive fishermen got the best of us and tampered with unit.
- Entire set-up was picked up by someone and dropped back far out of place. Considering that the stream is fished often and such a thing would likely occur again; a change of mounting technique was made.
CLOSER VIEW

- Cement poured into bucket as mold with threaded rods sunk in to serve as mounting point of PVC case.
- Placed on stream bottom and surrounded by boulders to secure unit/anchor.
- Eye bolt also installed to serve as attachment point for reserve steel cable to prevent anchor from being easily removed from pool habitat.
CLOSER VIEW OF SET-UP

- Holes drilled through PVC case to fit snugly/exactly down along threaded stainless steel rods.
- Stainless steel wing nuts attach and hold case in place to prevent sliding/shiftign.
- Rubber stopper rings (lab supply) installed down rods to serve as base and cushioning for case to prevent rattling against cement during high water events.