# "Prawn Shop": Can Quarries Sustain Freshwater Prawns?

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The primary purpose of this experiment was to determine whether quarry's can sustain freshwater prawns. These researchers tested the quarry's water quality and compared it to the water qualities necessary for the prawn's survival, engineered a containment unit that the prawns would be able to reside in without concern of them being consumed or escaping, and we provided them with the sustenance required for their growth. These researchers hypothesized that the quarry would be the ideal environment for the prawns, and that they would prosper in its conditions. First, the water qualities of the quarry were measured, using probes for temperature, pH, and dissolved oxygen, and testing kits for phosphate and nitrate. The researchers then constructed the cage that would contain the prawns at the size of 243.8 cm, 124.5 cm, 72.4 cm. They formed a PVC frame, with pool screening and metal mesh covering the area of the sides, based on how much space the prawns required. Three additional cages were built to contain the developing prawns. Data collected consisted of the quarry's pH (8.08), dissolved oxygen (8.64), temperature (31.32 C), phosphate (2.25 ppm) and nitrate (1.6 ppm). Measurements of the prawn's weight were taken over three months, once a week, in order to determine if the prawns were growing. At the beginning they were .1 grams and at the end they were .2125 grams. These researchers concluded that the quarry could successfully sustain the prawns through water quality testing, engineering a cage, and raising of the prawns.

**Awards Won:**