



OceanGybe Beach Pollution Study

Location: 4 miles west of Waidroka Surf Camp, Fiji.

Latitude: 18.26 ° S

Longitude: 177.96 ° W

Local Geography and Population Size: Viti Levu is home to 70% of Fiji's population – numbering about 600,000 in total - and is the hub of the entire archipelago. It measures 146 kilometers long and 106 kilometers wide and has an area of 10,389 square kilometers comparable to the size of The Big Island of Hawaii. Immediate location population – zero.

Study Location Description: Completely isolated beach with boat access only. The beach is protected by a barrier reef and shallow lagoon. As a result, the only items that were found were the super buoyant ones. No nurdles, and only a small amount of small plastic pieces.

Study Area: 100m X 2m = 200m²

Pollution:

- 1 light bulb
- 2 large pieces of plastic
- 1 large hunk of metal and foam - looks like a part of an old chest freezer
- 1 lighter
- 2 pen caps, 1 pen
- 12 small pieces of styrofoam
- 1 sandal base
- 1 shoe
- 3 bottle caps
- 1 dental floss container
- 1 tin aerosol container
- 18 clear plastic pop bottles (estimate 5 local or from a near-by island)
- 1 glass bottle with cork
- 3 opaque plastic bottles (bleach etc)
- 3 plastic sacks (old flour sacks - from Australia)

Pollution Density: 51 pieces / 200m² = 0.255 pieces/m²

Notes:

It is clear that most of the debris arrived by sea.

Many of the plastic water bottles had a float line on them, and old barnacle covered their bases. The metal base of the light bulb had completely rusted off, only the glass remained. The piece of chest freezer had come from the ocean, and had dents and marking as a result of passing over the reef. The large pieces of plastic were also beaten up and very weathered. The majority of items (but not all) were weathered, indicating them having been adrift.

90% of items were found above the high tide line, where the trades would have blown them into the shade of the vegetation and palms that fringe the shore. The weathering could not have occurred in this location (no sun), hence concluding that they were not local.