

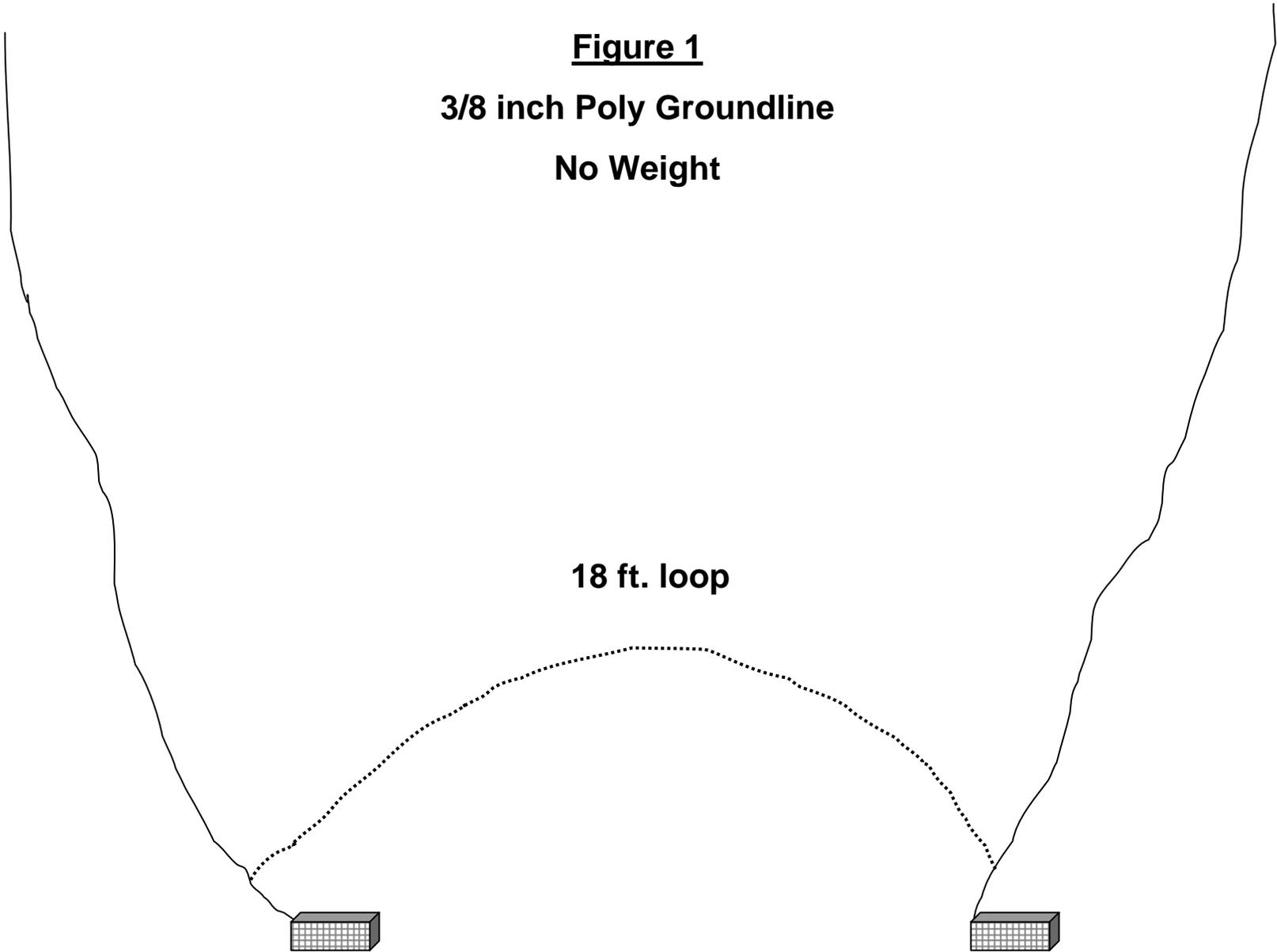
NMFS NERO Gear Research Team
Preliminary Research Report on Reducing Groundline Profile
April 2005

The NMFS Northeast Region Protected Resource Division's Gear Research Team (GRT), in conjunction with the Southeast Fisheries Science Center Harvesting Systems Branch (HSB), conducted research in lowering groundline profile by adding weight to existing polypropylene (poly) line. Research and video work was conducted off Panama City, Florida, for the purpose of obtaining high quality video documentation due to water clarity.

The research involved the use of both 3/8" and 5/8" poly groundline, with a distance of 15 fathoms between traps. Gillnet lead line was used as a source of weight to be added to the line. Line size was selected to represent average line size used in both inshore and offshore fisheries. The distance between traps was more consistent with inshore fisheries, but long enough to project the behavior of longer groundline. Trap gear was set in 30 feet of water, and all groundlines were soaked for 24 hours prior to filming. Five-trap trawls were set with separate groundlines consisting of 3/8" and 5/8" poly, with and without weight. HSB divers swam the length of the trawl, videotaping groundline profile and measuring line height utilizing a hand held sonar unit.

Several combinations of weight and spacing were examined, with the target goal of lowering groundline to less than 2' off the bottom. The weight and spacing found to produce the intended results were: 2 ounces of weight every 2 fathoms on 3/8" poly, and 8 ounces of weight every 2 fathoms on 5/8" poly. This research does not represent the only option available for producing a lower groundline profile, but only one of many possible options. Figures 1 through 4 on the following pages illustrate the findings.

Figure 1
3/8 inch Poly Groundline
No Weight



18 ft. loop

Figure 2
3/8 inch Poly Groundline
with
2 oz. of weight every 2 fathoms

Ground line lays on bottom to less than 2 ft. off bottom

1 ft. piece of Lead line = 2 oz.

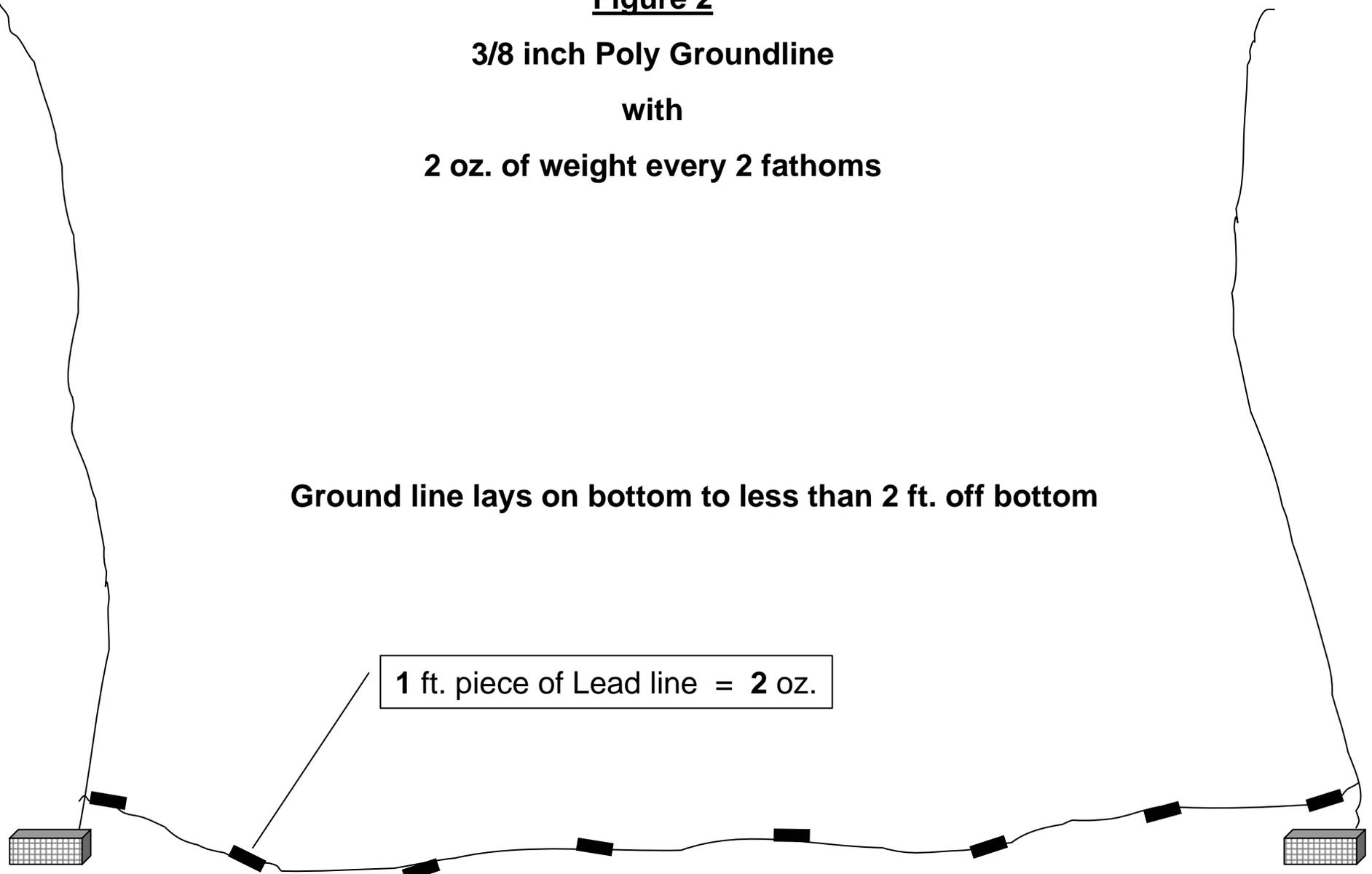


Figure 3

5/8 inch Poly Groundline

No Weight

23 ft. loop

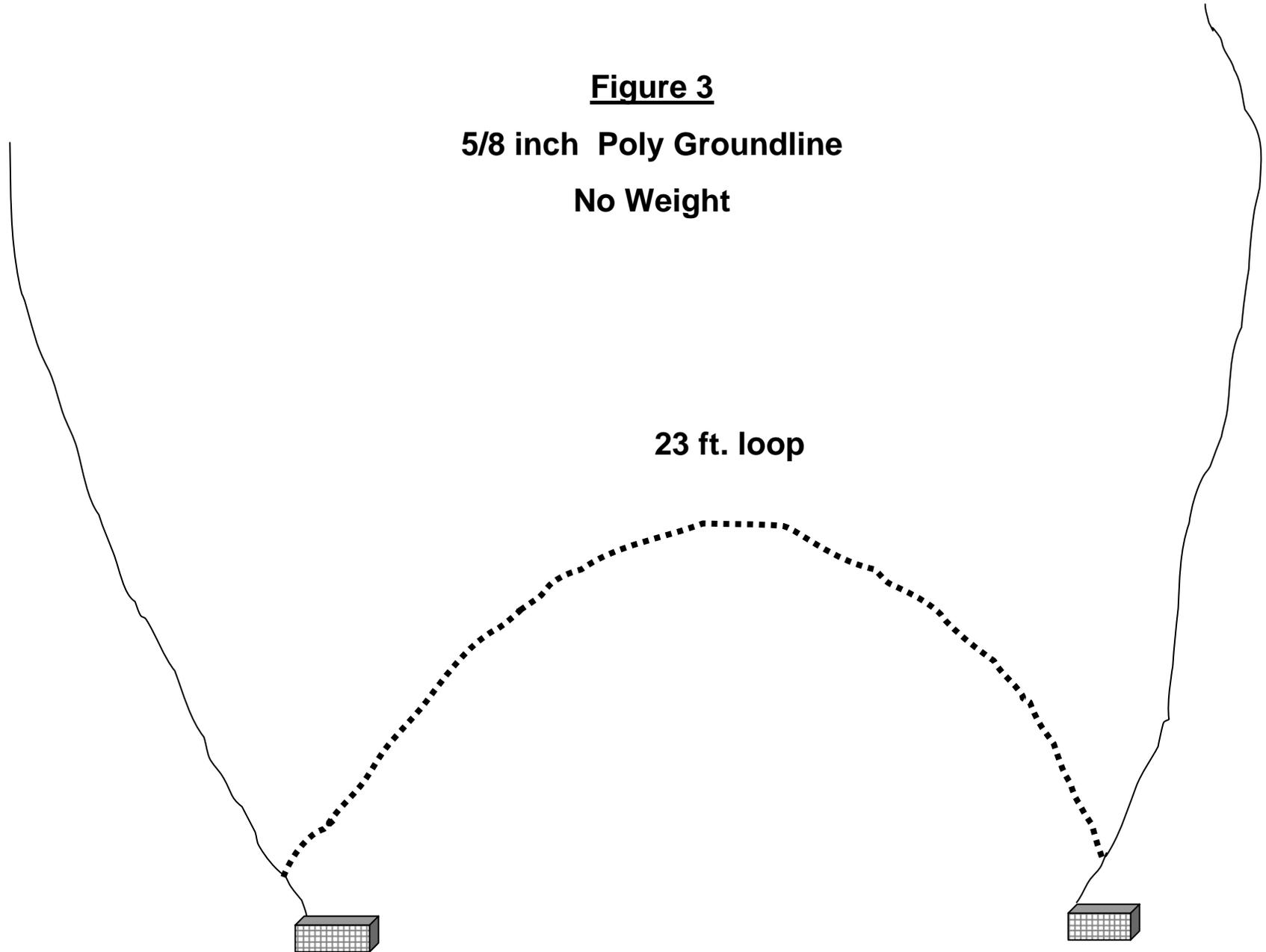


Figure 4
5/8 inch Poly Groundline
with
8 oz. of weight every 2 fathoms

Ground line lays on bottom to less than 2 ft. off bottom

4 ft. piece of Lead line = 8 oz.

