NOTES

Echo Location of Fishes in Dhudawa Reservoir (Madhya Pradesh)

Based on observations in Mettur reservoir, Gulbadamov (1962) suggested that echo sounding would be a valuable aid in commercial fishing and fisheries research in reservoirs. Mitra & Durve (1978) advocated the use of asdic and other acoustic devices for assessment of reservoir fish population.

This investigation was aimed at locating fishes with echo sounder in Dhudawa reservoir, in Bastar district, Madhya Pradesh. The problem poised was that due to unprecedental rain in 1980, fishermen were neither able to catch fish from the known fishing grounds in this reservoir nor to locate any other fishing grounds. Therefore, to locate probable fishing ground, sounding was done with Furuno echo sounder model F.90. W; Type A having "White line" facility with ranges of 0–18–36–54 m. For recording 75 mm width dry paper was used. The echo sounder worked on 12 V battery.

Dhudawa is a medium irrigation reservoir built on the Mahanadi river system. The area at full reservoir level is 4403 hectares with a maximum depth of 20.8 m (68.75 ft.) The present rate of fish production is 5.28 kg/h.a. consisting of major carps.

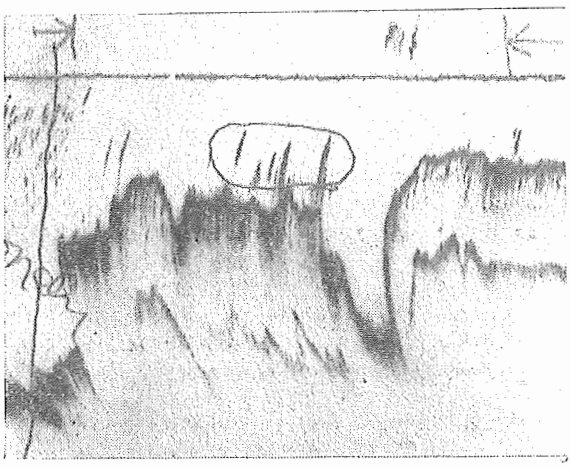

Fig. 1. Echograph showing fishes at off bottom

The echo sounder was operated from a row boat during February, 1981 and 17 observations were made in different locations. A track parallel to the river course, starting from the main dam and proceeding from lower to upper reaches was selected.

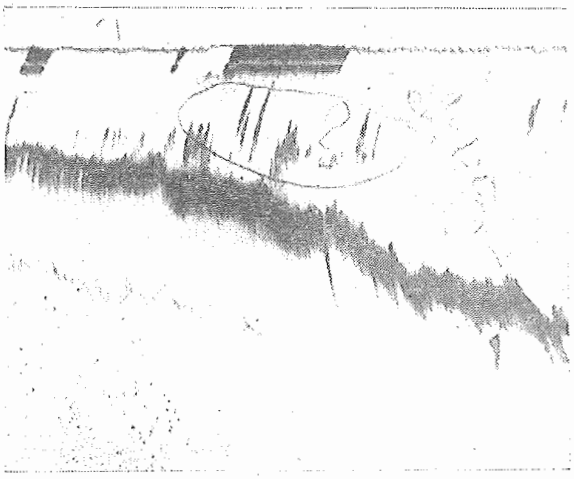

Fig. 2. Echograph showing fish at mid water

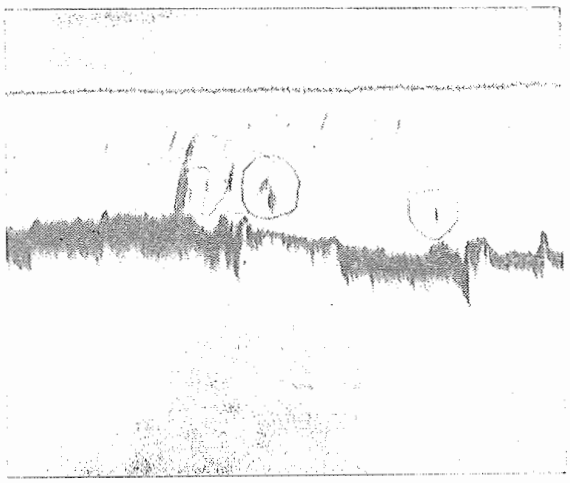

Fig. 3. Echograph showing stray fishes and shoals

In general, fishes were found to be distributed either towards off bottom or mid-water areas. Thus in the early morning

in middle reaches, fishes were located off bottom at depths of 4.54–6.00 m. (15–20 ft.) (Fig. 1). Further as the day advanced, fishes were found to be distributed in mid-waters at depth of 3.03 m (10 ft) and off bottom (Fig. 2). During day in the upper reaches occurrence of single fishes in column waters at 1.51–3.03 m (5–10 ft) and shoals in the depth of 3.03–4.54 m (10.15 ft) were noticed (Fig. 3). Since echo location is a quick technique compared to other methods of fish location, it is desirable to introduce the same in other reservoir.

The author is thankful to Dr. C. C. Panduranga Rao, Director, Central Institute of Fisheries Technology, Cochin for according necessary permission to undertake the above investigation and to Shri R. P. Tuli, General Manager, Madhya Pradesh Rajya Matsya Vikas Nigam for the keen interest in the above work and also for providing the necessary field facilities. The co-operation of the Bastar fishermen of Dhudawa reservoir is also greatly acknowledged.

References

Gulbadamov, S. B. (1962) *Report to Government of India, Food and Agricultural Organisation, Expanded Technical Assistance Programme,* **1499**, 1-37

Mitra, G. N. & Durve, V. S. (1978) *Proc. Seminar Ecol. & Fish, Fresh Wat Fish Reservoirs Cent Inland Fish. Res. Inst. Barrackpore* 27-29, p. 571

Burala Research Centre of Central Institute of Fisheries Technology, Burla-768 017

V. C. GEORGE*

*Present address: Central Institute of Fisheries Technology, Cochin-682 029