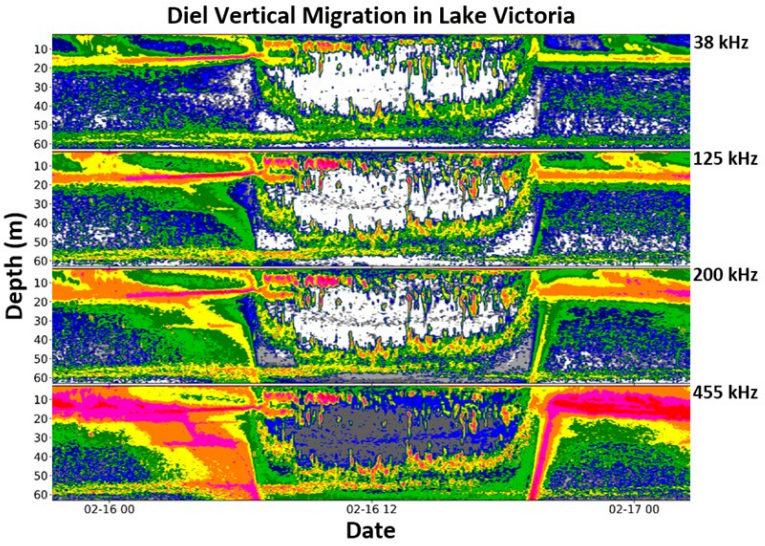
Update on Laura Hobbs and Roland Proud, AZFP Recovery from Lake Victoria, East Africa

In 2019, Dr. Laura Hobbs (University of Strathclyde and Scottish Association for Marine Science) and Dr. Roland Proud (University of St. Andrews) won the ASL Environmental Sciences annual early career scientist competition to obtain, free of charge, an Acoustic Zooplankton Fish Profiler (AZFP) to study fisheries ecology in Lake Victoria (East Africa). As was proposed, the instrument was deployed in the deepest part of the lake (c. 70 m of water depth) on the 30th November 2019.

Dr. Proud and Prof. Andrew Brierley (University of St. Andrews) returned to Uganda in February 2020 to recover the AZFP. As part of the instrument recovery trip, Dr. Proud and Prof. Brierley ran an acoustics course with 20 fisheries scientists from the Lake Victoria Fisheries Organisation (LVFO, Uganda), Tanzania Fisheries Research Institute (TaFIRI, Tanzania), Kenya Marine and Fisheries Research Institute (KMFRI, Kenya), and the National Fisheries Resources Research Institute (NaFiRRI, Uganda). During this course, participants learned how to process AZFP data, converting raw files in to echograms (echo energy plotted by depth and along-track distance/time) using Python and Echoview. Preliminary analysis of the data revealed patterns in the vertical movement of organisms in the water-column and the complex interplay of predator-prey interactions during daily and seasonal cycles (see example echogram below).

Back in the UK, Dr. Proud and Dr. Hobbs are working on the data to answer key ecological questions linked to the Lake Victoria fishery, which supports more than 35 million people in East African Communities. They hope that this work will lead to future deployments in the lake and further collaboration with local scientists. Deployment of the AZFP was also supported financially by the University of Strathclyde, the University of St. Andrews, and through funds obtained from the Scottish Funding Council Global Challenge Research Fund.

AZFP mooring recovery: Collins Ongore (white cap), fisheries scientist at KMFRI and PhD student at the University of St. Andrews, ferrying the AZFP back to the RV *Ibis* with help from crew members.



Four stacked echograms (38 kHz, 125 kHz, 200 kHz and 455 kHz) showing diel vertical migration in Lake Victoria. Data collected during February 2020. Date format (month-day time).