

Recently available dFAD tracking data in the WCPO: challenges, new research areas and potential useful tool to guide management

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Summary

With the arrival of satellite and echo-sounder buoys, the use of drifting Fish Aggregating Devices (dFADs) by purse seiners has increased globally in the last few decades. The Parties to the Nauru Agreement (PNA) implemented a dFAD tracking programme in 2016, with a requirement to provide positions of satellite buoys attached to dFADs used by purse seiners within the PNA EEZs. These data, comprising more than 38,000 satellite buoy trajectories in the WCPO between 2016–2018, along with fishing data (logsheet, observer and VMS) provided detailed insights into fisher and dFAD behaviour. This investigation assessed the deployment and drifting behaviour of dFADs in the WCPO, as well as main areas of deployment, dFAD densities, dFAD connectivity between EEZs, and dFAD beaching events. The number of dFADs used by vessel was also estimated, with most vessels deploying less than 350 buoys per year. This corresponds to a total of 30,000–65,000 buoy deployments in the whole WCPO in 2016 and 2017. Preliminary analysis of the influence of dFAD densities on CPUE indicated a slight decrease of total tuna CPUE on dFAD sets with increasing dFAD density. While comprising limitations, such dataset could help guide management of purse seine fisheries.