



## Catch data of Pacific saury by Vanuatu Pacific saury fishing fleets in the North Pacific Ocean during 2013 - 2021

Lucy Joy<sup>1</sup>, Mei-chin Juan<sup>2</sup>

### Abstract

This paper aims to provide the Pacific saury fishery data collected from stick-held dip net fishery of Vanuatu in the North Pacific Ocean during 2013 - 2021. Recent three years, the total catches of Pacific saury showed a decreasing trend.

### Introduction

The stick-held dip net fishery of Vanuatu was first developed to harvest Pacific saury in 2004. There were a total of 16 Vanuatu fishing vessels operated in the North Pacific Ocean. Since 2015, the fishing vessels (GRT > 800 tons) have remained as four and they operated in the region of 145 - 165°E and 38 - 48°N during the main fishing season (July to November). This paper aims to provide available fishery data for Pacific saury caught by Vanuatu fisheries, including catch and effort estimates by fisheries.

### Materials and methods

The first full commercial fisheries data was collected in 2013. Since 2020, all Vanuatu Pacific saury fishing fleets have started to daily report the fisheries data via e-logbook system. The catch data of Pacific saury presented in this paper were obtained from the Vanuatu logbook/e-logbook dataset.

### Results and discussion

Vanuatu Pacific saury fishing fleets were required to fill out logbooks to collect the fisheries data including the size composition data based on the commercial category. Annual catch and effort information of Vanuatu Pacific saury fishing fleets in the North Pacific is shown in Table 1 and Figure 1. Since 2018, the total catch decreased over the recent three years. The catch of 2021 was 1,270 metric tons which was at the historically low level (Figure 1a). The fishing effort was 238 fishing days in 2021. The fishing day was slightly decreased in 2021 (Figure 1b). The trend of nominal CPUE (tons/fishing day) indicated that the nominal CPUE reached the lowest

<sup>1</sup> Vanuatu Fisheries Department

<sup>2</sup> Ming Dar Fishery (Vanuatu) Co., Ltd.

level over years. The monthly spatial distribution of fishing locations during 2013 - 2021 is shown in Figure 2. The fishing vessels operated in the area of 165°E in the early fishing season (June - August), and then the fishing ground shifted to the area of 150- 160 °E from September to December. The spatial distributions of nominal CPUEs from 2013-2021 is shown in Figure 2. The results suggest that the high CPUEs mainly distribute in the waters of 146-157 °E and 40-45°N.

Table 1. Annual catch and effort information of Pacific saury for Vanuatu Pacific saury fishing fleets in the North Pacific Ocean from 2013-2021.

Year	No. of vessels	Fishing effort (fishing days)	Catch (tons)	Nominal CPUE
2013	1	73	1,509	20.67
2014	1	87	1,915	22.01
2015	4	211	6,616	31.36
2016	4	312	7,331	23.50
2017	4	291	4,437	15.25
2018	4	277	8,231	29.71
2019	4	276	3,465	12.55
2020	4	280	2,700	9.64
2021	4	238	1,270	5.34

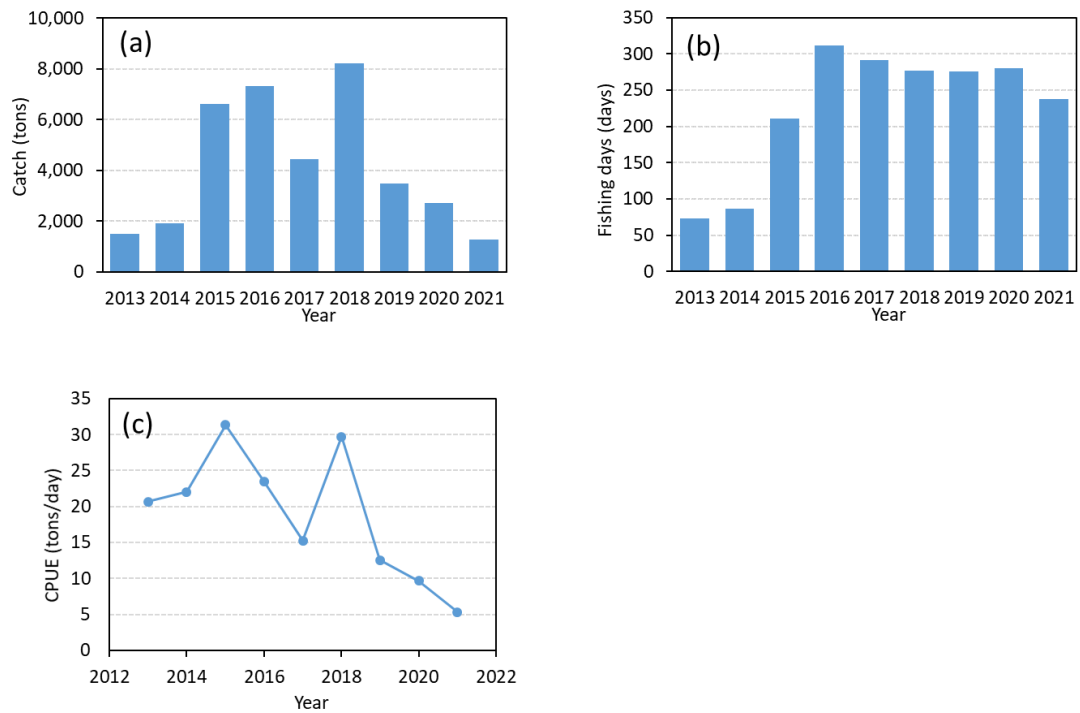


Figure 1. The time series of (a) catch (in metric tons), (b) fishing effort (in fishing days), and the nominal catch-per-unit-effort (CPUE) for Vanuatu Pacific saury fishing fleets in the North Pacific Ocean from 2013-2021.

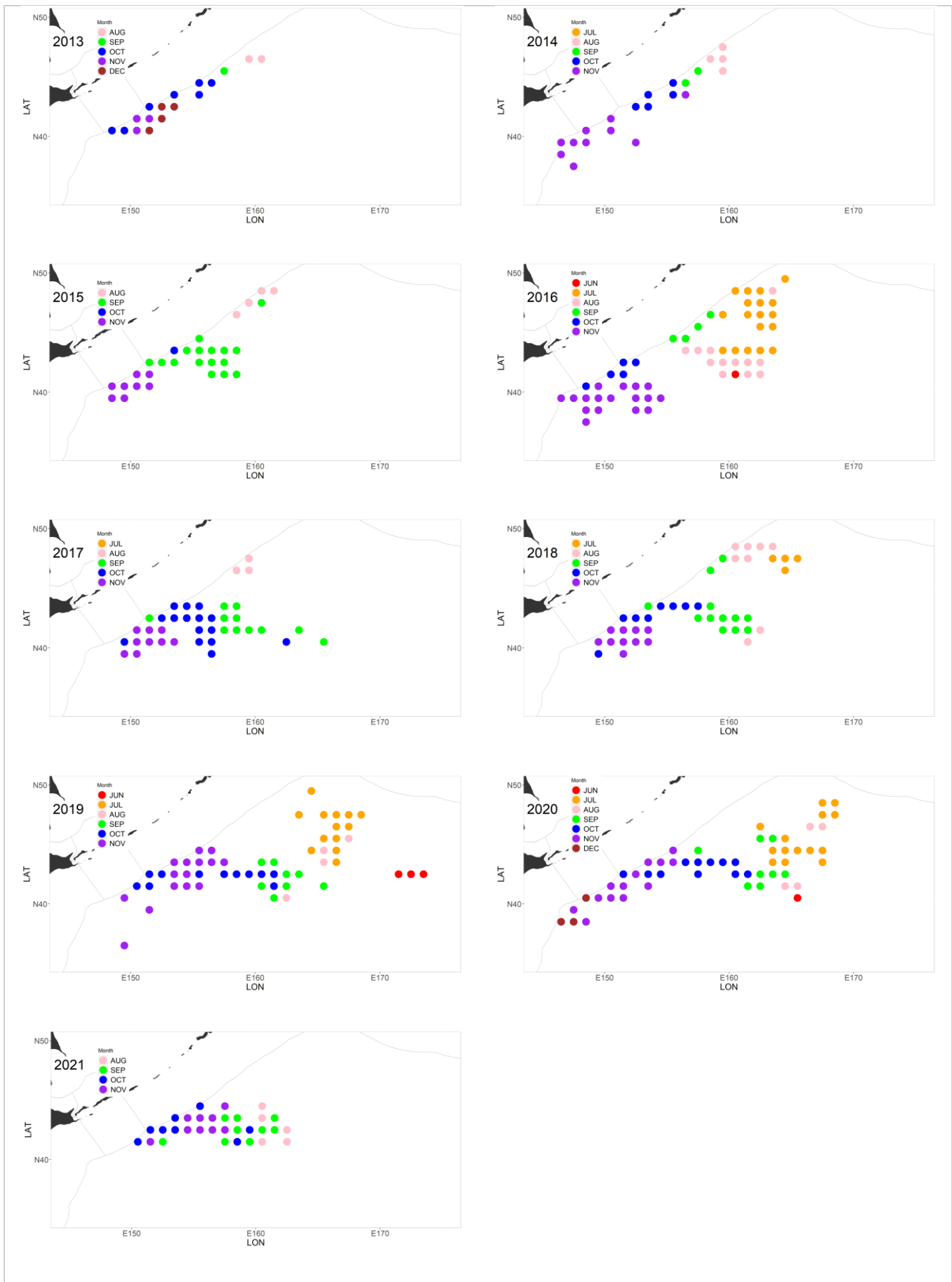


Figure 2. Monthly spatial distributions of fishing locations of Pacific saury for Vanuatu stick-held dip net fishery in the North Pacific Ocean from 2013- 2021.

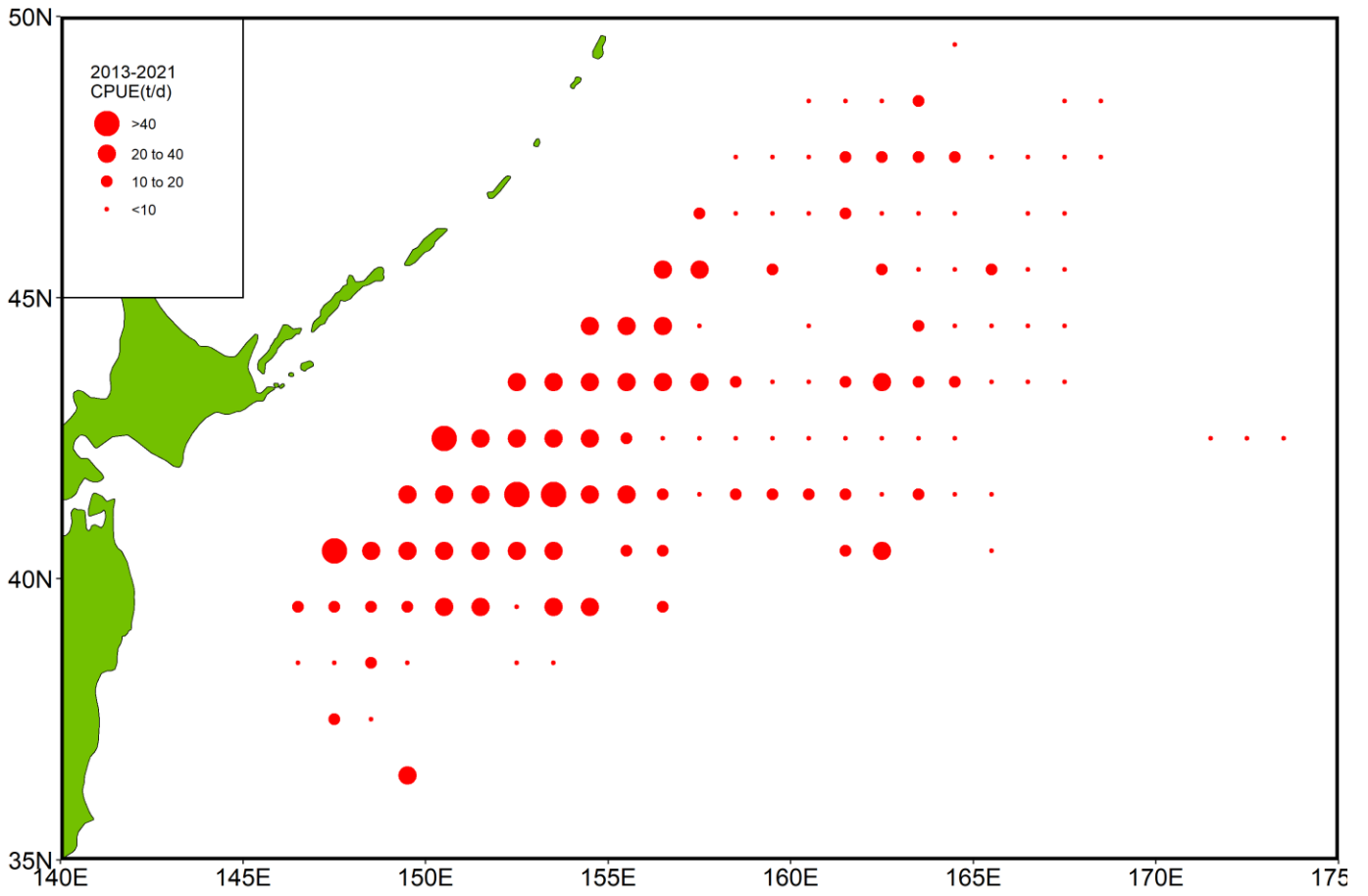


Figure 3. Spatial distribution of the nominal CPUE (tons/fishing day) of Pacific saury for Vanuatu stick-held dip net fisheries in the North Pacific Ocean from 2013-2021.