



# **RDM discussion: accounting for statistical uncertainty in MRIP estimates**

TC/MC meeting

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# Overview

- RDM requires baseline-year estimates of # fishing trips that targeted or caught fluke, sea bass, or scup
- We subsequently model the extent to which # of fishing trips (and other output like angler welfare and harvest) changes with changes in fishery conditions
- Last year, we used MRIP point estimates of directed trips by state and bi-monthly period
  - Sometimes resulted in using an estimate of directed trips that was unusually high with high degree of statistical uncertainty
  - Necessitated ad-hoc post-estimation adjustments to evaluate small changes in season length by fishing mode
  - Did not account for uncertainty in MRIP estimates of directed trips

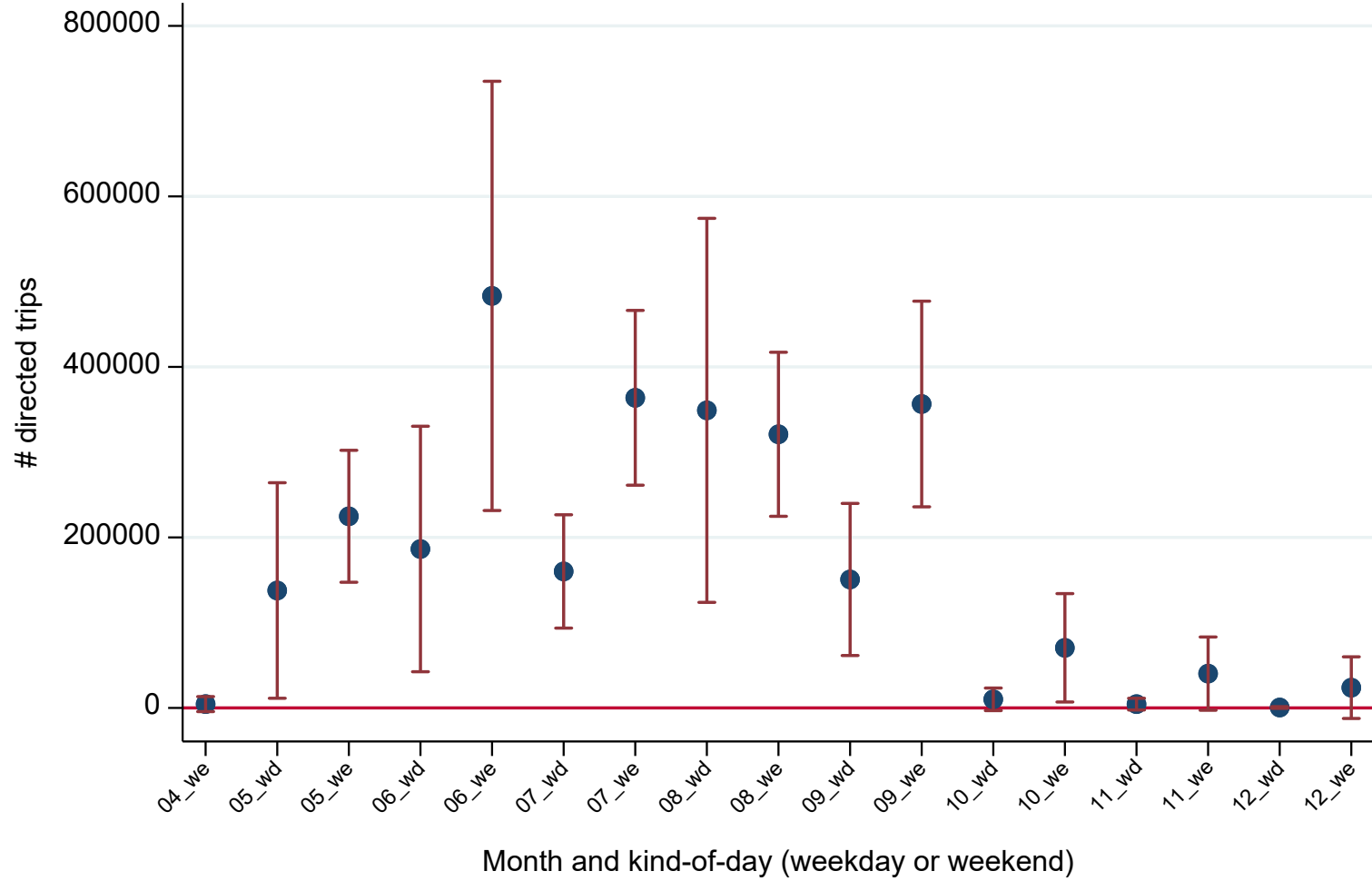
# 2024 RDM updates

- 2024 RDM is run at the daily- and mode-level, allowing for daily adjustments season length by mode
- Accounts for uncertainty in MRIP estimates of directed fishing effort by running the model 100 times, each time drawing # trips per day from a distribution characterized by the MRIP point estimate its variance

# Accounting for uncertainty in estimated fishing effort

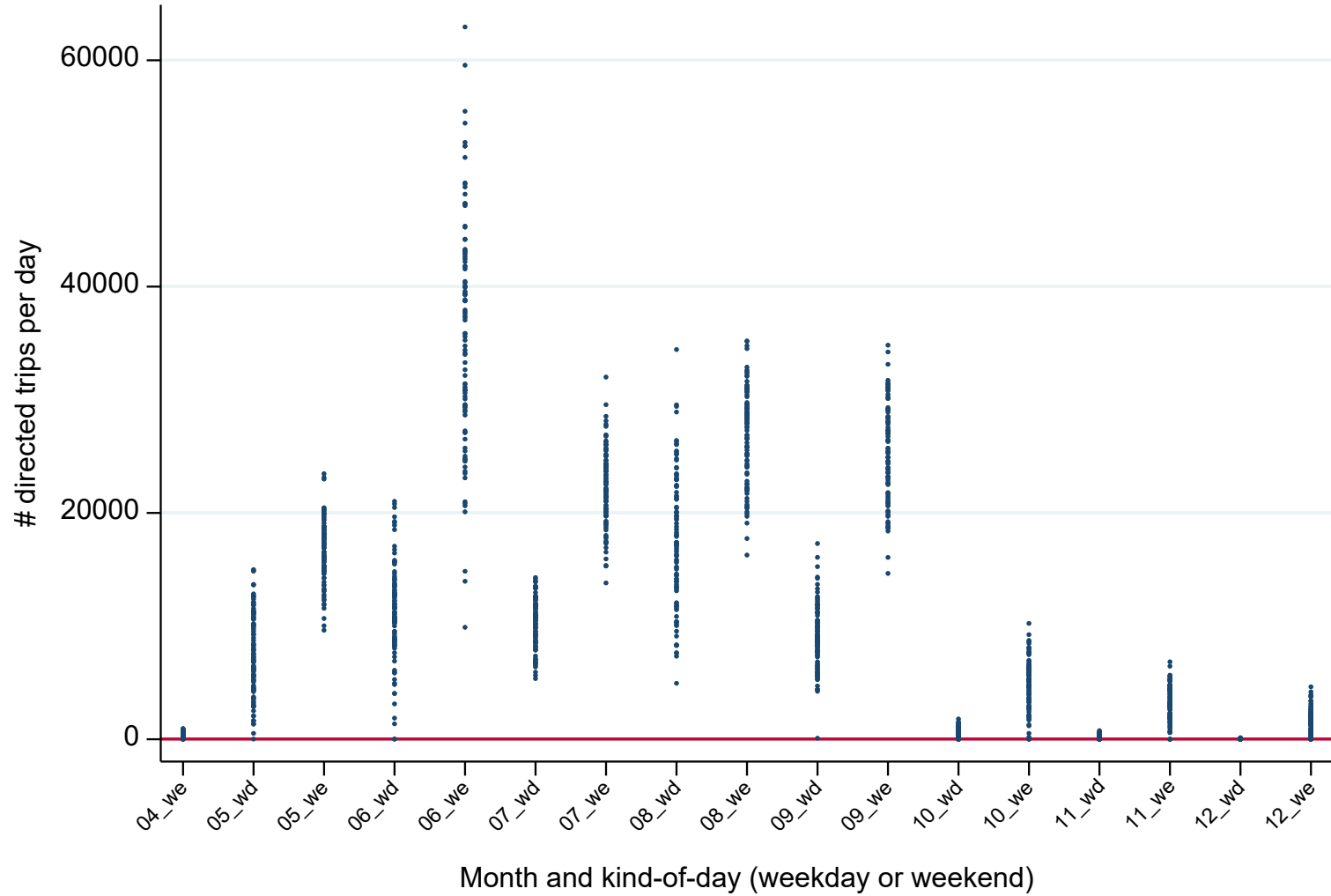
1. Estimate total directed trips in baseline year (2022) at higher level of aggregation, retain variance around this estimate
  - State, month, mode, and kind-of-day (weekend including holidays or weekday)
2. For each of the 100 iterations of the model, draw from the distribution of total directed trips in each stratum
3. Divide total trips by the number of days within these strata in 2024 to get trips-per-day in 2024
  - Example draw: 30,000 directed trips in New Jersey on the weekends in August 2022 for private boat mode
  - 8 weekend days in this stratum in 2024
  - Trips-per-day in this stratum in 2024 =  $30,000/8 = 3,750$

MRIP estimates of total directed trips for fluke, black sea bass, or scup  
Private boat mode NJ, 2022

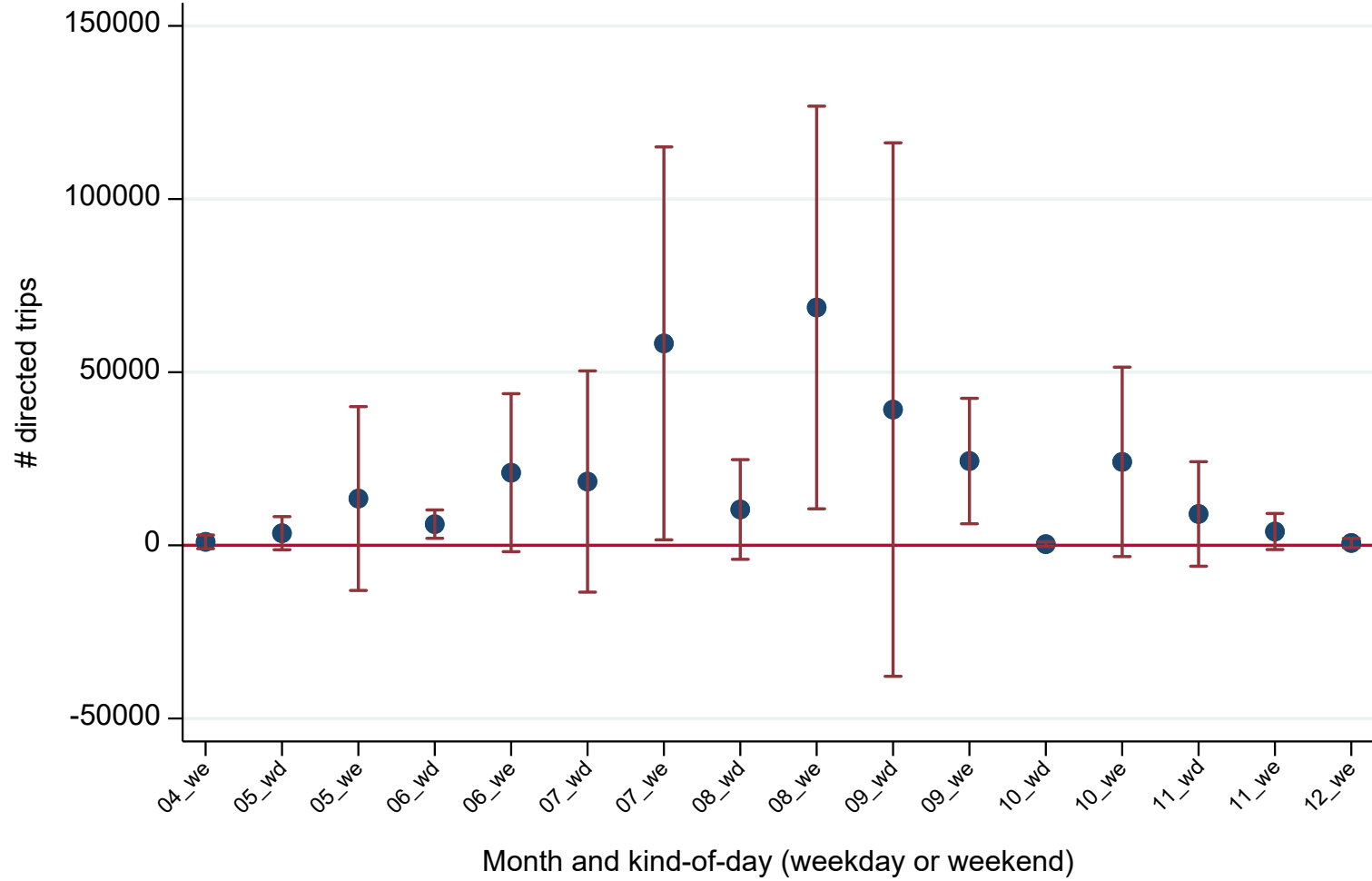


Bars indicate 95% CI

Draws of directed trips per day  
Private boat mode, NJ 2024



MRIP estimates of total directed trips for fluke, black sea bass, or scup  
Private boat mode MD, 2022



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Draws of directed trips per day  
Private boat mode, MD 2024

