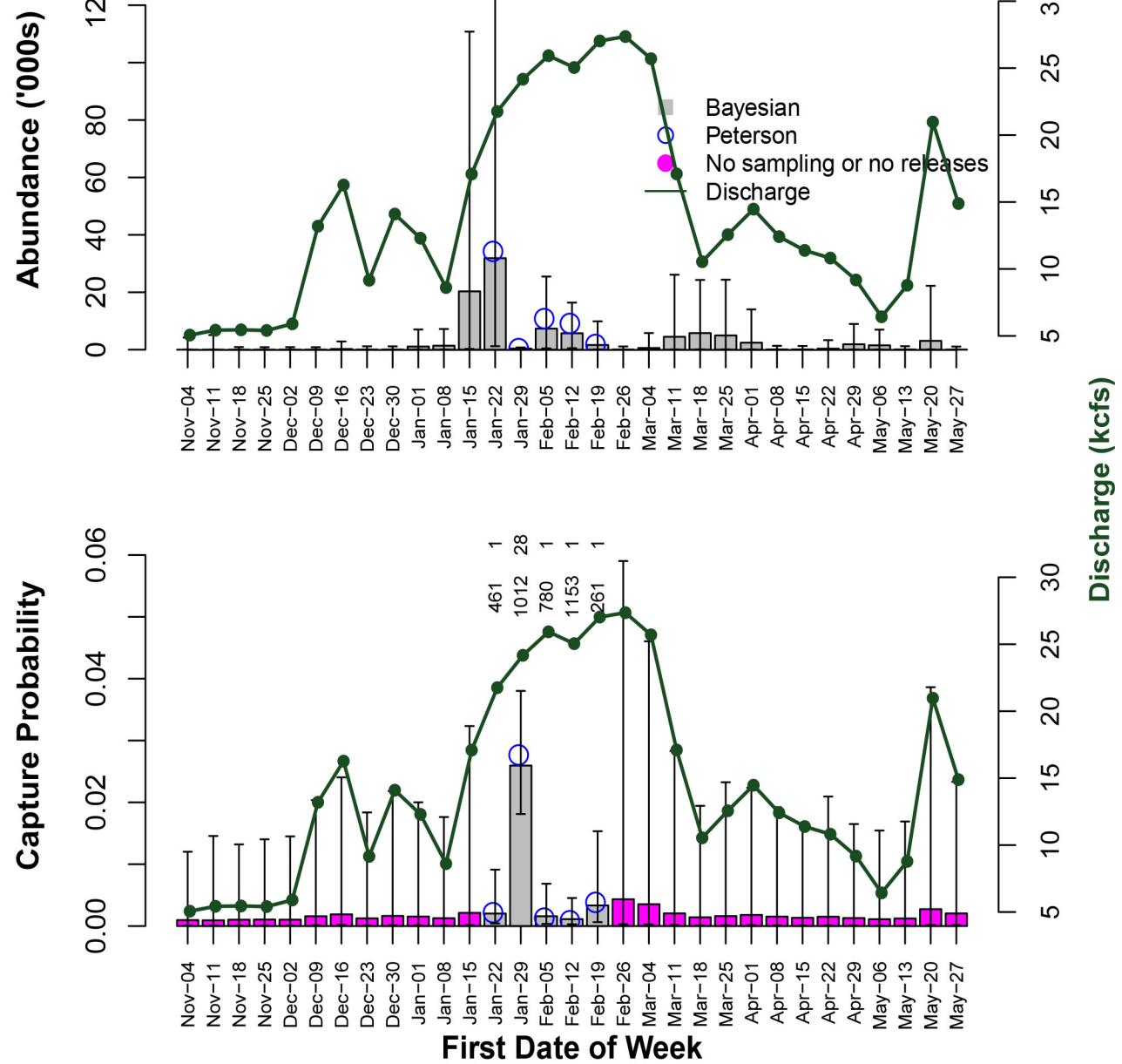


## A. Predictions of Weekly Capture Probabilities of Chinook Salmon Abundances (All Runs)

Figures in this appendix show predicted abundance of juvenile outmigrant Chinook salmon (i.e., all run types and fry and smolt life stages combined; top panel) and capture probability (bottom panel) by weekly strata for select rotary screw trap sites and run years.

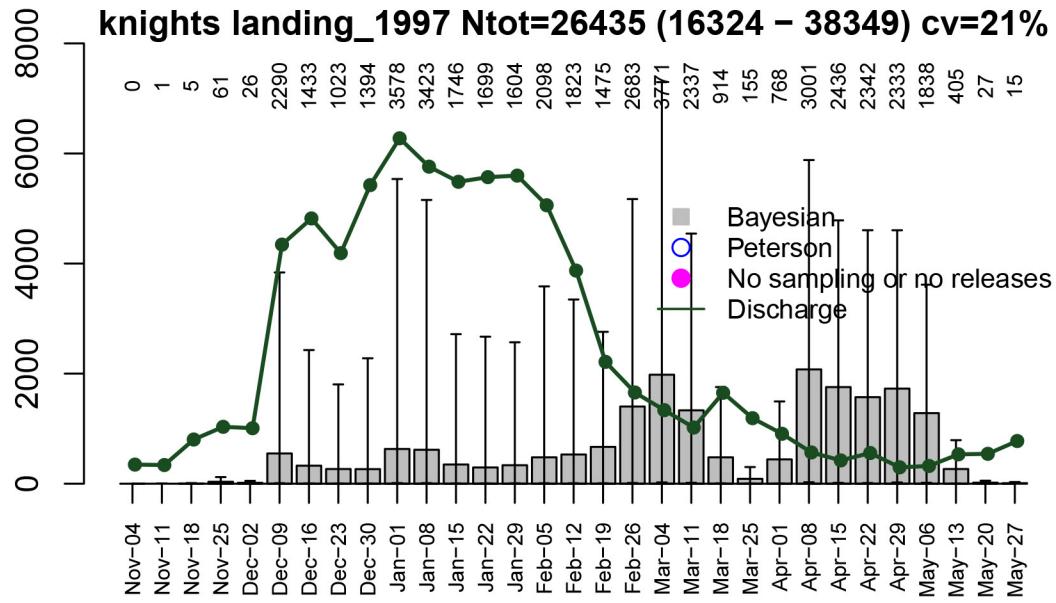
- The height of the bars and error bars show the medians and 95% credible intervals predicted by the model.
- Numbers at the top of each plot show the unmarked catch ( $u$ , top panel), and the number of recaptures ( $r$ ) and releases ( $R$ , bottom panel).
- Bars in the top panels with dots above them and no open circles or numbers above them identify strata with no sampling data; bars in the bottom panel with no numbers above them identify strata with no mark-recapture data.
- Open circles show the Peterson estimates of abundance ( $U=u/p$ ; error bars show 95% confidence intervals) and capture probability ( $p=r/R$ ).
- The line with points shows the average weekly discharge.
- Figure titles show the median total abundance estimate for the run year with 95% credible intervals in parentheses.
- Coefficient of variation of the annual abundance estimate is also shown.

**knights landing\_1996 Ntot=128 (61 – 253) cv=36%**

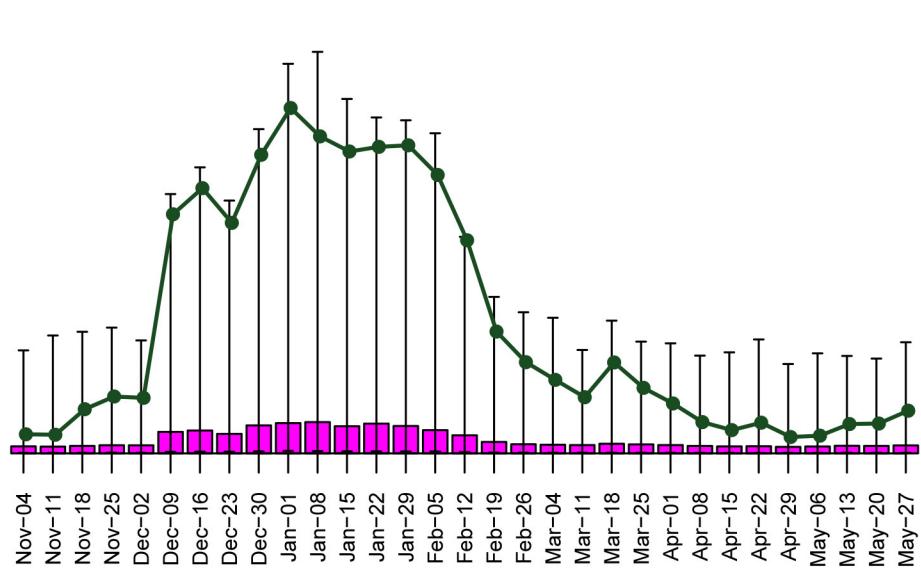


# knights landing\_1997 Ntot=26435 (16324 – 38349) cv=21%

Abundance ('000s)



Capture Probability

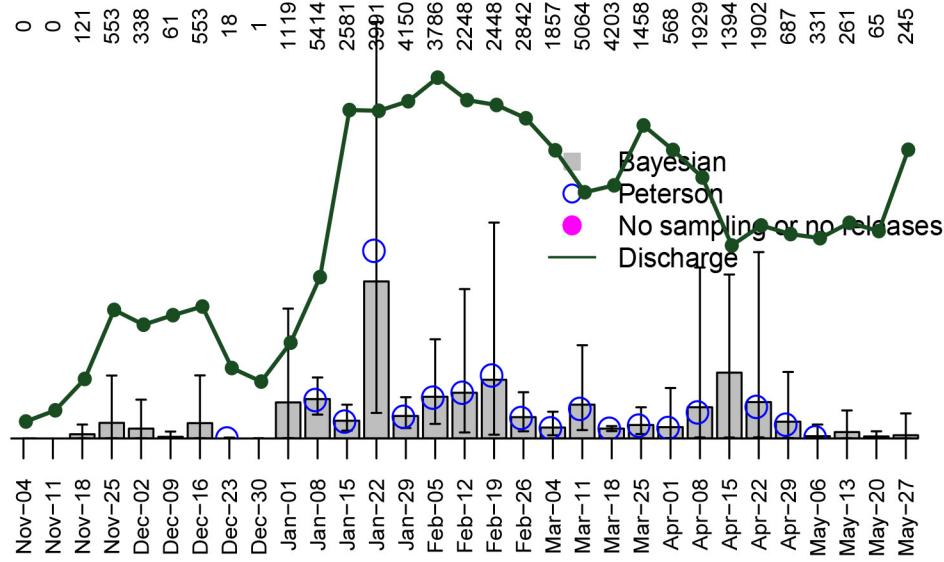


First Date of Week

Discharge (kcfs)

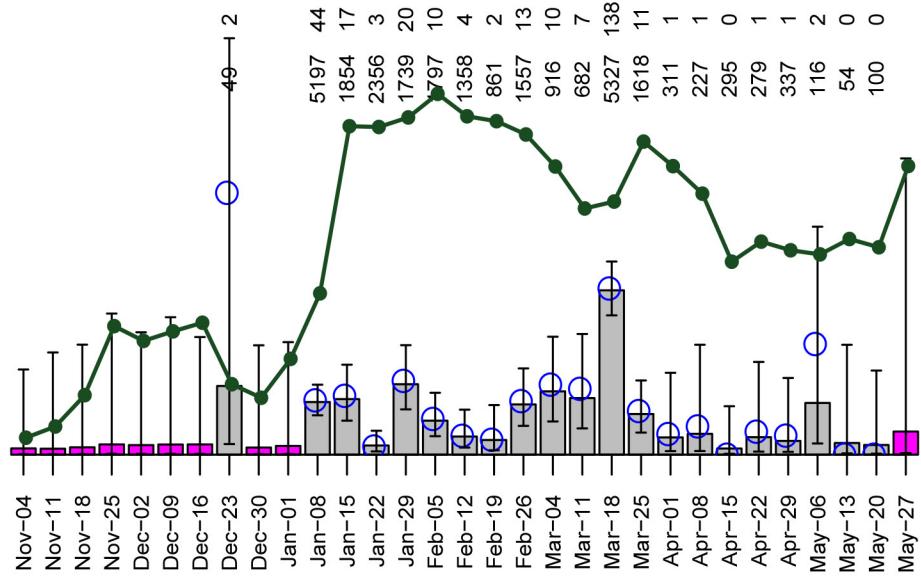
# knights landing\_1998 Ntot=13975 (9757 - 19758) cv=18%

Abundance ('000s)



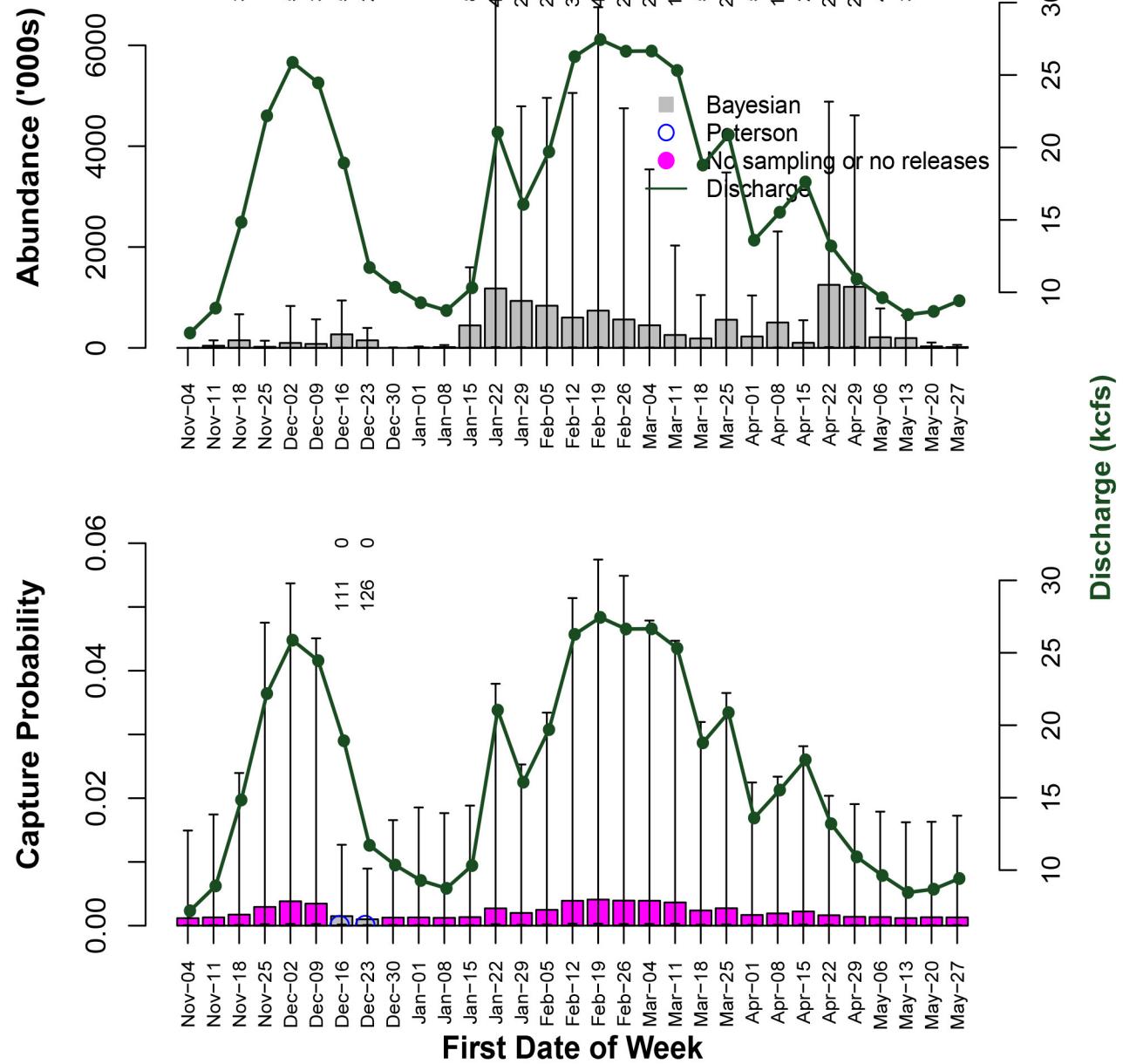
Discharge (kcfs)

Capture Probability



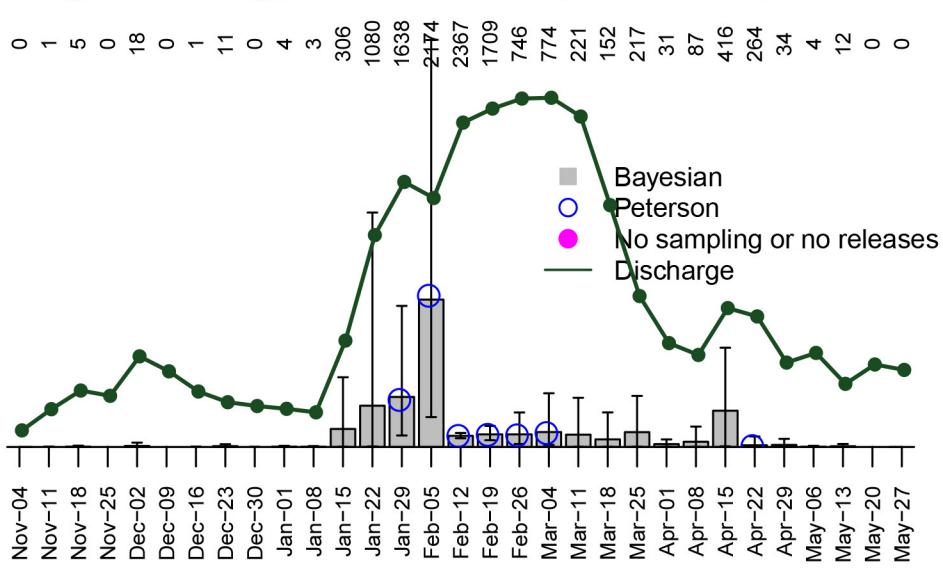
First Date of Week

# knights landing\_1999 Ntot=17150 (9376 - 26990) cv=26%



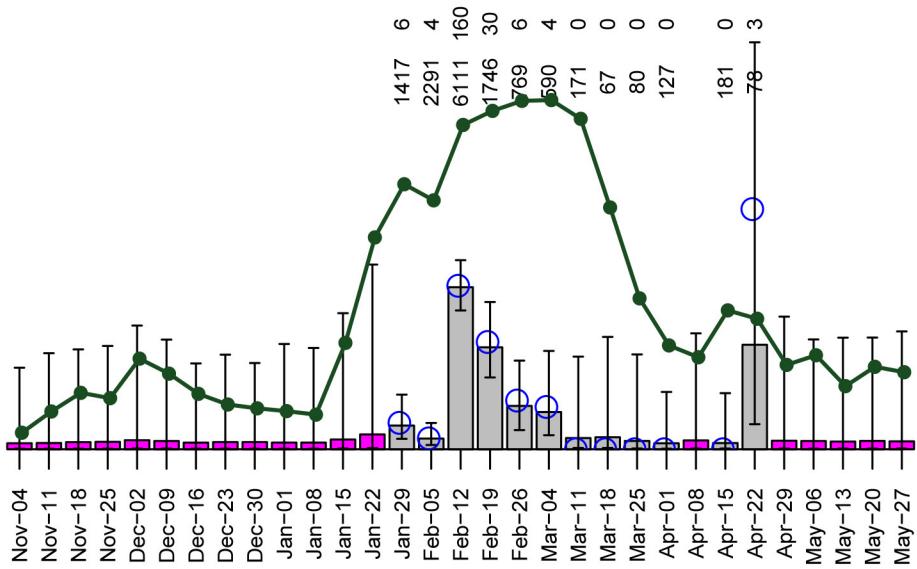
# knights landing\_2000 Ntot=3738 (2177 - 6300) cv=27%

Abundance ('000s)



Discharge (kcfs)

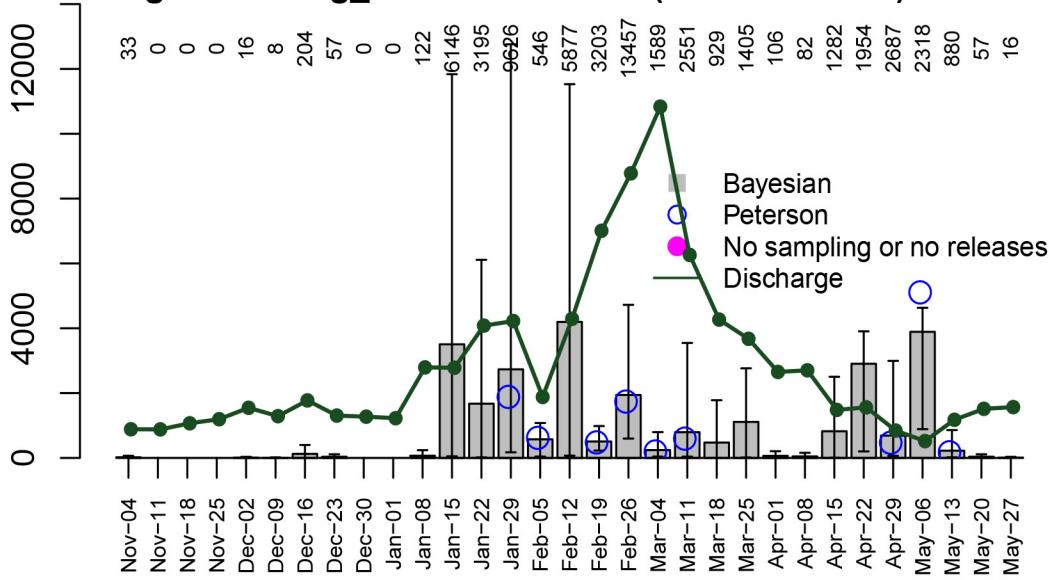
Capture Probability



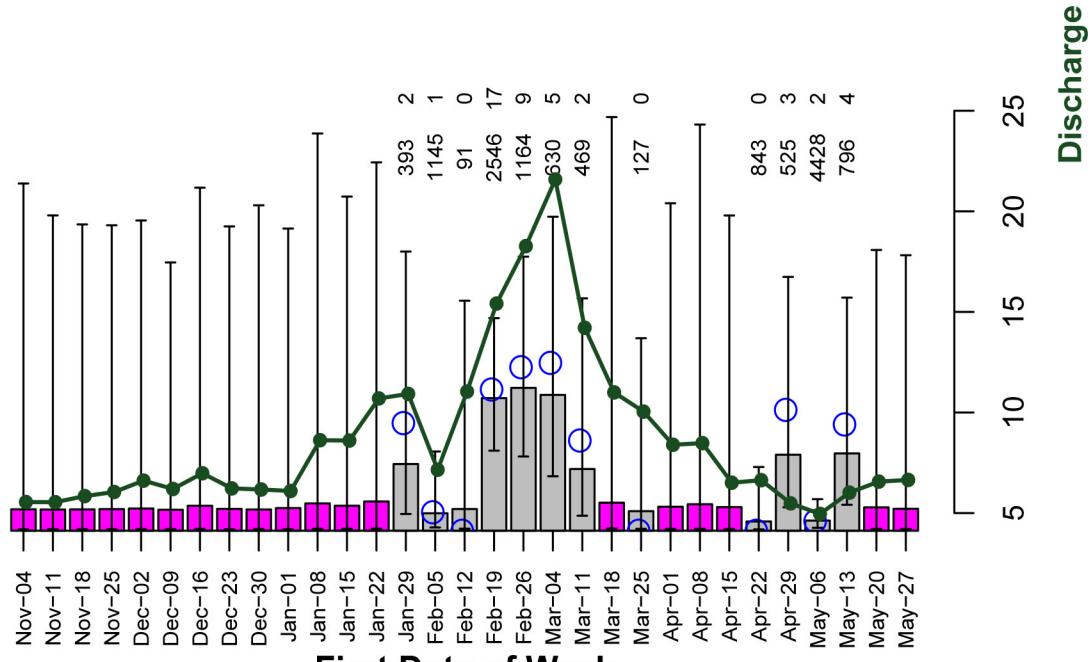
First Date of Week

# knights landing\_2001 Ntot=29755 (18566 - 44406) cv=22%

Abundance ('000s)



Capture Probability

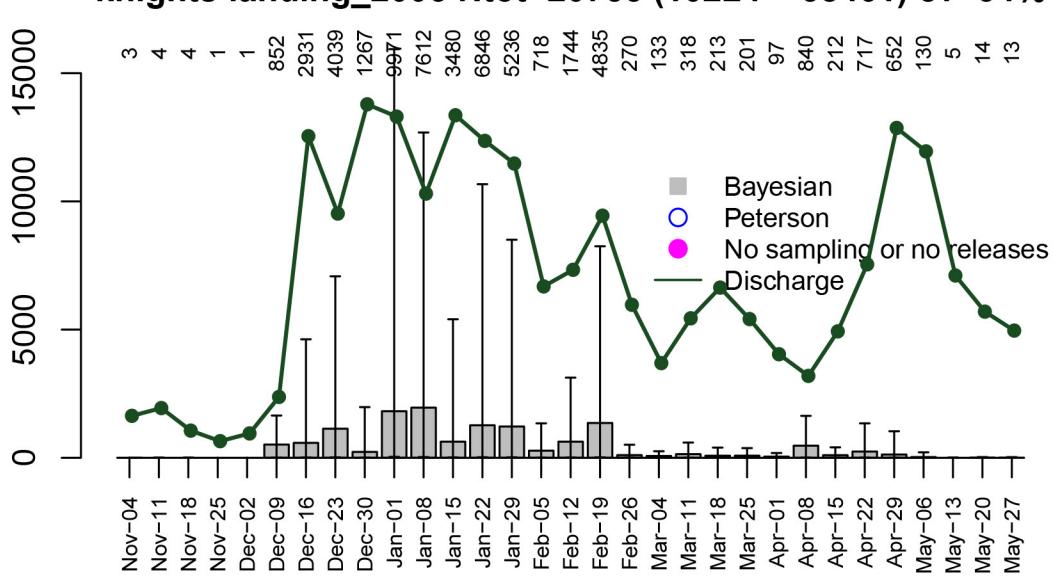


First Date of Week

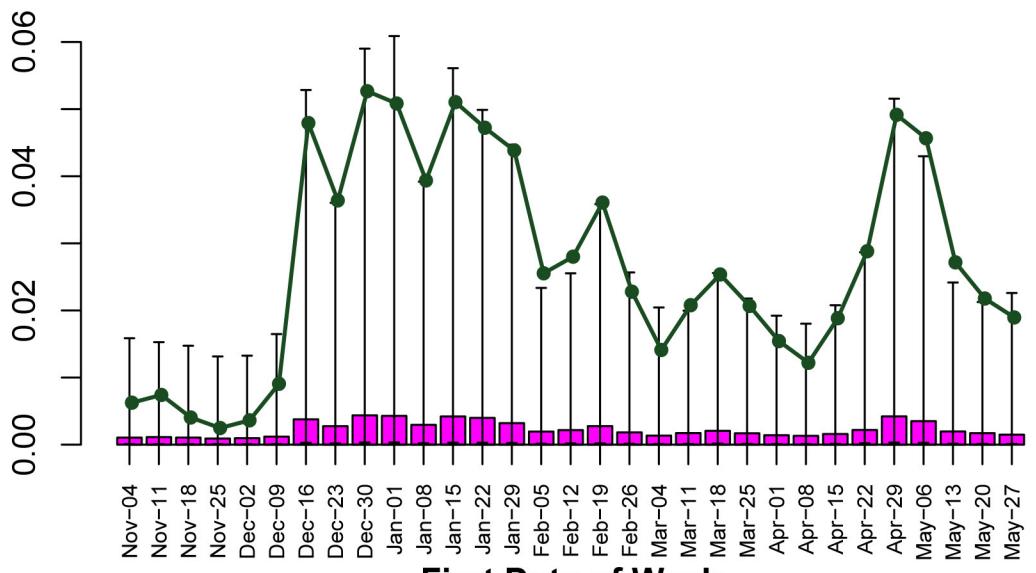
Discharge (kcfs)

# knights landing\_2003 Ntot=20755 (10224 - 38461) cv=34%

Abundance ('000s)



Capture Probability

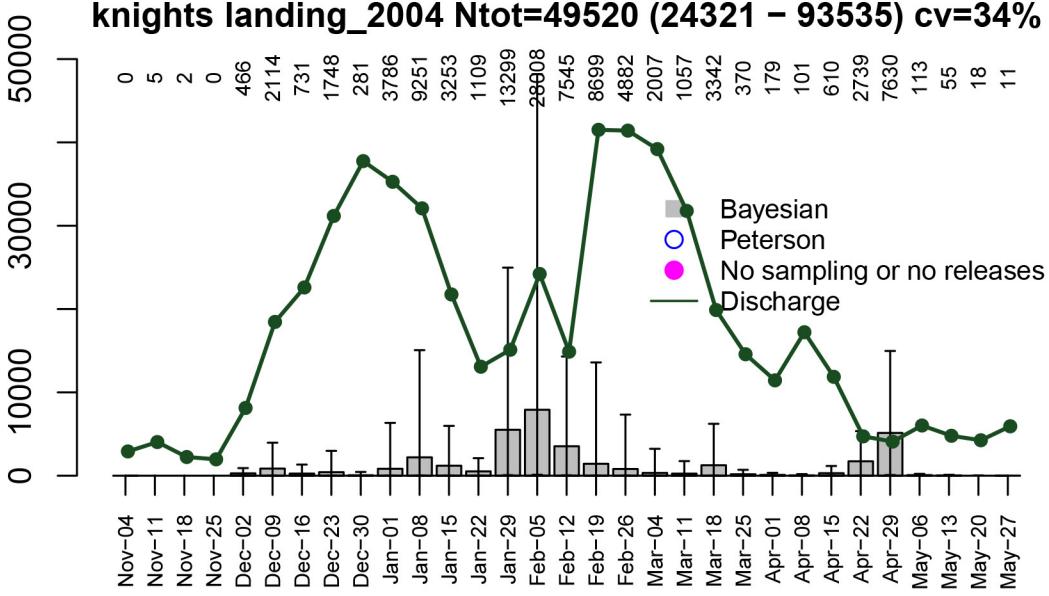


First Date of Week

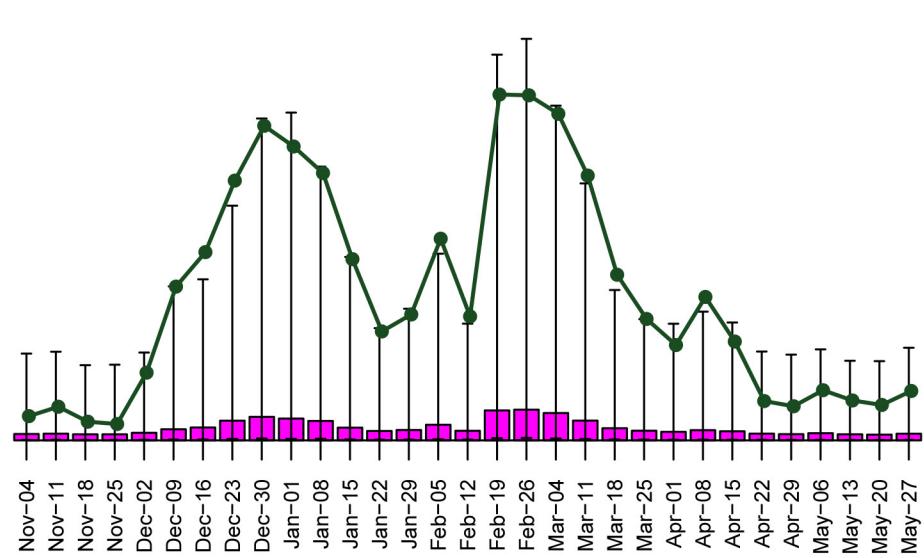
Discharge (kcfs)

# knights landing\_2004 Ntot=49520 (24321 – 93535) cv=34%

Abundance ('000s)



Capture Probability

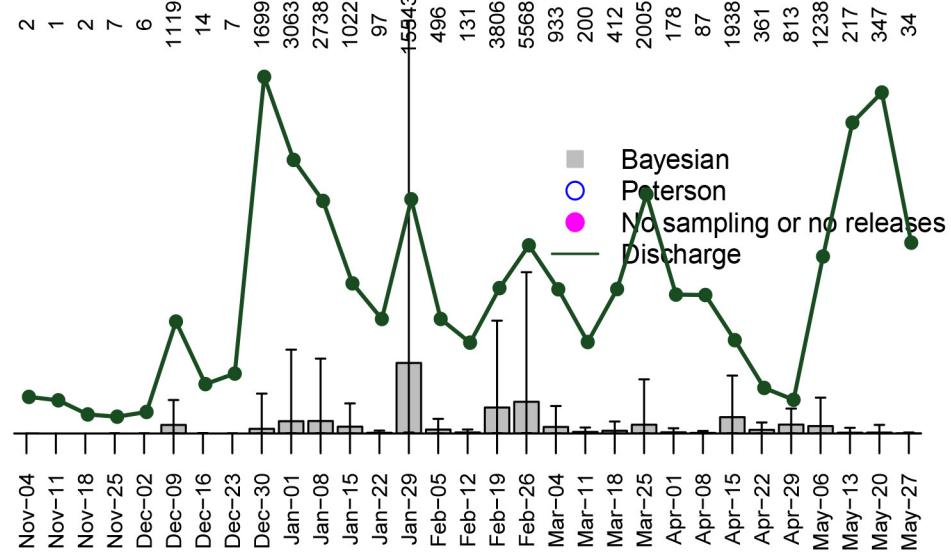


First Date of Week

Discharge (kcfs)

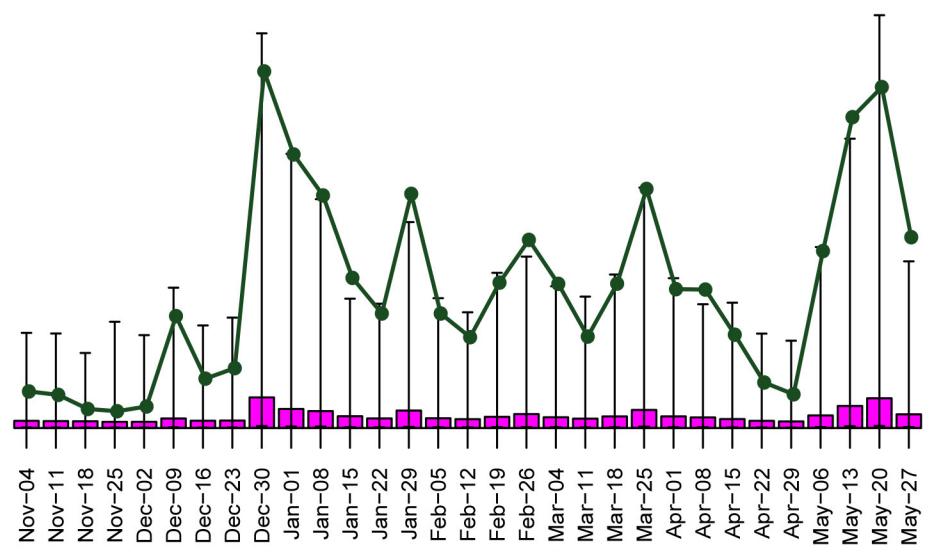
# knights landing\_2005 Ntot=20920 (10350 – 43604) cv=38%

Abundance (000s)

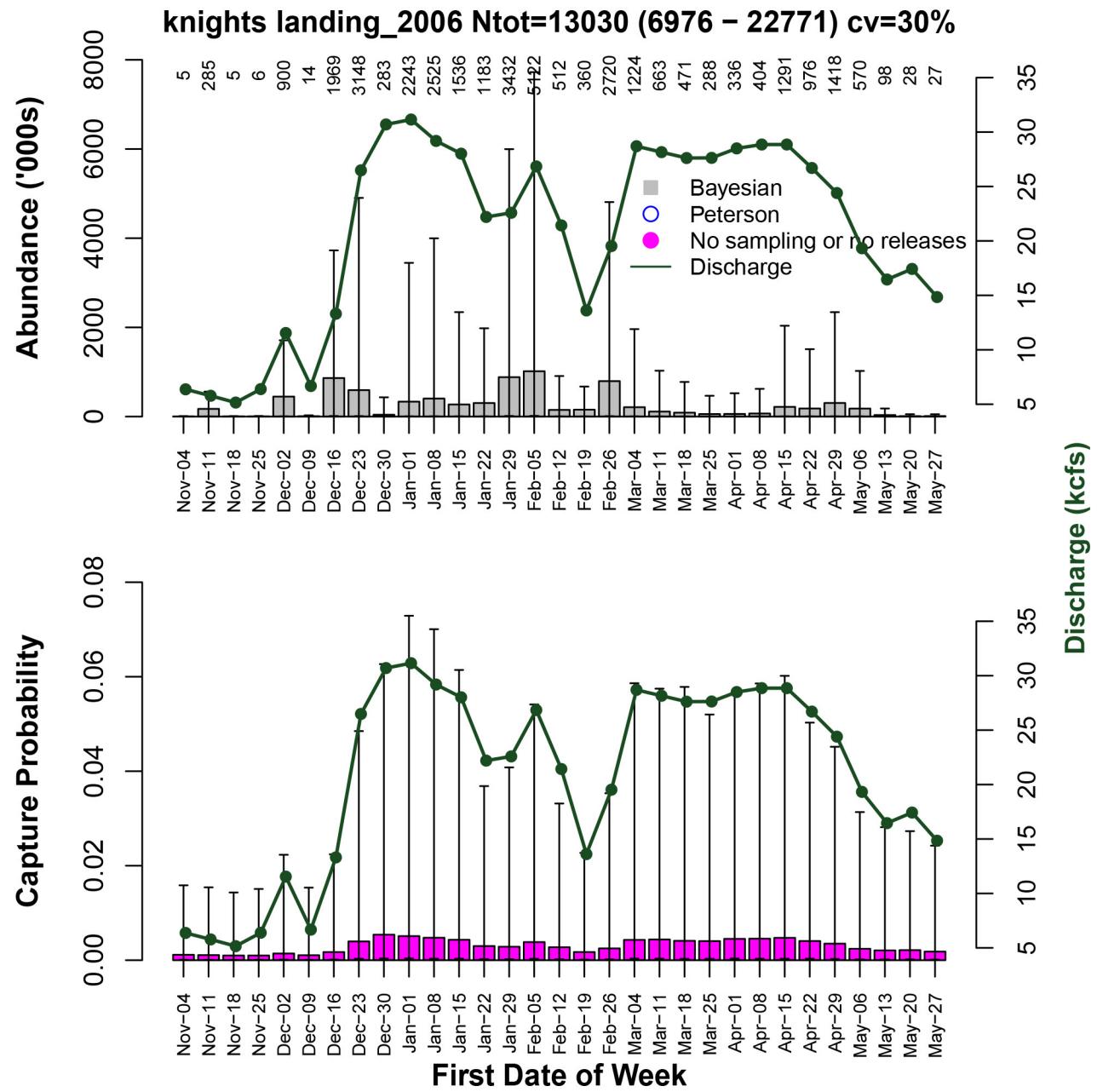


Discharge (kcfs)

Capture Probability

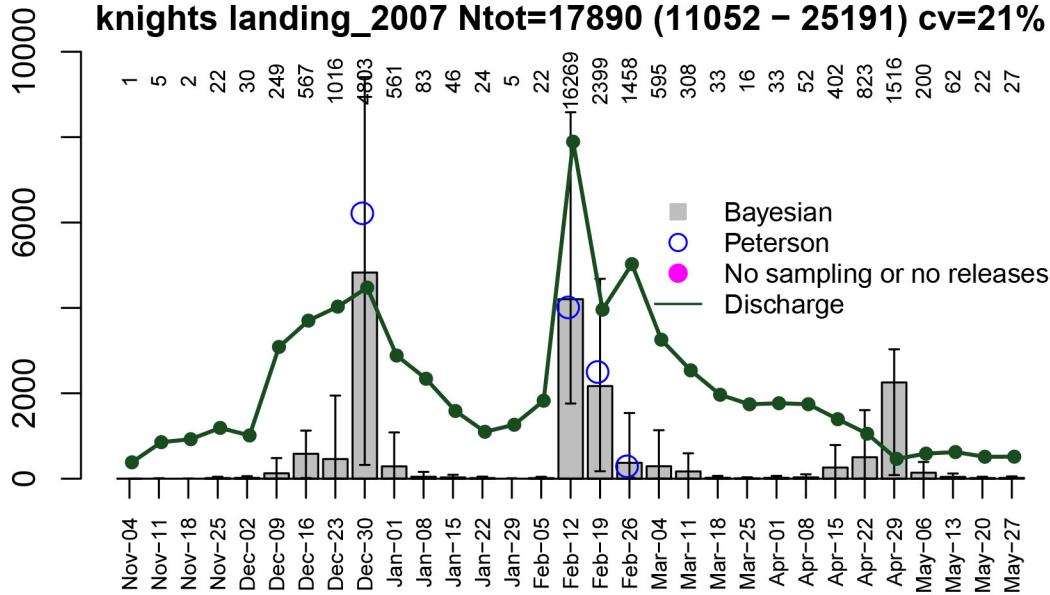


First Date of Week



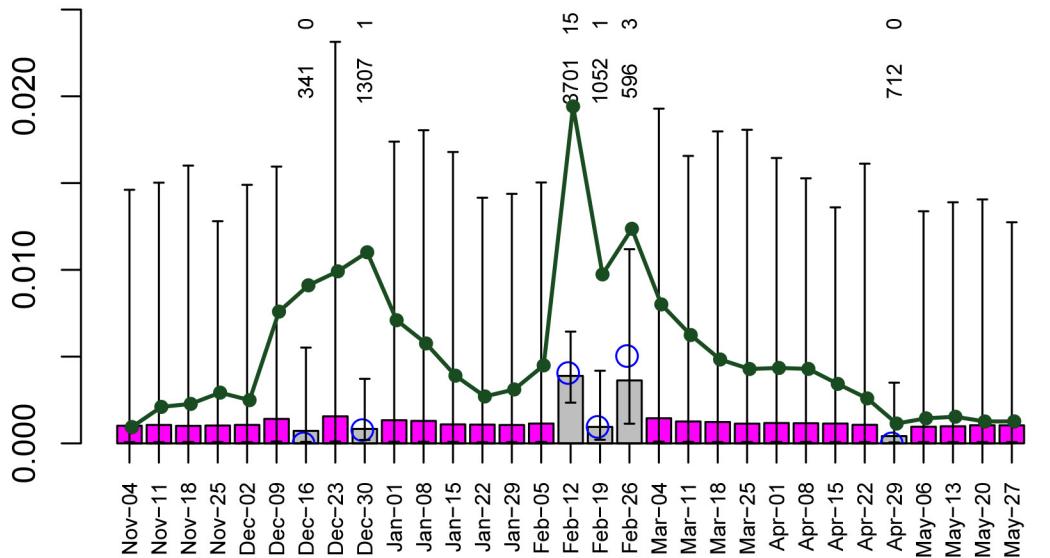
# knights landing\_2007 Ntot=17890 (11052 – 25191) cv=21%

Abundance ('000s)



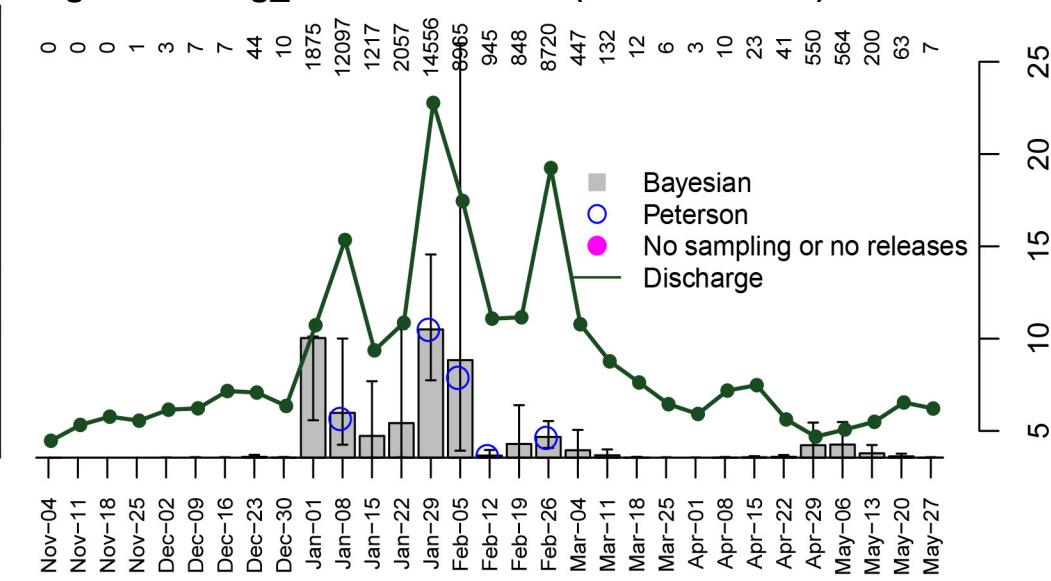
Discharge (kcfs)

Capture Probability

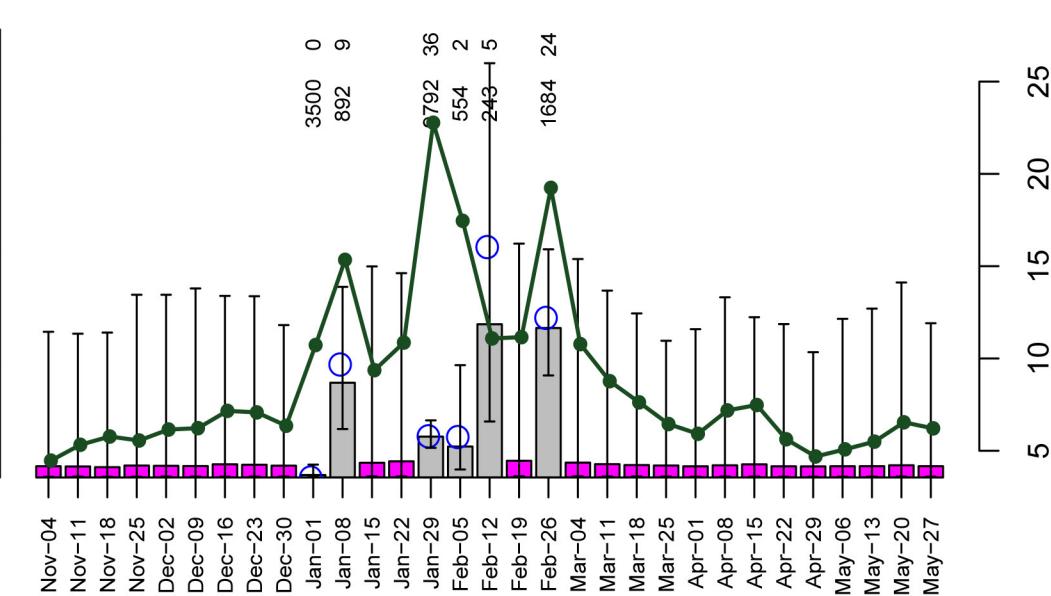


# knights landing\_2008 Ntot=17400 (12077 - 27658) cv=21%

Abundance ('000s)



Capture Probability

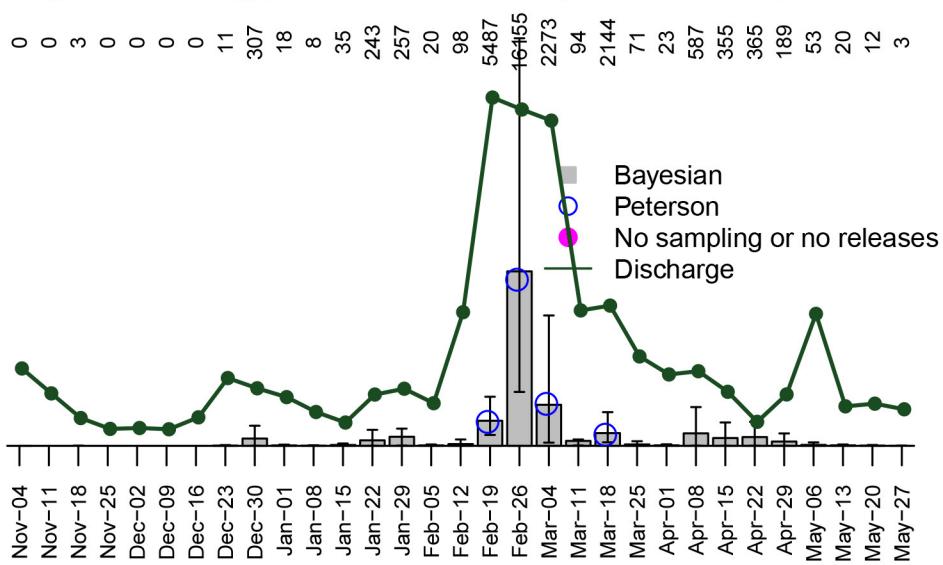


First Date of Week

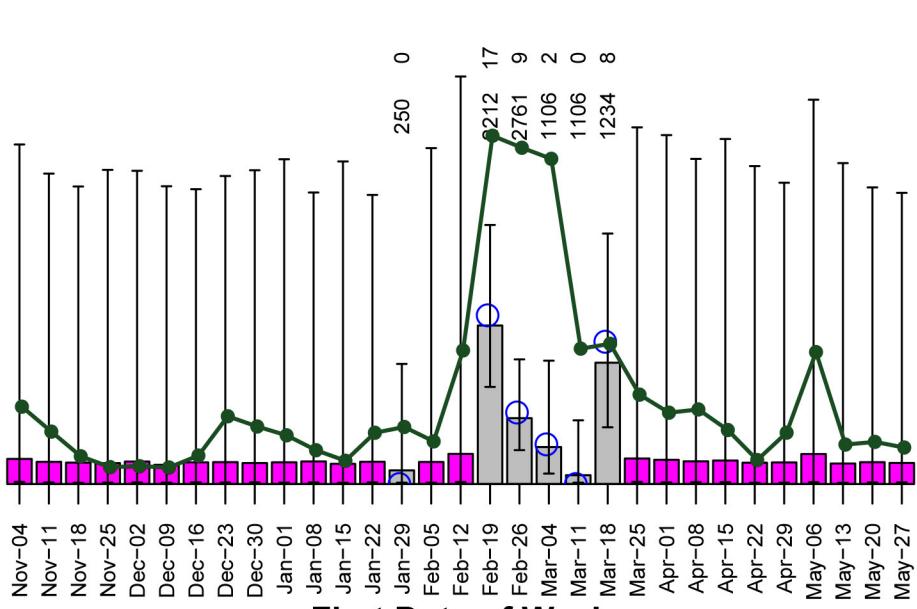
Discharge (kcfs)

# knights landing\_2009 Ntot=10110 (5977 - 17373) cv=29%

Abundance ('000s)



Capture Probability

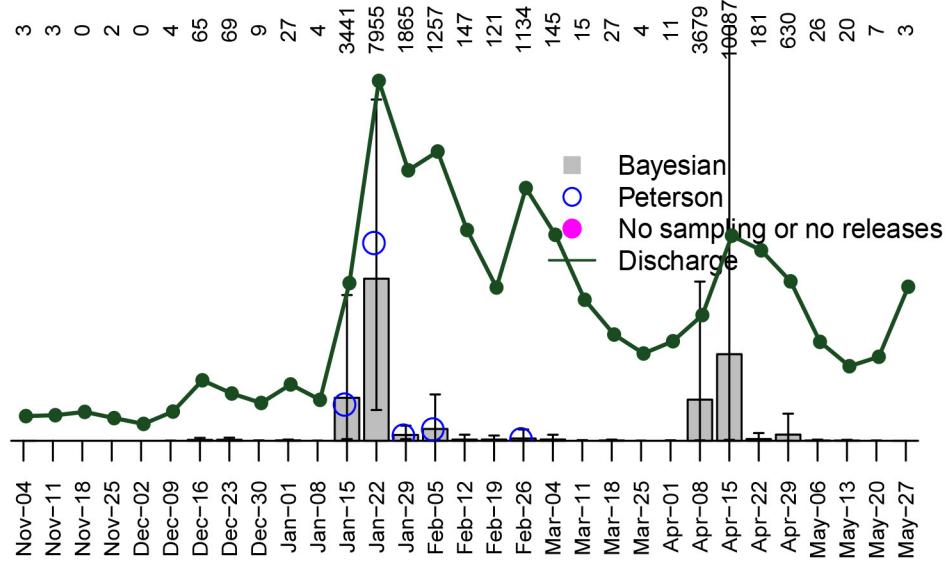


First Date of Week

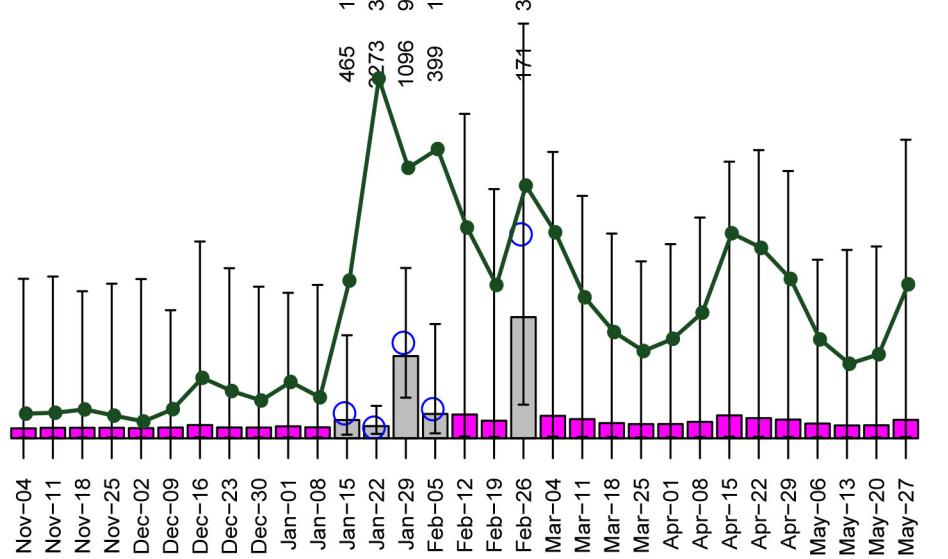
Discharge (kcfs)

# knights landing\_2010 Ntot=18995 (8522 – 34838) cv=35%

Abundance ('000s)



Capture Probability



First Date of Week

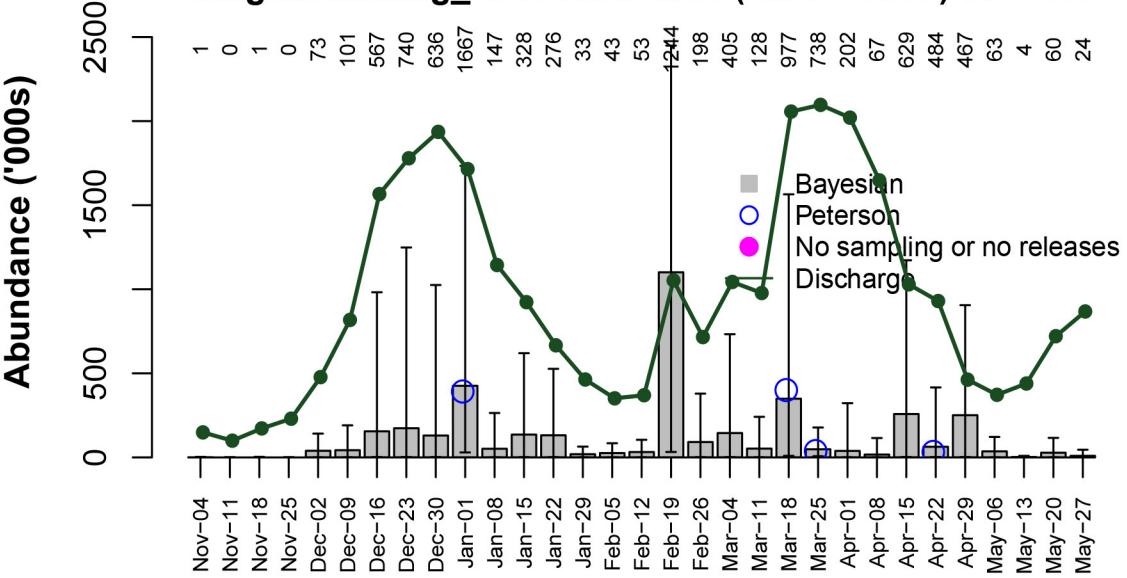
Discharge (kcfs)

5 10 15 20 25 30

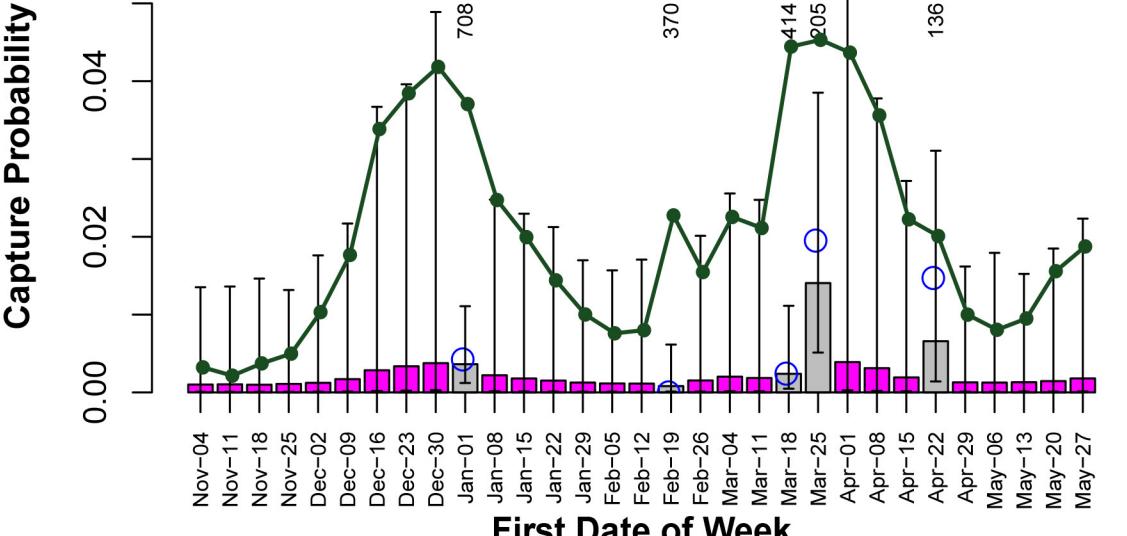
5 10 15 20 25 30

# knights landing\_2011 Ntot=4954 (2876 – 7517) cv=24%

Abundance ('000s)



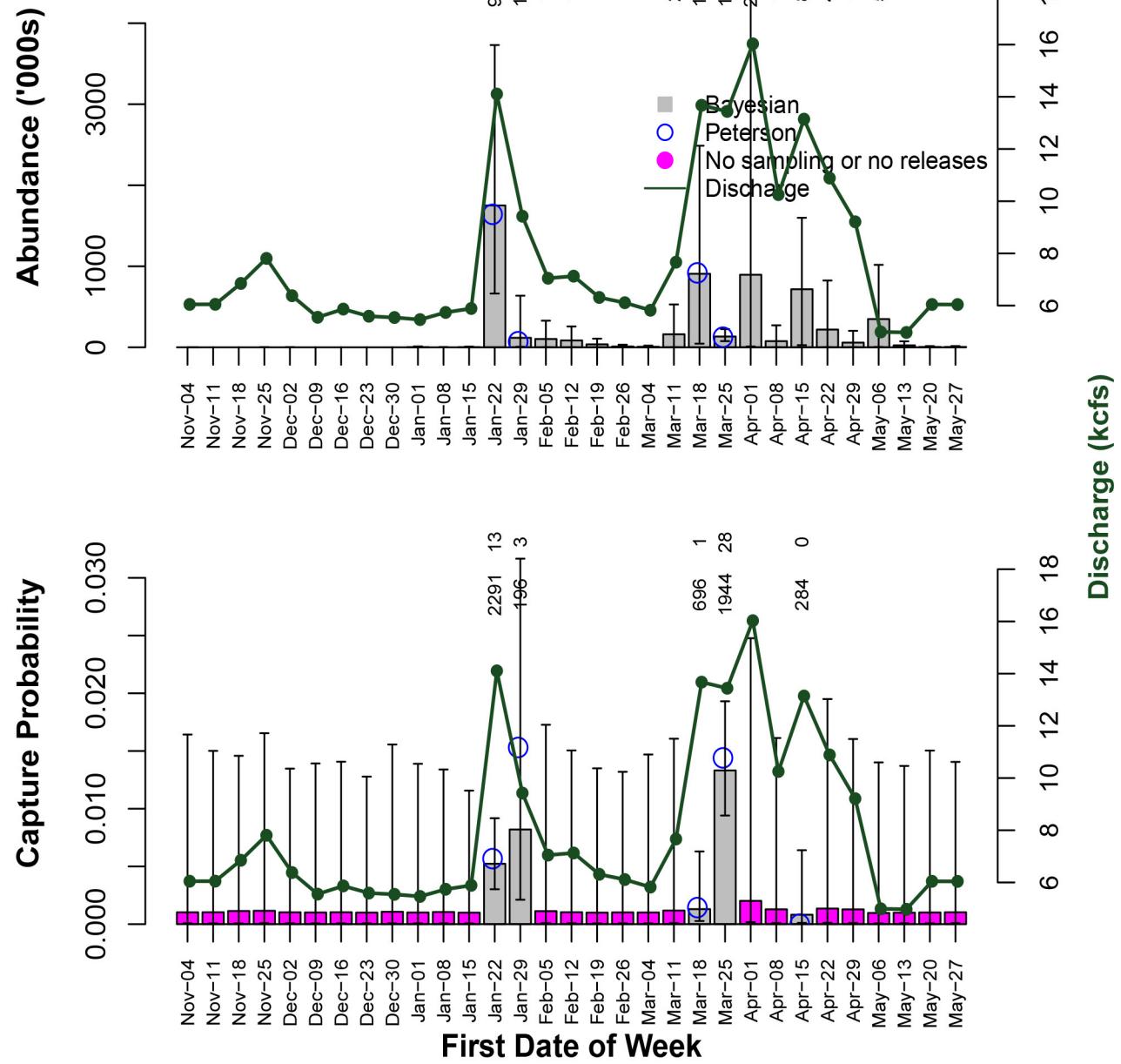
Capture Probability



First Date of Week

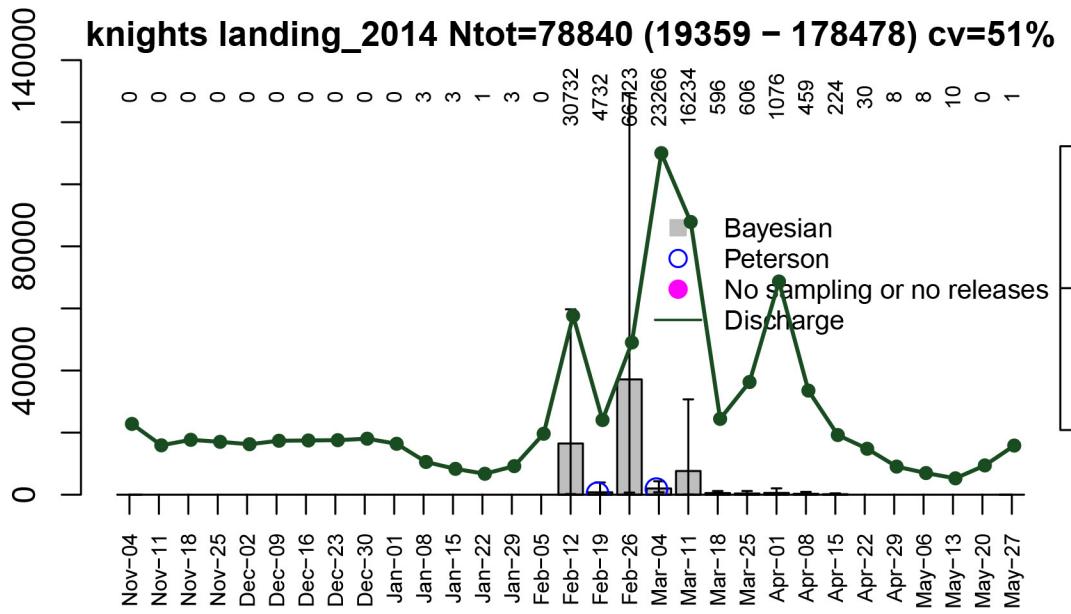
Discharge (kcfs)

# knights landing\_2012 Ntot=6483 (3735 – 10678) cv=27%

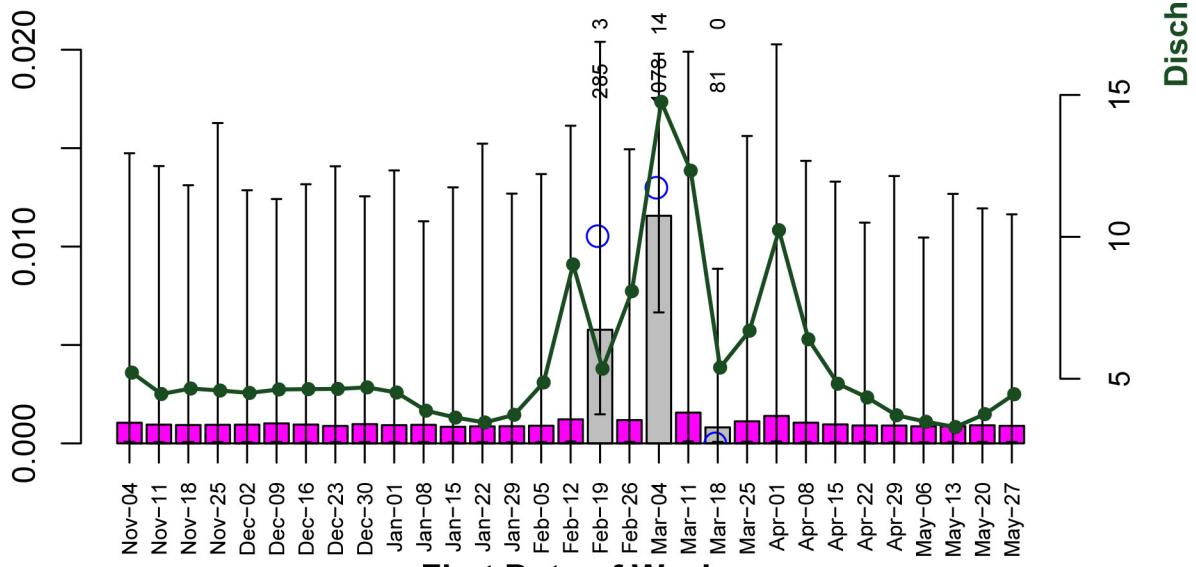


# knights landing\_2014 Ntot=78840 (19359 - 178478) cv=51%

Abundance ('000s)

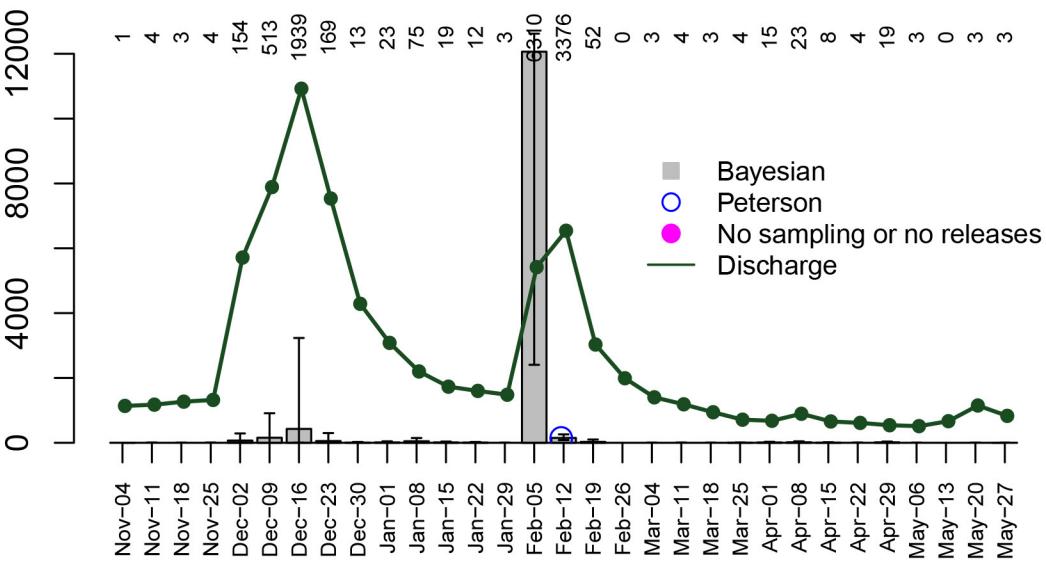


Capture Probability

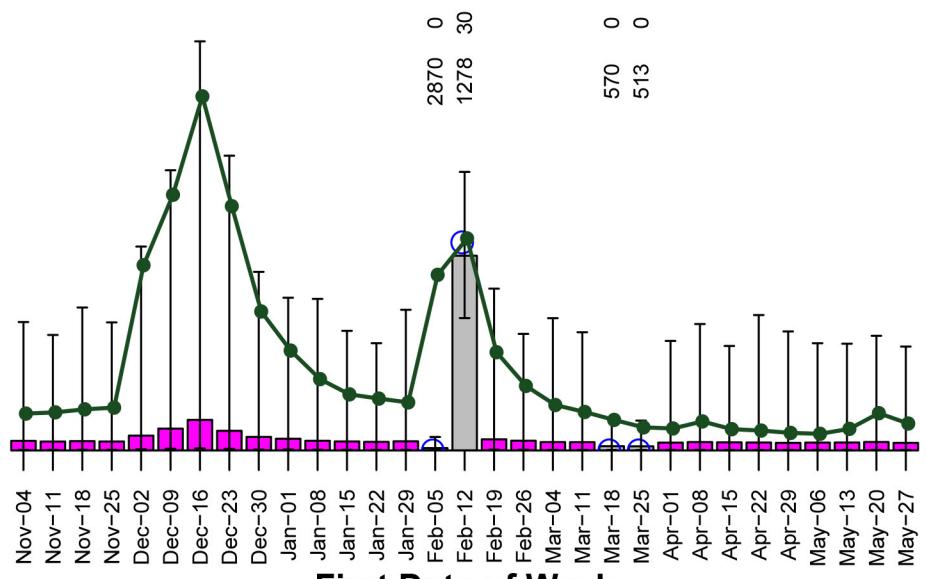


# knights landing\_2015 Ntot=13270 (3816 – 16220) cv=25%

Abundance ('000s)



Capture Probability



First Date of Week

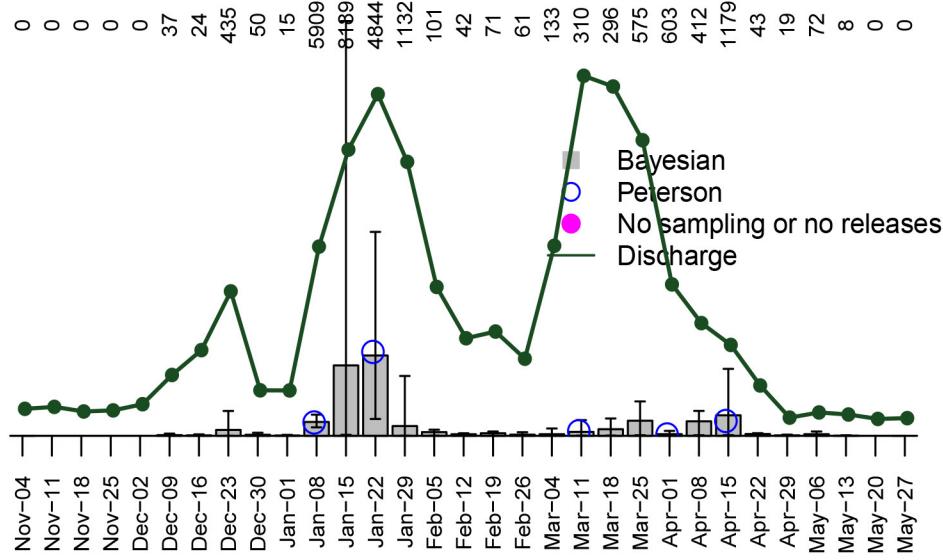
Discharge (kcfs)

5 10 15 20 25 30

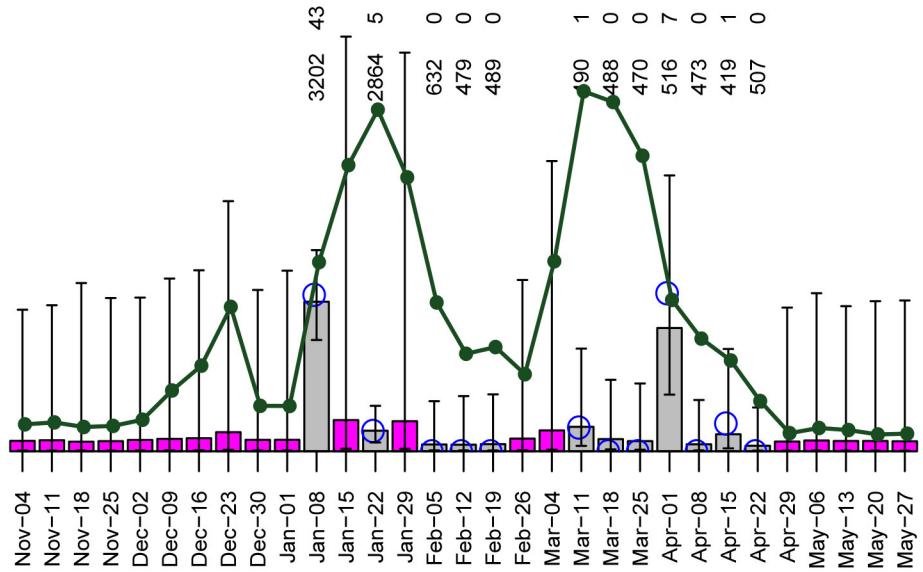
5 10 15 20 25 30

# knights landing\_2016 Ntot=9628 (5046 - 21101) cv=39%

Abundance ('000s)

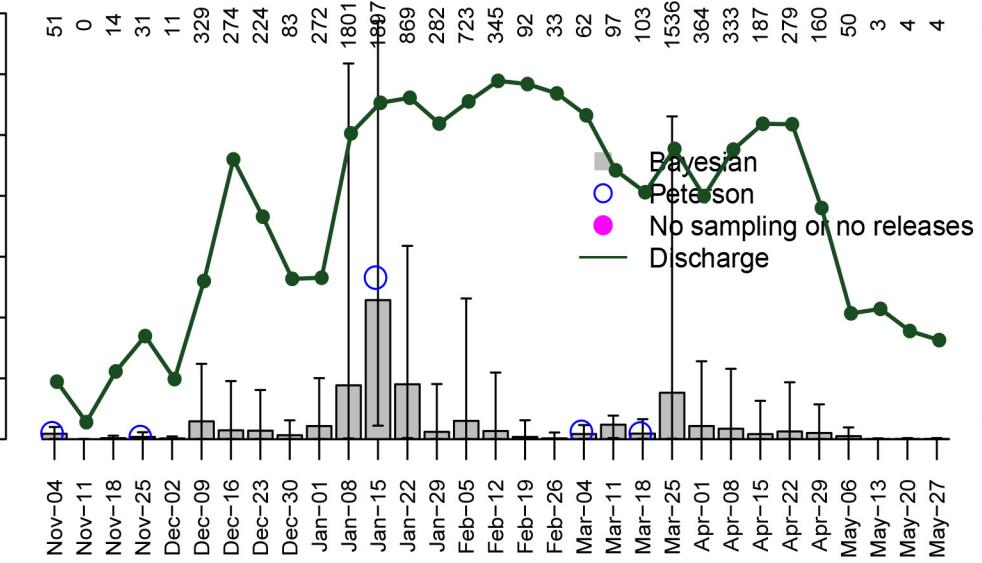


Capture Probability

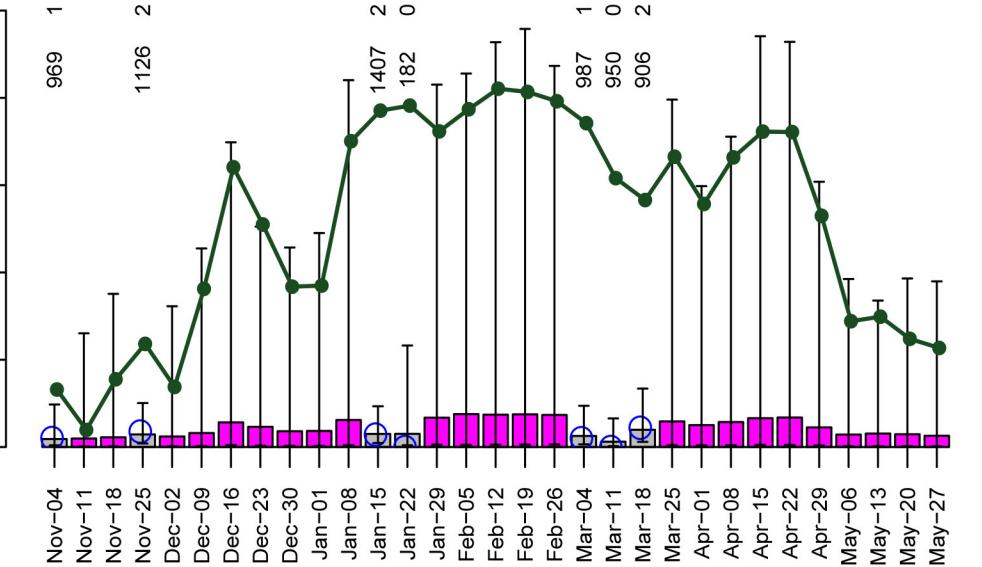


# knights landing\_2017 Ntot=5230 (2875 – 8749) cv=29%

Abundance ('000s)



Capture Probability

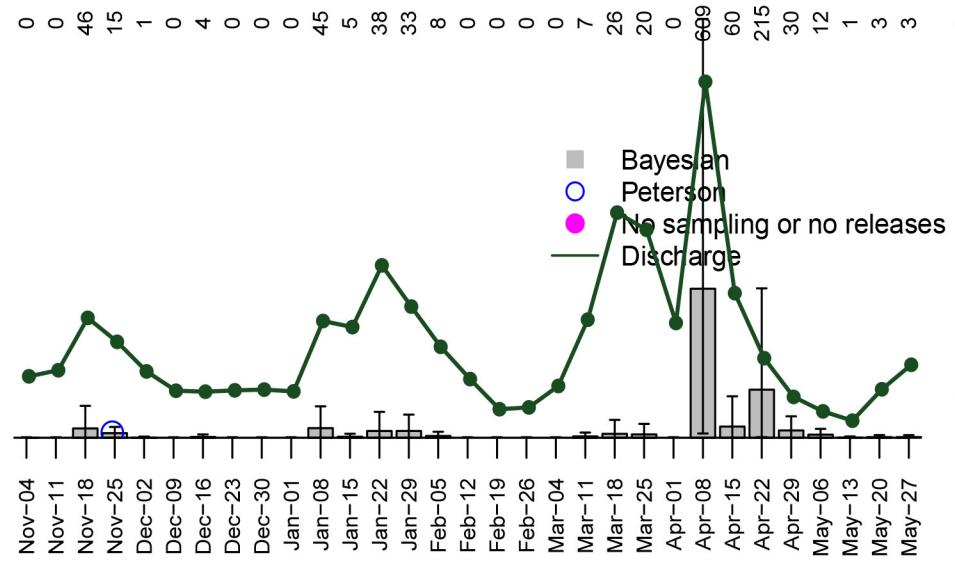


First Date of Week

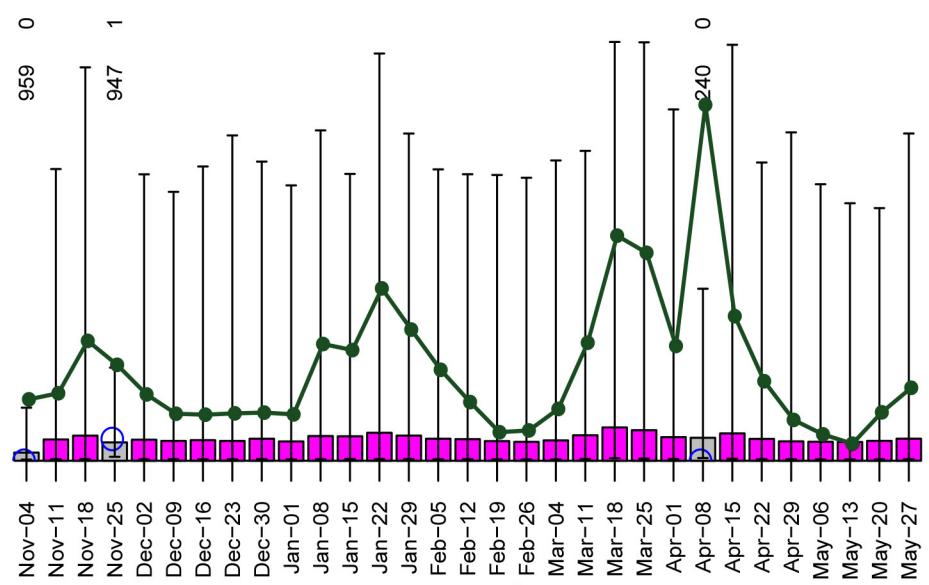
Discharge (kcfs)

# knights landing\_2018 Ntot=860 (313 – 1668) cv=41%

Abundance ('000s)



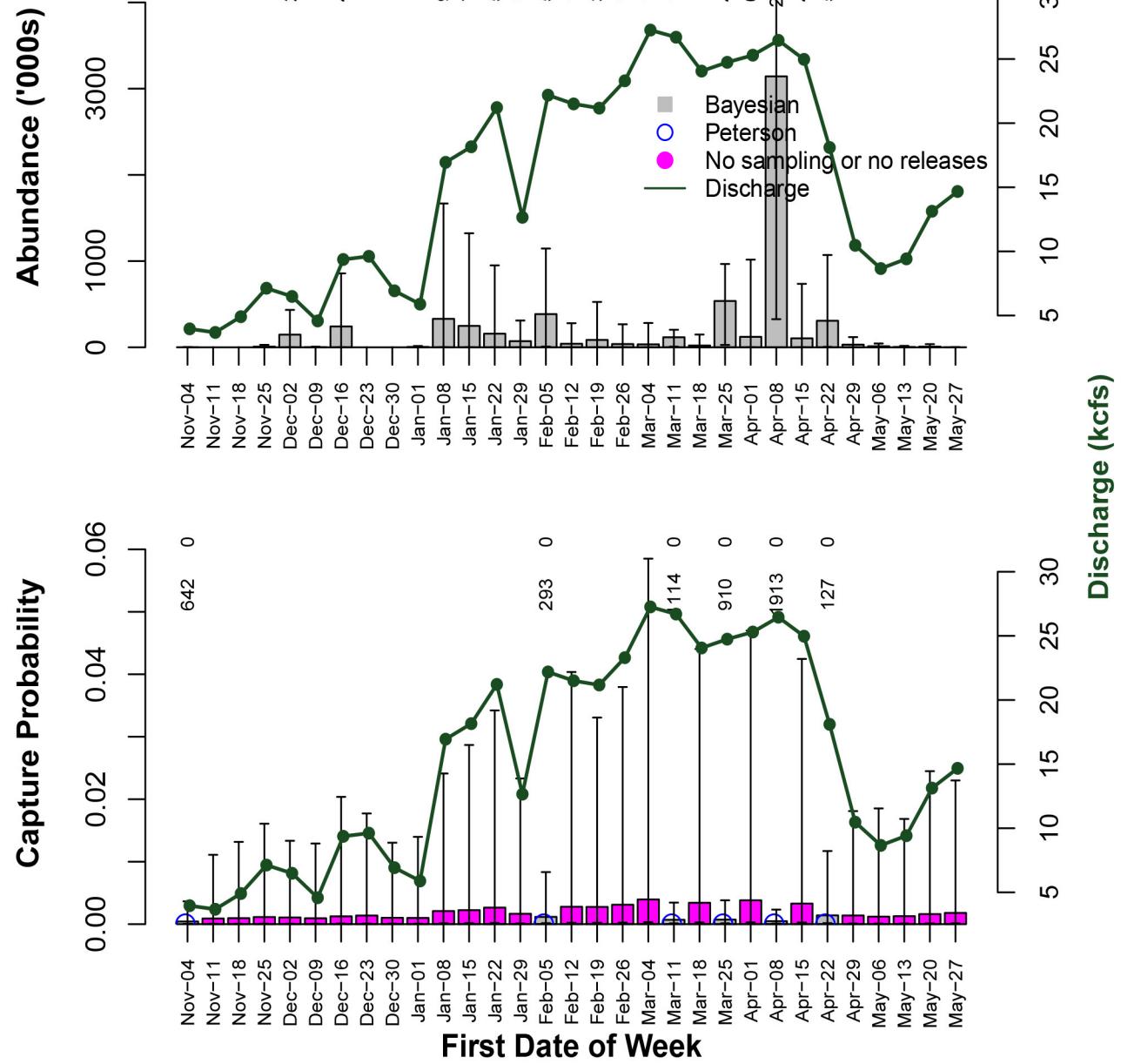
Capture Probability



First Date of Week

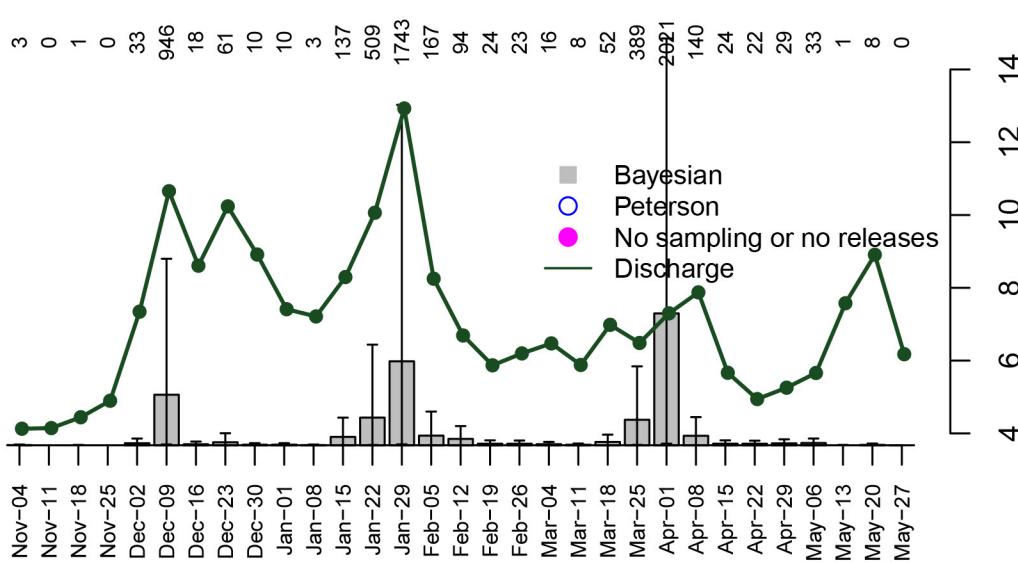
Discharge (kcfs)

# knights landing\_2019 Ntot=7061 (3824 - 9743) cv=22%

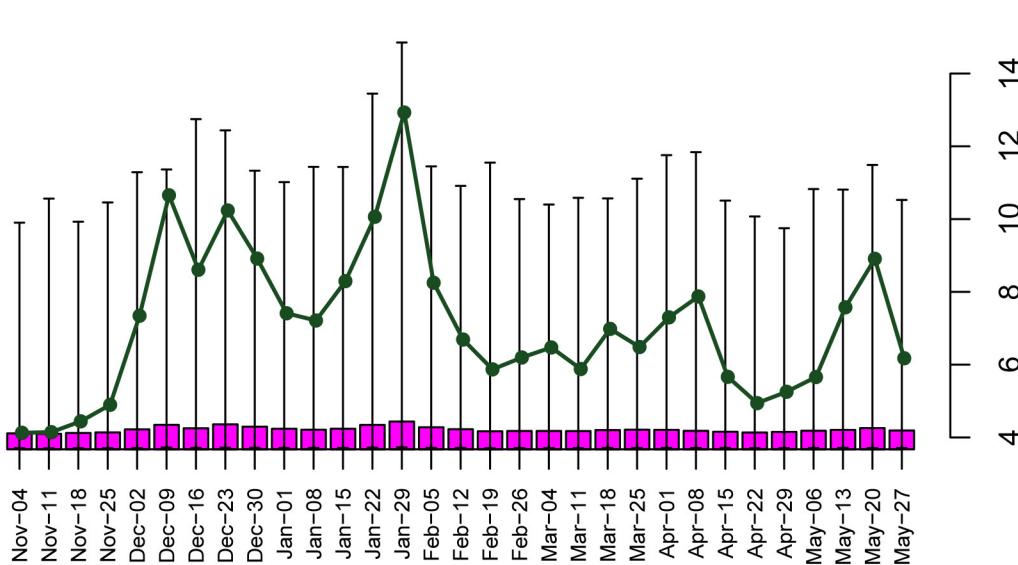


# knights landing\_2020 Ntot=4437 (1806 – 8202) cv=37%

Abundance ('000s)



Capture Probability

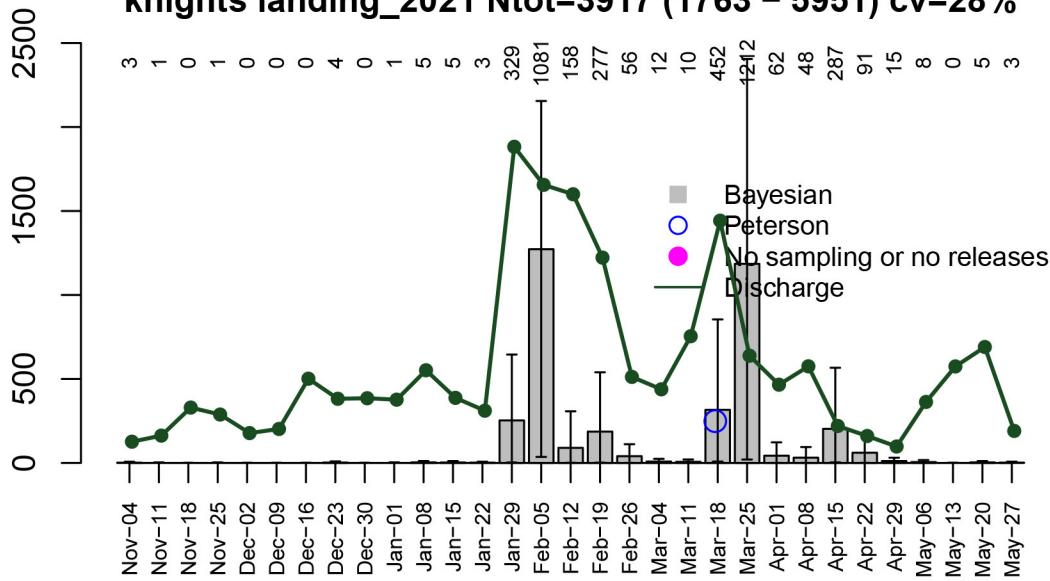


First Date of Week

Discharge (kcfs)

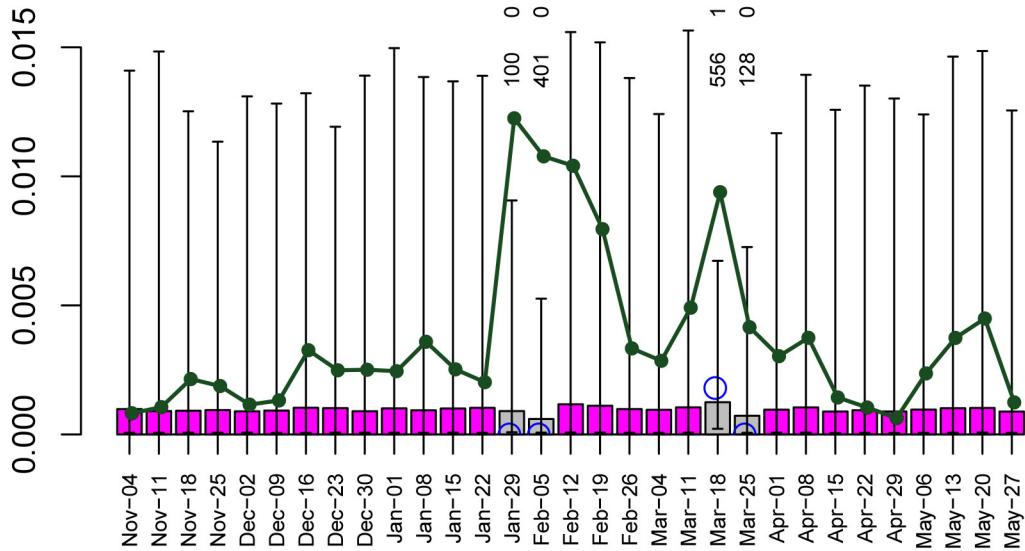
# knights landing\_2021 Ntot=3917 (1763 – 5951) cv=28%

Abundance ('000s)

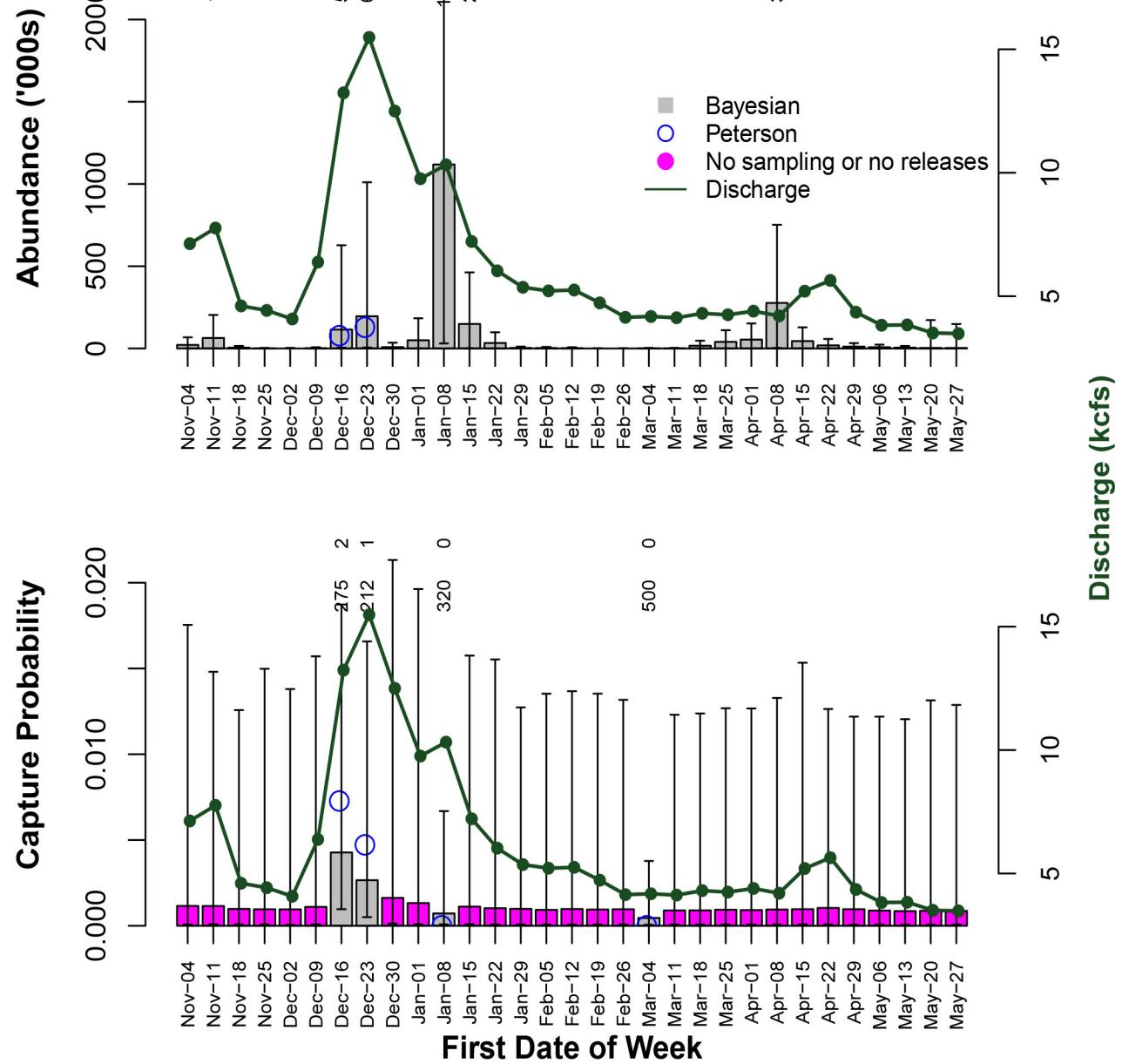


Discharge (kcfs)

Capture Probability

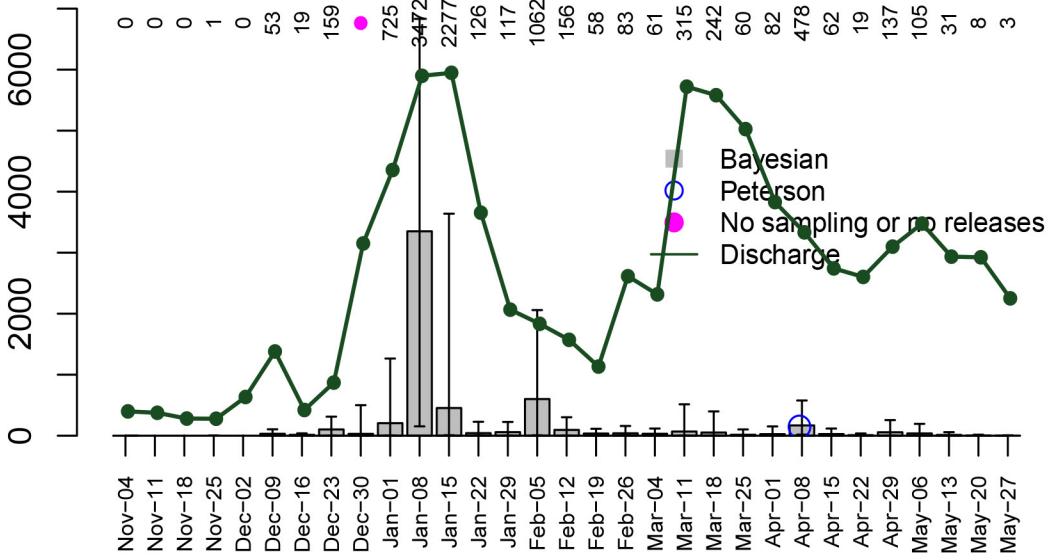


# knights landing\_2022 Ntot=2562 (1144 - 4164) cv=32%

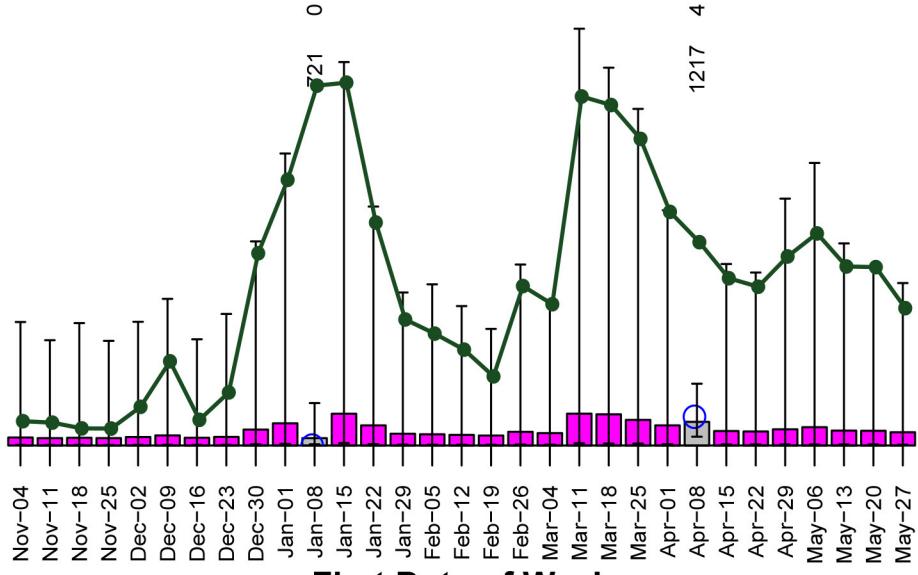


# knights landing\_2023 Ntot=6604 (2451 - 11253) cv=35%

Abundance ('000s)



Capture Probability

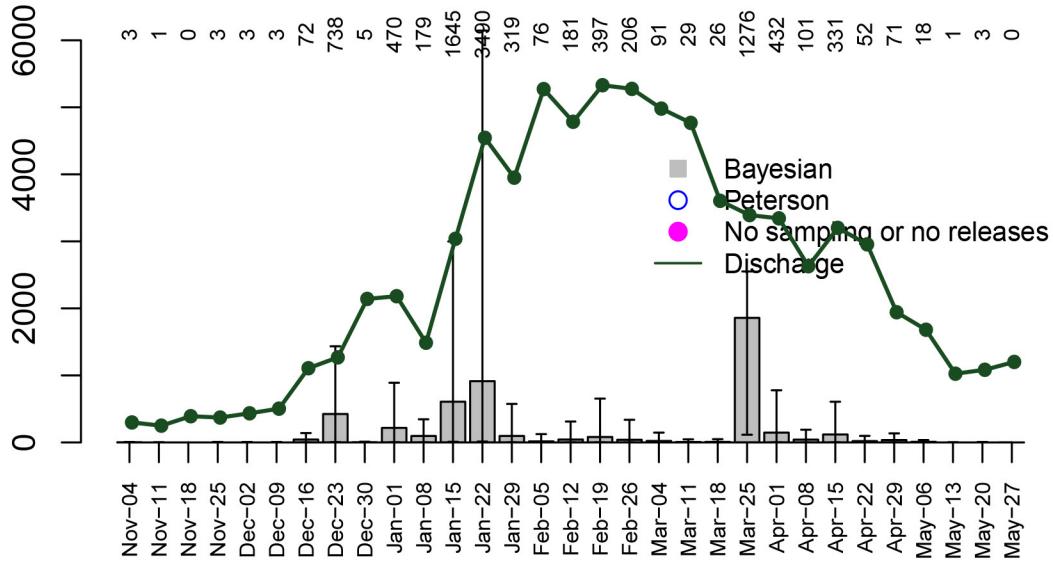


First Date of Week

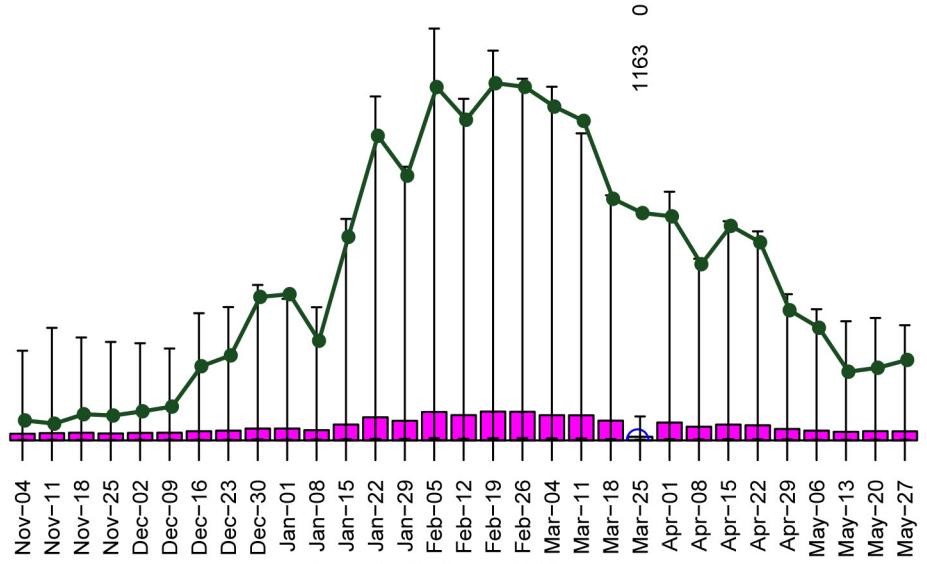
Discharge (kcfs)

# knights landing\_2024 Ntot=5865 (2864 - 11238) cv=34%

Abundance ('000s)

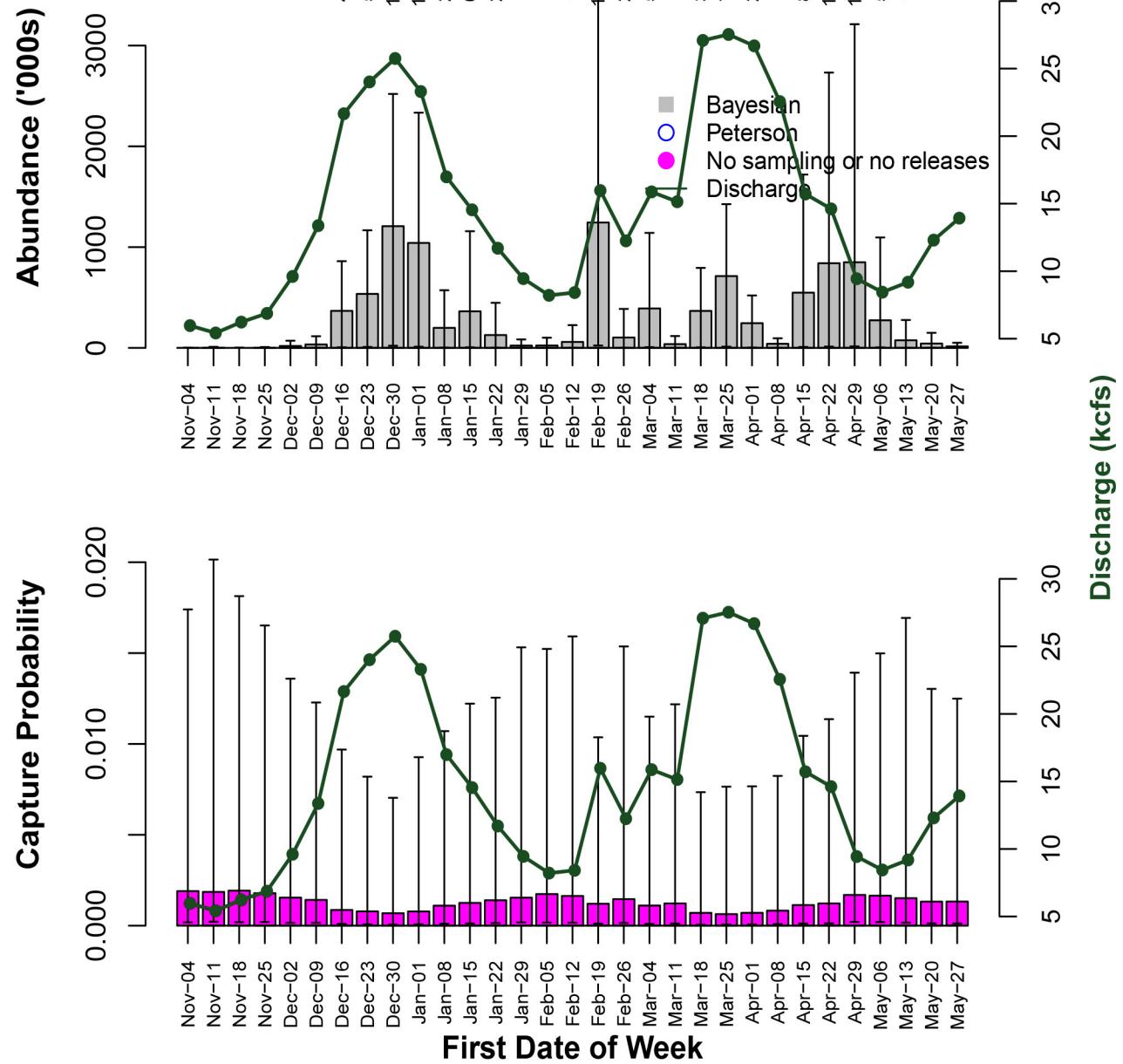


Capture Probability



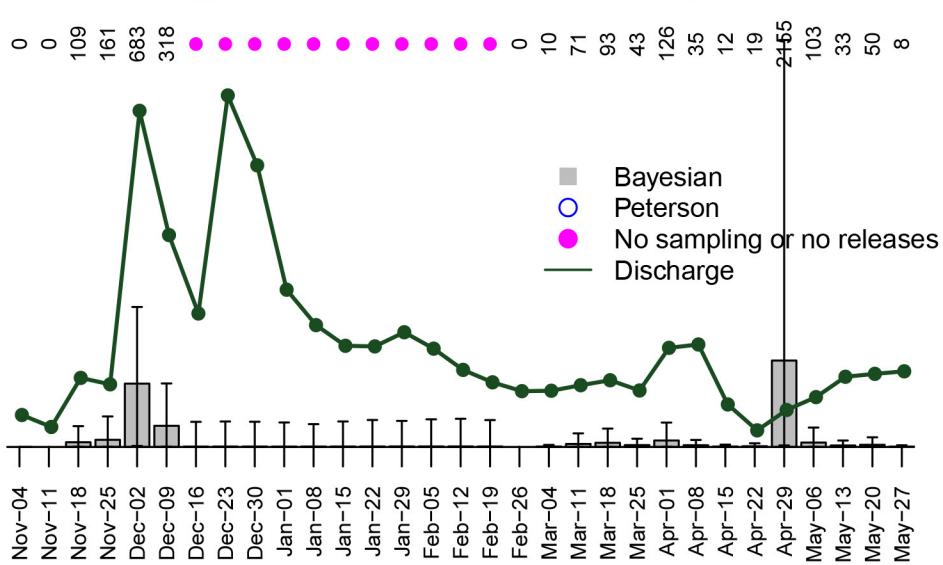
First Date of Week

# tisdale\_2011 Ntot=11150 (7113 - 15513) cv=20%

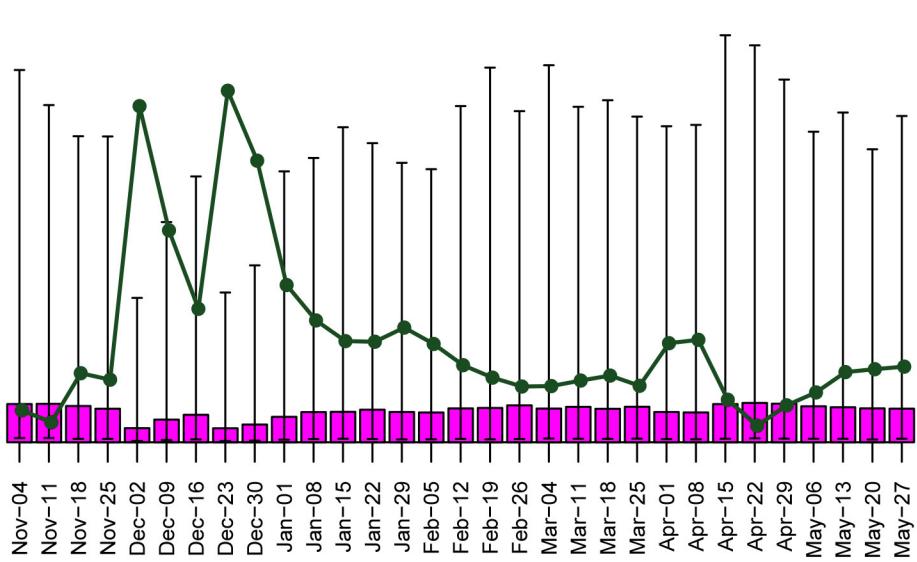


**tisdale\_2013 Ntot=2722 (1145 – 5906) cv=42%**

Abundance ('000s)



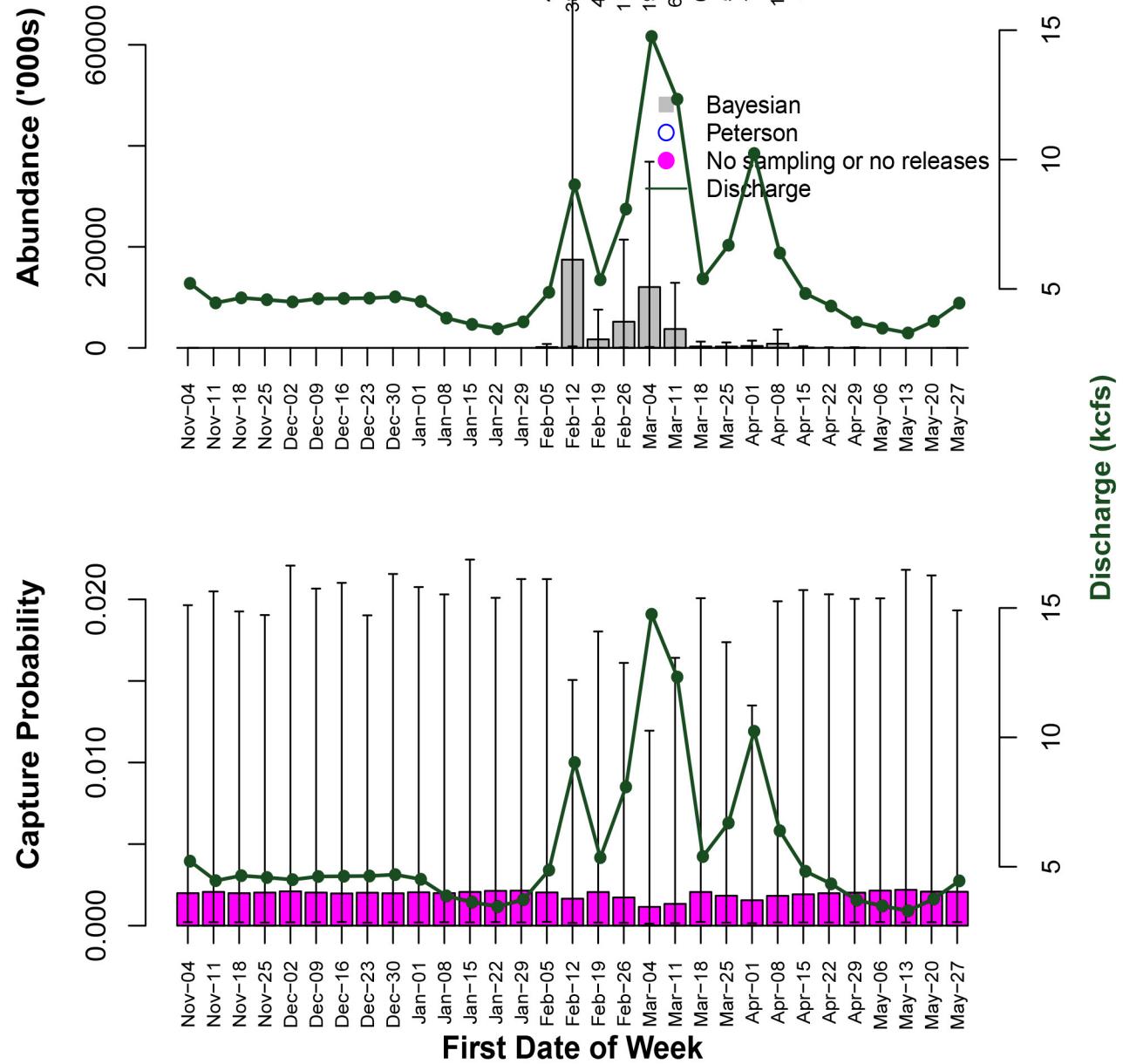
Capture Probability



First Date of Week

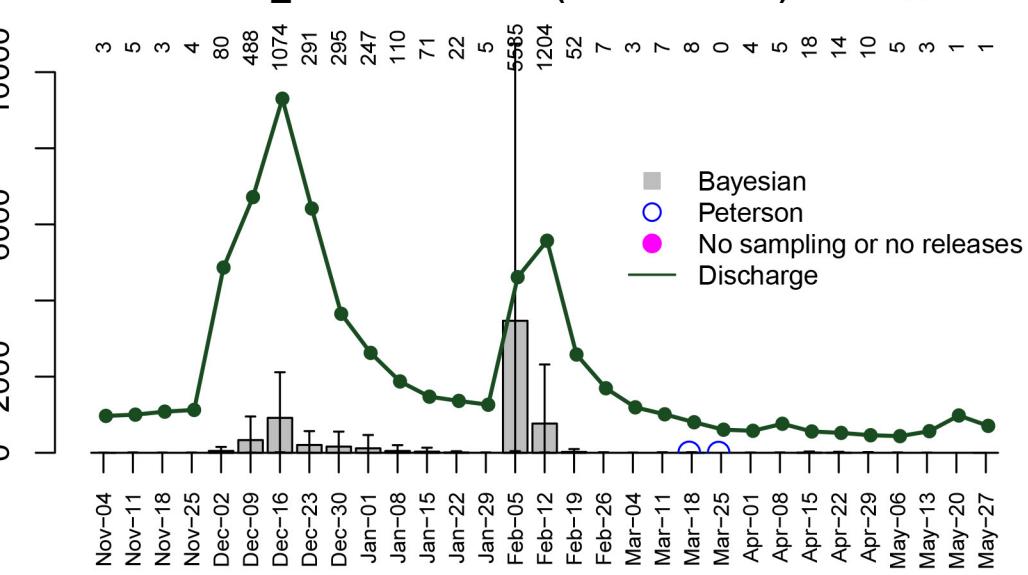
Discharge (kcfs)

# tisdale\_2014 Ntot=51325 (17687 - 110333) cv=45%



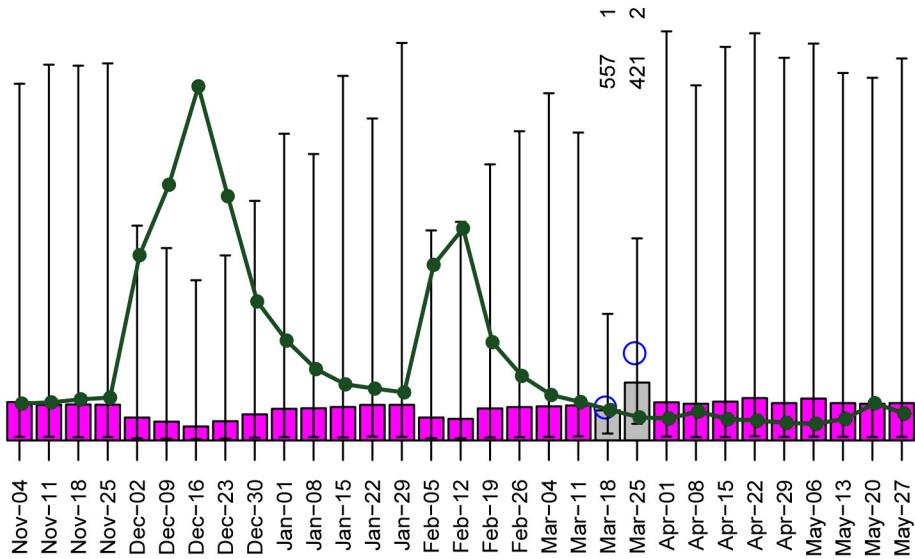
# tisdale\_2015 Ntot=6602 (2396 - 14123) cv=45%

Abundance ('000s)



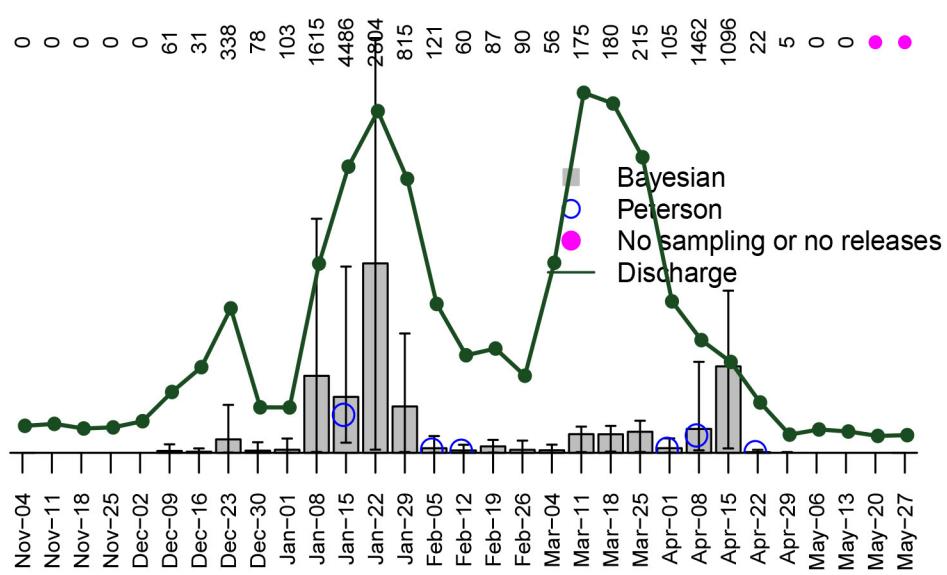
Discharge (kcfs)

Capture Probability

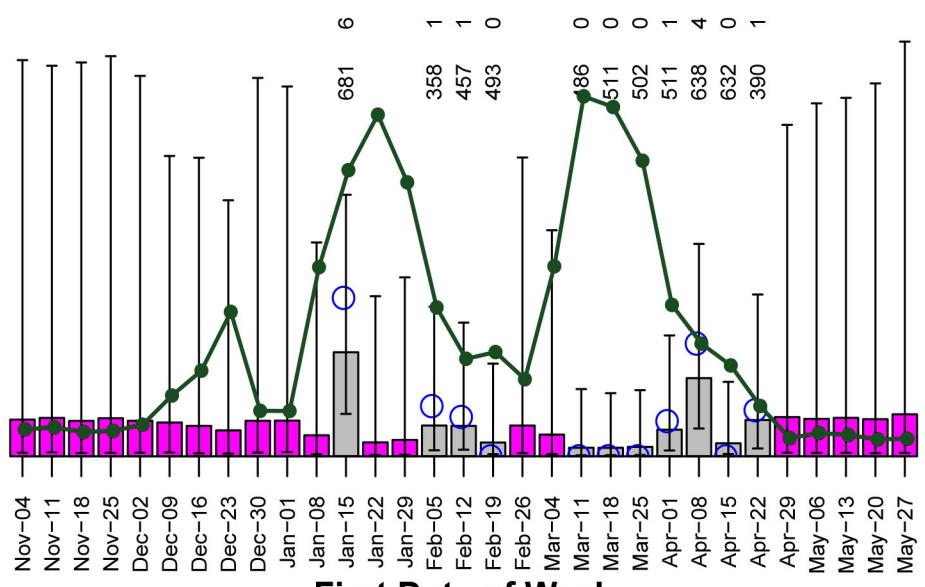


# tisdale\_2016 Ntot=8414 (4456 - 13058) cv=27%

Abundance ('000s)



Capture Probability

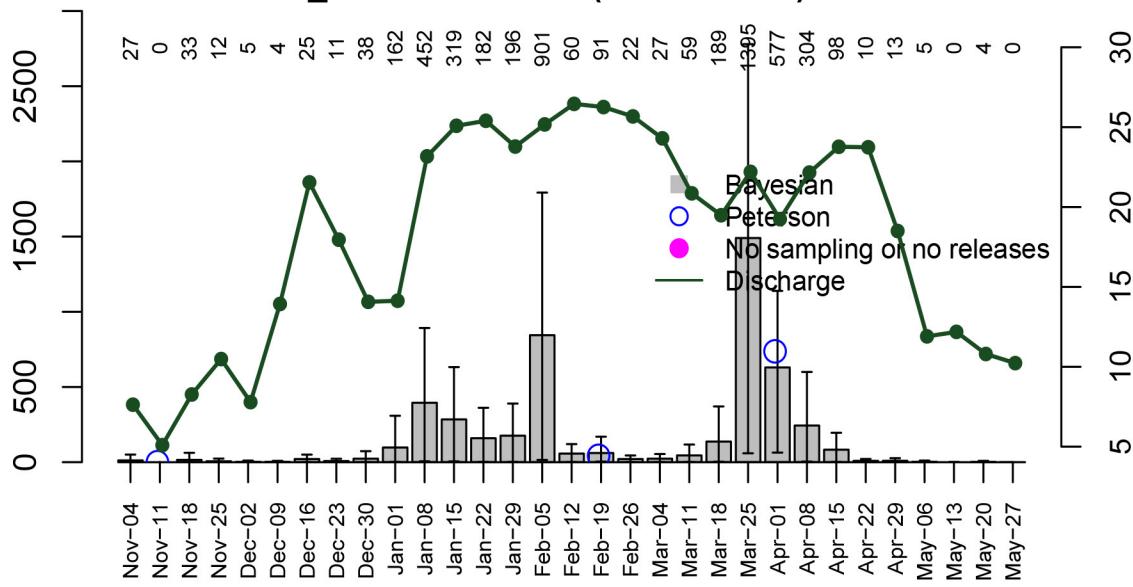


First Date of Week

Discharge (kcfs)

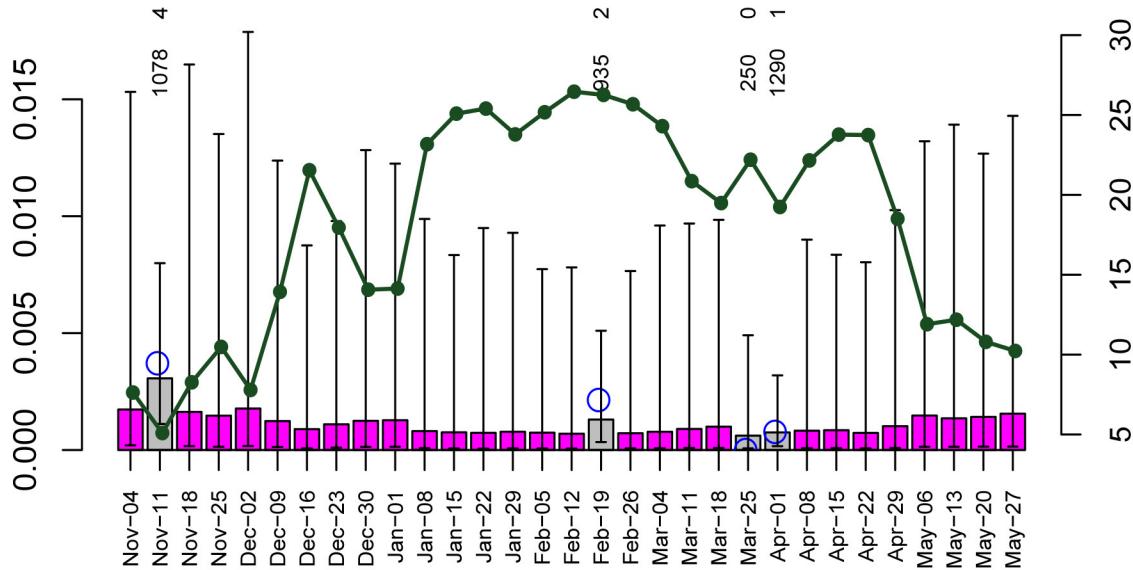
# tisdale\_2017 Ntot=5092 (2827 - 7302) cv=23%

Abundance ('000s)



Discharge (kcfs)

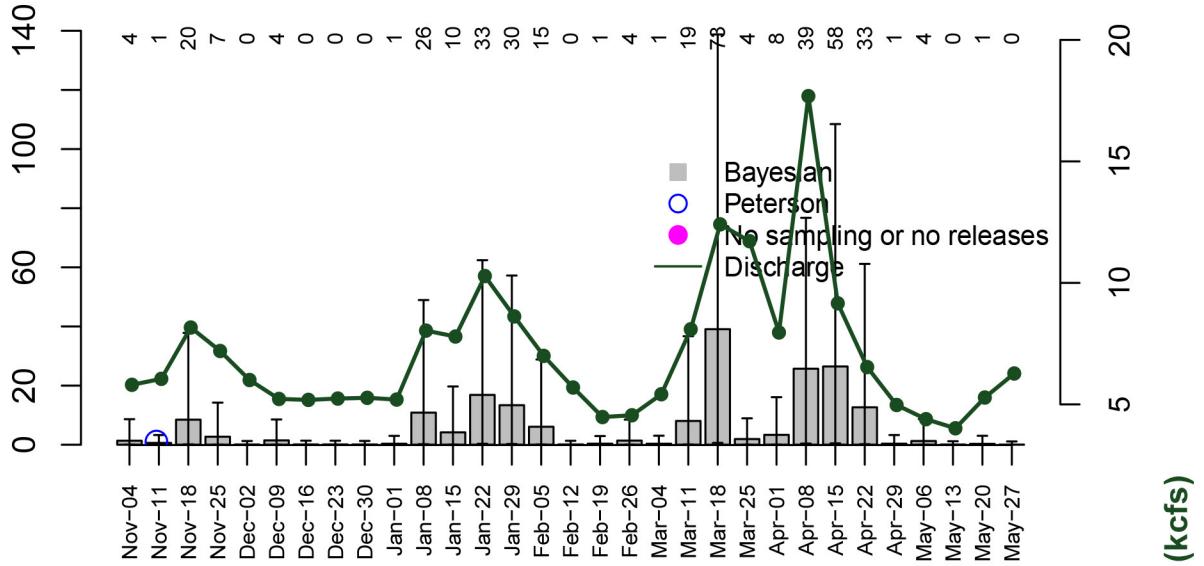
Capture Probability



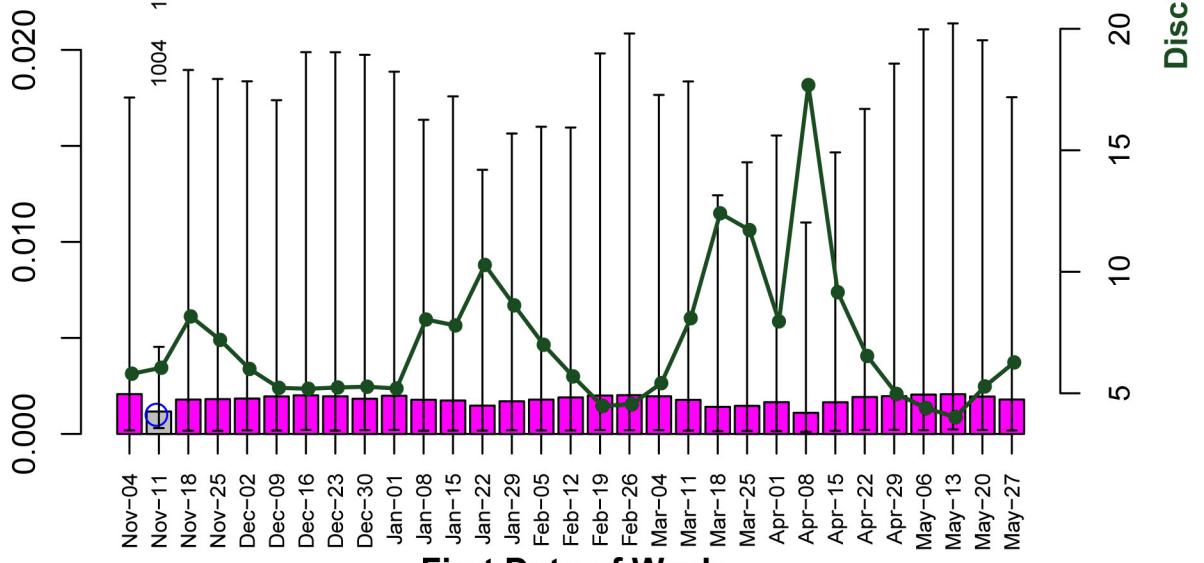
First Date of Week

# tisdale\_2018 Ntot=249 (134 - 393) cv=27%

Abundance ('000s)



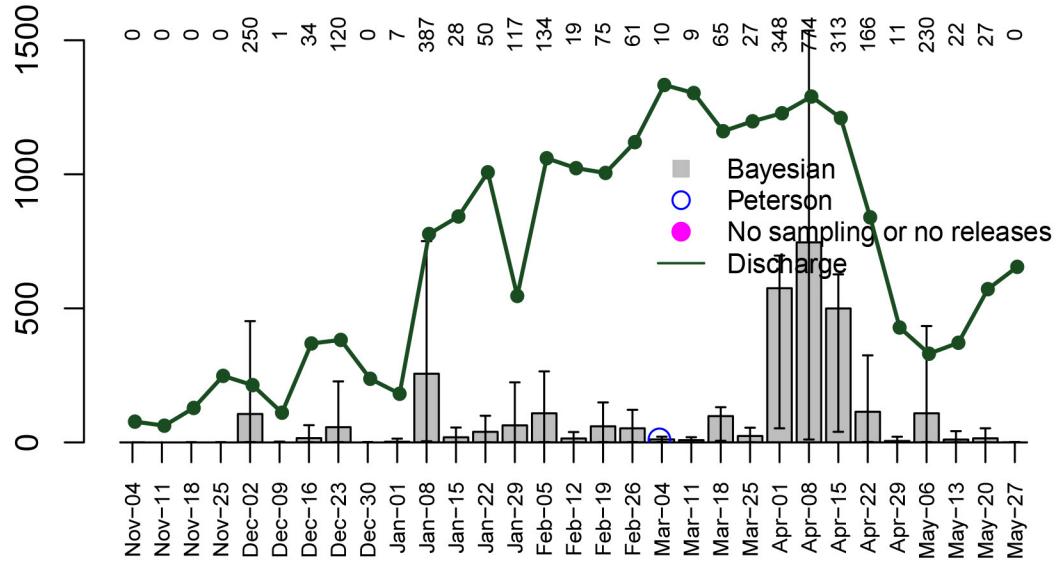
Capture Probability



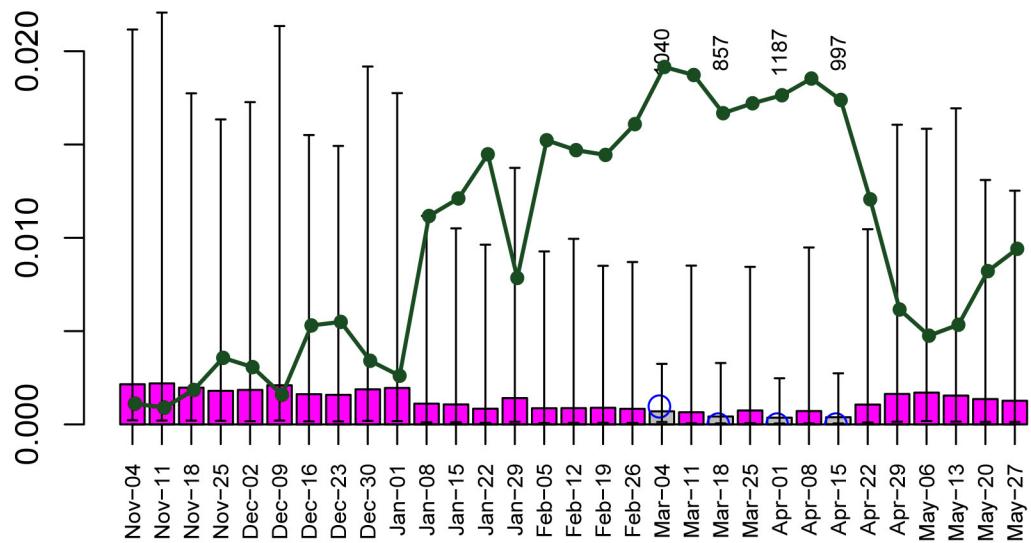
First Date of Week

# tisdale\_2019 Ntot=3108 (1880 - 4306) cv=21%

Abundance ('000s)



Capture Probability



First Date of Week

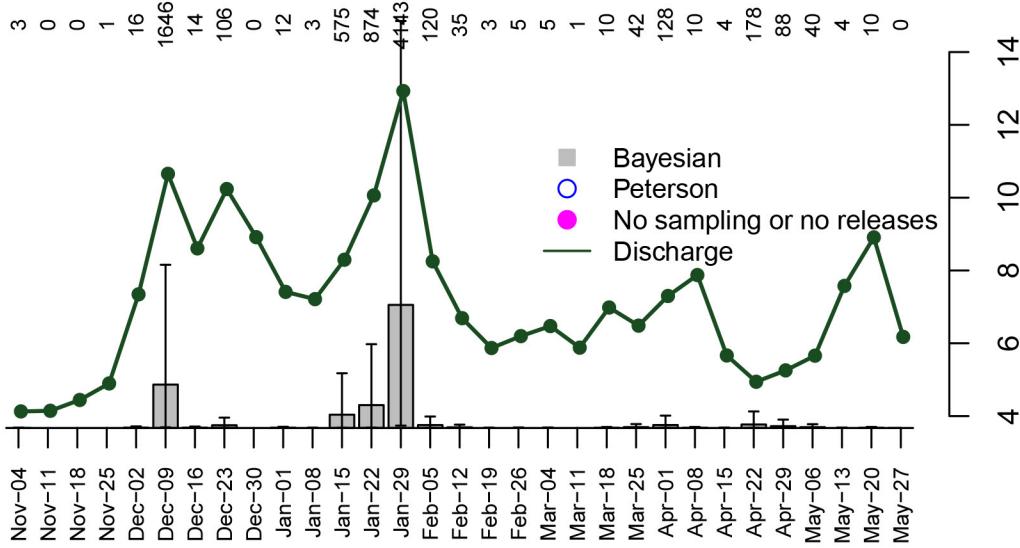
Discharge (kcfs)

5 10 15 20 25 30

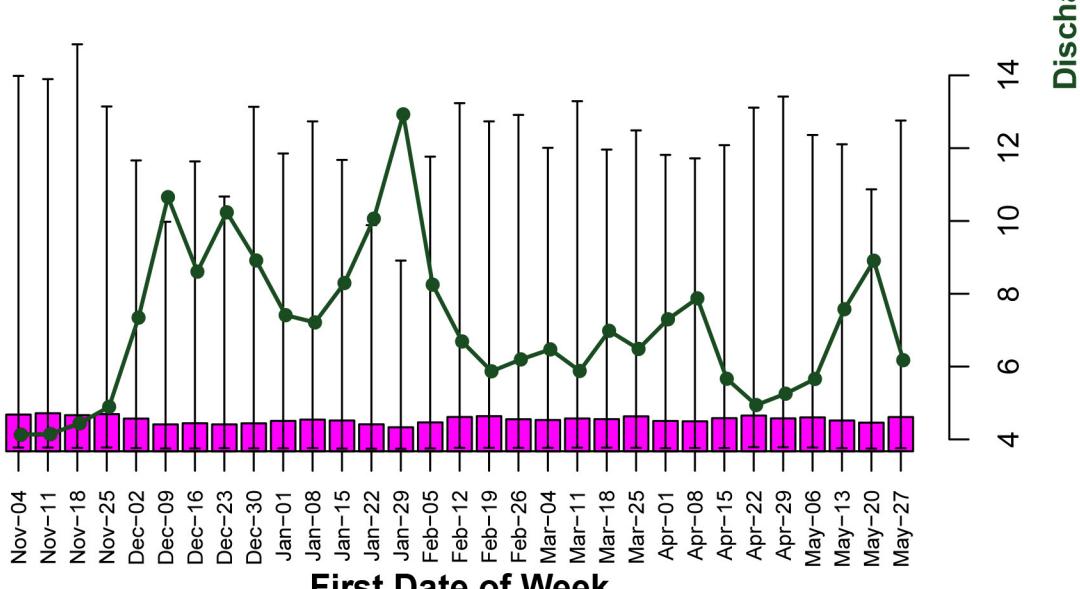
5 10 15 20 25 30

# tisdale\_2020 Ntot=5038 (1675 – 10770) cv=46%

Abundance ('000s)



Capture Probability

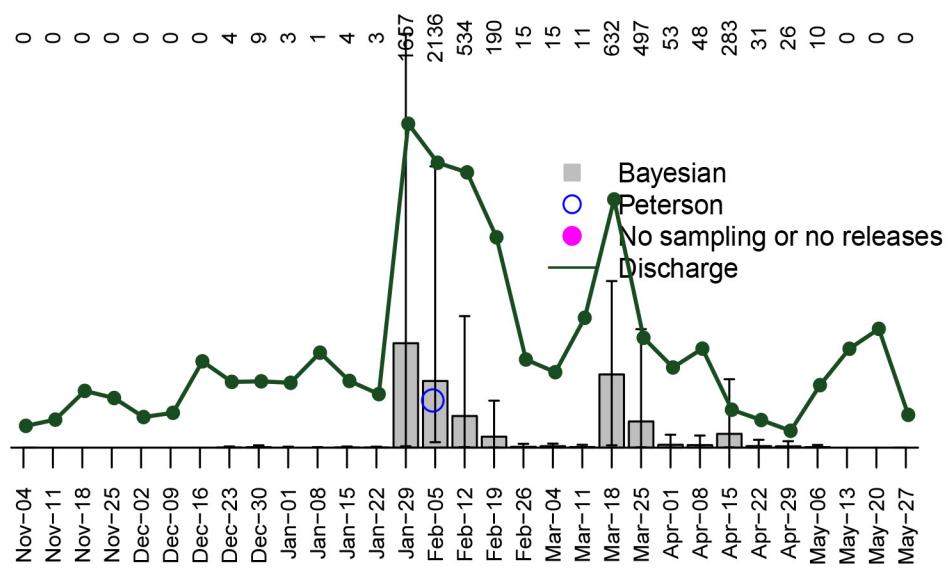


First Date of Week

Discharge (kcfs)

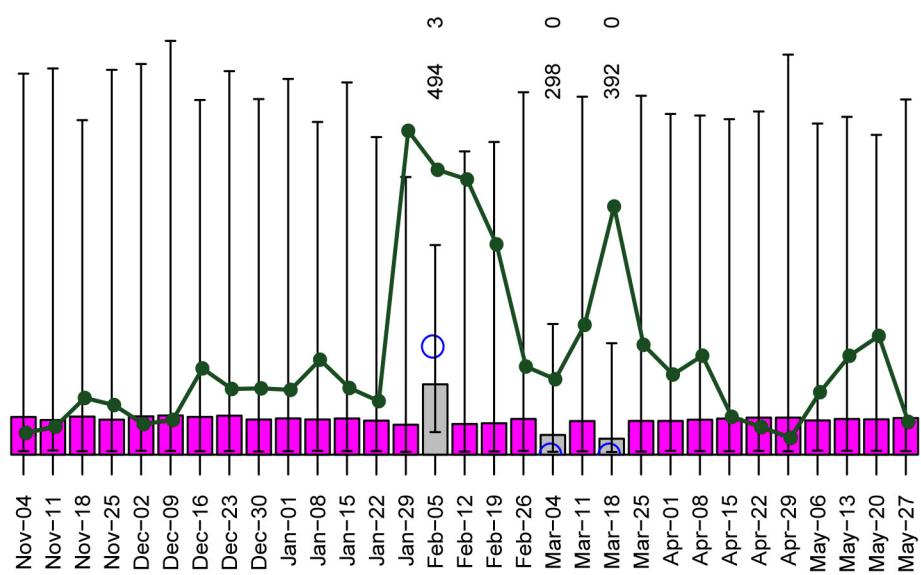
# tisdale\_2021 Ntot=3066 (1336 - 5746) cv=37%

Abundance ('000s)



Discharge (kcfs)

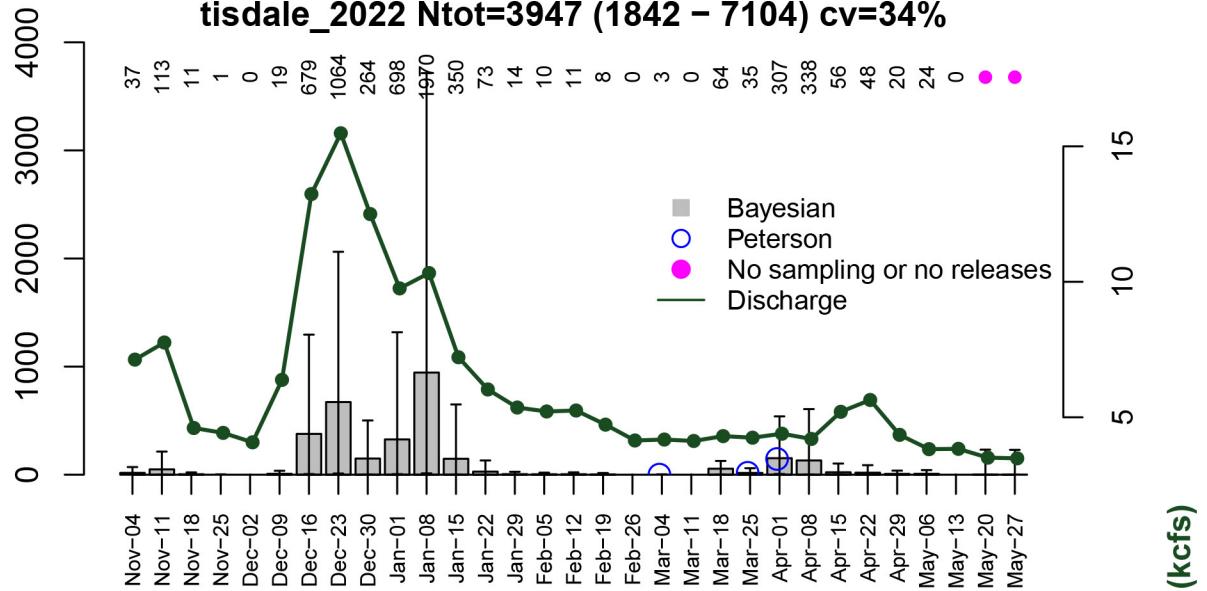
Capture Probability



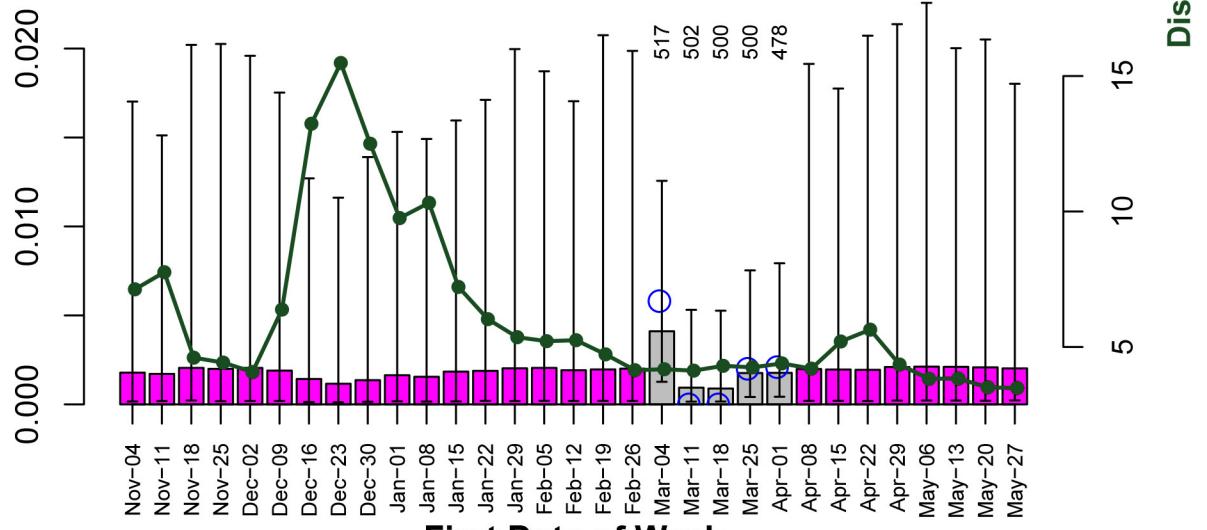
First Date of Week

# tisdale\_2022 Ntot=3947 (1842 – 7104) cv=34%

Abundance ('000s)



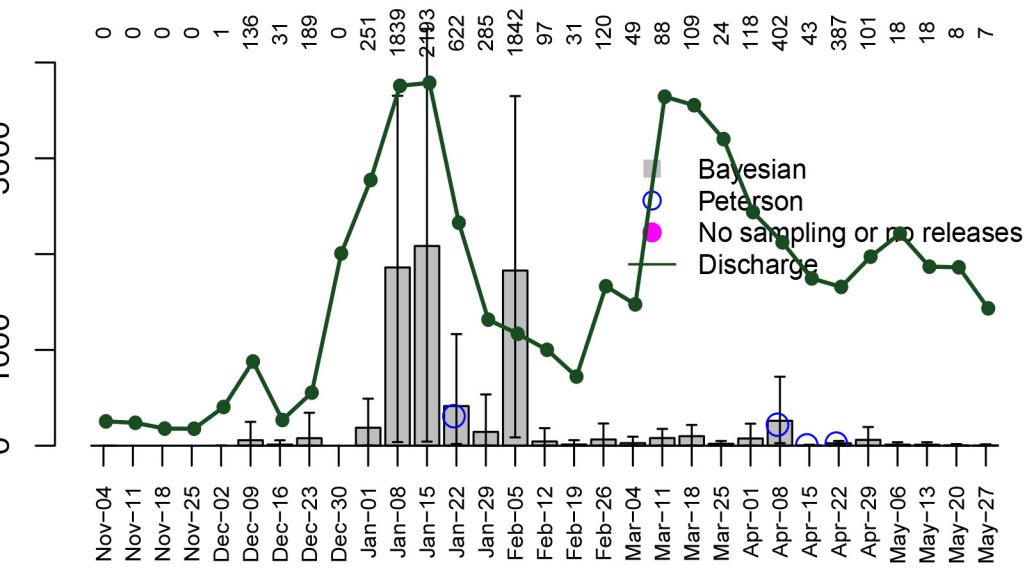
Capture Probability



First Date of Week

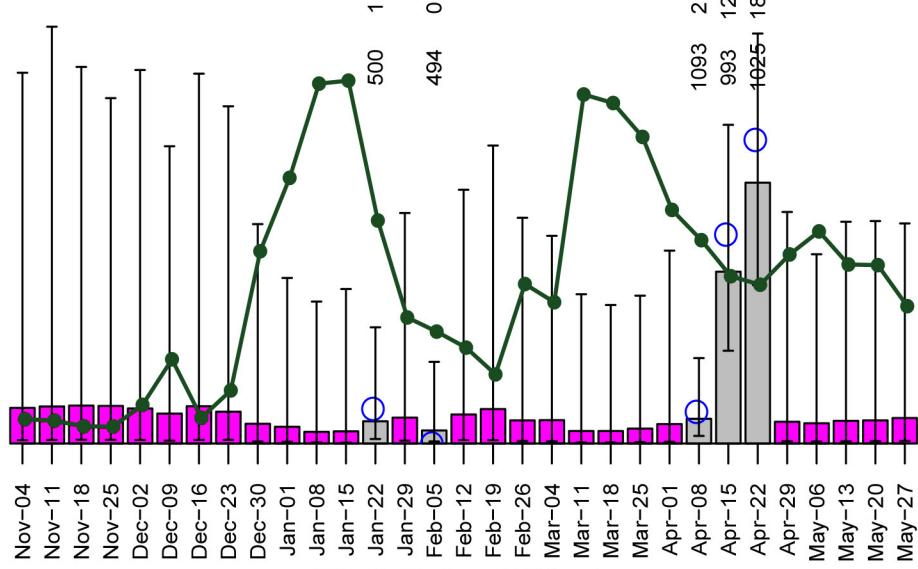
# tisdale\_2023 Ntot=7866 (3734 - 12066) cv=27%

Abundance ('000s)



Discharge (kcfs)

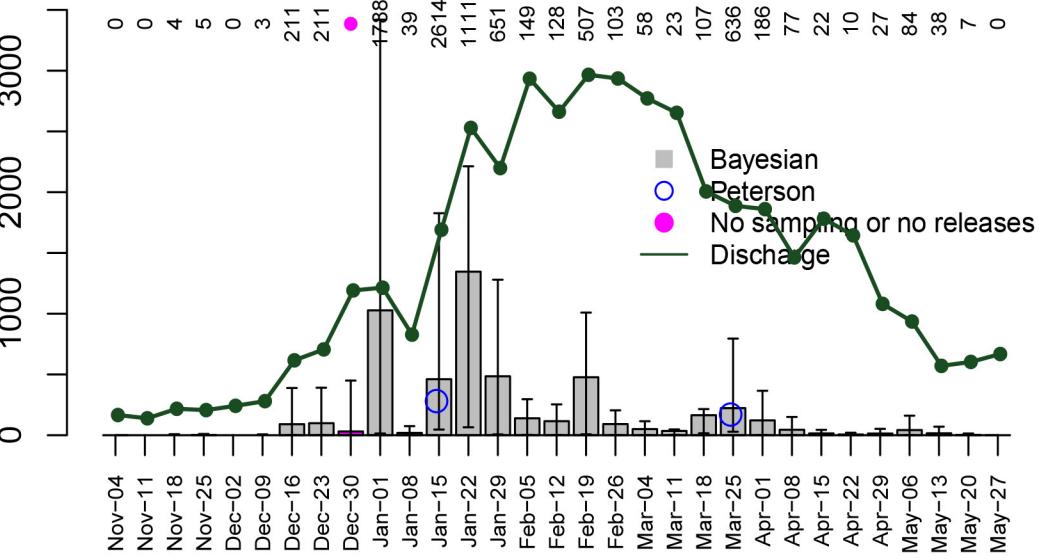
Capture Probability



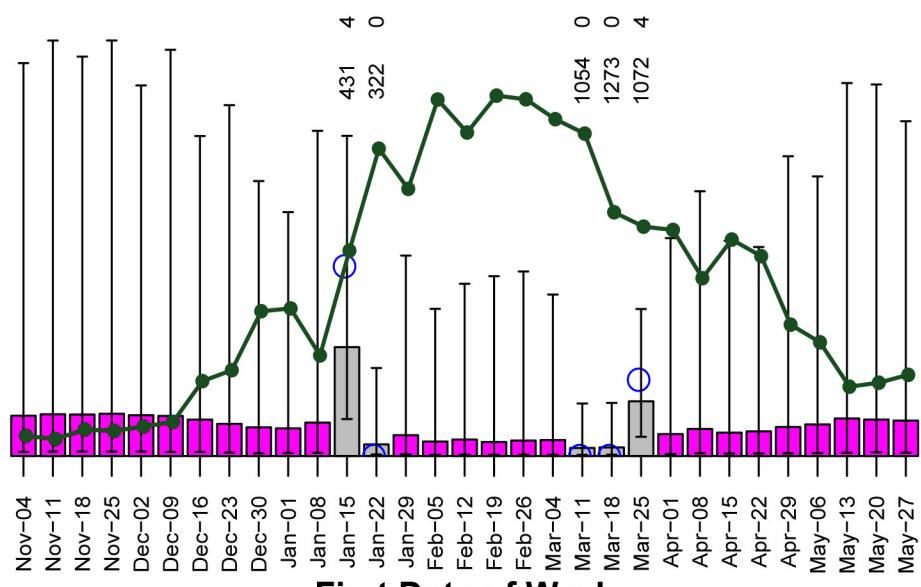
First Date of Week

# tisdale\_2024 Ntot=5634 (3106 – 8710) cv=25%

Abundance ('000s)



Capture Probability



First Date of Week

Discharge (kcfs)