Code: How to calculate the relative abundance or relative biomass IR

1. Calculate the total biomass FR Ug per copepod per day, X all events and taxa, excluding the ingestion rates that are zero or negative, since this will result in an incorrect rate

IrTot <- IrMns

IrTotAll <- IrTot %>%

mutate(IrTotAllUgC = sum(FRUgMn[FRUgMn >= 0 ], na.rm = TRUE))

1. Remove the taxa groups that I'm excluding from reporting, per 6/14 notes: ChnDiaSm, DinoLg, CyanoLg, CyanoSm

IrTotAllTaxaKept <- IrTotAll %>%

filter(group\_size %in% c("CenDiaLg", "CenDiaSm", "ChlLg", "ChlSm", "ChnDiaLg", "CilLg", "CilSm", "FlagLg", "FlagSm", "PenDiaLg", "PenDiaSm", "UnidLg", "UnidSm" ))

1. Calculate the proportion of the total FR UgC that each group\_size contributed to total

IrTotAllTaxaKeptProp <- IrTotAllTaxaKept %>%

mutate(PropIRbioUgC = FRUgMn/IrTotAllUgC)

1. But need to not include the negative numbers in the division calc.

IrTotAllTaxaKeptProp <- IrTotAllTaxaKept %>%

mutate(PropIRbioUgC = ifelse(FRUgMn>=0, FRUgMn/IrTotAllUgC, NA))

sum(IrTotAllTaxaKeptProp$PropIRbioUgC, na.rm = TRUE)

1. Also calculate total IR bio for each sampling event

IrTotAllTaxaKeptProp <- IrTotAllTaxaKeptProp %>%

group\_by(event) %>%

mutate(IrTotUgCEvent = sum(FRUgMn[FRUgMn >= 0 ], na.rm = TRUE)) %>%

ungroup

1. And the proportion of IR for each taxa per event, not per all IRbio

IrTotAllTaxaKeptProp <- IrTotAllTaxaKeptProp %>%

group\_by(event) %>%

mutate(PropIRrBuTaxaPerEvent = ifelse(FRUgMn>=0, FRUgMn/IrTotUgCEvent, NA)) %>%

ungroup

1. Add the proportion of total IR bio that each event made up

IrTotAllTaxaKeptProp <- IrTotAllTaxaKeptProp %>%

group\_by(event) %>%

mutate(PropIrBuEvent = ifelse(IrTotUgCEvent>=0, IrTotUgCEvent/IrTotAllUgC, NA)) %>%

ungroup

1. Add the proportion of total IR bio that each taxa group made up
   1. First sum the total IRbio of each taxa group

IrTotAllTaxaKeptProp <- IrTotAllTaxaKeptProp %>%

group\_by(group\_size) %>%

mutate(IrTotUgCTaxa = sum(FRUgMn[FRUgMn >= 0 ], na.rm = TRUE)) %>%

ungroup

* 1. Then calculate the proportion

IrTotAllTaxaKeptProp <- IrTotAllTaxaKeptProp %>%

mutate(PropIrBuTaxaTot = ifelse(IrTotUgCTaxa>=0, IrTotUgCTaxa/IrTotAllUgC, NA)) %>%

ungroup

1. Drop rows/taxa with NA IR

IrTaxaPropNoNas <- IrTotAllTaxaKeptProp %>%

drop\_na(PropIRbioUgC)

sum(IrTaxaPropNoNas$PropIRbioUgC, na.rm = TRUE)