# **Table of all the ways I can look at the data**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Clearance Rate | Ingestion Rate, biomass | Ingestion Rate, cell counts | Abundance, initial samples | Plots to make |
| All taxa groups | Shows the copepod’s ability to capture prey items | How much carbon nutrition copepods got from all the taxa groups | How much food they ate in terms of numbers of cells, but not as informative as biomass | What was found in the water they live in. Compare what was there to what they ate and didn’t eat |  |
| Top 5 taxa groups and “Other” | Shows the copepod’s ability to capture prey items, in broader taxa groups | Which taxa were most important to their carbon nutrition, and which were so low that alone they didn’t impact the copepod much | Which taxa were most important to their ingestion, and which were so low that alone they didn’t impact the copepod much | What was found in the water they live in in broader taxa groups. Compare what was there to what they ate and didn’t eat | IR biomass  IRbio with CR  IRcells? with CR?  All this with abundance? |
| Cell Size,  15 µm esd  >=15 µm esd | Need these parameters because we know CR are low on small cells | What amount of carbon nutrition did they get from smaller or larger cells, and was there a big difference between the two size groups?  How does cell size contribute, or not, to their nutrition? | How many prey item cells did they eat in each size group, and and was there a big difference between the two size groups?  How does cell size contribute, or not, to the cells they ate? | How many prey items of each of the two size groups were found in the water they live in. Compare what was there to what they ate and didn’t eat. | IR biomass  IRbio with CR  IRcells? with CR?  All this with abundance? |
| Other size divisions or other groupings? |  |  |  |  |  |

From Wim’s email 4/26/23 Re Q2 good question.  Yes you could add up the IR but not the CR. You will have to go back to the count data you used for this and add up the counts and the biomasses across the Other category, then run your subsequent code again. You should expect to do this more than once as we go over the results. For example at some point yousill want to do the calculations by cell size since we already know that clearance rates are low on small cells.

**Microplankton presence/absence:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
| Initials | **Controls** | **Experimentals** | **CR Result** | **FR Result** | **Possible Meaning** |
|  |  |  |  |  |  |
| Present | **Absent** | **Absent** | NA | NA | ? it’s so fragile it couldn’t deal with incubation or it was consumed by microbes |
| probably not interesting Absent | **Absent** | **Present** | NA | NA | something barely there grew |
| 1 Absent | **Present** | **Absent** | NA | NA | copepods ate it all, but not definitive if cpmE were zero, b/c no evidence it was there in the first place. If Cmn was high, then likely that it was eaten |
| Less | **Absent** | **More** | NA | NA | some was there, but copepods didn’t eat it and maybe it grew |
| Less | **More** | **Absent** | NA | NA | maybe copepods ate it, but grew in the controls; but if there was one in exp, what would the CR be |
| More | **Absent** | **Less** | NA | NA | ? |
| More | **Less** | **Absent** | NA | NA | maybe copepods ate it |
| Present | **Less** | **More** | Negative | Negative | copepods didn’t eat it and it grew |
| Present | **More** | **Less** | Positive | Positive | copepods ate it |
| Absent | **Less** | **More** | Negative | NA | ? maybe it grew; or trophic cascade; who is opposite? maybe for example, ciliates ate flagellates |
| Absent | **More** | **Less** | Positive | NA | ? copepods ate it |

Also, but if there was one in exp, what would the CR be

Trophic cascade is possible, something other than copepods eat the stuff

Or ignore the FR

1. remove the ones that aren’t useful
2. Put all the categories
3. Compare controls and initials
4. Then compare controls and experimentals

Make a table of taxa groups by event with the columns, Present, Evidence they ate it, CR + - or blank, BIR + - or blank. The ***presence*** column can have symbols or gradations of color to indicate high or low numbers, and the ***evidence*** column should indicate not only if there was evidence it was eaten or not, but also the level of certainty, as in if the cpmE was 0 or positive, and if the numbers were low or high, etc.

Presence Categories and Symbols:

Range in numbers of cells is 4759 – 0; median is 52;

Five categories

|  |  |  |
| --- | --- | --- |
| 0 = | 0 | (13 rows = 0 cells) |
| < 100 = | < 100 | (46 rows are between 1 and 86 cells) |
| LH = | Low hundreds 100-440 | (27 rows are between 100 and 440 cells) |
| HH = | High hundreds 561-744 | (7 rows are between 561 and 744 cells) |
| T = | Thousands 944-4759 | ( 9 rows are between 944 and 4759 cells) |

Evidence it was Eaten Categories and Symbols:

Refers to:

Positive Ingestion Rate, high or low

|  |  |
| --- | --- |
| P+ | Positive Ingestion Rate , Experimental samples low, with higher Cmn |
| P~ | Positive Ingestion Rate , Experimental samples high, but still lower than Cmn |
| P+0 | Positive Ingestion Rate , Experimental samples zero |
|  | Control sample means, cpm, lower than cmpE |

indicate not only if there was evidence it was eaten or not, but also the level of certainty, as in if the cpmE was 0 or positive, and if the numbers were low or high,

# **Table of Taxa Groups, Presence/Absence, CR, IRbio**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Event | Present? | Evidence it was eaten | CR, + \_ or blank | IR bio, + - or blank |
| Centric diatoms, large | LSZ2 |  |  |  |  |
| SJR1 |  |  |  |  |
| SJR2 |  |  |  |  |
| WLD2 |  |  |  |  |
| YBP1 |  |  |  |  |
| YBP2 |  |  |  |  |
| Centric Diatoms, small | LSZ2 |  |  |  |  |
| SJR1 |  |  |  |  |
| SJR2 |  |  |  |  |
| WLD2 |  |  |  |  |
| YBP1 |  |  |  |  |
| YBP2 |  |  |  |  |
| Chloro, large | LSZ2 |  |  |  |  |
| SJR1 |  |  |  |  |
| SJR2 |  |  |  |  |
| WLD2 |  |  |  |  |
| YBP1 |  |  |  |  |
| YBP2 |  |  |  |  |
| Chloro, small | LSZ2 |  |  |  |  |
| SJR1 |  |  |  |  |
| SJR2 |  |  |  |  |
| WLD2 |  |  |  |  |
| YBP1 |  |  |  |  |
| YBP2 |  |  |  |  |
| Chain diatoms, large | LSZ2 |  |  |  |  |
| SJR1 |  |  |  |  |
| SJR2 |  |  |  |  |
| WLD2 |  |  |  |  |
| YBP1 |  |  |  |  |
| YBP2 |  |  |  |  |
| Ciliates, large | LSZ2 |  |  |  |  |
| SJR1 |  |  |  |  |
| SJR2 |  |  |  |  |
| WLD2 |  |  |  |  |
| YBP1 |  |  |  |  |
| YBP2 |  |  |  |  |
| Ciliates, small | LSZ2 |  |  |  |  |
| SJR1 |  |  |  |  |
| SJR2 |  |  |  |  |
| WLD2 |  |  |  |  |
| YBP1 |  |  |  |  |
| YBP2 |  |  |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Cyano, large | LSZ2 |  |  |  |  |
| SJR1 |  |  |  |  |
| SJR2 |  |  |  |  |
| WLD2 |  |  |  |  |
| YBP1 |  |  |  |  |
| YBP2 |  |  |  |  |
| Flagellates, large | LSZ2 |  |  |  |  |
| SJR1 |  |  |  |  |
| SJR2 |  |  |  |  |
| WLD2 |  |  |  |  |
| YBP1 |  |  |  |  |
| YBP2 |  |  |  |  |
| Flagellates, small | LSZ2 |  |  |  |  |
| SJR1 |  |  |  |  |
| SJR2 |  |  |  |  |
| WLD2 |  |  |  |  |
| YBP1 |  |  |  |  |
| YBP2 |  |  |  |  |
| Pennate diatoms, large | LSZ2 |  |  |  |  |
| SJR1 |  |  |  |  |
| SJR2 |  |  |  |  |
| WLD2 |  |  |  |  |
| YBP1 |  |  |  |  |
| YBP2 |  |  |  |  |
| Pennate diatoms, small | LSZ2 |  |  |  |  |
| SJR1 |  |  |  |  |
| SJR2 |  |  |  |  |
| WLD2 |  |  |  |  |
| YBP1 |  |  |  |  |
| YBP2 |  |  |  |  |
| Unidentified, large | LSZ2 |  |  |  |  |
| SJR1 |  |  |  |  |
| SJR2 |  |  |  |  |
| WLD2 |  |  |  |  |
| YBP1 |  |  |  |  |
| YBP2 |  |  |  |  |
| Unidentified, small | LSZ2 |  |  |  |  |
| SJR1 |  |  |  |  |
| SJR2 |  |  |  |  |
| WLD2 |  |  |  |  |
| YBP1 |  |  |  |  |
| YBP2 |  |  |  |  |