CDW Tally Analysis: D02 BLAN

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```
## Load libraries
library(plyr)
library(dplyr)
library(ggplot2)
library(httr)

##  Define paths and other inputs
domain <- "D02"
site <- "BLAN"

# Define path for writing out files
if (file.exists("~/Documents/workDocuments")){
outpath <- paste("~/Documents/workDocuments/gitRepositories/neonPlantSampling/cdw_tallyAnalysis/", doma
}

if (file.exists("~/Documents/neonScienceDocs")){
  outpath <- paste("~/Documents/neonScienceDocs/gitRepositories/neonPlantSampling/cdw_tallyAnalysis/",
}

## Define function for retrieving Fulcrum data
get_Fulcrum_data <- function(api_token, sql){
  require(httr)
  url = paste0("https://api.fulcrumapp.com/api/v2/query?token=",
               api_token, "&format=json", "&q=", sql, "&headers=true")
  request <- httr::GET(url, add_headers("X-ApiToken" = api_token,
                                        Accept = "application/json"))
  content <- jsonlite::fromJSON(httr::content(request, as = "text"))
  return(content$rows)
}
```

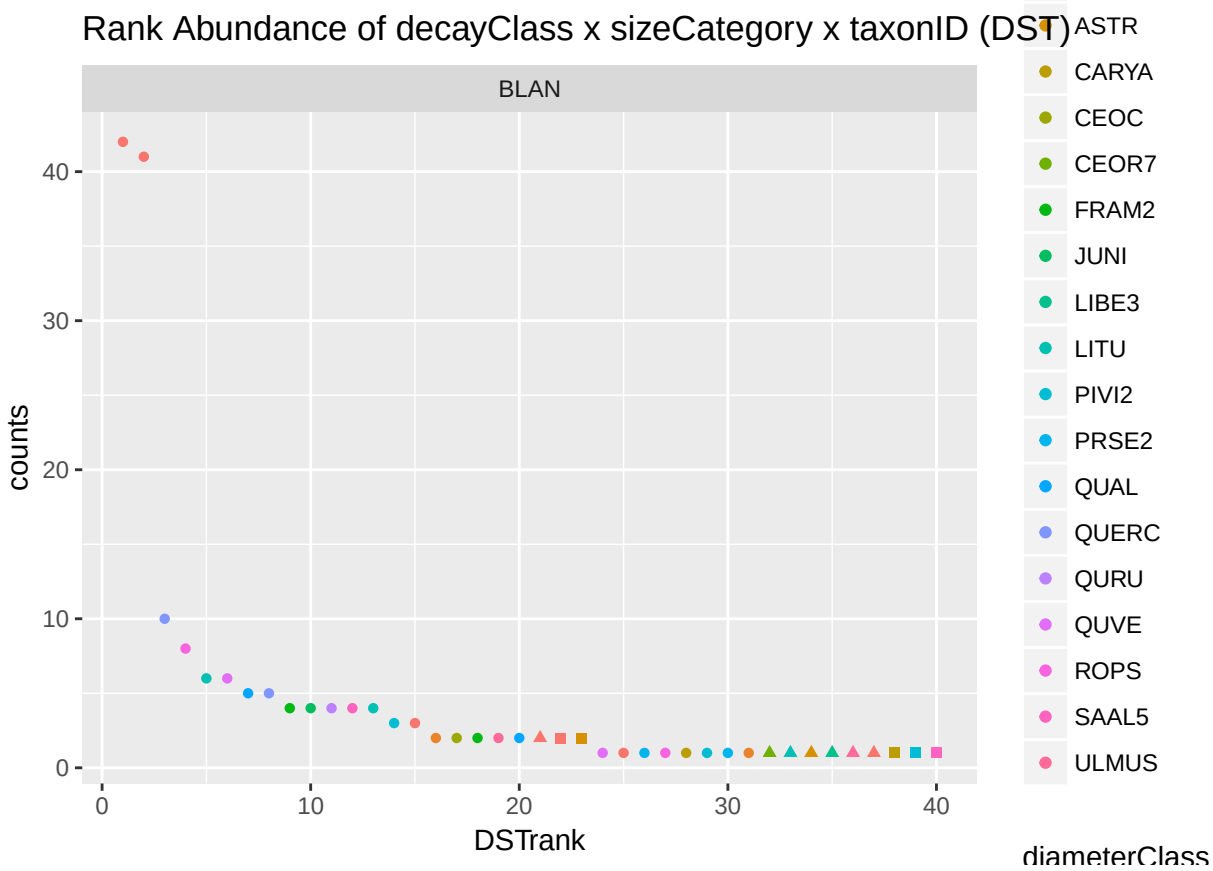
```
## Import data from Fulcrum
# Define Fulcrum API token
api_token = "3ab235047ec293b27f06f6819e81b291435f9c61282345ff1de9624f744034b4233a6fcd1b87c3c2"

# Define CDW Fulcrum query for domain
cdwQuery = paste(URLencode('SELECT * FROM "(TOS) Coarse Downed Wood: Tally [PROD]" AS parent
                           JOIN "(TOS) Coarse Downed Wood: Tally [PROD]/per_plot_azimuth_log" AS child'),
                 URLencode(paste0("ON (parent._record_id = child._parent_id)
                           WHERE domainid LIKE'", domain, "'")), sep = "%20")

# Get CDW data from Fulcrum
cdw <- get_Fulcrum_data(api_token = api_token, sql = cdwQuery)
```

```
##  Select desired fields from 'cdw' data frame, then select data for specified site only
cdw %>%
  dplyr::select(domainid, siteid, plotid_parent, tallydate, yearboutbegan, eventid, volumefactor, sampli
                lidsazimuth, targettaxapresent, logdistance, logmaxdiameter, minorlogdiameter, logid, lo
                scientificname, decayclass) %>%
```

```
  dplyr::filter(siteid==site) -> cdw


## Create diameter class factor
cdw$diameterClass <- ifelse(cdw$logmaxdiameter >= 10, '>=10cm',
                            ifelse(cdw$logmaxdiameter < 5, "2-5cm", "5-10cm"))

## Simplify decayclass to numeric value wrapped inside sapply(decayClassNum, "[[", 1) e.g. 'return firs
cdw$decayClassNum <- sapply(stringr::str_split(cdw$decayclass, pattern = " "),"[[", 1)


## Write data file
write.csv(cdw, file = paste(outpath, paste(domain, site, "merged","cdw_rawdata.csv", sep="_"), sep = "/
```

siteid	taxonid	decayClassNum	diameterClass	counts	totalLogs	relativeAbundance	cumulativeAbundance
BLAN	2PLANT-H	4	>=10cm	42	182	23.08	23.08
BLAN	2PLANT-H	3	>=10cm	41	182	22.53	45.61
BLAN	QUERC	3	>=10cm	10	182	5.49	51.10
BLAN	ROPS	3	>=10cm	8	182	4.40	55.50
BLAN	LITU	3	>=10cm	6	182	3.30	58.80
BLAN	QUVE	3	>=10cm	6	182	3.30	62.10
BLAN	QUAL	3	>=10cm	5	182	2.75	64.85
BLAN	QUERC	4	>=10cm	5	182	2.75	67.60
BLAN	FRAM2	3	>=10cm	4	182	2.20	69.80
BLAN	JUNI	3	>=10cm	4	182	2.20	72.00
BLAN	QURU	3	>=10cm	4	182	2.20	74.20
BLAN	SAAL5	3	>=10cm	4	182	2.20	76.40
BLAN	LITU	4	>=10cm	4	182	2.20	78.60
BLAN	PIVI2	1	>=10cm	3	182	1.65	80.25
BLAN	2PLANT-H	5	>=10cm	3	182	1.65	81.90
BLAN	ACNE2	2	>=10cm	2	182	1.10	83.00
BLAN	CEOC	2	>=10cm	2	182	1.10	84.10
BLAN	FRAM2	2	>=10cm	2	182	1.10	85.20
BLAN	ULMUS	3	>=10cm	2	182	1.10	86.30
BLAN	QUAL	4	>=10cm	2	182	1.10	87.40
BLAN	2PLANT-H	3	2-5cm	2	182	1.10	88.50
BLAN	2PLANT-H	3	5-10cm	2	182	1.10	89.60
BLAN	ASTR	3	5-10cm	2	182	1.10	90.70
BLAN	QUVE	1	>=10cm	1	182	0.55	91.25
BLAN	2PLANT-H	2	>=10cm	1	182	0.55	91.80
BLAN	PRSE2	2	>=10cm	1	182	0.55	92.35
BLAN	ROPS	2	>=10cm	1	182	0.55	92.90
BLAN	CARYA	3	>=10cm	1	182	0.55	93.45
BLAN	PIVI2	3	>=10cm	1	182	0.55	94.00
BLAN	PRSE2	3	>=10cm	1	182	0.55	94.55
BLAN	ACNE2	5	>=10cm	1	182	0.55	95.10
BLAN	CEOR7	1	2-5cm	1	182	0.55	95.65
BLAN	LITU	1	2-5cm	1	182	0.55	96.20
BLAN	ASTR	2	2-5cm	1	182	0.55	96.75
BLAN	LIBE3	2	2-5cm	1	182	0.55	97.30
BLAN	ULMUS	2	2-5cm	1	182	0.55	97.85
BLAN	2PLANT-H	4	2-5cm	1	182	0.55	98.40
BLAN	CARYA	3	5-10cm	1	182	0.55	98.95

siteid	taxonid	decayClassNum	diameterClass	counts	totalLogs	relativeAbundance	cumulativeAbundance
BLAN	PIVI2	3	5-10cm	1	182	0.55	99.50
BLAN	SAAL5	3	5-10cm	1	182	0.55	100.05



Code