

# Submerged Aquatic Vegetation Indicator Quantile Report

## SEACAR Analysis

Last compiled on 12 September, 2024

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# Overview

## Purpose

The purpose of the indicator quantiles is to flag records that are “unusual” relative to all of the data in the DDI for a given indicator in order to facilitate QA/QC. They are not used to filter any of the data for SEACAR analyses, and the presence of a LowerQuantile or UpperQuantile flag on a DDI record alone does not necessarily indicate there is any issue with the record (neither does the absence of a LowerQuantile or UpperQuantile flag necessarily mean that a data record is correct).

## Relevant file locations

Current values can be found in the “LowQuantile” and “HighQuantile” columns of the “Ref\_Parameters” worksheet.

The R script described below and the output file can be found in the *FloridaSEACAR IndicatorQuantiles* repository on GitHub:

- <https://github.com/FloridaSEACAR/IndicatorQuantiles>

## Process steps

### IQ\_Report\_Render.R & IQ\_Report.Rmd

1. The *IQ\_Report\_Render.R* script lists all files in a given directory and filters it to a list of DDI exports to evaluate considering a list of parameters to skip (user-defined).
2. User sets the desired upper and lower quantile thresholds, as well as a number of standard deviations away from the mean to use for the calculations.
3. User sets the string value(s) in the DDI exports that should be considered as NA values.
4. The remainder of the script loops through the file list, returning the values listed below and binding them together by row into a single Excel spreadsheet that is saved to the User’s working directory.
5. For each habitat included in the User’s working directory a PDF report will be created in the “output” folder using *IQ\_Report.Rmd*, which provides an overview of questionable / flagged values.
6. In addition to the PDF reports, each habitat will provide a .txt data output file in the “output/data” folder containing questionable values.

## Summary

The following quantile thresholds are used for flagging “questionable” values:

- Lower quantile: **0.001**
- Upper quantile: **0.999**

**Included Indicators and Parameters and the files used in this analysis:**

*All\_SAV\_Parameters-2024-Sep-04.txt*

*Indicator:* Percent Cover

- Braun Blanquet Score
- Modified Braun Blanquet Score
- Percent Cover
- Percent Occurrence
- Presence/Absence
- Shoot Count

## Summary Tables

*q\_low*: Value corresponding to the qval\_low quantile for the parameter in the DDI export.

*q\_high*: Value corresponding to the qval\_high quantile for the parameter in the DDI export.

*mean*: Mean value for the parameter in the DDI export.

*n\_tot*: Total number of records in the DDI export for the parameter.

*n\_q\_low*: Number of records in the DDI export that are below q\_low for the parameter.

*n\_q\_high*: Number of records in the DDI export that are above q\_high for the parameter.

*pct\_flagged*: Proportion of total records in the DDI export for the parameter which have been flagged as above q\_high, or below q\_low.

*Indicator*: **Percent Cover**

Table 1: Indicator Quantile Overview

ParameterName	q low	q high	mean	n tot	n q low	n q high	pct flagged
Braun Blanquet Score	0	5	0.36	1122266	1	4	0.00
Modified Braun Blanquet Score	0	5	2.05	44910	0	1	0.00
Percent Cover	0	100	4.36	525454	0	44	0.01
Percent Cover	0	100	4.68	453107	0	43	0.01
Percent Occurrence	0	100	10.30	623477	0	2	0.00
Percent Occurrence	0	100	10.83	507954	0	2	0.00
Presence/Absence	0	1	0.24	1856262	0	0	0.00

## Low Quantile

**Indicator: Percent Cover**

**Braun Blanquet Score**

Table 2: Flagged Values - Low Indicator Quantile: **0**

RowID	ProgramID	ProgramLocationID	SampleDate	CommonIdentifier	ResultValue
8668	296	276	2020-12-13	Thalassia testudinum	-0.69

**Programs containing flagged data:**

*296* - Florida Keys National Marine Sanctuary Seagrass Monitoring Project

There are no *Low* Quantile Flagged Values for Modified Braun Blanquet Score

There are no *Low* Quantile Flagged Values for Percent Cover

There are no *Low* Quantile Flagged Values for Percent Occurrence

There are no *Low* Quantile Flagged Values for Presence/Absence

There are no *Low* Quantile Flagged Values for Shoot Count

## High Quantile

**Indicator: Percent Cover**

**Braun Blanquet Score**

Table 3: Flagged Values - High Indicator Quantile: **5**

RowID	ProgramID	ProgramLocationID	SampleDate	CommonIdentifier	ResultValue
3104343	4018	13M	2018-07-19	Anadyomene stellata	15
3104806	4018	13M	2018-07-19	Anadyomene stellata	10
3104954	4018	13M	2018-07-19	Anadyomene stellata	7
3105066	4018	9P	2018-07-23	Anadyomene stellata	6

**Programs containing flagged data:**

*4018* - Miami-Dade County DERM Benthic Habitat Monitoring Program

## Modified Braun Blanquet Score

Table 4: Flagged Values - High Indicator Quantile: **5**

RowID	ProgramID	ProgramLocationID	SampleDate	CommonIdentifier	ResultValue
435819	559	KB06-2016	2016-06-30	Laurencia spp.	5.3

### Programs containing flagged data:

559 - Northern Big Bend Seagrass Monitoring



## Percent Cover

Table 5: Flagged Values - High Indicator Quantile: **100**

RowID	ProgramID	ProgramLocationID	SampleDate	CommonIdentifier	ResultValue
688572	564	W1-06-12	2012-09-26	Total SAV	105
688541	564	W1-12-11	2011-10-05	Total SAV	105
691981	564	W1-16-17	2017-10-06	Total SAV	101
688243	564	W1-17-11	2011-09-30	Total SAV	105
689903	564	W1-18-14	2014-10-10	Total SAV	101
692560	564	W1-22-19	2019-11-10	Total SAV	104
692610	564	W1-22-19	2019-11-10	Total SAV	150
688556	564	W1-23-11	2011-10-03	Total SAV	101
688545	564	W1-24-11	2011-10-05	Total SAV	105
690088	564	W1-25-15	2015-10-02	Total SAV	105
688845	564	W1-26-12	2012-09-26	Total SAV	101
688233	564	W1-27-11	2011-10-04	Total SAV	101
689050	564	W1-27-11	2011-10-04	Total SAV	140
688456	564	W1-28-12	2012-09-26	Total SAV	105
688888	564	W1-28-12	2012-09-26	Total SAV	105
692656	564	W1-28-19	2019-12-31	Total SAV	101
689990	564	W1-31-15	2015-10-07	Total SAV	110
690106	564	W1-31-15	2015-10-07	Total SAV	110
690208	564	W1-31-15	2015-10-07	Total SAV	110
692728	564	W1-31-19	2019-12-31	Total SAV	180
690176	564	W1-34-15	2015-10-02	Total SAV	125
692635	564	W1-35-19	2019-12-31	Total SAV	105
692682	564	W1-35-19	2019-12-31	Total SAV	105
692729	564	W1-35-19	2019-12-31	Total SAV	110
692730	564	W1-35-19	2019-12-31	Total SAV	105
692774	564	W1-35-19	2019-12-31	Total SAV	110
692775	564	W1-35-19	2019-12-31	Total SAV	105
692786	564	W1-40-19	2019-12-31	Total SAV	120
688360	564	W2-01-12	2012-09-14	Total SAV	105
688448	564	W2-04-11	2011-09-29	Total SAV	120
689621	564	W2-04-12	2012-09-13	Total SAV	140
690233	564	W2-04-15	2015-10-21	Total SAV	120
692438	564	W2-2-19	2019-03-10	Total SAV	130
692439	564	W2-2-19	2019-03-10	Total SAV	110
692313	564	W2-5-19	2019-12-31	Total SAV	180
692465	564	W2-5-19	2019-12-31	Total SAV	120
692396	564	W2-9-19	2019-03-10	Total SAV	122
692159	564	W2-ALT-01-17	2017-09-29	Total SAV	105
689972	564	W3-03-15	2015-10-05	Total SAV	135
690071	564	W3-03-15	2015-10-05	Total SAV	125
690100	564	W3-03-15	2015-10-05	Total SAV	106
690181	564	W3-03-15	2015-10-05	Total SAV	115
690182	564	W3-03-15	2015-10-05	Total SAV	110

## Programs containing flagged data:

564 - Western Pinellas County Seagrass Monitoring

## Percent Occurrence

Table 6: Flagged Values - High Indicator Quantile: **100**

RowID	ProgramID	ProgramLocationID	SampleDate	CommonIdentifier	ResultValue
2361405	3013	IRLSG045	2021-08-12 09:15:00	Total seagrass	161
2366189	3013	IRLSG045	2021-08-12 09:15:00	Total seagrass	139

## Programs containing flagged data:

*3013* - Seagrass (SJRWMD)

There are no *High* Quantile Flagged Values for Presence/Absence

There are no *High* Quantile Flagged Values for Shoot Count