

Big Bend Seagrasses Aquatic Preserve

SEACAR Discrete Water Quality Analysis

Last compiled on 26 June, 2024

Contents

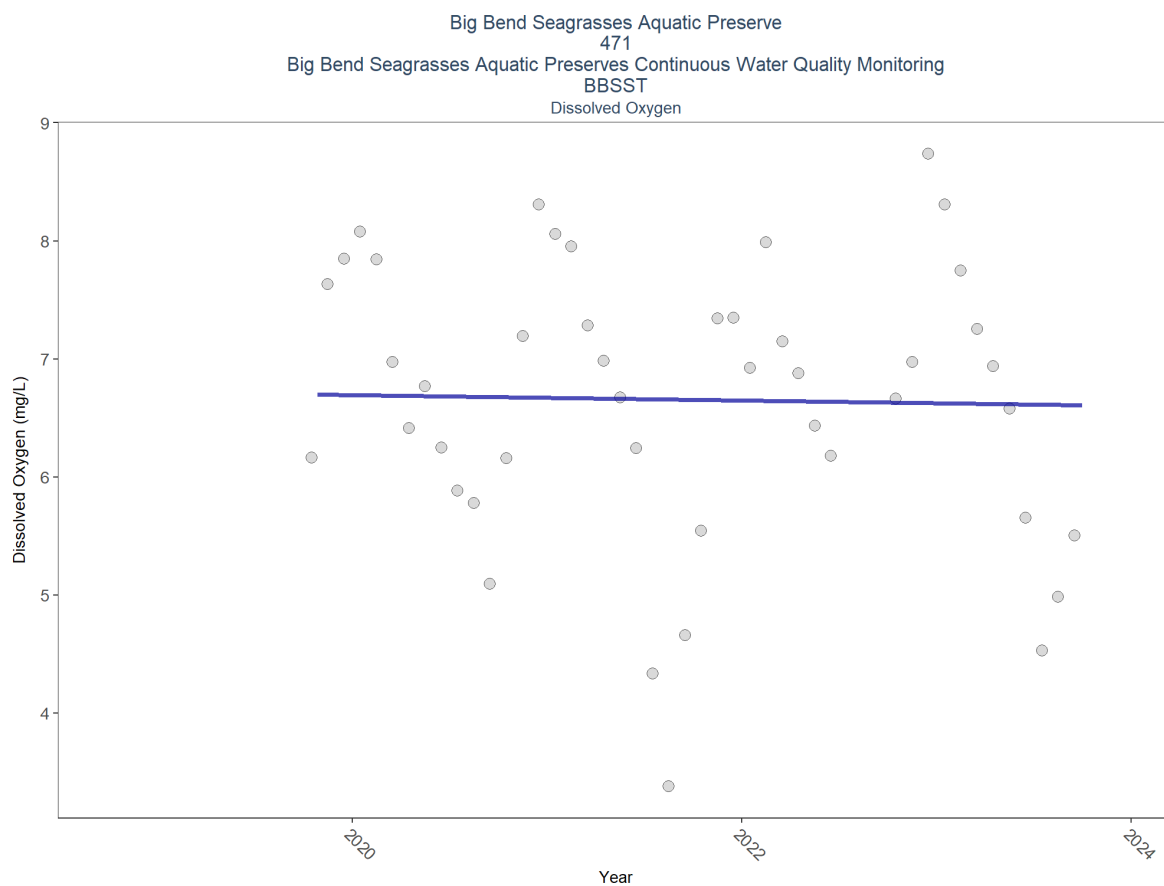
Parameters	3
Dissolved Oxygen	4
BBSST	4
BBSSW	5
BBSDB	6
BBSSK	7
02323566	8
02326526	9
02326516	10
02313700	11
All Stations Combined	12
Dissolved Oxygen Saturation	14
BBSST	14
BBSSW	15
BBSDB	16
BBSSK	17
All Stations Combined	18
pH	19
BBSST	19
BBSSW	20
BBSDB	21
BBSSK	22
02323566	23
02326516	24
02326526	25
02313700	26
All Stations Combined	27
Salinity	29
BBSST	29
BBSSW	30
BBSDB	31
BBSSK	32
All Stations Combined	33

Turbidity	34
BBSST	34
BBSSW	35
BBSDB	36
BBSSK	37
All Stations Combined	38
Water Temperature	39
BBSST	39
BBSSW	40
BBSDB	41
BBSSK	42
02313700	43
02323592	44
02323566	45
02326526	46
02326516	47
All Stations Combined	48

Parameters

Dissolved Oxygen

BBSST

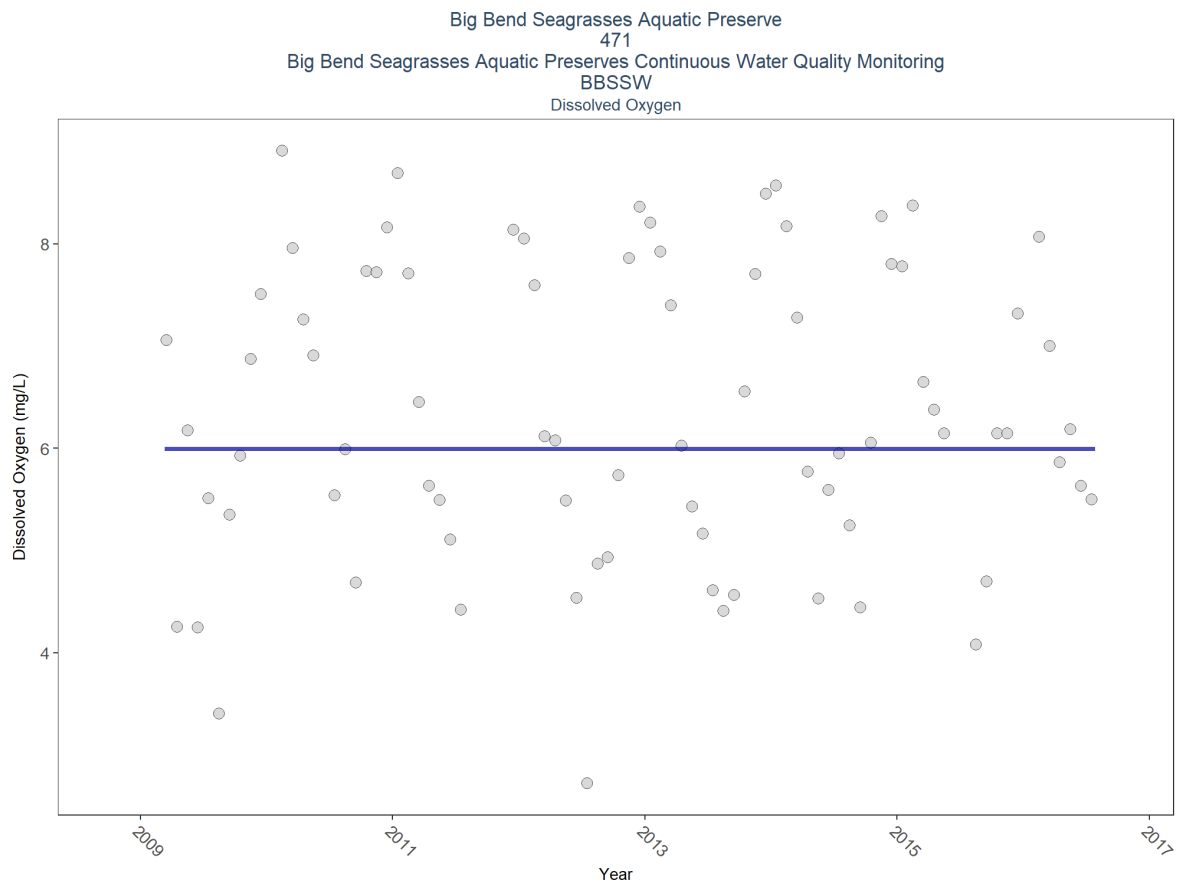


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	111411	5	6.9	TRUE	-0.1407	0.3964	-0.02287538	6.719131	9.1743	0.6058	0

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of record for monitoring location

BBSSW

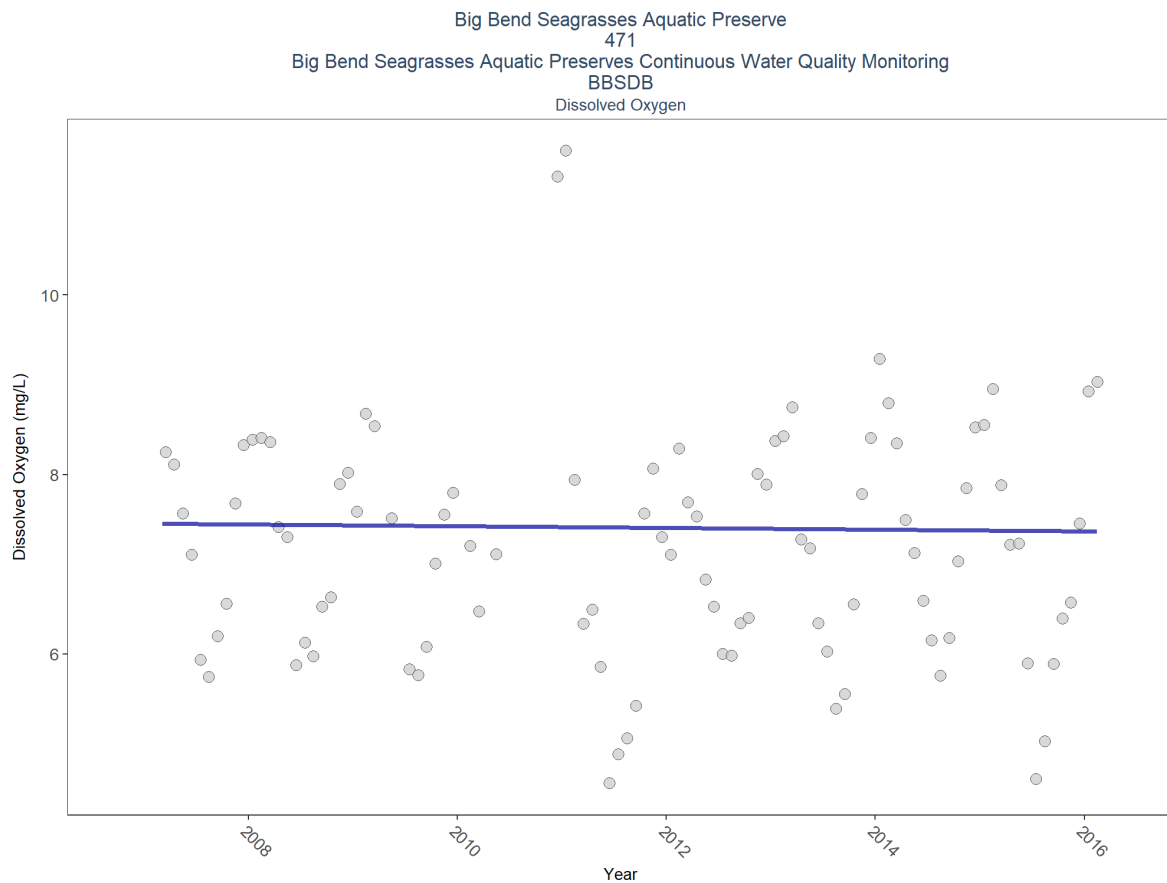


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	182327	8	6.2	TRUE	0.0011	1.0000	0.00009525337	5.996998	10.0488	0.526	0

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of record for monitoring location

BBSDB

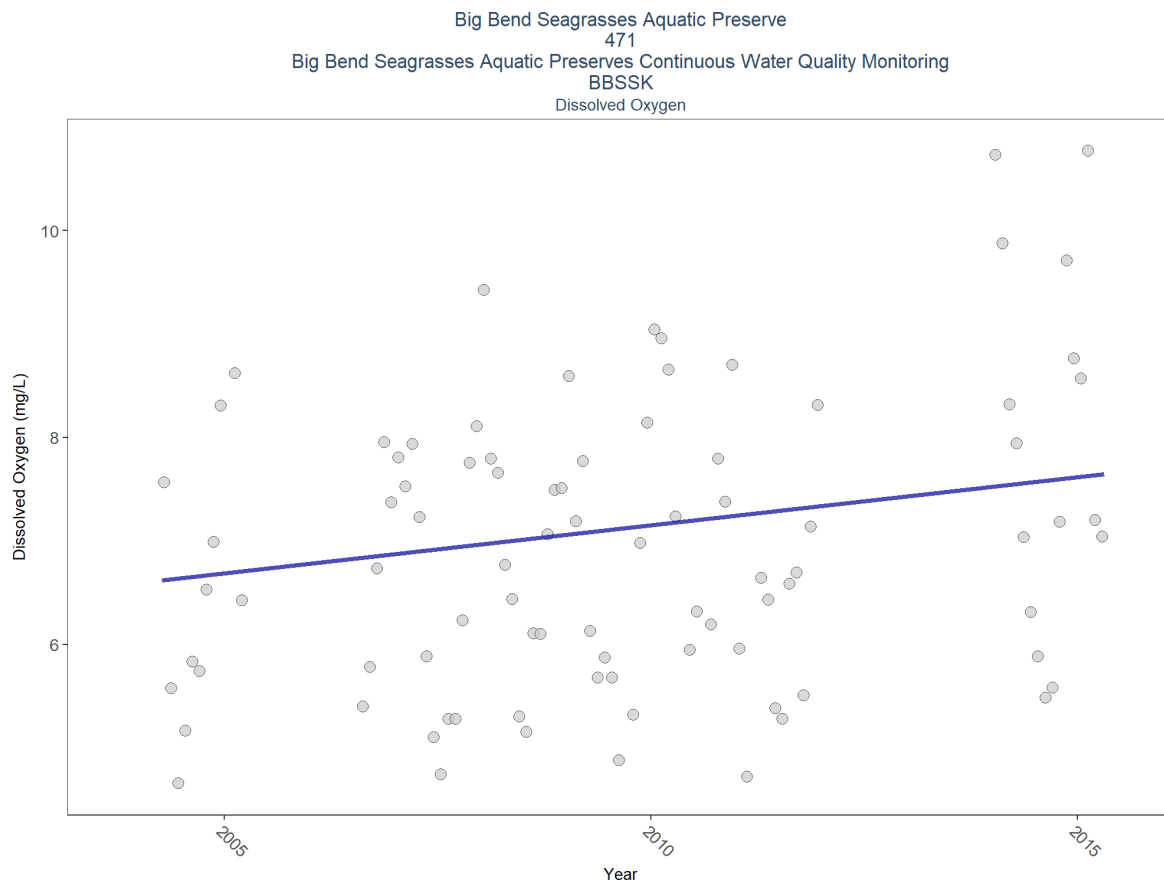


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	184327	10	7.3	TRUE	-0.0542	0.6066	-0.009609181	7.457155	10.0448	0.5264	0

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of record for monitoring location

BBSSK

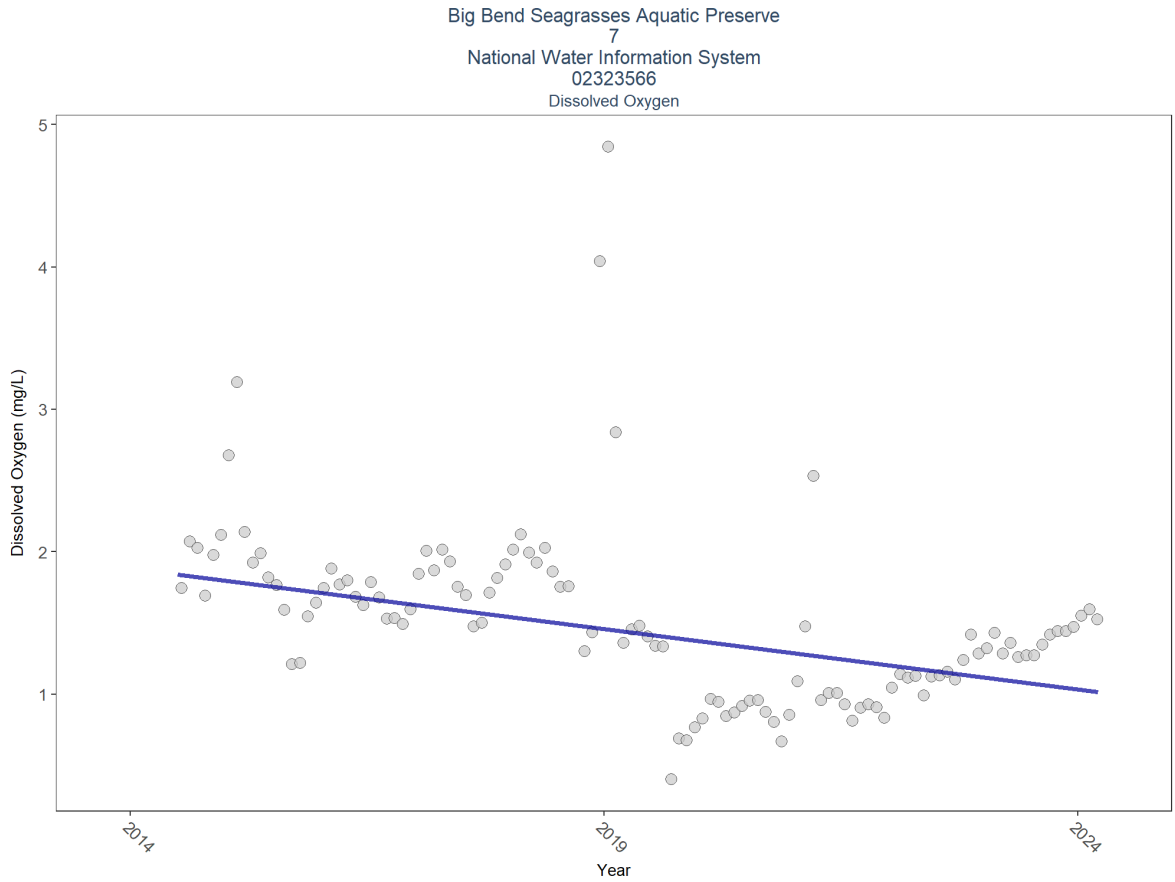


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	134287	10	7.1	TRUE	0.2844	0.0023	0.09296544	6.595156	8.5433	0.664	1

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of record for monitoring location

02323566

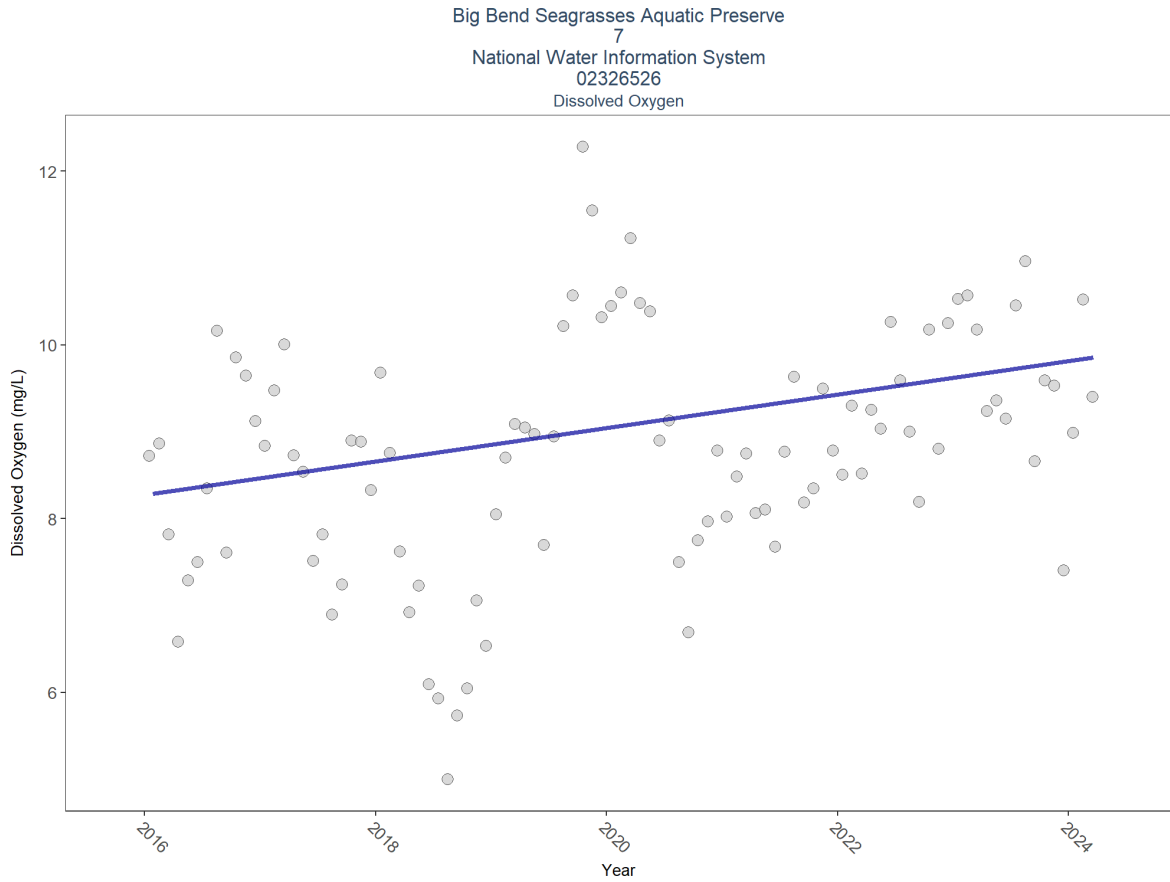


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	3363	11	1.4	TRUE	-0.3958	0.0000	-0.08522031	1.883967	2.3793	0.9967	-1

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of
record for monitoring location

02326526



RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	2817	9	8.9	TRUE	0.2872	0.0006	0.1928127	8.272952	7.5648	0.7517	1

p < 0.00005 appear as 0 due to rounding.

*SennIntercept is intercept value at beginning of
record for monitoring location*

02326516

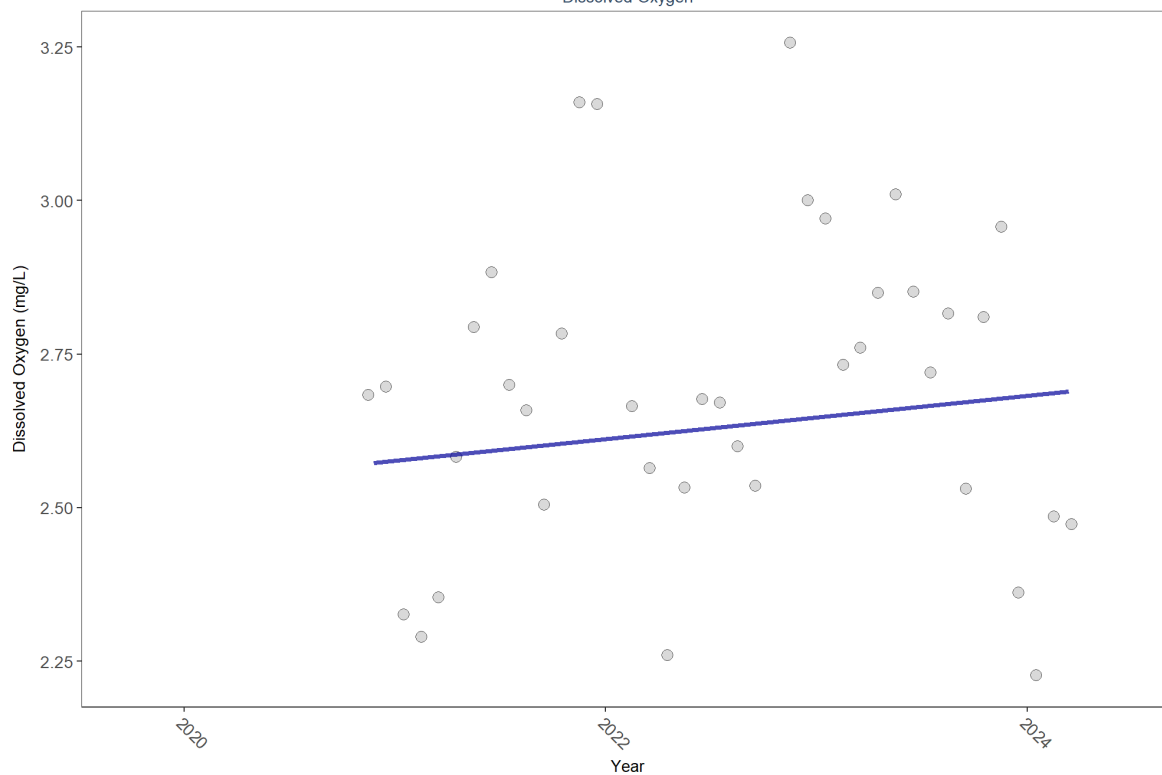
Big Bend Seagrasses Aquatic Preserve

7

National Water Information System

02326516

Dissolved Oxygen

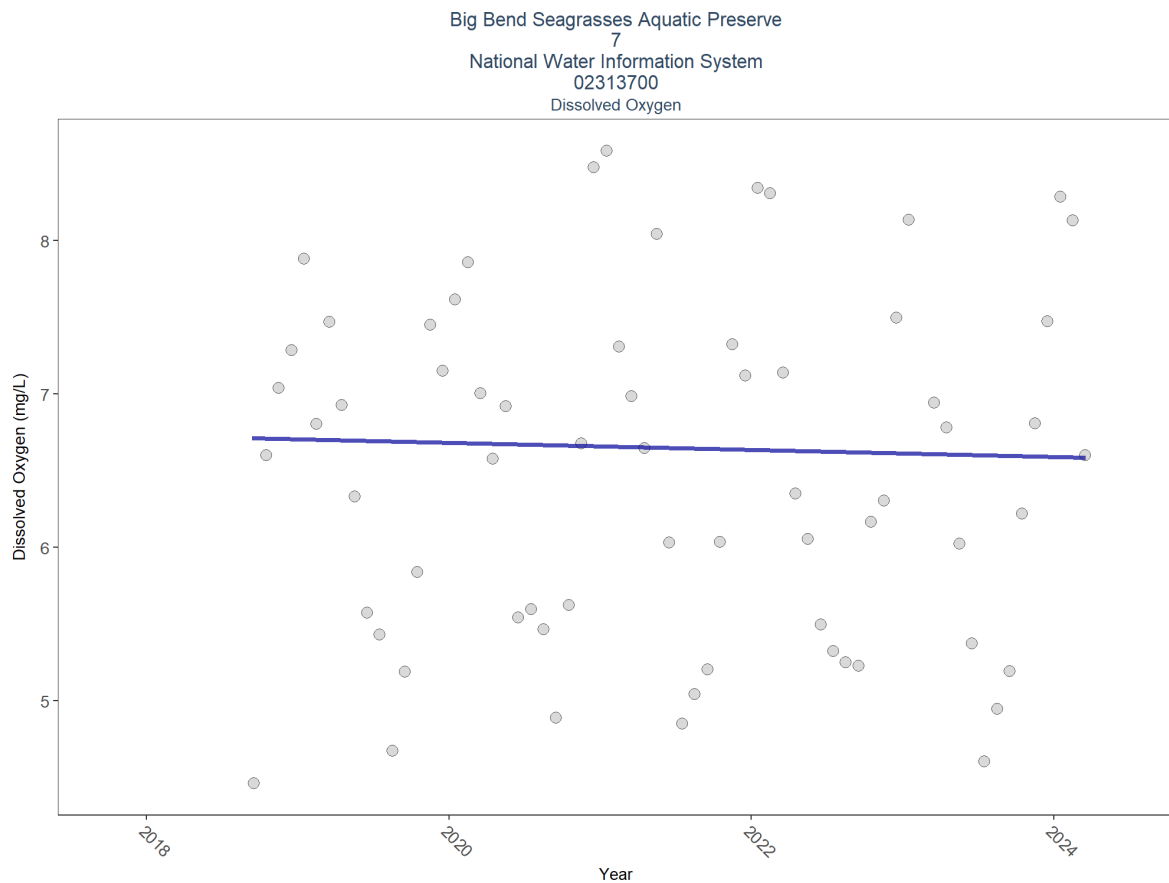


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	1019	5	2.7	TRUE	0.1966	0.3714	0.03527332	2.540982	3.4712	0.9829	0

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of record for monitoring location

02313700



RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	1933	7	6.3	TRUE	-0.0909	0.5032	-0.02304958	6.730546	15.6424	0.1549	0

$p < 0.00005$ appear as 0 due to rounding.

*SennIntercept is intercept value at beginning of
record for monitoring location*

All Stations Combined

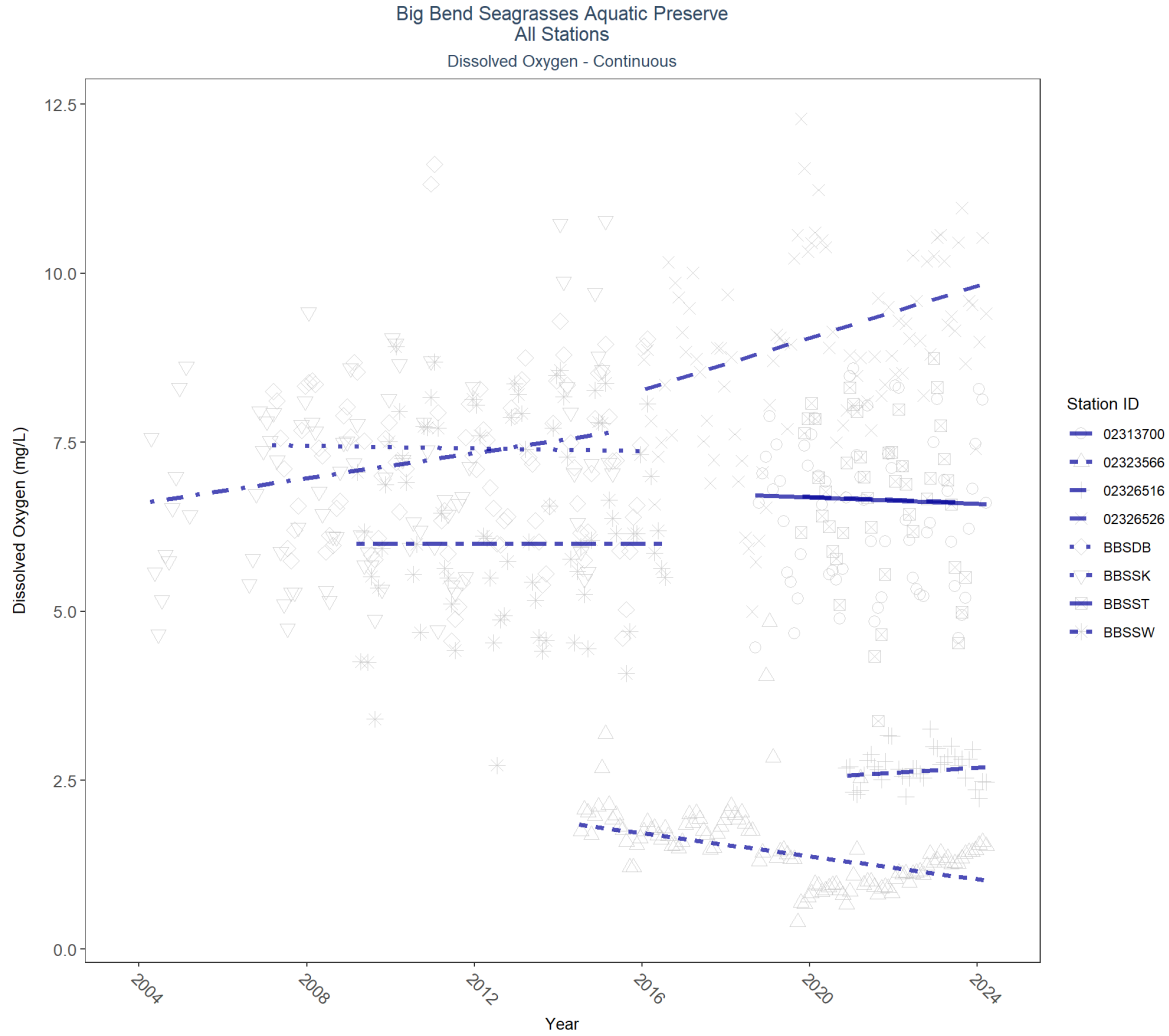


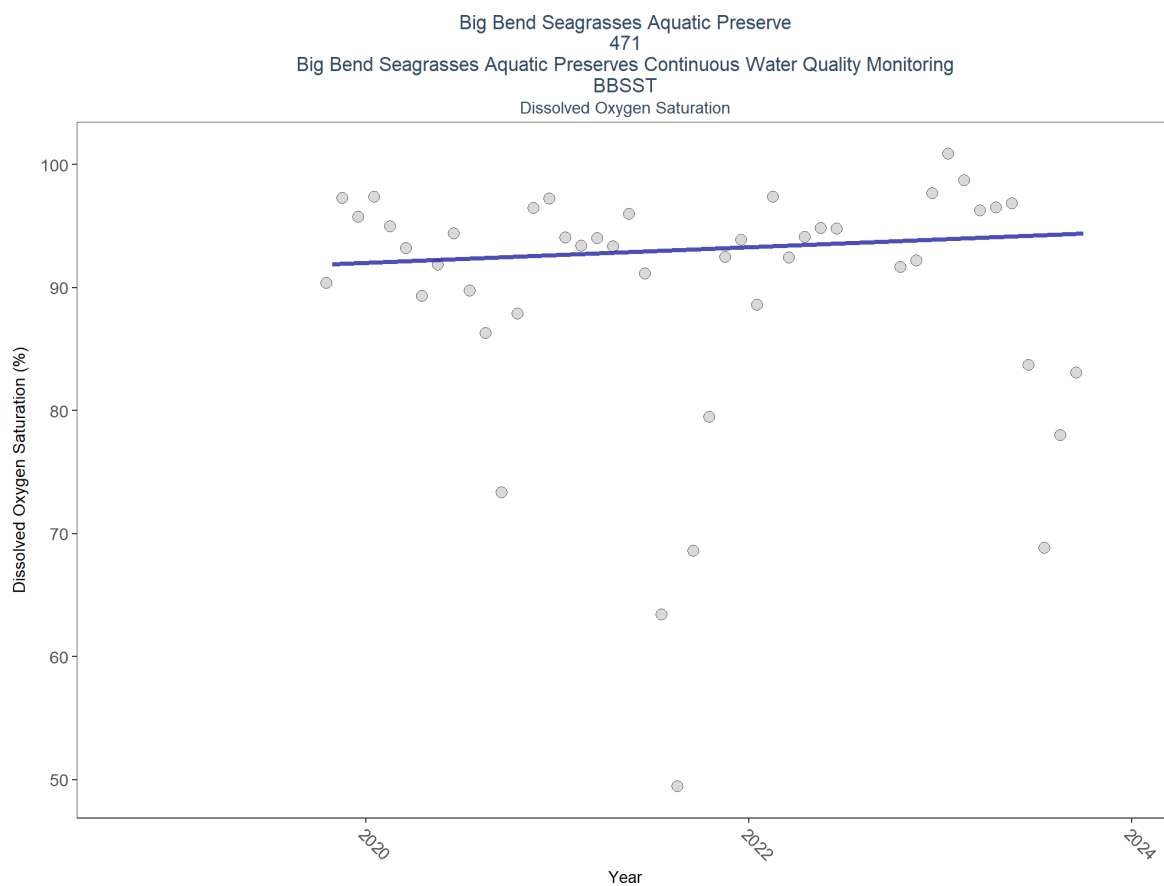
Table 1: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen

Station	N_Data	N_Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
BBSST	111411	5	2019 - 2023	6.9	-0.14	6.72	-0.02	0.3964
BBSSW	182327	8	2009 - 2016	6.2	0.00	6.00	0.00	1.0000
BBSDB	184327	10	2007 - 2016	7.3	-0.05	7.46	-0.01	0.6066
BBSSK	134287	10	2004 - 2015	7.1	0.28	6.60	0.09	0.0023
02323566	3363	11	2014 - 2024	1.4	-0.40	1.88	-0.09	0.0000
02326526	2817	9	2016 - 2024	8.9	0.29	8.27	0.19	0.0006

Station	N_Data	N_Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
02326516	1019	5	2020 - 2024	2.7	0.20	2.54	0.04	0.3714
02313700	1933	7	2018 - 2024	6.3	-0.09	6.73	-0.02	0.5032

Dissolved Oxygen Saturation

BBSST

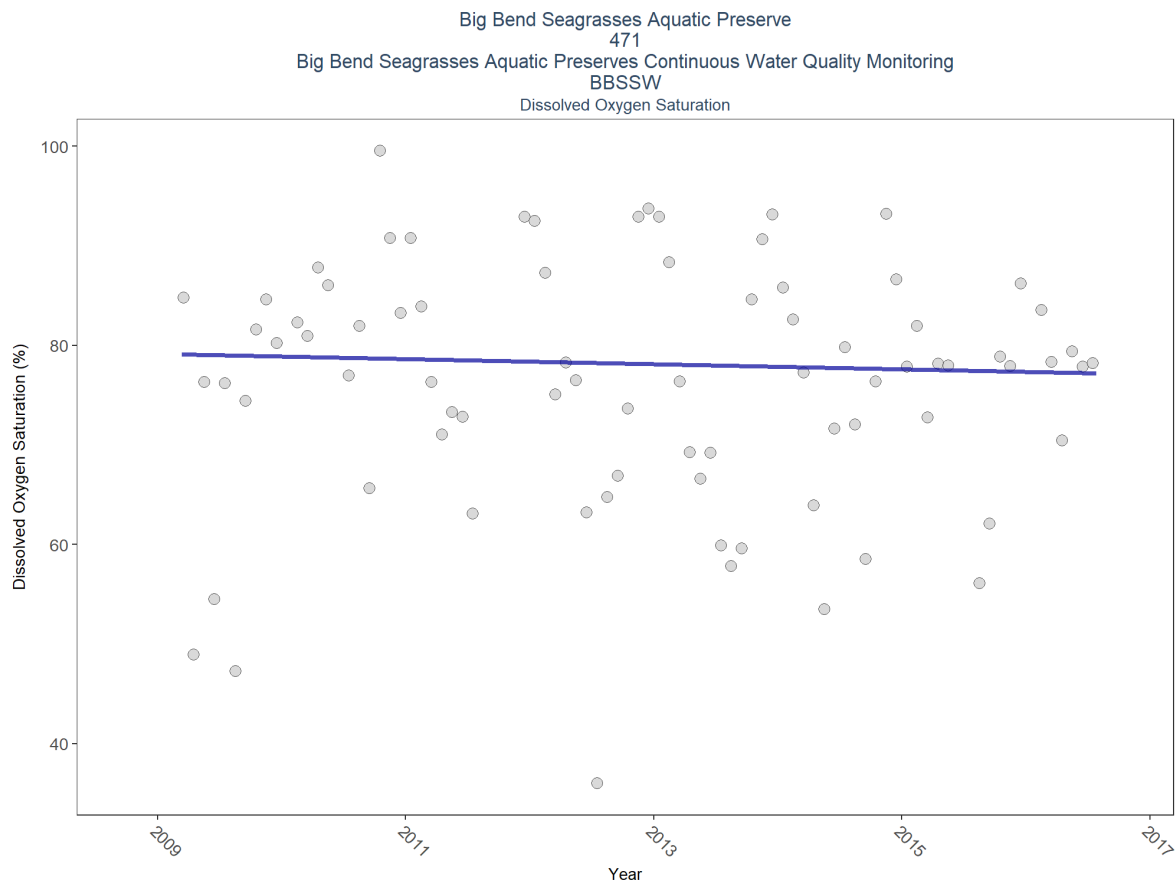


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	114465	5	93.3	TRUE	0.1259	0.3964	0.6370966	91.3676	13.5142	0.261	0

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of
record for monitoring location

BBSSW

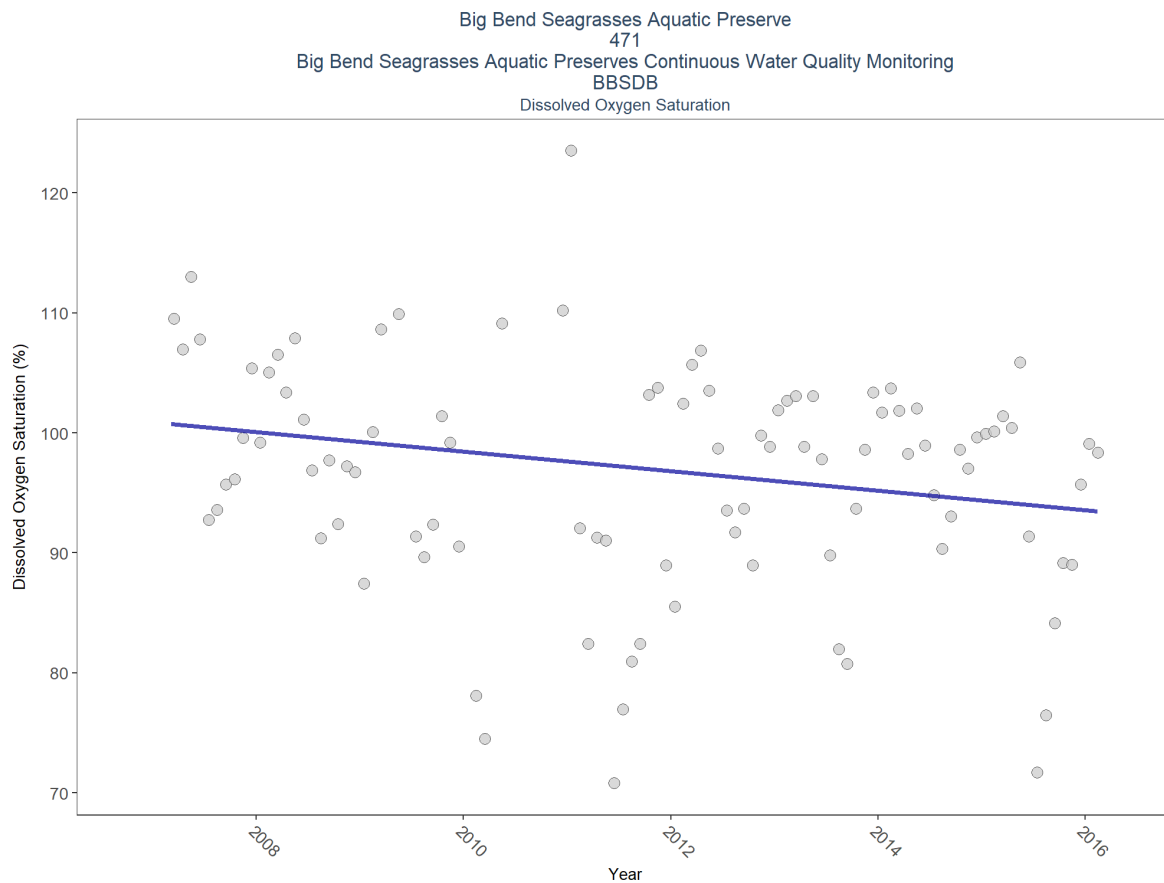


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	182158	8	75.8	TRUE	-0.0465	0.6835	-0.2527702	79.14209	8.647	0.6544	0

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of record for monitoring location

BBSDB

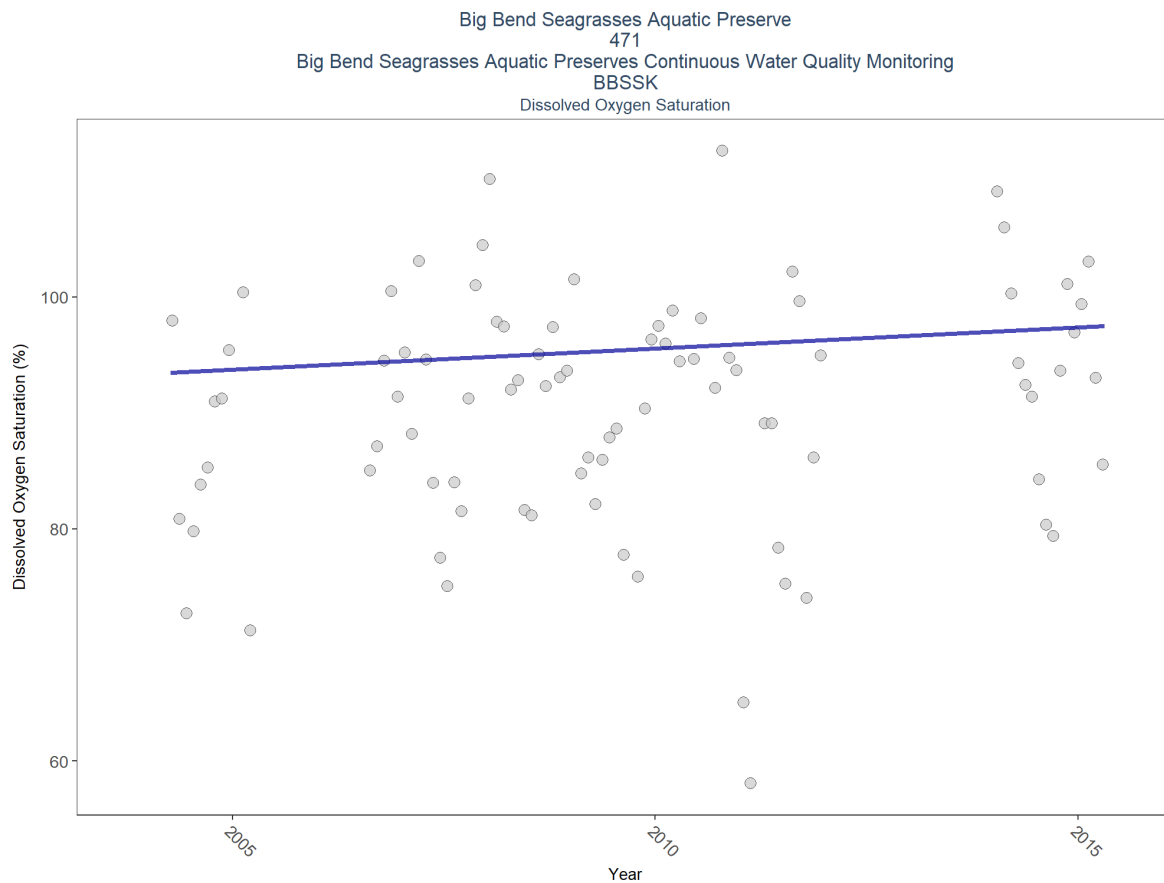


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	183530	10	97.6	TRUE	-0.303	0.0003	-0.8135499	100.8776	4.4552	0.9547	-1

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of record for monitoring location

BBSSK



RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	134196	10	91.8	TRUE	0.1199	0.2612	0.3637663	93.3739	9.8765	0.5415	0

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of
record for monitoring location

All Stations Combined

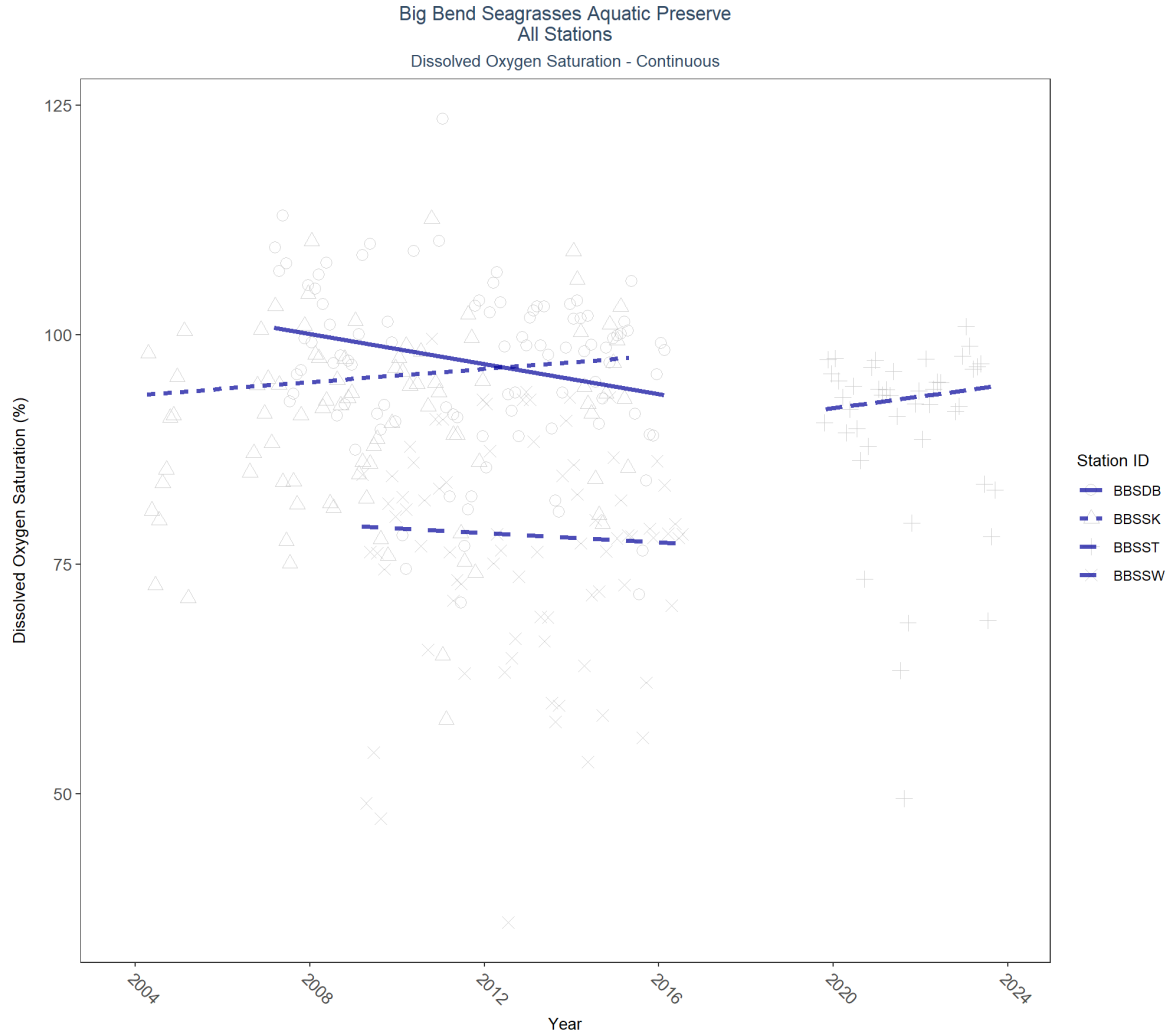
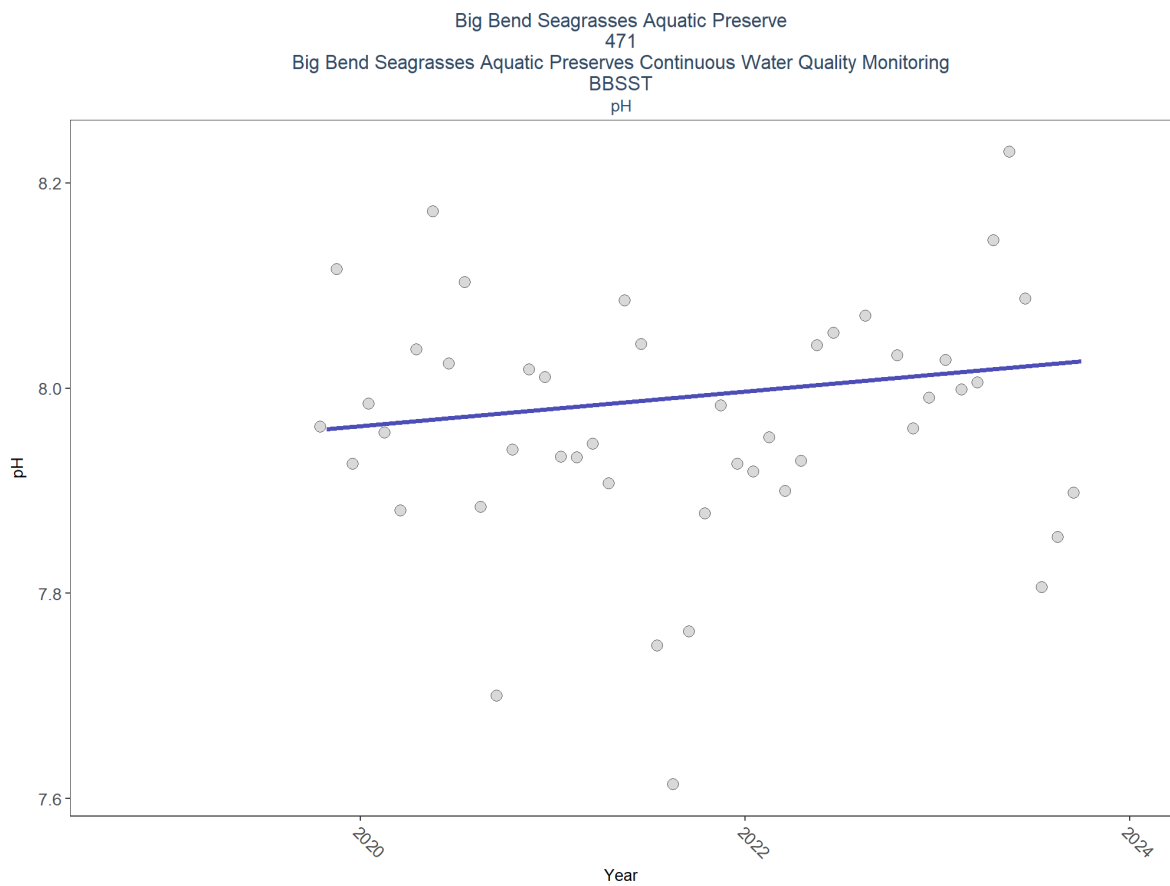


Table 2: Seasonal Kendall-Tau Results for All Stations - Dissolved Oxygen Saturation

Station	N_Data	N_Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
BBSST	114465	5	2019 - 2023	93.3	0.13	91.37	0.64	0.3964
BBSSW	182158	8	2009 - 2016	75.8	-0.05	79.14	-0.25	0.6835
BBSDDB	183530	10	2007 - 2016	97.6	-0.30	100.88	-0.81	0.0003
BBSSK	134196	10	2004 - 2015	91.8	0.12	93.37	0.36	0.2612

pH
BBSST

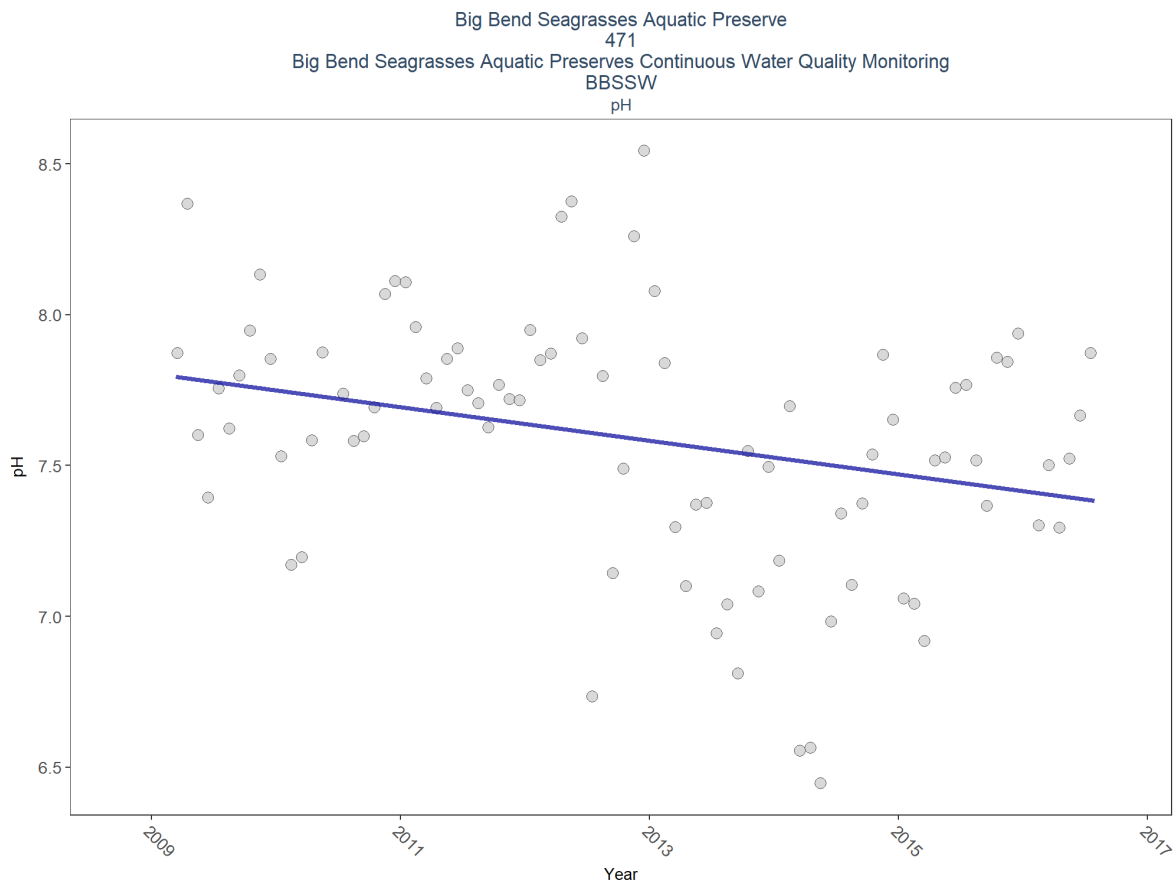


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	121092	5	8	TRUE	0.1594	0.3533	0.01684762	7.946444	12.6249	0.3186	0

p < 0.00005 appear as 0 due to rounding.

*SennIntercept is intercept value at beginning of
record for monitoring location*

BBSSW

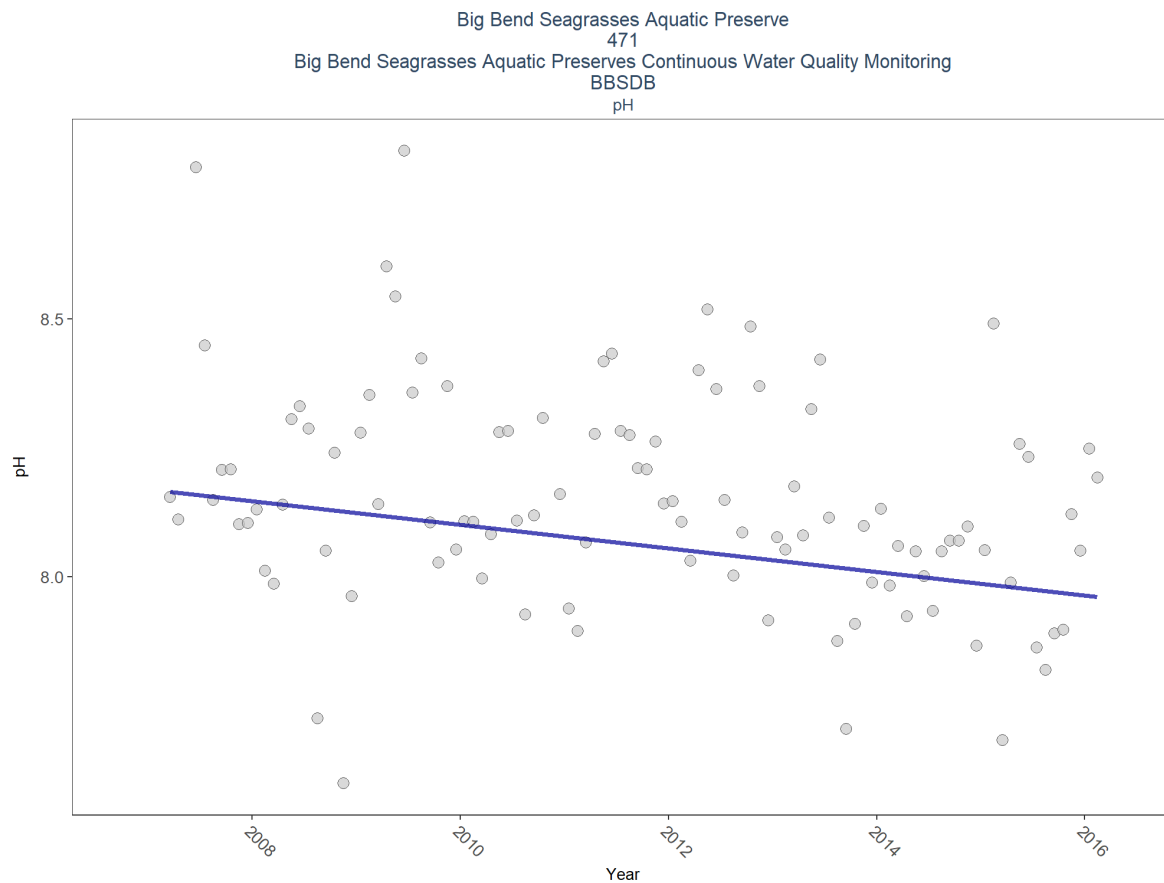


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	224733	8	7.6	TRUE	-0.2889	0.0017	-0.05563407	7.804655	5.0142	0.9305	-1

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of record for monitoring location

BBSDB

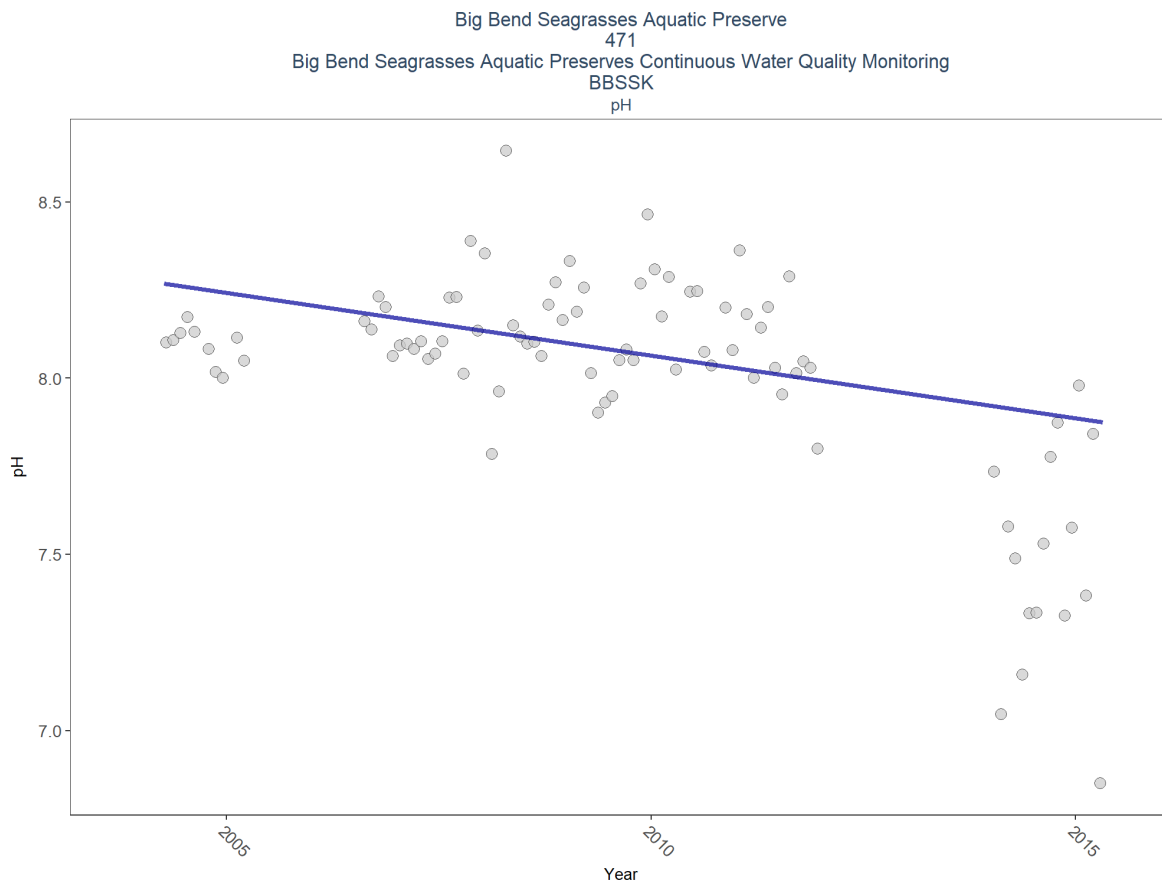


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	250183	10	8.1	TRUE	-0.2776	0.0004	-0.02290642	8.169405	8.6673	0.6526	-1

$p < 0.00005$ appear as 0 due to rounding.

*SennIntercept is intercept value at beginning of
record for monitoring location*

BBSSK

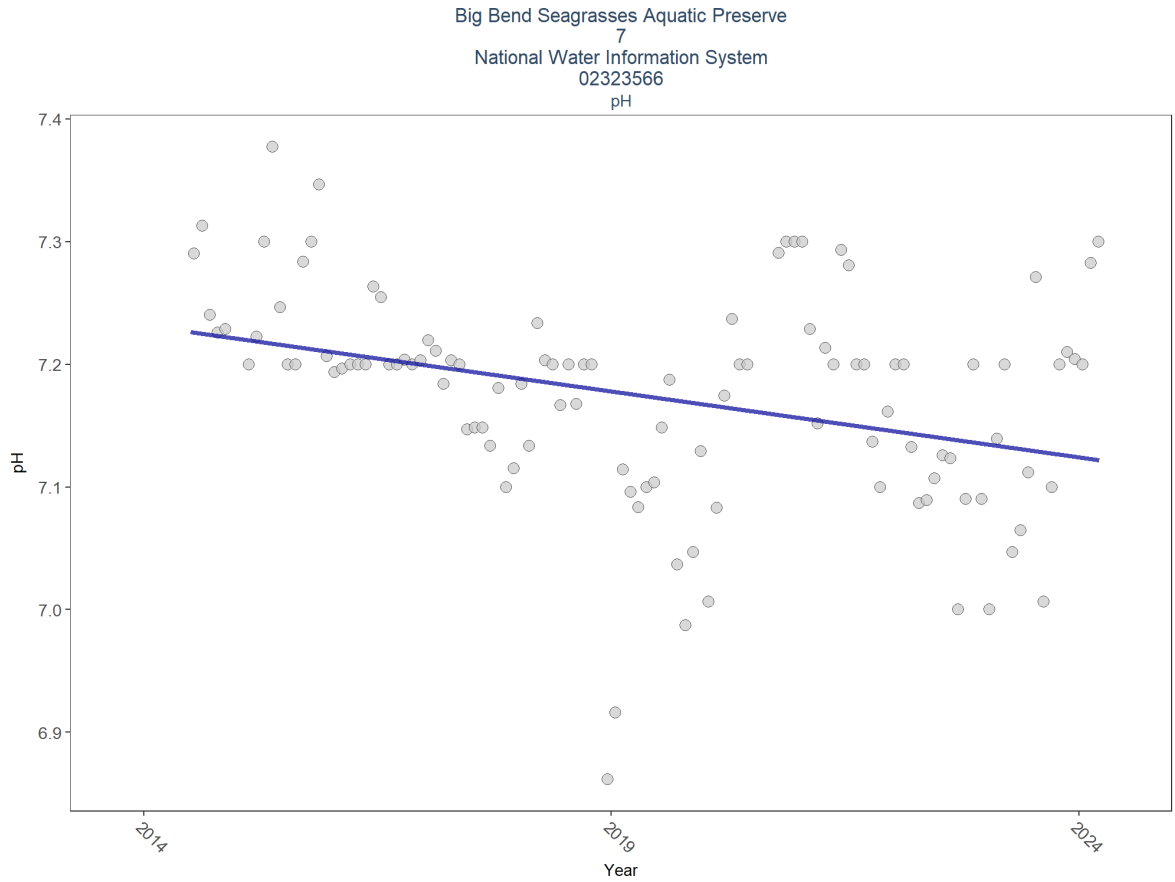


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	168278	10	8.1	TRUE	-0.3661	0.0000	-0.03561761	8.277547	3.7467	0.9767	-1

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of
record for monitoring location

02323566



RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	3204	11	7.2	TRUE	-0.2658	0.0005	-0.01075269	7.231809	9.7568	0.5524	-1

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of
record for monitoring location

02326516

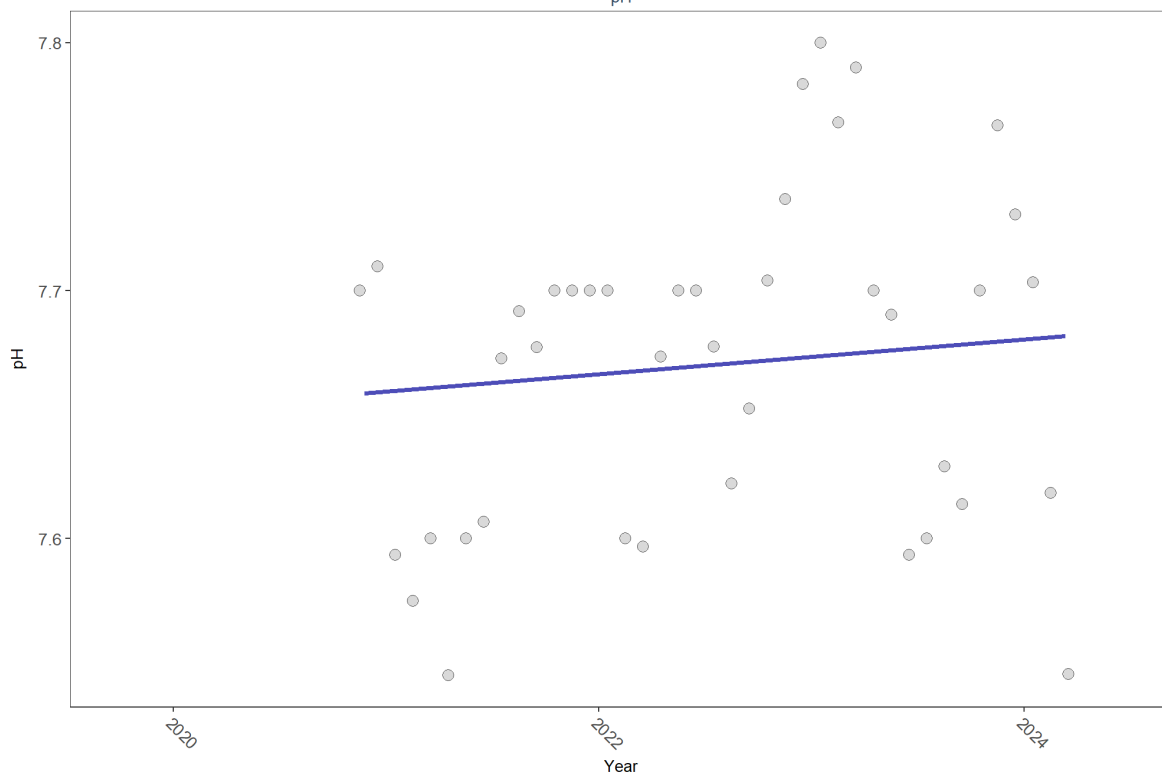
Big Bend Seagrasses Aquatic Preserve

7

National Water Information System

02326516

pH

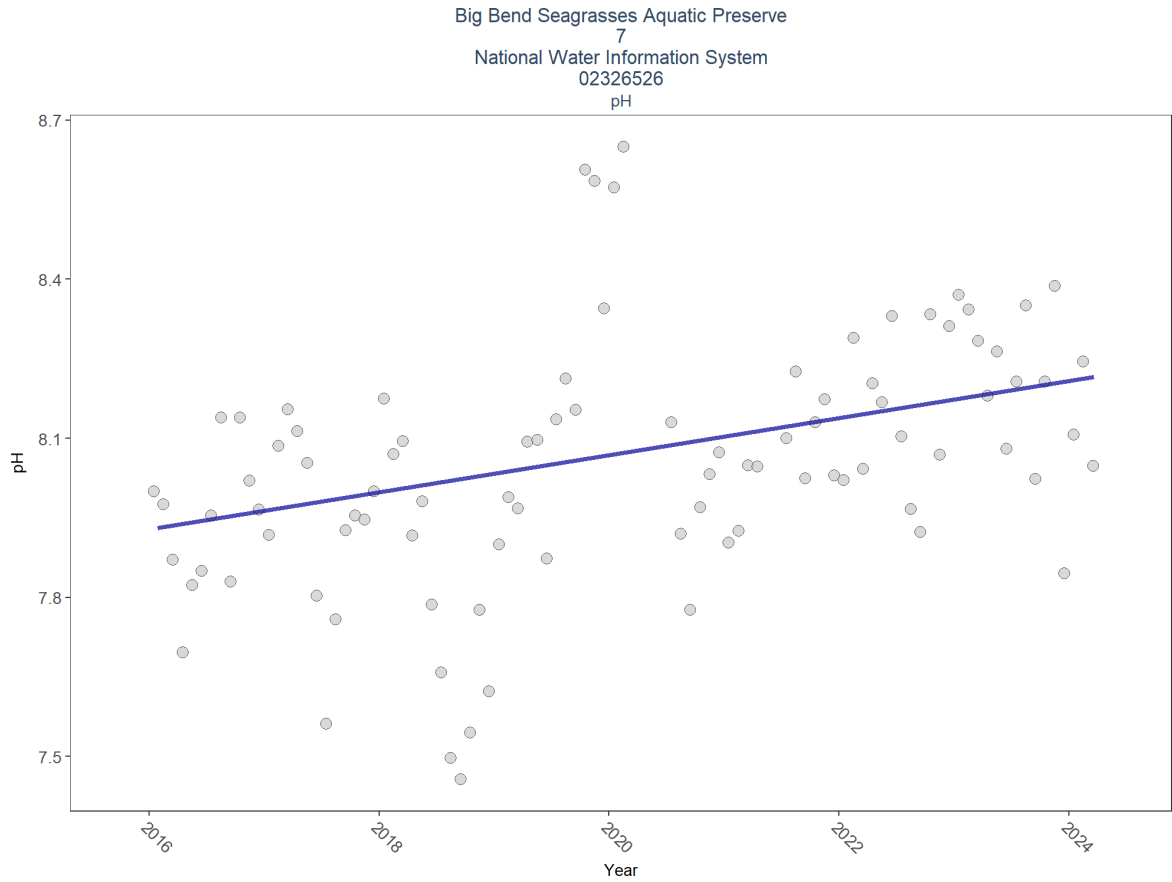


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	1080	5	7.7	TRUE	0.1626	0.2218	0.007030604	7.652266	12.8678	0.3021	0

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of record for monitoring location

02326526

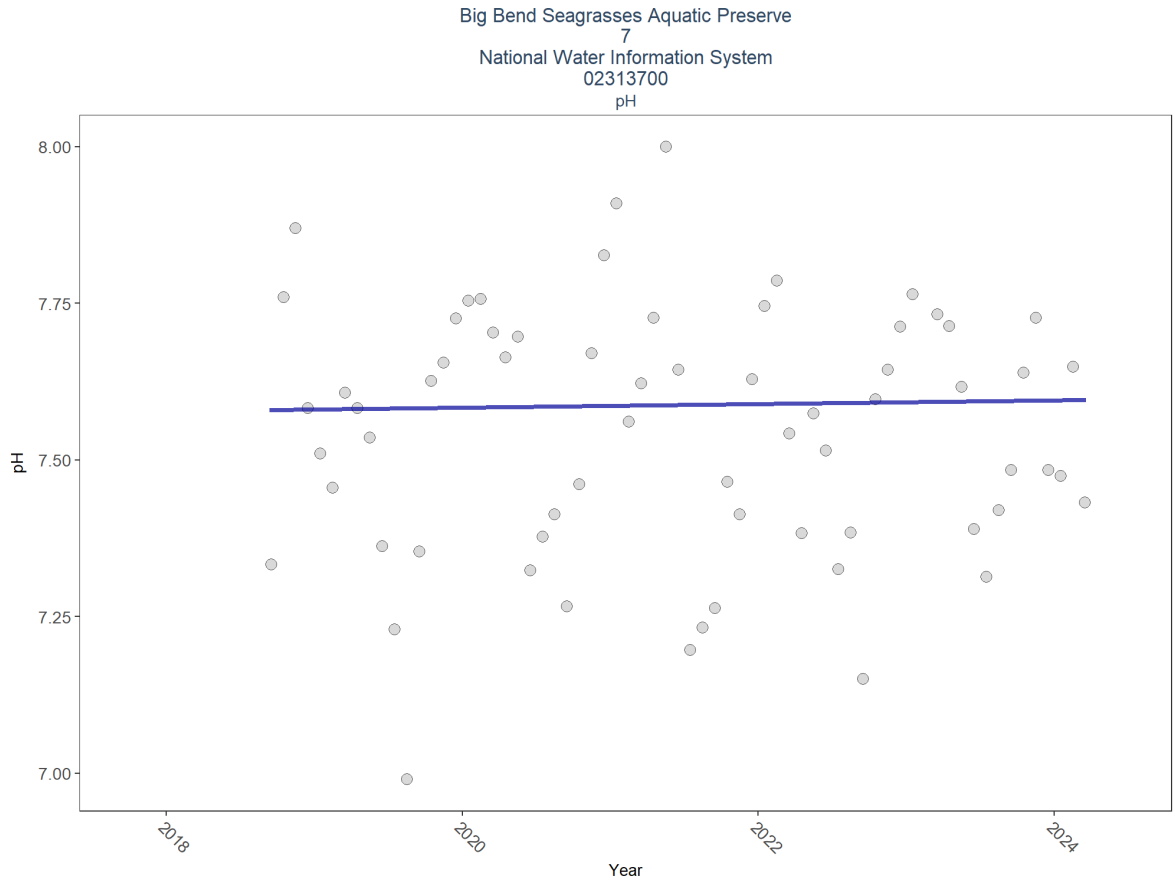


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	2629	9	8	TRUE	0.3582	0.0001	0.03501082	7.928145	3.6048	0.9801	1

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of
record for monitoring location

02313700



RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	1896	7	7.6	TRUE	0.0364	0.9515	0.002795699	7.57795	5.0427	0.9291	0

p < 0.00005 appear as 0 due to rounding.

*SennIntercept is intercept value at beginning of
record for monitoring location*

All Stations Combined

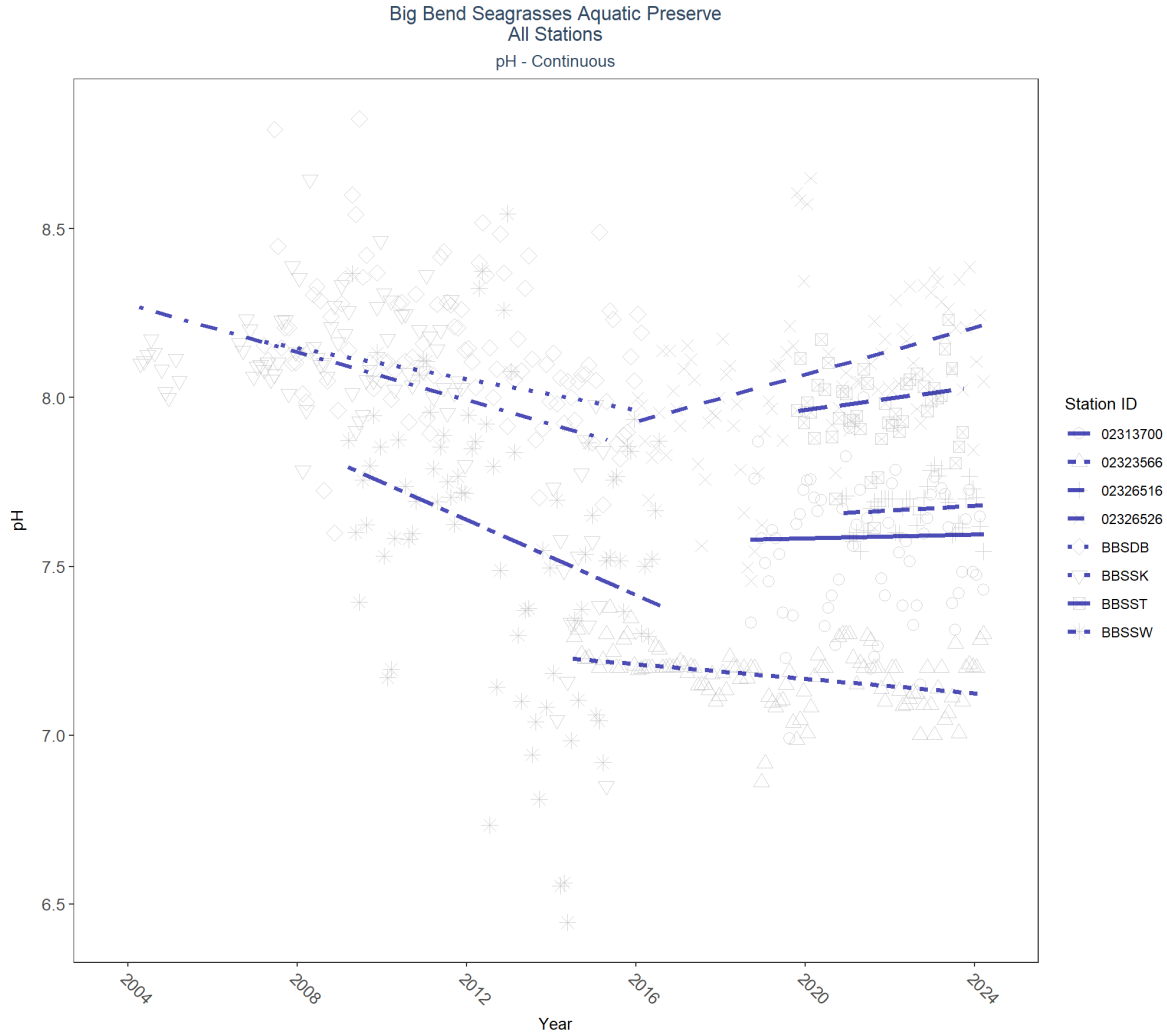


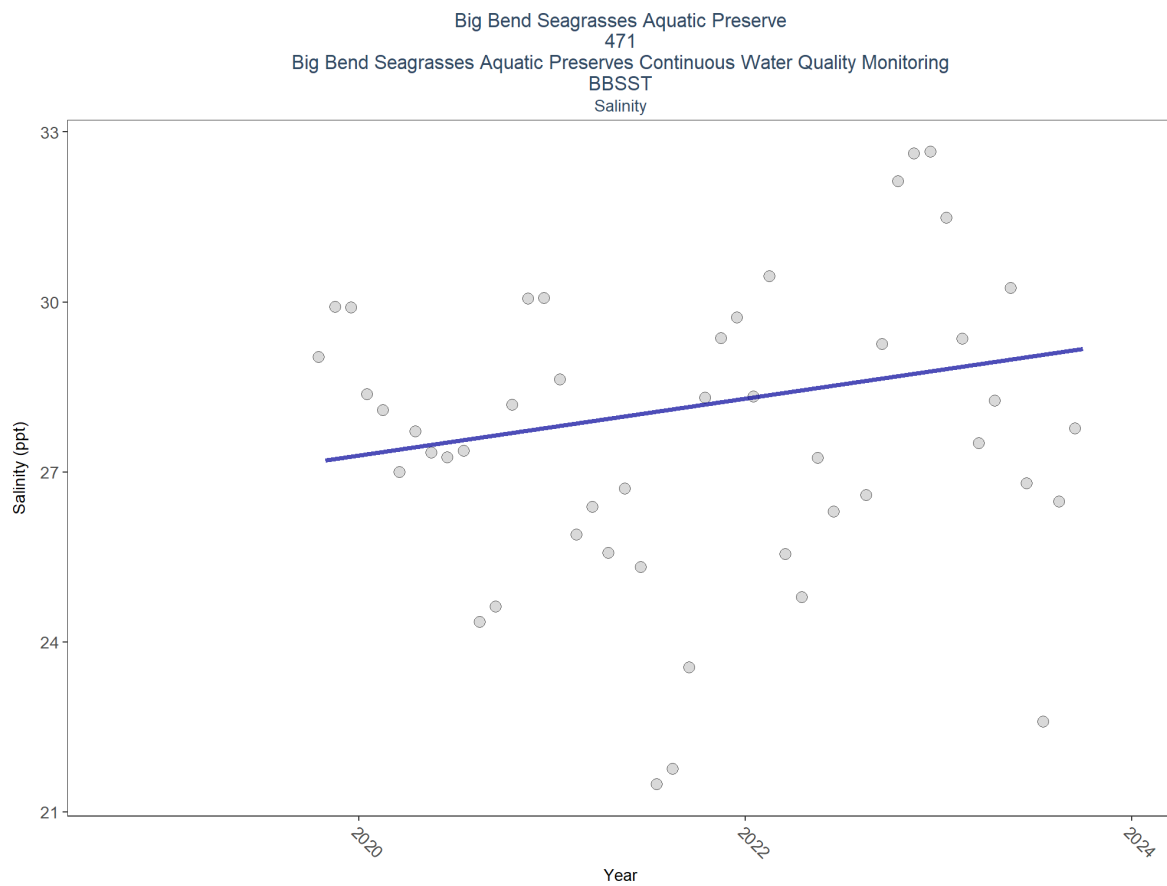
Table 3: Seasonal Kendall-Tau Results for All Stations - pH

Station	N_Data	N_Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
BBSST	121092	5	2019 - 2023	8.0	0.16	7.95	0.02	0.3533
BBSSW	224733	8	2009 - 2016	7.6	-0.29	7.80	-0.06	0.0017
BBSSB	250183	10	2007 - 2016	8.1	-0.28	8.17	-0.02	0.0004
BBSSK	168278	10	2004 - 2015	8.1	-0.37	8.28	-0.04	0.0000
02323566	3204	11	2014 - 2024	7.2	-0.27	7.23	-0.01	0.0005
02326516	1080	5	2020 - 2024	7.7	0.16	7.65	0.01	0.2218
02326526	2629	9	2016 - 2024	8.0	0.36	7.93	0.04	0.0001

Station	N_Data	N_Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
02313700	1896	7	2018 - 2024	7.6	0.04	7.58	0.00	0.9515

Salinity

BBSST

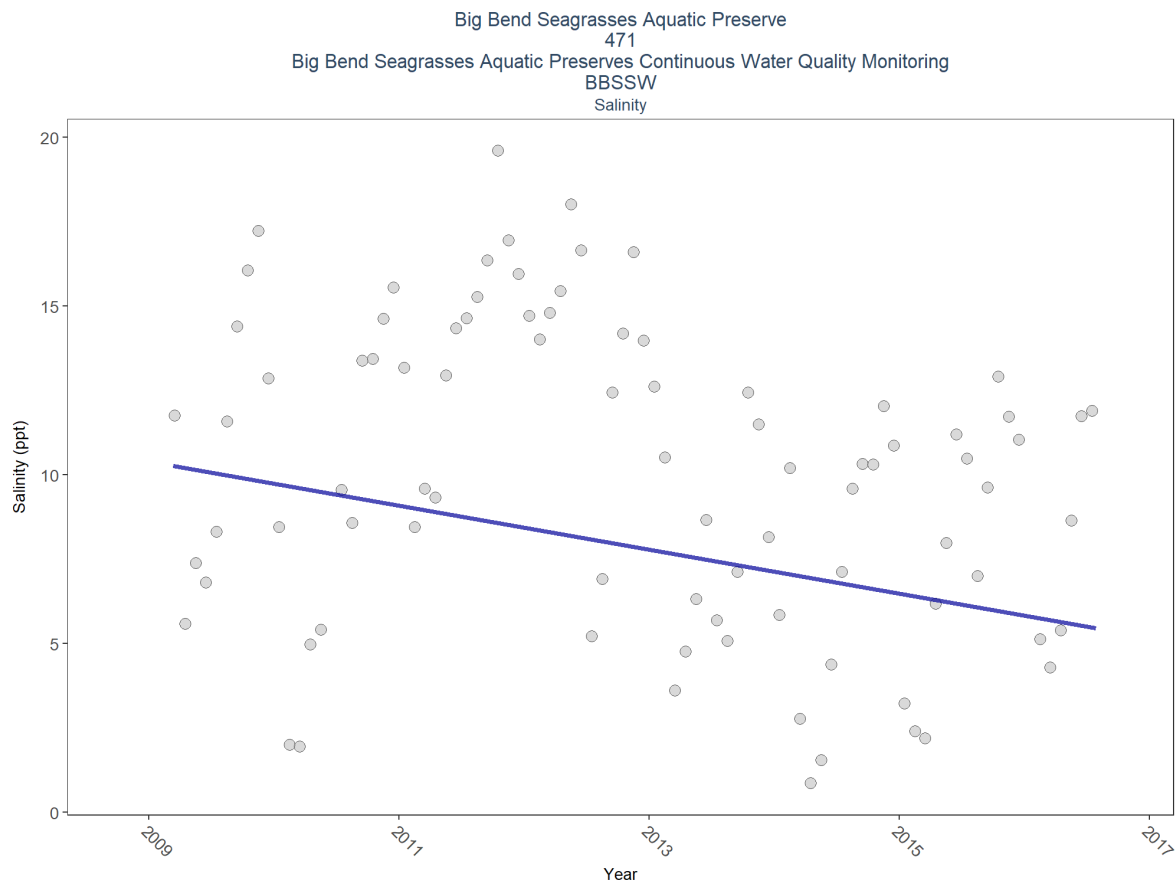


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	121984	5	28.6	TRUE	0.2057	0.1594	0.5008921	26.79313	1.9538	0.9987	0

$p < 0.00005$ appear as 0 due to rounding.

*SennIntercept is intercept value at beginning of
record for monitoring location*

BBSSW

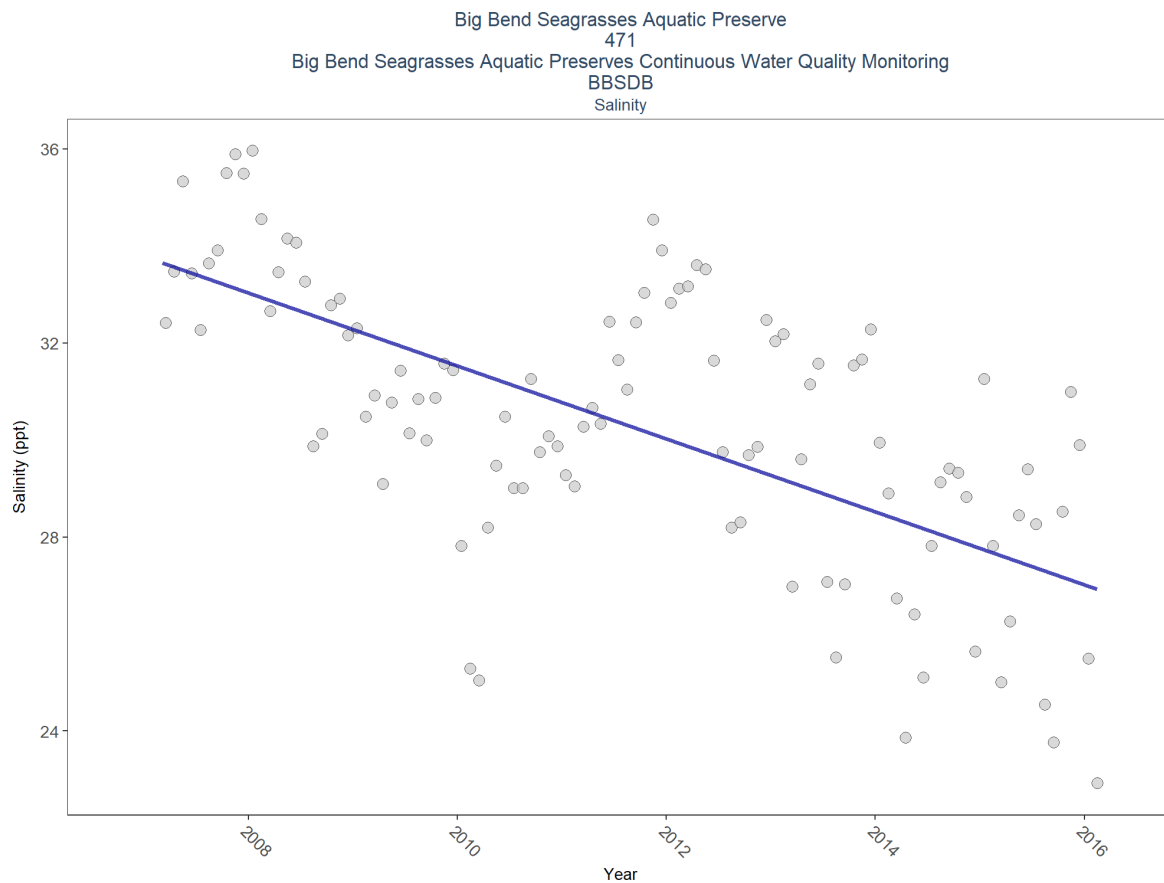


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	221696	8	7.5	TRUE	-0.2342	0.0160	-0.6502604	10.38696	8.6594	0.6533	-1

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of record for monitoring location

BBSDB

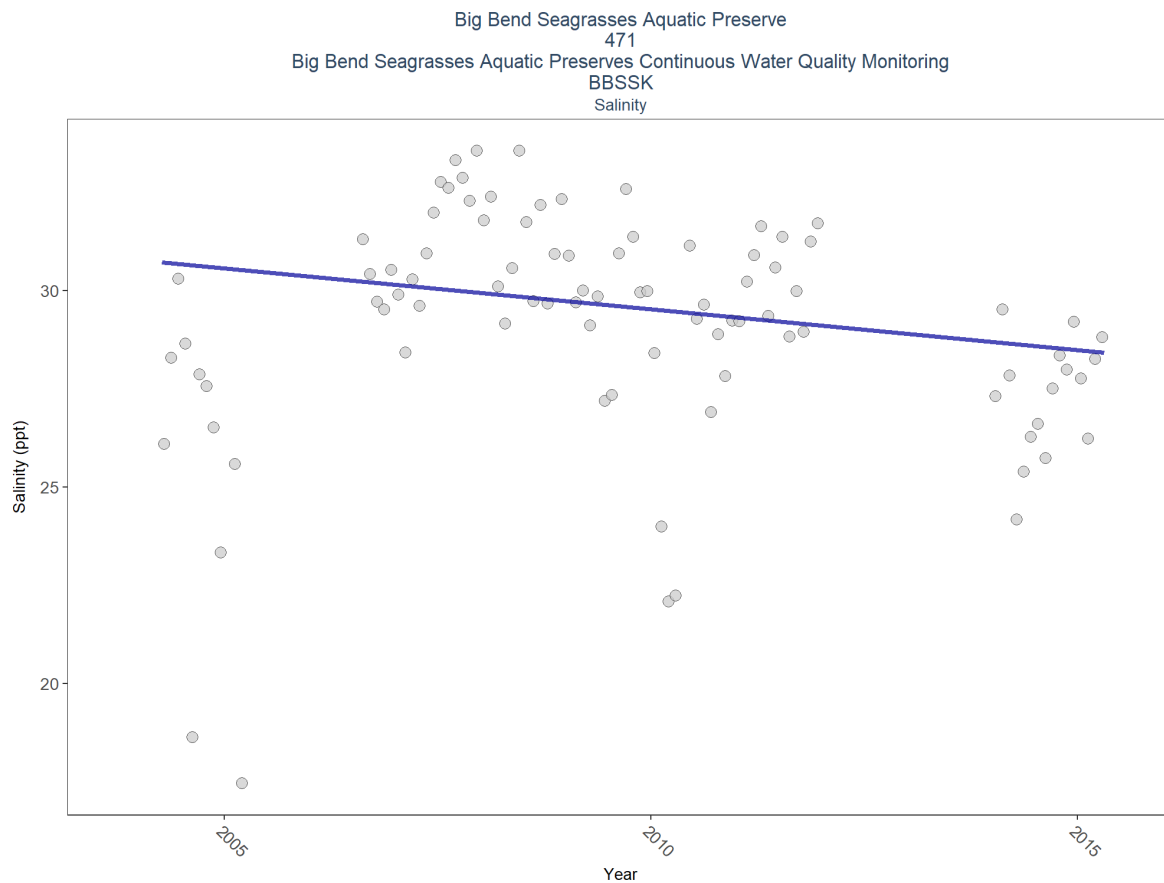


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	265544	10	30.6	TRUE	-0.5278	0.0000	-0.7519475	33.77929	1.2609	0.9998	-1

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of record for monitoring location

BBSSK



RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	178356	10	29.6	TRUE	-0.2176	0.0197	-0.2068972	30.76695	4.432	0.9555	-1

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of record for monitoring location

All Stations Combined

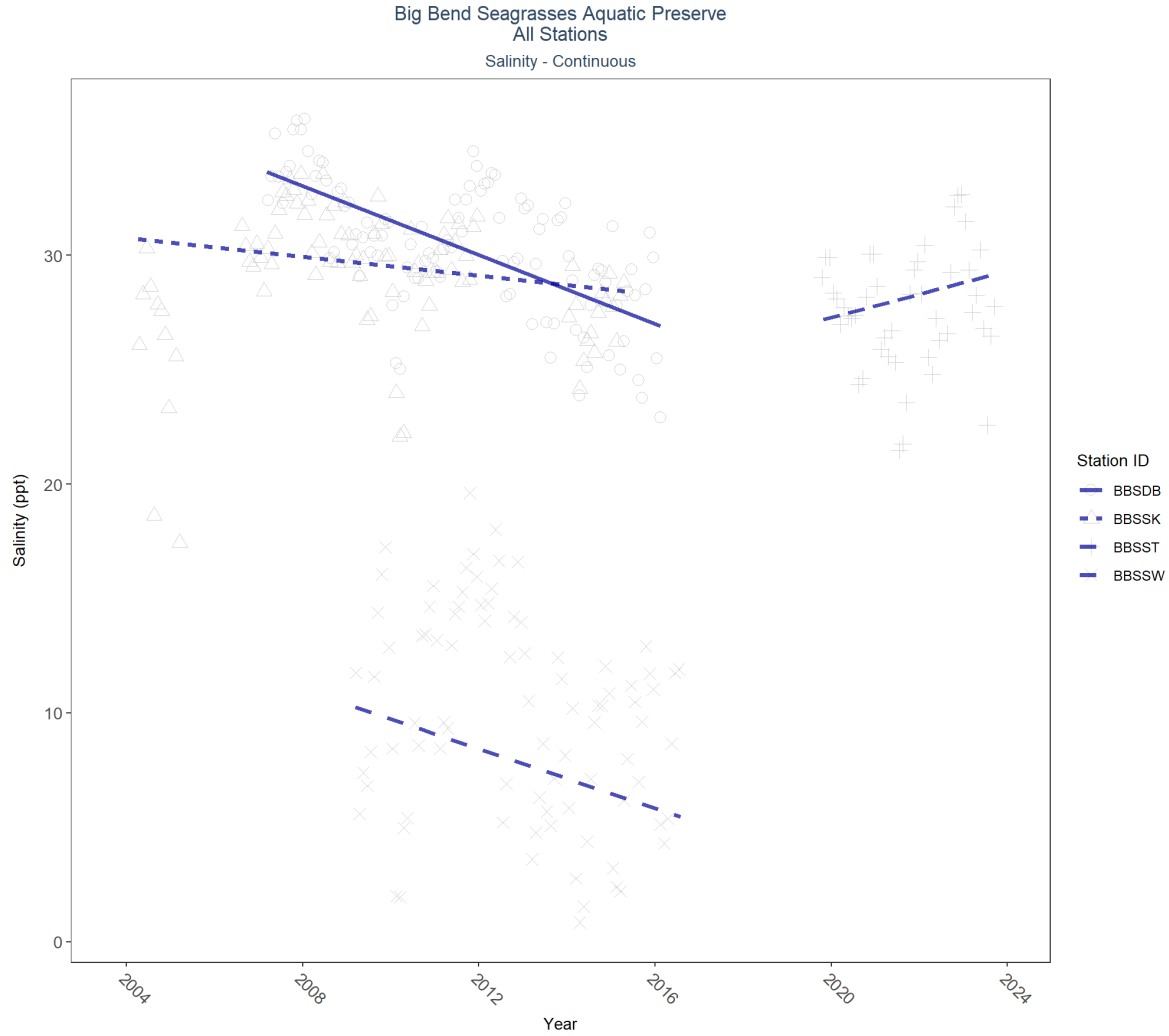
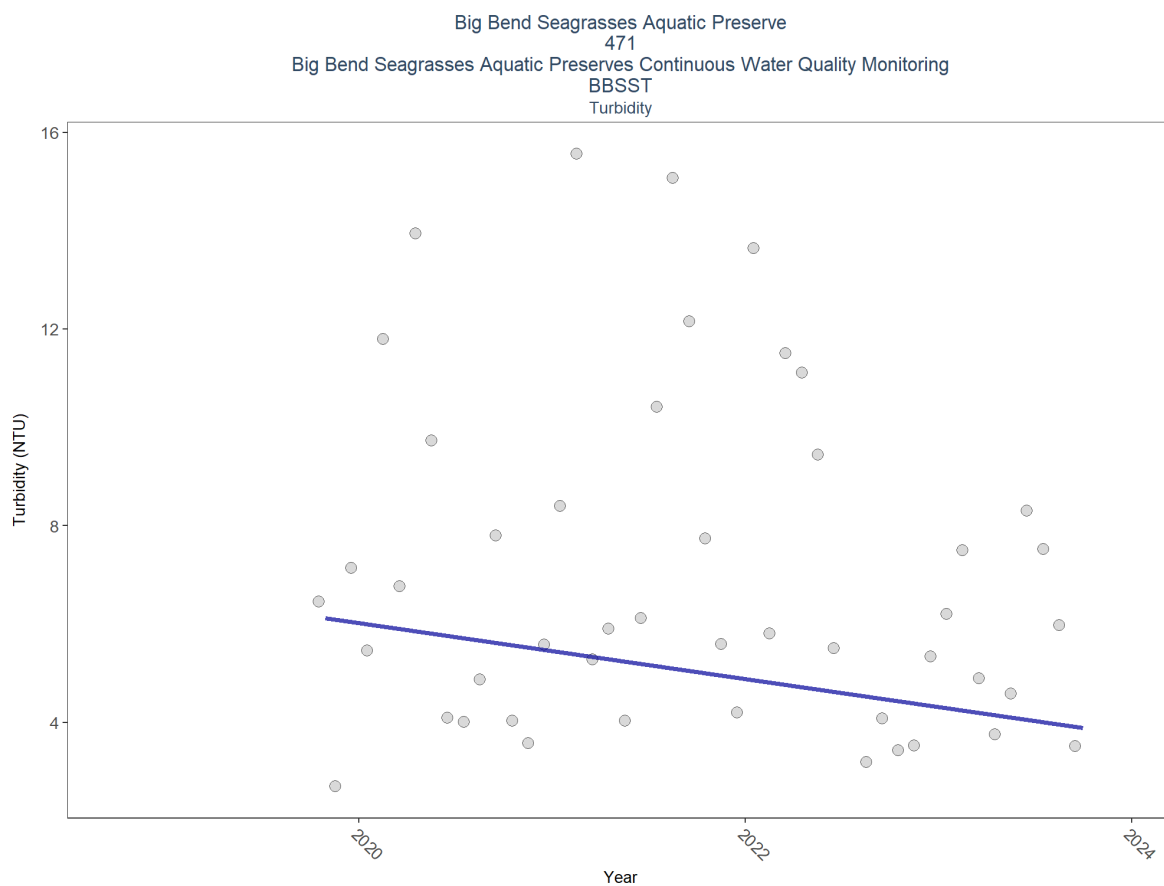


Table 4: Seasonal Kendall-Tau Results for All Stations - Salinity

Station	N_Data	N_Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
BBSST	121984	5	2019 - 2023	28.6	0.21	26.79	0.5	0.1594
BBSSW	221696	8	2009 - 2016	7.5	-0.23	10.39	-0.65	0.0160
BBSDB	265544	10	2007 - 2016	30.6	-0.53	33.78	-0.75	0.0000
BBSSK	178356	10	2004 - 2015	29.6	-0.22	30.77	-0.21	0.0197
291652083064100	634	1	2000 - 2000	17.0	-	-	-	-

Turbidity

BBSST

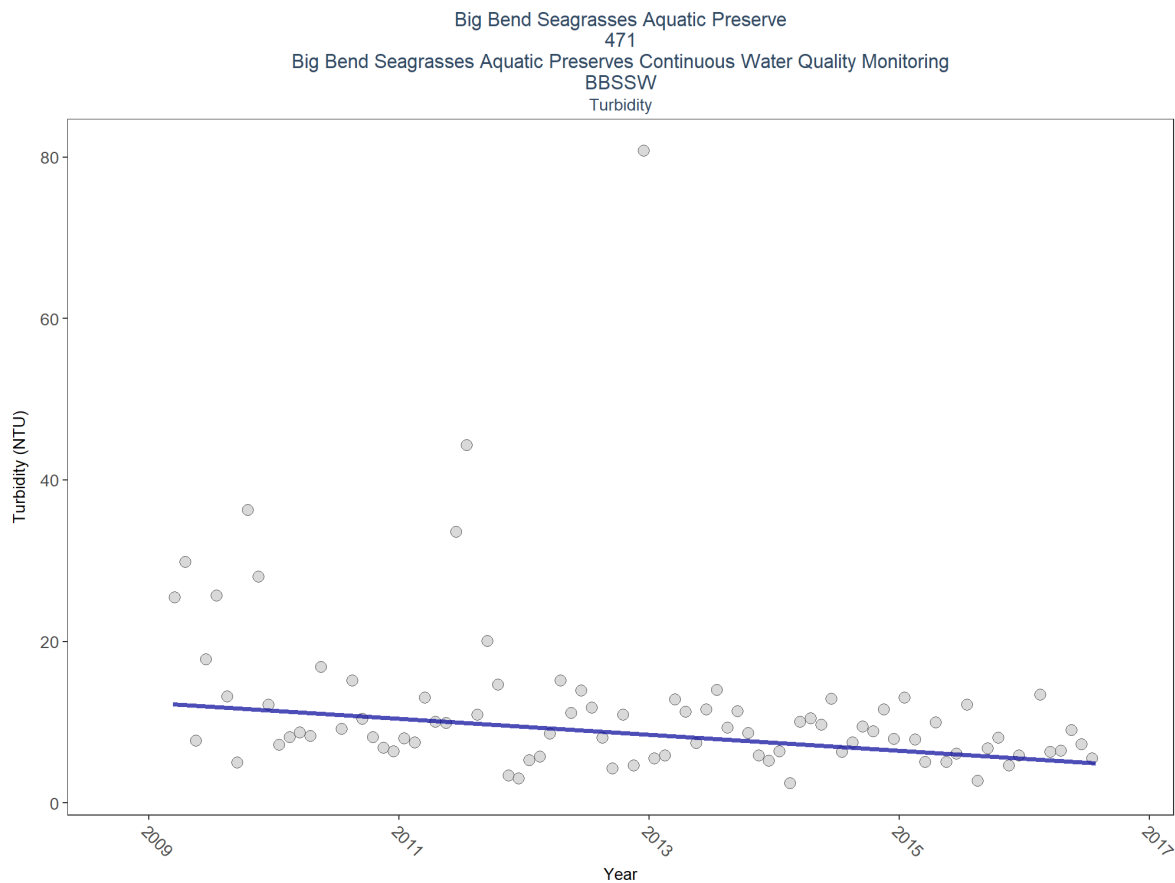


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	125246	5	4	TRUE	-0.1489	0.3149	-0.5666667	6.584708	9.374	0.5874	0

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of
record for monitoring location

BBSSW

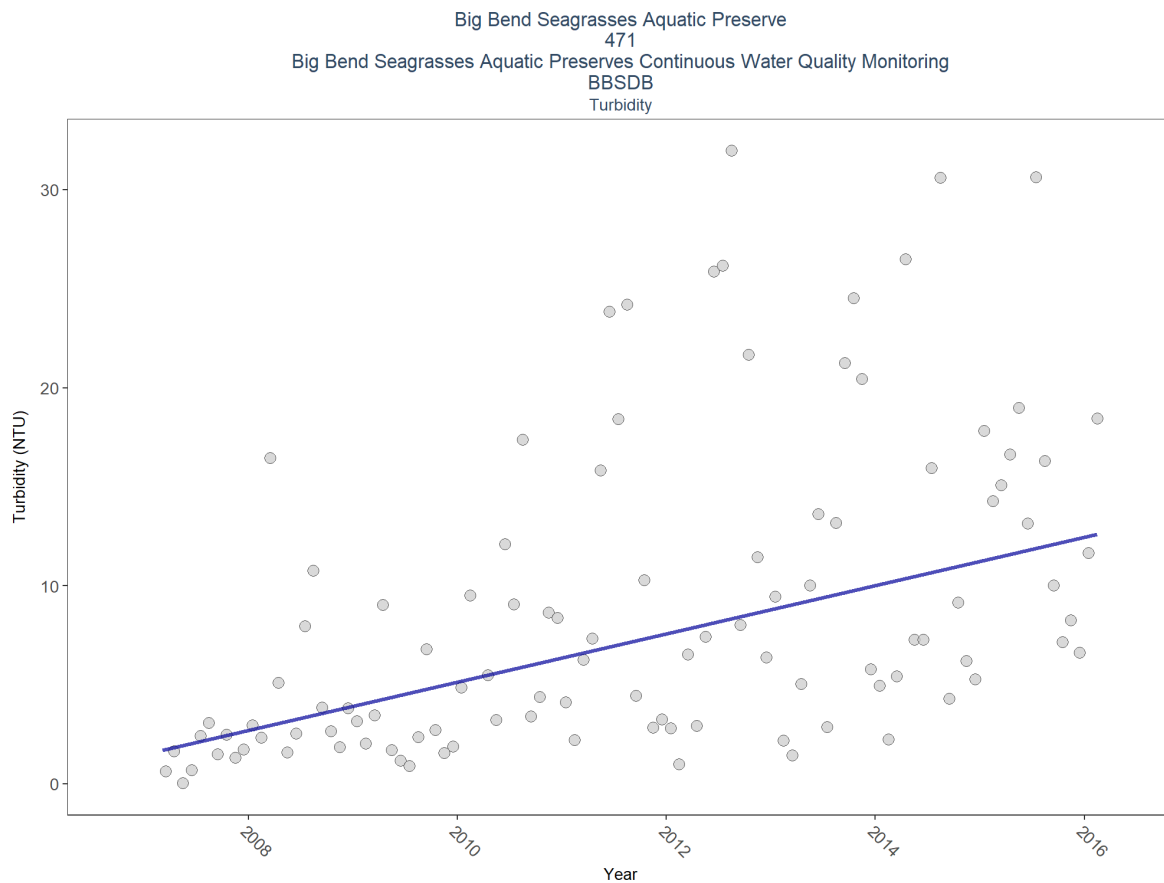


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	202699	8	6	TRUE	-0.3458	0.0001	-0.9891143	12.40508	10.6094	0.4765	-2

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of record for monitoring location

BBSDB

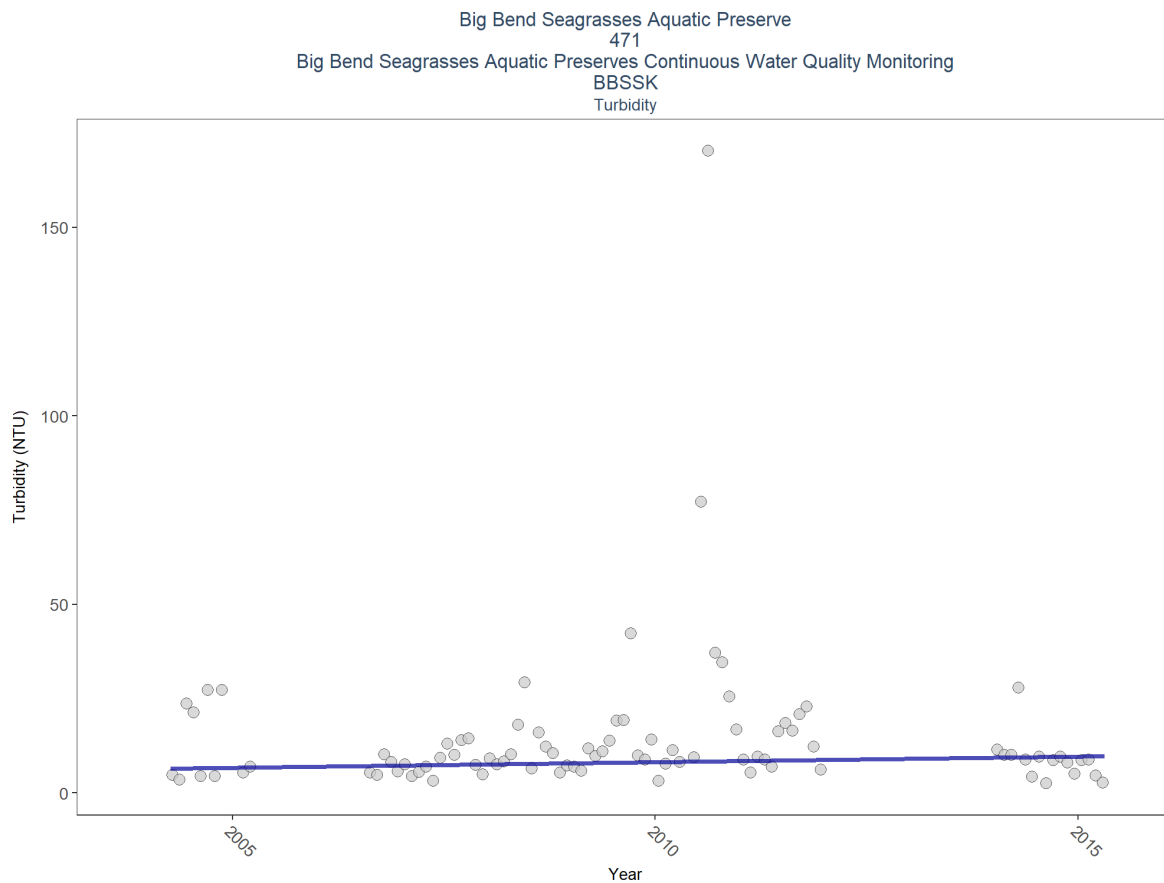


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	224613	10	1	TRUE	0.4927	0.0000	1.21929	1.467923	3.1347	0.9888	2

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of
record for monitoring location

BBSSK



RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	165043	10	5	TRUE	0.1128	0.1867	0.3048269	6.345542	6.7737	0.8171	0

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of
record for monitoring location

All Stations Combined

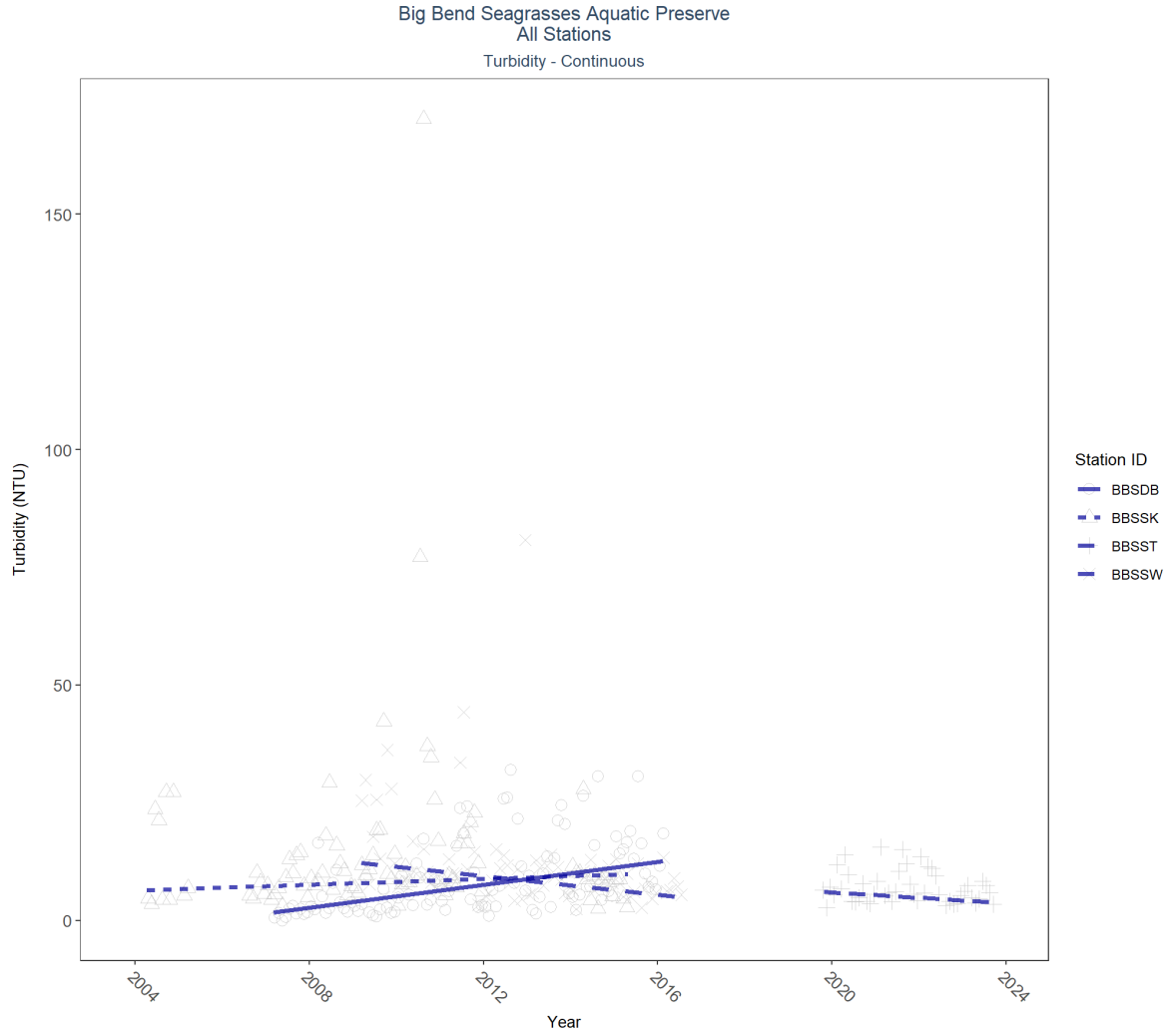
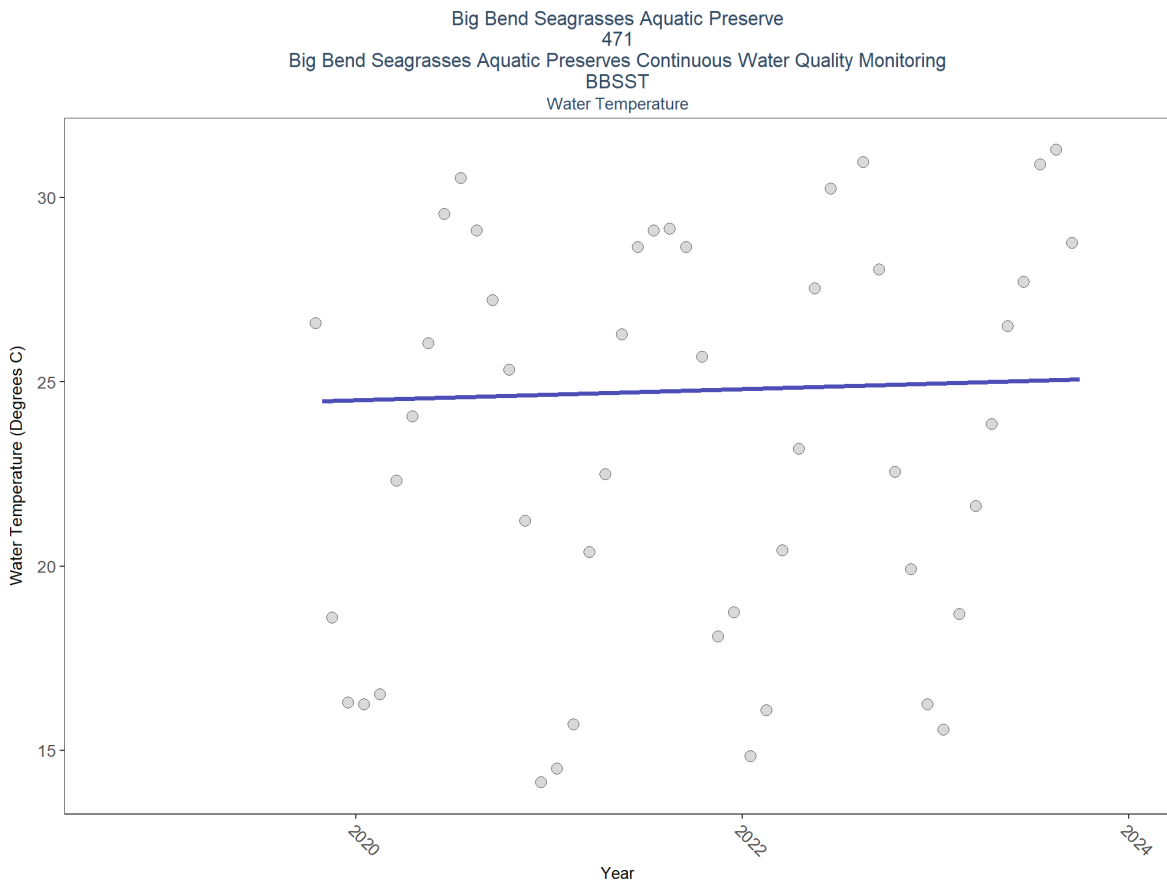


Table 5: Seasonal Kendall-Tau Results for All Stations - Turbidity

Station	N_Data	N_Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
BBSST	125246	5	2019 - 2023	4	-0.15	6.58	-0.57	0.3149
BBSSW	202699	8	2009 - 2016	6	-0.35	12.41	-0.99	0.0001
BBSDB	224613	10	2007 - 2016	1	0.49	1.47	1.22	0.0000
BBSSK	165043	10	2004 - 2015	5	0.11	6.35	0.30	0.1867

Water Temperature

BBSST

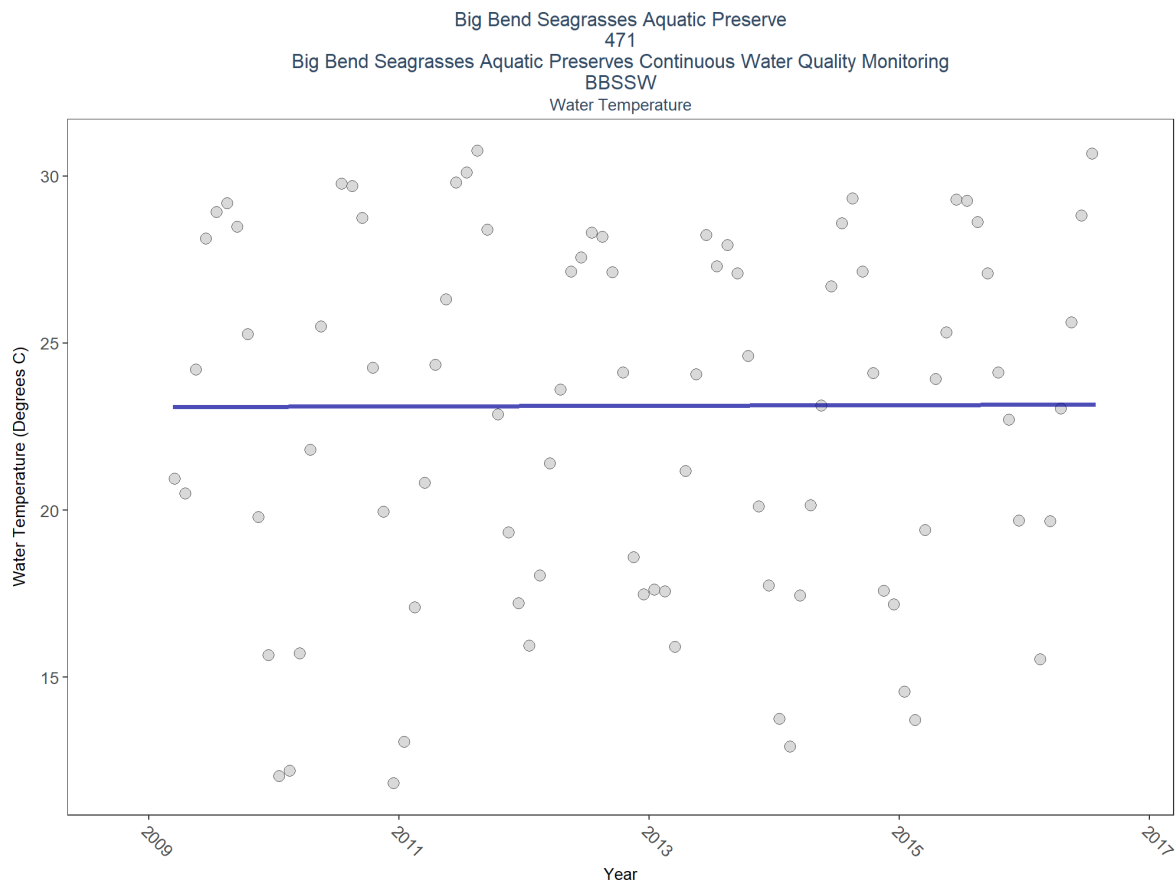


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	128489	5	23.6	TRUE	0.1631	0.3149	0.1546272	24.34022	9.6082	0.5659	0

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of record for monitoring location

BBSSW

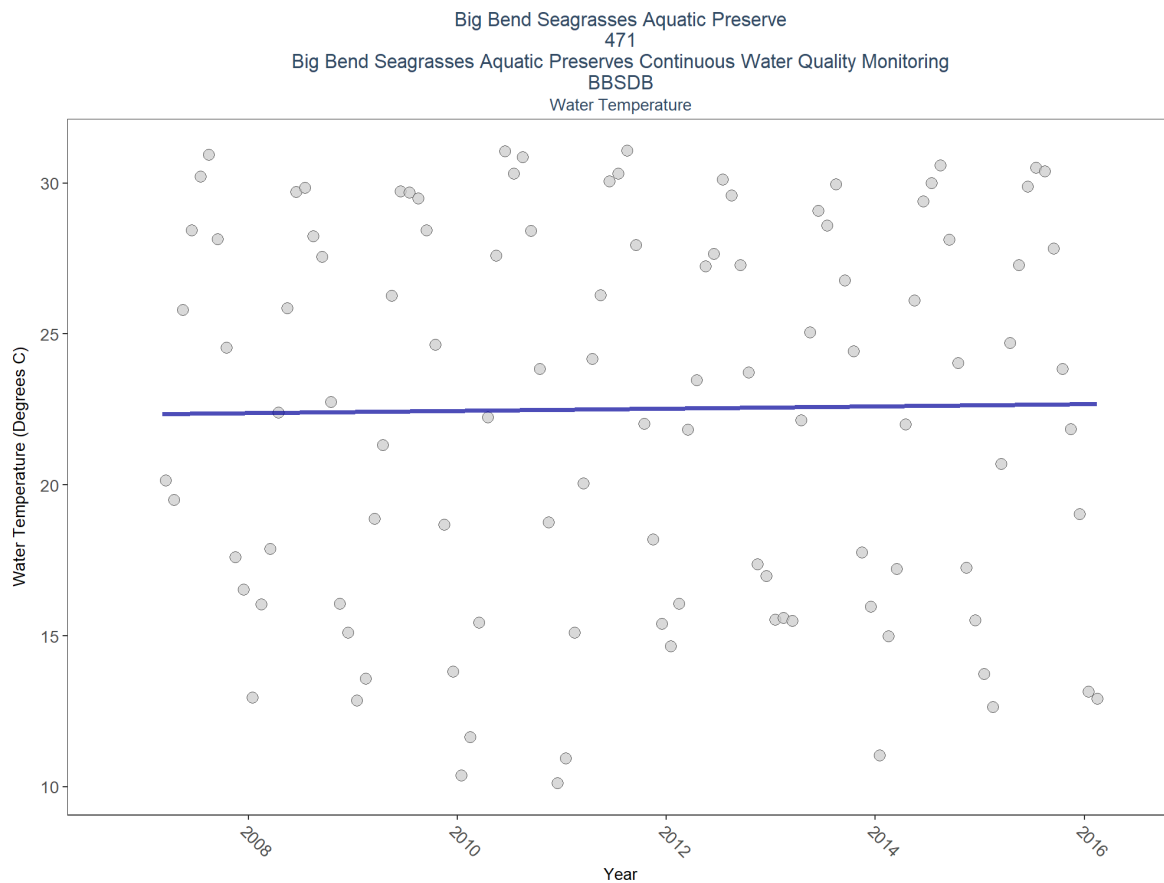


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	227996	8	23.7	TRUE	0.0174	0.9025	0.009602101	23.08511	12.0767	0.3579	0

$p < 0.00005$ appear as 0 due to rounding.

*SennIntercept is intercept value at beginning of
record for monitoring location*

BBSDB

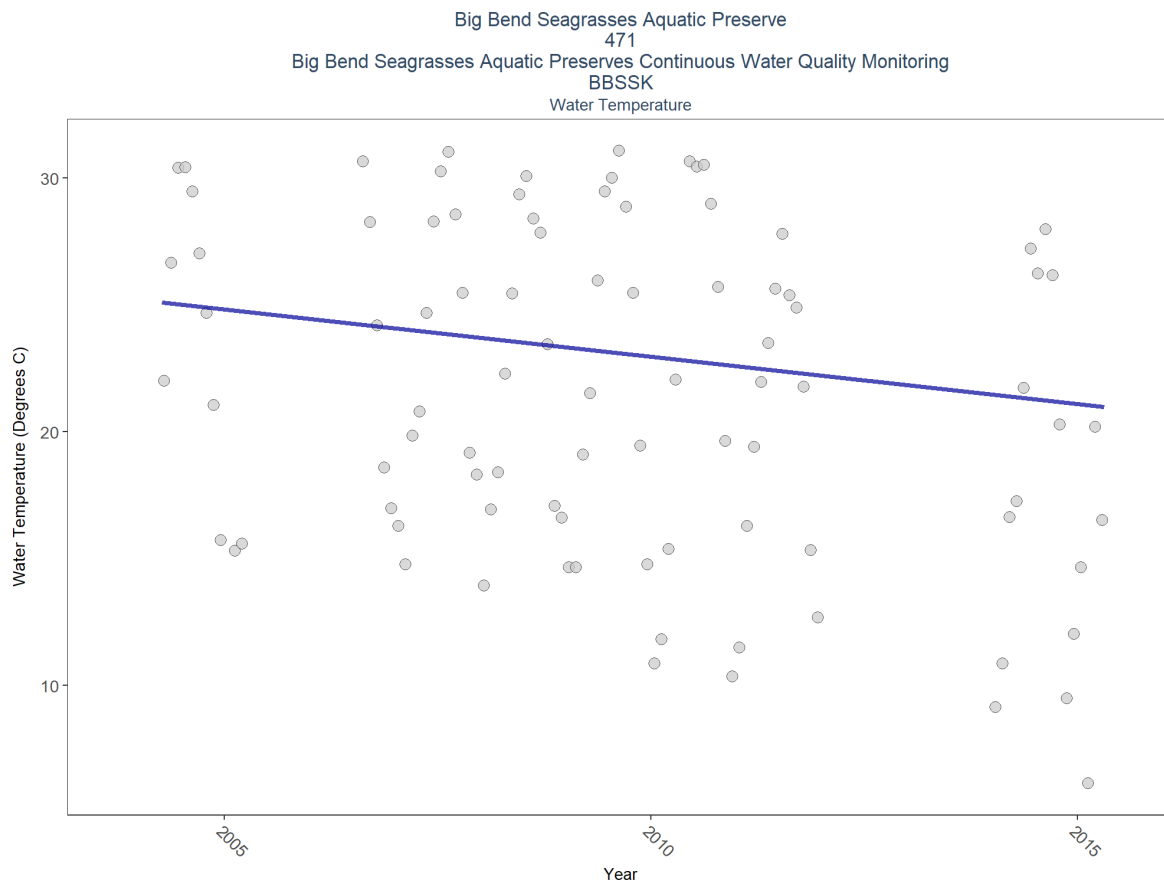


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	265988	10	23.2	TRUE	0.0833	0.2922	0.03794679	22.34113	6.6522	0.8265	0

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of record for monitoring location

BBSSK

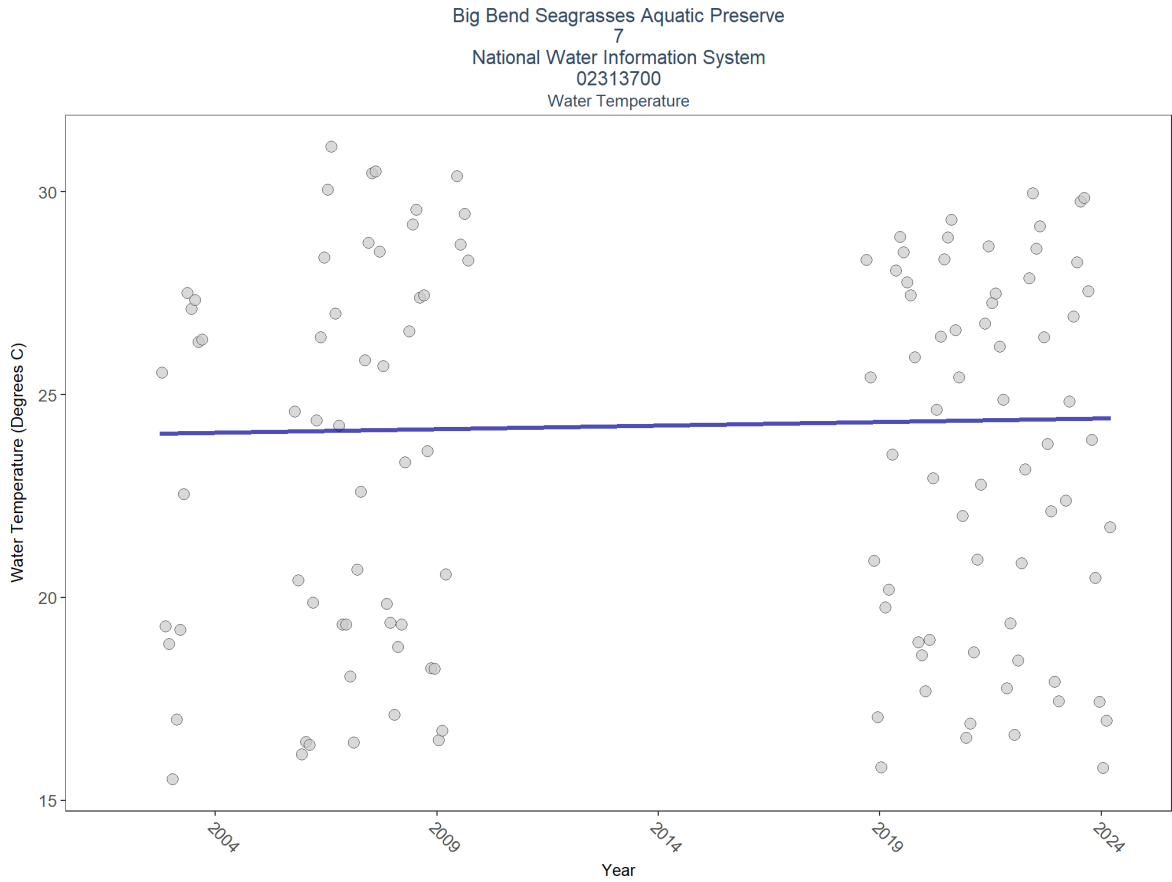


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
bottom	179213	10	21.7	TRUE	-0.3321	0.0002	-0.371943	25.19238	7.7847	0.7324	-1

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of record for monitoring location

02313700

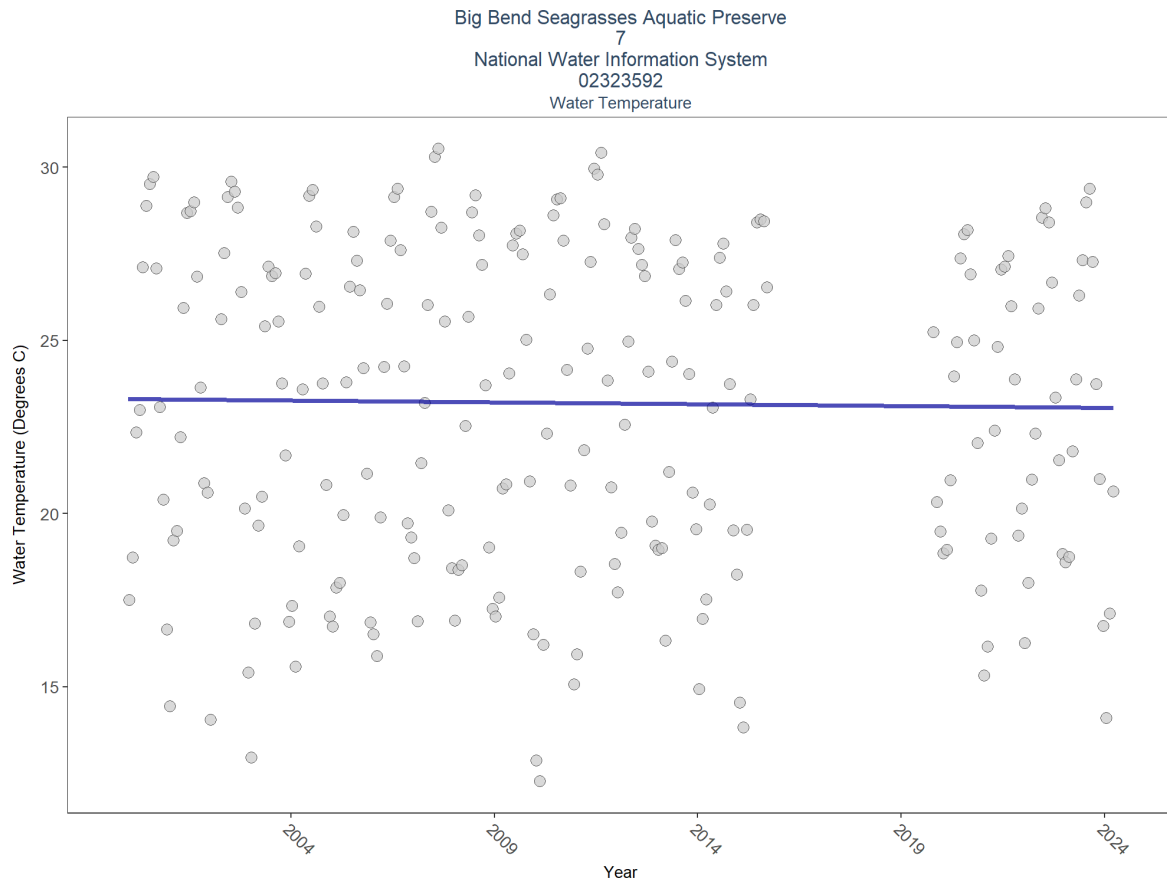


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	3591	14	24	TRUE	0.1014	0.1789	0.01801495	24.02535	10.8794	0.4534	0

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of
record for monitoring location

02323592

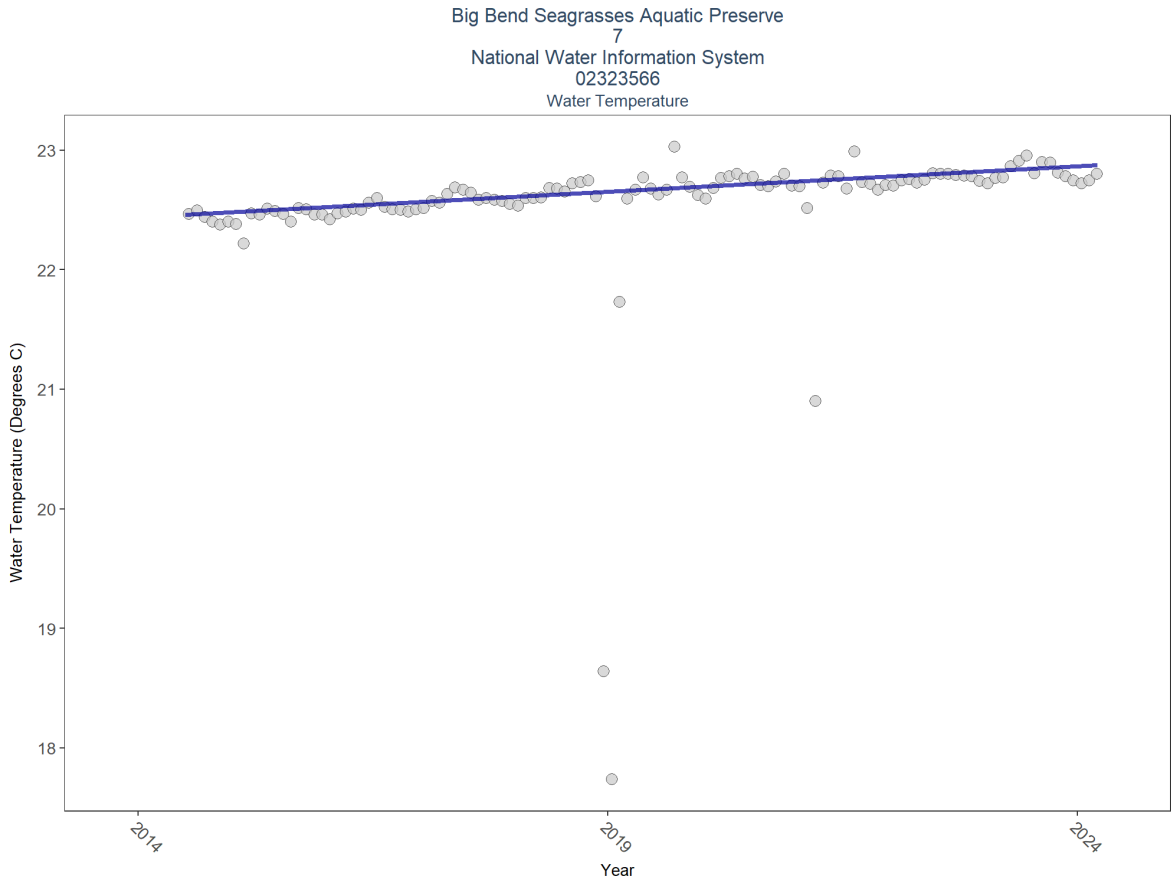


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	11875	22	24	TRUE	-0.0396	0.4075	-0.01039773	23.30852	8.7508	0.6449	0

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of
record for monitoring location

02323566

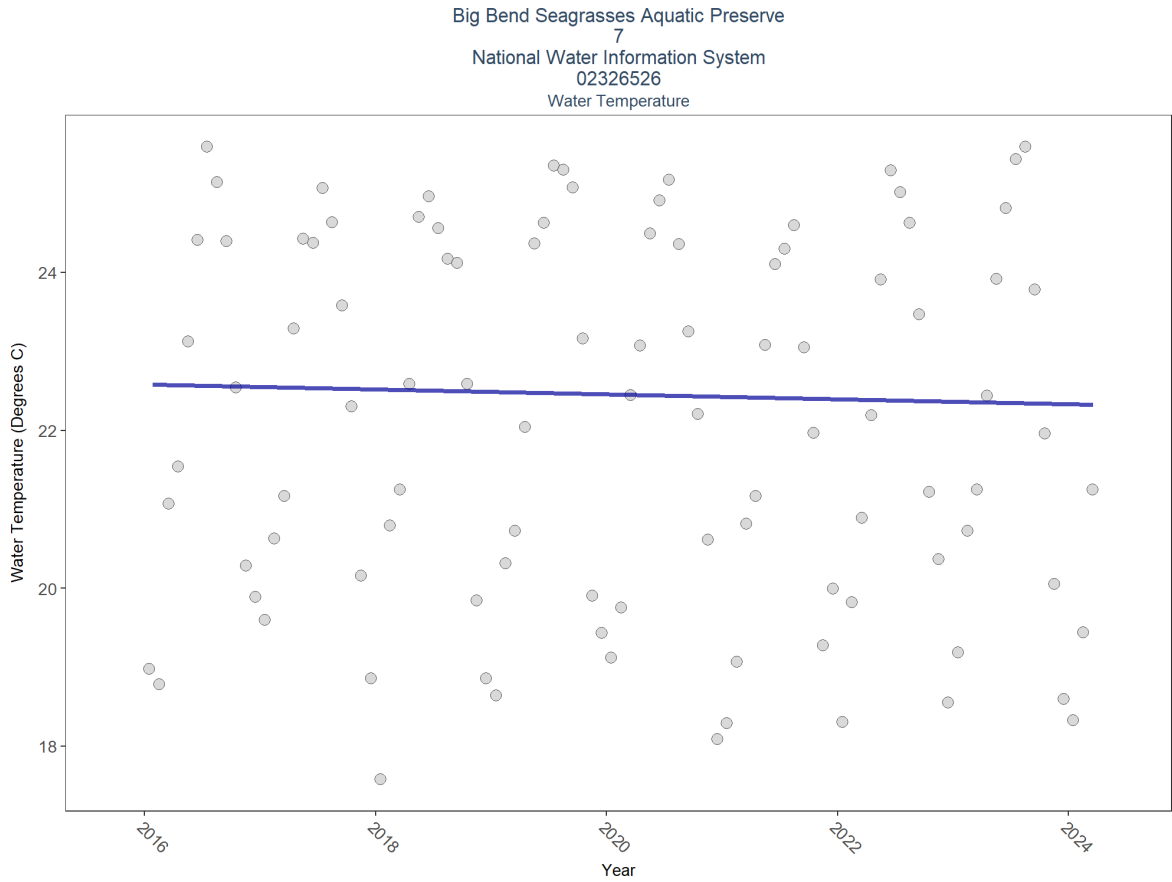


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	3503	11	22.7	TRUE	0.7676	0.0000	0.04274194	22.43738	1.4592	0.9997	1

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of
record for monitoring location

02326526

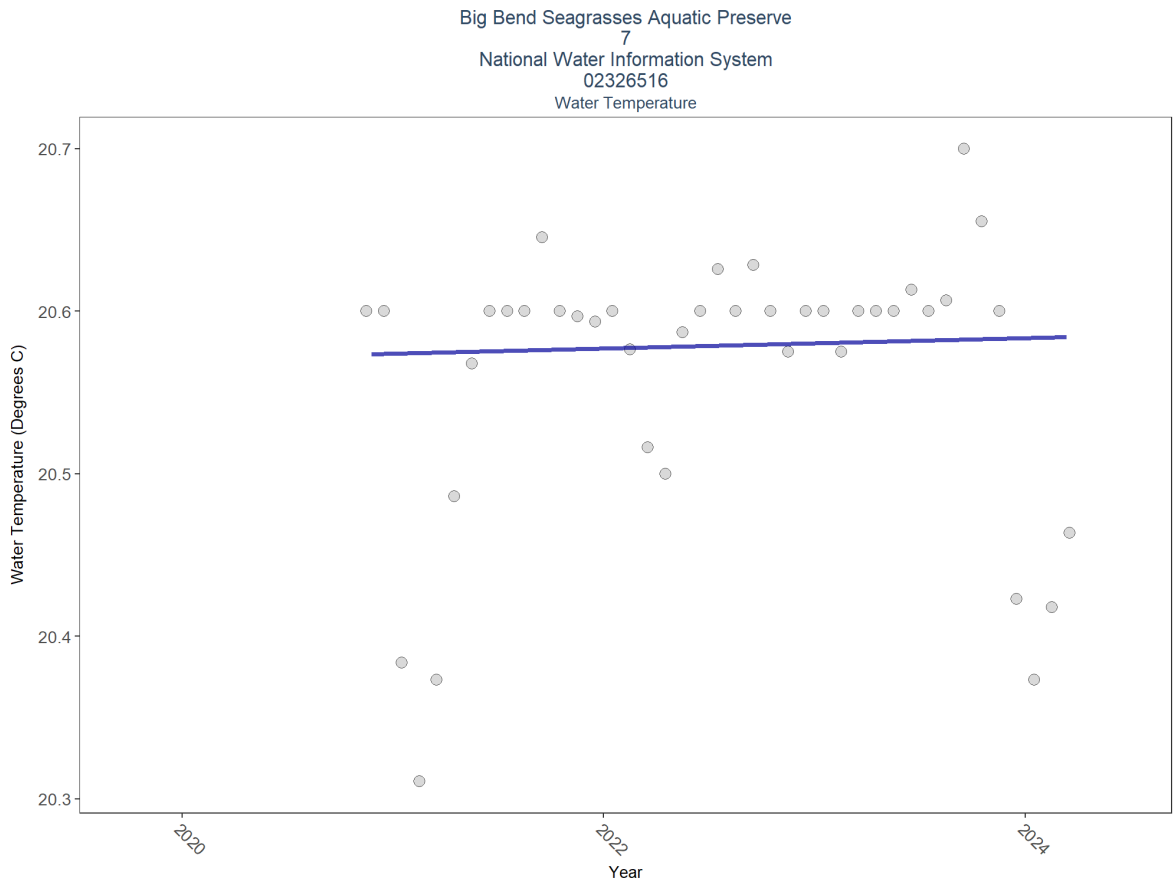


RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	2875	9	22.4	TRUE	-0.0931	0.2916	-0.031	22.58346	6.432	0.843	0

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of
record for monitoring location

02326516



RelativeDepth	N_Data	N_Years	Median	Independent	tau	p	SennSlope	SennIntercept	ChiSquared	pChiSquared	Trend
surface	1097	5	20.6	TRUE	0.2683	0.2530	0.003225806	20.57075	8.3712	0.6797	0

$p < 0.00005$ appear as 0 due to rounding.

SennIntercept is intercept value at beginning of
record for monitoring location

All Stations Combined

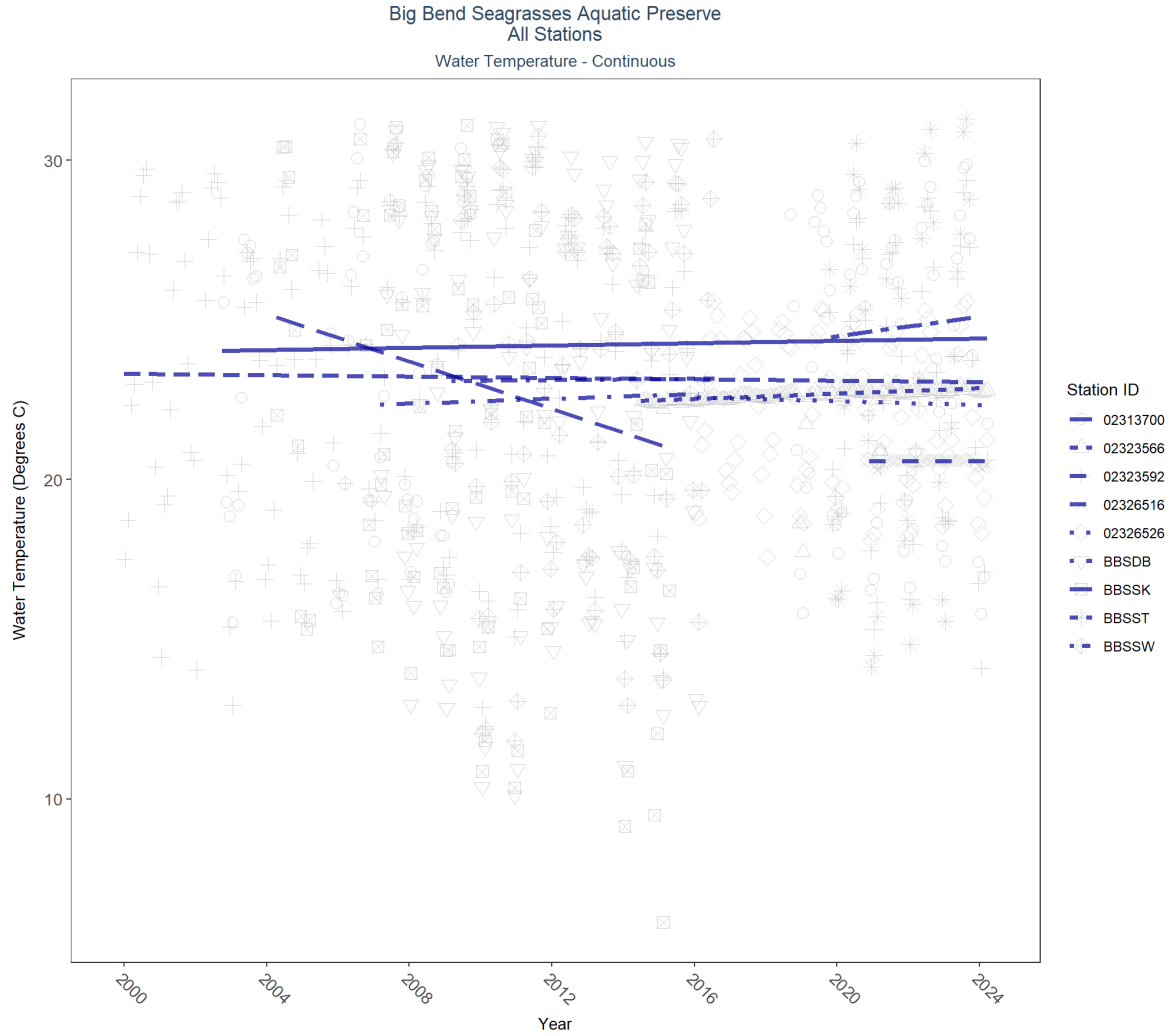


Table 6: Seasonal Kendall-Tau Results for All Stations - Water Temperature

Station	N_Data	N_Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
BBSST	128489	5	2019 - 2023	23.60	0.16	24.34	0.15	0.3149
BBSSW	227996	8	2009 - 2016	23.70	0.02	23.09	0.01	0.9025
BBSDB	265988	10	2007 - 2016	23.20	0.08	22.34	0.04	0.2922
BBSSK	179213	10	2004 - 2015	21.70	-0.33	25.19	-0.37	0.0002
02313700	3591	14	2002 - 2024	24.00	0.1	24.03	0.02	0.1789
291652083064100	484	1	2000 - 2000	27.00	-	-	-	-

Station	N_Data	N_Years	Period of Record	Median	tau	SennIntercept	SennSlope	p
02323592	11875	22	2000 - 2024	24.00	-0.04	23.31	-0.01	0.4075
02323566	3503	11	2014 - 2024	22.70	0.77	22.44	0.04	0.0000
02326550	1521	4	2021 - 2024	23.30	-	-	-	-
02326526	2875	9	2016 - 2024	22.40	-0.09	22.58	-0.03	0.2916
02326516	1097	5	2020 - 2024	20.60	0.27	20.57	0	0.2530
02327022	144	2	2023 - 2024	21.05	-	-	-	-