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CURRENT PROPOSED WATER QUALITY MONITORING FOR CONTINGENCY OPERATIONS TO ENHANCE CAPE SABLE SEASIDE SPARROW BREEDING SUCCESS

Go to " http://www.saj.usace.army.mil/dp/images/c111.pdf " for an adobe acrobat picture of the project area.

This monitoring plan is expected to change as more information becomes available and as analysis of the data collected suggests adjustments to frequencies etc.

The goal is to help better identify loadings of pesticides/metals/nutrients and sources of these loads in this area and how the operation of S-332D affects the quality of water delivered to the Everglades National Park.

Additional pesticide analysis above and beyond standard pesticide analysis to be determined through discussion/group input. See attached xls for current the SERA Water Quality group's guidance.

The pesticide sampling frequency at weekly intervals is planned to continue for the first 6 weeks and the frequency will be reduced after SERA water quality team group discussion of the results

Pesticide particles that may be resuspended in the water column by pumping action could be removed by any filtration associated with the lab preparation technique or field sampling preparation. Therefore only total pesticide content would be measured.

Agricultural activity involving spraying of pesticides/nutrients slows down around june and picks up significantly at the end of August through September/mid October. The pesticide sampling schedule will need to be adjusted to capture flow events during this period if this sampling program for the critical situation is still under way.

The location of the sample points (not at established structures) will be identified to the maximum extent practical using differential GPS.

Auto Sampler Collection regime: I have discussed the use of Auto samplers with Dr Walker. For his analysis, daily discrete grabs (performed automatically by the autosampler), with the total phosphorus and conductivity being analyzed, will be useful information for him if he is requested to perform an analysis of this data.

Hydrolab Monitoring

Continuous sampling of physical parameters at the entrance point(s) to the park (s-332 sample location) for the first month. This will be evaluated to determine if it is useful to continue.

Continuous sampling for physical parameters with hydrolab for certain pumping events of the S-332D pump station. This would be downstream of the pump about 100-200meters at the USGS stage sampling station.

Grab Samples of sediments downstream of S-332D pump station

The intent is to obtain 6 sediment grab samples in the I-31W canal downstream of the S-332D pump at appropriate points. There would be one each at the entrance points the ENP would be sampled. One would be at the entrance point of the discharge concrete culvert to the L-31N canal. The remaining points would be at the outside bend of turns in the L-31W canal.

The analysis would be for pesticides and trace metals. If possible, 2 sets of grab samples will be taken before S-332D is operated. Following this initial set the sediment samples will be taken biannually.

Grab Samples of Sediments upstream of the pump

Three samples shall be taken in the L-31N north of the S-332D pump station. 50 meter. 150 meters and 200meters would be the sample point

General: Timing of Surface Water Grab Sample Collection

The time of surface water grab sampling for all these structures should take place on the same day (as much as is practical) as the day the SFWMD takes samples at the nearby structure(s). Specifically the S-355 A/B structures should be sampled on the same day the samples are taken at S-333.

Also the S-332D, the C-102, C-103 and the C-113 sampling points would be taken the same day the SFWMD takes the samples at the S-331 pump station.

S-355 A/B: Grab samples, monitor at the structures for all pesticides deemed necessary by the SERA WQ group. Same parameters as in non ecp permit for s-332. physical- biweekly flowing/monthly if not flowing (bwf/m) nutrients- bwf/m major

W-PC-AA-SF	PCB-1248	EPA 608 mod.	ug/L	0.02	0.1	39500
W-PC-AA-SF	PCB-1254	EPA 608 mod.	ug/L	0.02	0.1	39504
W-PC-AA-SF	PCB-1260	EPA 608 mod.	ug/L	0.02	0.1	39508
W-PC-AA-SF	Trifluralin	EPA 608 mod.	ug/L	0.01	0.01	81284

Organophosphates Sample weekly

Analysis_ID	Component	EPA_Method	Units	MDL	PQL	STORET_Code
W-NP-AA-SF	Alachlor	EPA 614 mod.	ug/L	0.05	0.25	77825
W-NP-AA-SF	Ametryn	EPA 614 mod.	ug/L	0.01	0.05	82184
W-NP-AA-SF	Atrazine	EPA 614 mod.	ug/L	0.01	0.05	39033
W-NP-AA-SF	Azinphos Methyl	EPA 614 mod.	ug/L	0.02	0.1	39580
W-NP-AA-SF	Bromacil	EPA 614 mod.	ug/L	0.04	0.2	82198
W-NP-AA-SF	Butylate	EPA 614 mod.	ug/L	0.02	0.1	81410
W-NP-AA-SF	Chlorpyrifos Ethyl	EPA 614 mod.	ug/L	0.02	0.1	38932
W-NP-AA-SF	Chlorpyrifos Methyl	EPA 614 mod.	ug/L	0.02	0.1	38740
W-NP-AA-SF	Demeton	EPA 614 mod.	ug/L	0.1	0.5	39560
W-NP-AA-SF	Diazinon	EPA 614 mod.	ug/L	0.02	0.1	39570
W-NP-AA-SF	Disulfoton	EPA 614 mod.	ug/L	0.03	0.15	81888
W-NP-AA-SF	Ethion	EPA 614 mod.	ug/L	0.02	0.1	39398
W-NP-AA-SF	Ethoprop	EPA 614 mod.	ug/L	0.02	0.1	81758
W-NP-AA-SF	Fenamiphos	EPA 614 mod.	ug/L	0.03	0.15	38929
W-NP-AA-SF	Fonofos	EPA 614 mod.	ug/L	0.02	0.1	81294
W-NP-AA-SF	Hexazinone	EPA 614 mod.	ug/L	0.02	0.1	38815
W-NP-AA-SF	Malathion	EPA 614 mod.	ug/L	0.03	0.15	39530
W-NP-AA-SF	Metalaxyl	EPA 614 mod.	ug/L	0.06	0.3	4254
W-NP-AA-SF	Metolachlor	EPA 614 mod.	ug/L	0.05	0.25	39356
W-NP-AA-SF	Metribuzin	EPA 614 mod.	ug/L	0.02	0.1	81408
W-NP-AA-SF	Mevinphos	EPA 614 mod.	ug/L	0.04	0.2	39610
W-NP-AA-SF	Naled	EPA 614 mod.	ug/L	0.08	0.4	38855
W-NP-AA-SF	Norflurazon	EPA 614 mod.	ug/L	0.03	0.15	78064
W-NP-AA-SF	Parathion Ethyl	EPA 614 mod.	ug/L	0.02	0.1	46315
W-NP-AA-SF	Parathion Methyl	EPA 614 mod.	ug/L	0.02	0.1	39600
W-NP-AA-SF	Phorate	EPA 614 mod.	ug/L	0.03	0.15	46313
W-NP-AA-SF	Prometryn	EPA 614 mod.	ug/L	0.02	0.1	39057
W-NP-AA-SF	Simazine	EPA 614 mod.	ug/L	0.02	0.1	39055

Benomyl Sample weekly. Determine frequency based on detection.

Analysis_ID	Component	EPA_Method	Units	MDL	PQL	STORET_Code
W-BENOMYL	Benomyl as Carbendazim	EPA 631 mod.	ug/L	2	4	38705

Chlorophenoxy Acid Herbicides. Sample weekly. Determine frequency based on detection.

Analysis_ID	Component	EPA_Method	Units	MDL	PQL	STORET_Code
W-ACIDHERB	2,4-D	EPA 555 mod.	ug/L	2	4	39730
W-ACIDHERB	2,4,5-T	EPA 555 mod.	ug/L	2	4	39740
W-ACIDHERB	Silvex	EPA 555 mod.	ug/L	2	4	39760

*Note: The following was proposed for analysis, but will not be analyzed due to difficulty with analysis. (not detected in H2O, interference in sediments).

Analysis_ID	Component	EPA_Method	Units	MDL	PQL	STORET_Code
W-GLYPH	Glyphosate	EPA 547 mod.	ug/L	20	40	79743