

Permit

Permit ID: AK0022951

Major:

Permittee: JUNEAU, CITY & BOROUGH OF

Permittee Address: 2009 RADCLIFFE ROAD
JUNEAU , AK99801

Facility: JUNEAU, CITY AND BOROUGH OF - MENDENHALL WWTF

Facility Location: 2009 RADCLIFFE ROAD
MENDENHALL WWTF
JUNEAU , AK99801

Permitted Feature: 001 - External Outfall

Discharge: 001-A - MENDENHALL RIVER DIFFUSER

Report Dates & Status

Monitoring Period: From 04/01/18 to 04/30/18

DMR Due Date: 05/15/18

Status: NetDMR Validated

Considerations for Form Completion

FC/Nov-April=1 Effluent & W-Wkly Ave FC/May-Oct=S Effluent & T- Wkly Avg Ammonia/May-Oct=S Effluent

Principal Executive Officer

First Name: Randall

Last Name: Brown

Title: Wastewater Treatment Plant Supervisor

Telephone: 907-586-0393

No Data Indicator (NODI)

Form NODI: -

Parameter Code	Name	NODI	Quantity or Loading			Quality or Concentration			# of Ex.	Freq. of Analysis	Smpl. Type
			Value 1	Value 2	Units	Value 1	Value 2	Value 3			

Parameter Code	Parameter Name	NODI	Quantity or Loading			Quality or Concentration			# of Ex.	Freq. of Analysis	Smpl. Type	
			Value 1	Value 2	Units	Value 1	Value 2	Value 3				Units
00010	Temperature, water deg. centigrade	Smpl.					=12.4	=13.6	04 - deg C	0	05/WK - Five Per Week	GR - GRAB
1 - Effluent Gross												
Season: 0		Req.					Req Mon MO AVG	Req Mon DAILY MX	04 - deg C		05/WK - Five Per Week	GR - GRAB
NODI: -		NODI										
00300	Oxygen, dissolved [DO]	Smpl.				=2.2		=5.6	19 - mg/L	0	01/30 - Monthly	GR - GRAB
1 - Effluent Gross												
Season: 0		Req.				Req Mon DAILY MN		Req Mon DAILY MX	19 - mg/L		01/30 - Monthly	GR - GRAB
NODI: -		NODI										
00310	BOD, 5-day, 20 deg. C	Smpl.	=340	=466	26 - lb/d		=26	=38	19 - mg/L	0	02/30 - Twice Per Month	24 - COMP24
1 - Effluent Gross												
Season: 0		Req.	<=1226 MO AVG	<=2452 DAILY MX	26 - lb/d		<=30 MO AVG	<=60 DAILY MX	19 - mg/L		02/30 - Twice Per Month	24 - COMP24
NODI: -		NODI										
00310	BOD, 5-day, 20 deg. C	Smpl.					=502		19 - mg/L	0	02/30 - Twice Per Month	24 - COMP24
G - Raw Sewage Influent												
Season: 0		Req.				Req Mon MO AVG			19 - mg/L		02/30 - Twice Per Month	24 - COMP24
NODI: -		NODI										
00310	BOD, 5-day, 20 deg. C	Smpl.	=354		26 - lb/d		=28		19 - mg/L	0	02/30 - Twice Per Month	24 - COMP24
W - See Comments												
Season: 0		Req.										

Parameter Code	Name	NODI	Quantity or Loading			Quality or Concentration			# of Ex.	Freq. of Analysis	Smpl. Type										
			Value 1	Value 2	Units	Value 1	Value 2	Value 3				Units									
NODI: -	00400 pH	NODI	<=1839 WKLY AVG		26 - lb/d	>=6.5 INST MIN															
	1 - Effluent Gross	Smpl.				=6.7															
Season: 0		Req.																			
NODI: -	00530 Solids, total suspended	NODI																			
	1 - Effluent Gross	Smpl.	=295	=405	26 - lb/d	=23	=33	19 - mg/L	0	02/30 - Twice Per Month	24 - COMP24										
Season: 0		Req.	<=1226 MO AVG	<=2452 DAILY MX	26 - lb/d	<=30 MO AVG	<=60 DAILY MX	19 - mg/L		02/30 - Twice Per Month	24 - COMP24										
NODI: -	00530 Solids, total suspended	NODI																			
	G - Raw Sewage Influent	Smpl.				=435		19 - mg/L	0	02/30 - Twice Per Month	24 - COMP24										
Season: 0		Req.				Req Mon MO AVG		19 - mg/L		02/30 - Twice Per Month	24 - COMP24										
NODI: -	00530 Solids, total suspended	NODI																			
	W - See Comments	Smpl.	=318		26 - lb/d	=25		19 - mg/L	0	02/30 - Twice Per Month	24 - COMP24										
Season: 0		Req.	<=1839 WKLY AVG		26 - lb/d	<=45 WKLY AVG		19 - mg/L		02/30 - Twice Per Month	24 - COMP24										
NODI: -	00610 Nitrogen, ammonia total [as N]	NODI																			
		Smpl.	=273	=273	26 - lb/d	=22	=22	19 - mg/L	0	01/30 - Monthly	24 - COMP24										

Parameter Code	Name	NODI	Quantity or Loading			Quality or Concentration			# of Ex.	Freq. of Analysis	Smpl. Type
			Value 1	Value 2	Units	Value 1	Value 2	Value 3			
1 - Effluent Gross											
Season: 0	Req.		<=1165 MO AVG	<=1655 DAILY MX	26 - lb/d	<=28.5 MO AVG	<=40.5 DAILY MX	19 - mg/L	01/30 - Monthly	24 - COMP24	
NODI: -		NODI									
00900	Hardness, total [as CaCO3]	Smpl.				=80	=80	19 - mg/L	01/30 - Monthly	24 - COMP24	
1 - Effluent Gross											
Season: 0	Req.					Req Mon MO AVG	Req Mon DAILY MX	19 - mg/L	01/30 - Monthly	24 - COMP24	
NODI: -		NODI									
01079	Silver total recoverable	Smpl.									
1 - Effluent Gross											
Season: 0	Req.					Req Mon MO AVG	Req Mon DAILY MX	28 - ug/L	03/YR - Three Per Year	24 - COMP24	
NODI: -		NODI				B - Below Detection Limit/No Detection	B - Below Detection				
01094	Zinc, total recoverable	Smpl.				=52	=52	28 - ug/L	03/YR - Three Per Year	24 - COMP24	
1 - Effluent Gross											
Season: 0	Req.					Req Mon MO AVG	Req Mon DAILY MX	28 - ug/L	03/YR - Three Per Year	24 - COMP24	
NODI: -		NODI									
01114	Lead, total recoverable	Smpl.									
1 - Effluent Gross											
Season: 0	Req.					Req Mon MO AVG	Req Mon DAILY MX	28 - ug/L	03/YR - Three Per Year	24 - COMP24	
NODI: -		NODI									

Code	Parameter Name	NODI	Quantity or Loading		Units	Quality or Concentration			Units	# of Ex.	Freq. of Analysis	Smpl. Type
			Value 1	Value 2		Value 1	Value 2	Value 3				
01119	Copper, total recoverable		Smpl. =0.66	=0.66	26 - lb/d	=53			28 - ug/L	0	01/30 - Monthly	24 - COMP24
1 - Effluent Gross												
Season: 0			Req. <=3.54 MO AVG	<=7.63 DAILY MX	26 - lb/d	<=86.7 MO AVG	<=187 DAILY MX		28 - ug/L		01/30 - Monthly	24 - COMP24
NODI: -			NODI									
45613	Floating solids, waste or visible foam-visual		Smpl. =1.52	=1.79	03 - MGD				0		99/99 - Continuous	RC - Recorder (auto)
1 - Effluent Gross												
Season: 0			Req. Avg	<=4.9 DAILY MX	03 - MGD						01/30 - Monthly	VI - VISUAL
NODI: -			NODI									
50050	Flow, in conduit or thru treatment plant		Smpl. =1.52	=1.79	03 - MGD				0		99/99 - Continuous	RC - Recorder (auto)
1 - Effluent Gross												
Season: 0			Req. Mon MO AVG	<=4.9 DAILY MX	03 - MGD						01/30 - Monthly	VI - VISUAL
NODI: -			NODI									
74055	Coliform, fecal general		Smpl. =4	=8	13 - #/100mL				0		02/07 - Twice Every Week	GR - GRAB
1 - Effluent Gross												
Season: 0			Req. GEOMN	<=224 DAILY MX	13 - #/100mL	<=112 MO	<=224 DAILY MX		0		02/07 - Twice Every Week	GR - GRAB
NODI: -			NODI									

Code	Parameter Name	NODI	Quantity or Loading			Quality or Concentration			Units	# of Ex.	Freq. of Analysis	Smpl. Type
			Value 1	Value 2	Units	Value 1	Value 2	Value 3				
74055	Coliform, fecal general	Smpl.				=5			13 - #/100mL	0	02/07 - Twice Every Week	GR - GRAB
	W - See Comments											
Season: 0		Req.				<=168 WK GEOMN			13 - #/100mL		02/07 - Twice Every Week	GR - GRAB
NODI: -		NODI										
81010	BOD, 5-day, percent removal	Smpl.			=95				23 - %	0	01/30 - Monthly	CA - CALCTD
	K - Percent Removal											
Season: 0		Req.			>=85 MN % RMV				23 - %		01/30 - Monthly	CA - CALCTD
NODI: -		NODI										
81011	Solids, suspended percent removal	Smpl.			=96				23 - %	0	01/30 - Monthly	CA - CALCTD
	K - Percent Removal											
Season: 0		Req.			>=85 MN % RMV				23 - %		01/30 - Monthly	CA - CALCTD
NODI: -		NODI										
TT000	Toxicity, Chronic	Smpl.							73 - toxic	0	09/99 - See Permit	24 - COMP24
	1 - Effluent Gross					=1.4		=1.4				
Season: 0		Req.				<=5.1 MO AVG MX		Req Mon DAILY	73 - toxic		09/99 - See Permit	24 - COMP24
NODI: -		NODI										

Submission Note

If a parameter row does not contain any values for the Sample nor Effluent Trading, then none of the following fields will be submitted for that row: Units, Number of Excursions, Frequency of Analysis, and Sample Type.

Edit Check Errors

No errors.

Comments**Attachments**

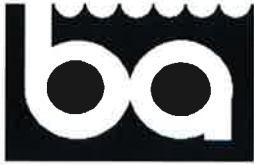
Name	Type	Size
3301_001.pdf	pdf	559967

Report Last Saved By**JUNEAU, CITY & BOROUGH OF**

User: CBJWASTEWATER1
 Name: James Westcott
 E-Mail: jim.westcott@juneau.org
 Date/Time: 2018-05-15 10:49 (Time Zone: -08:00)

Report Last Signed By

User: CBJWASTEWATER1
 Name: James Westcott
 E-Mail: jim.westcott@juneau.org
 Date/Time: 2018-05-15 10:49 (Time Zone: -08:00)



Bio-Aquatic Testing, Inc.



TCEQ TNi Accredited

**City and Borough of Juneau
Mendenhall WWTP
OUTFALL 001**

**Client Address:
2009 RADCLIFFE RD.
JUNEAU, AK 99801**

Chronic Biomonitoring Report

67393

Ceriodaphnia dubia

November 29, 2017

Approved by: Justin Reed

Bio-Aquatic Testing, Inc. ♦ 2501 Mayes Rd. Ste. 100 ♦ Carrollton, Texas ♦ 75006

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Unless otherwise noted in the body of the report, all data reported in this document are in compliance with current TNI standards and apply only to the samples referenced within. This report document may not be edited or reproduced in part or in full by any other entity, unless Bio-Aquatic Testing, Inc. issues written approval.

***HAND-WRITTEN RAW DATA TABLES ARE AVAILABLE UPON REQUEST**

SURVIVAL:

Ceriodaphnia dubia

Fisher's Exact test on *Ceriodaphnia dubia* survival test data demonstrated no statistically significant differences between the control and any of the effluent concentrations tested.

LOEC: Not Calculable (Q)

NOEC: 72% Effluent

TOXIC UNITS: 1.4 TUc (NOEC based)

LC 50 %: >72

REPRODUCTION:

Ceriodaphnia dubia

The *Ceriodaphnia dubia* reproduction data were normally distributed at the alpha level of 0.01 (13.277) using the Chi-square test for normality. Reproduction data were shown to be homogeneous using Bartlett's test at the alpha level of 0.01 (15.09) without data transformations. Using Bonferroni T-test, *Ceriodaphnia dubia* reproduction data demonstrated no statistically significant differences between the control and any of the effluent concentrations tested.

LOEC: Not Calculable (Q)

NOEC: 72% Effluent

TOXIC UNITS: 1.4 TUc (NOEC based) and Q* TUc (IC25 Based)

IC 25 %: Q*

BIO-AQUATIC TESTING, INC.

2501 Mayes Road, Suite 100

Carrollton, Texas 75006

Tel: (972) 242-7750

Fax: (972) 242-7749

TOXICITY TEST REPORT - Chronic

Client: Juneau, City and Borough of
Facility: Mendenhall WWTP
Permit No. AK-002295-1

Sample: 001
Laboratory Number: 67393
Date: November 29, 2017

Ceriodaphnia dubia **passed** survival and reproduction testing requirements.

SAMPLE COLLECTION: Composite effluent samples from the City and Borough of Juneau, Mendenhall WWTP, were transported to Bio-Aquatic Testing via Federal Express. Samples were received on November 29, 2017, November 30, 2017, and December 02, 2017. Effluent samples were collected from Outfall 001 by facility personnel.

The effluent samples were analyzed for total residual chlorine using the Hanna Ion Specific Meter #711 and contained <0.10 mg/L, <0.10 mg/L, and <0.10 mg/L, respectively. Effluent and laboratory dilution water pH, temperature, and dissolved oxygen data were collected daily.

TEST PROCEDURES:

Ceriodaphnia dubia

EPA METHOD: 1002

The seven-day (three brood) Chronic *Ceriodaphnia dubia* survival and reproduction test was initiated at 13:15 hours on November 29, 2017. Five effluent concentrations of 5%, 9%, 18%, 36% and 72% were prepared using synthetic water as dilution water. The test was set up with 30mL plastic cups containing 15mL of test solution or control dilution water. Each effluent concentration or control dilution water included ten replicate cups with one organism in each cup. The control was conducted concurrently with the test. Test organisms were less than 24-hour old laboratory cultured neonates. Neonates were introduced into the test solutions using a blocking design. The test was renewed daily with newly prepared solutions. Food consisting of a half-milliliter suspension of the green algae, *Selenastrum capricornutum*, and YTC was added to the test solutions each day. The test proceeded for seven days or until 60% of the females in the control had three broods. Data on survival and number of young produced per female were collected daily. The test ended at 11:39 hours on December 06, 2017. Survival and reproduction data were statistically ($p=0.05$) analyzed according to EPA procedures to determine the Lowest Observable Effect Concentration (LOEC) and the No Observable Effect Concentration (NOEC).



BIO-AQUATIC TESTING, INC.
 2501 MAYES RD., STE. 100
 CARROLLTON, TX 75006
 PH: 972-242-7750 FAX: 972-242-7749

Client: Juneau, City and Borough of
Facility: Mendenhall WWTP
Permit No: AK-002295-1
Outfall: 001
Client Contact: KAREN SEWELL
Client Phone: 907-586-0393 X 27

A. REVIEW SCHEDULED TEST(S):
 Chronic Ceriodaphnia dubia
 Concentration: 5 9 18 36 72
 (For TX) Setup separate 24hr Acute Test? No

To Ship the
 1st Sample on:
 11/13/2017

CHAIN OF CUSTODY

Be Only! No Sample Left
Lab Id: 65582
Sample No: 65582
 Check Sample No.: First, Second, or Third. **P.O. No.:**

Please Review & Complete Sections A, B, C, & D.

B. Use area below to make changes, if the Scheduled Test(s) in "A" are incorrect:

Freshwater Species			Saltwater Species			
C. dubia (water flea)	D. pulex (water flea)	D. magna (water flea)	P. promelas (minnow)	Selenastrum (green algae)	M. beryllina (minnow)	Mysidopsis (shrimp)
<input checked="" type="checkbox"/> Chronic <input type="checkbox"/> 96 Hour <input type="checkbox"/> 48 Hour <input checked="" type="checkbox"/> 24 Hour	<input type="checkbox"/> Chronic <input type="checkbox"/> 96 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 24 Hour	<input type="checkbox"/> Chronic <input type="checkbox"/> 96 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 24 Hour	<input type="checkbox"/> Chronic <input type="checkbox"/> 96 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 24 Hour	<input type="checkbox"/> Chronic <input type="checkbox"/> 96 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 24 Hour	<input type="checkbox"/> Chronic <input type="checkbox"/> 96 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 24 Hour	<input type="checkbox"/> Chronic <input type="checkbox"/> 96 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 24 Hour

Notes: Nov-April Chronic Cerio RWC = 18%
 Tests Most Significant Species (CR)

Sample ID or Location: (Outfall No. or Name)	Sample Type: E = Effluent PS = Rec. Stream S = Sediment	Sample Date		Grab or Composite	Sampled By: (Sign and Print Name)	Number Of Containers Shipped
		From	To			
1 Mendenhall WWTP	E	11-28-17	11-29-17	C	Karen Sewell - Karen.A.Sewell	1
2						
3						

Relinquished By:	Date	Time	Received By:	Date	Time

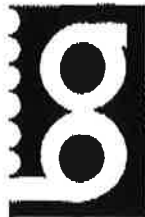
Bio-Aquatic Sample Login

BAT sample personnel:
 Yes No

Dechlorinate Sample:
 Yes No

Dilution Water:
 Receiving Stream

Date: 11-30-17 Time: 1330 By: John Law
 Temperature: 7.0 (C) 46.0 (F)
 Chlorine: 0.11 mg/l Ammonia: 32.3 mg/l Int. SaltCond: 461 ppt/US Adj. Salinity: ppt
 pH: 7.4 Hardness: 60 mg/l (LR) Other: Condition: Good



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 2501 MAYES RD., STE. 100
 CARROLLTON, TX 75006
 PH: 972-242-7750 FAX: 972-242-7749

Client: Juneau, City and Borough of

Facility: Mendenhall WWTP

Permit No: AK-002295-1

Outfall: 001

Client Contact: KAREN SEWELL

Client Phone: 907-586-0393 X 27

A. REVIEW SCHEDULED TEST(S):

Chronic Ceriodaphnia dubia

To Ship the 1st Sample on: 11/13/2017

Concentration: 5 9 18 36 72

(For TX) Setup separate 24hr Acute Test? No

CHAIN OF CUSTODY No Only No Sample Left **Lab Id:** 65582-17482

Please Review & Complete Sections A, B, C, & D. **Sample No:** 65582-1

Check Sample No.: First, Second, or Third. **P.O. No:**

B. Use area below to make changes, if the Scheduled Test(s) in "A" are incorrect:

Freshwater Species			Saltwater Species			
C. dubia (water flea)	D. pulex (water flea)	D. magna (water flea)	P. promelas (minnow)	Solenastrum (green algae)	M. beryllina (minnow)	Mysidopsis (shrimp)
<input checked="" type="checkbox"/> Chronic <input type="checkbox"/> 96 Hour <input type="checkbox"/> 48 Hour <input checked="" type="checkbox"/> 24 Hour	<input type="checkbox"/> Chronic <input type="checkbox"/> 96 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 24 Hour	<input type="checkbox"/> Chronic <input type="checkbox"/> 96 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 24 Hour	<input type="checkbox"/> Chronic <input type="checkbox"/> 96 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 24 Hour	<input type="checkbox"/> 96 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 24 Hour	<input type="checkbox"/> Chronic <input type="checkbox"/> 96 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 24 Hour	<input type="checkbox"/> Chronic <input type="checkbox"/> 96 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 24 Hour

Notes: Nov-April Chronic Cerio RWC = 18%
 Tests Most Significant Species (CR)

Sample ID or Location: (Outfall No. or Name)	Sample Type: E = Effluent RS = Rec. Stream S = Sediment	Sample Date		Grab or Composite	Sampled By: (Sign and Print Name)	Number Of Containers Shipped
		From	To			
1 Mendenhall WWTP	E	11-30-17	12-1-17	C	Karen A. Sewell	1
2						
3						

Relinquished By:	Date		Received By:		Date	
	Time	Time	Time	Time	Time	Time
Karen A. Sewell	12-1-17	1003	Rachel Jol	12-1-17	1300	1005
			JM	12-2-17	1300	1300

D. BAT sample personnel:
 Yes No
 Dechlorinate Sample:
 Yes No
 Dilution Water:
 Receiving Stream

Bio-Aquatic Sample Login

Date: 12-2-17 Time: 1300 By: JM Temperature: 3.2 (C) IR#: 022
 Chlorine: 40.1 mg/l Ammonia: 0.24 mg/l Int. SaltCond: 528 ppt/US Adj. Salinity: ppt
 pH: 7.2 Hardness: 56 mg/l (LR) Other:
 NO₃: 7.0 mg/l Alkalinity: 142 meq/l Condition: Good



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 CARROLLTON, TX 75006
 PH: 972-242-7750 FAX: 972-242-7749

Client: Juneau, City and Borough of

Facility: Mendenhall WWTP

Permit No: AK-002295-1

Outfall: 001

Client Contact: KAREN SEWELL

Client Phone: 907-586-0393 X 27

A. REVIEW SCHEDULED TEST(S):

Chronic	Ceriodaphnia dubia

To Ship the
1st Sample on:
11/14/2016

Concentration: 5 9 18 36 72

(For TX) Setup separate 24hr Acute Test? No

Sample ID or Location: (Outfall No. or Name)	Sample Type: E = Effluent RS = Rec. Stream S = Sediment	Sample Date		Grab or Composite	Sampled By: (Sign and Print Name)	Number Of Containers Shipped
		From	To			
1 Mendenhall WWTP	E	11-27-17	11-28-17	C	Karen Sewell KA Sewell	1
2						
3						

Relinquished By:	Date	Time	Received By:	Date	Time

Date: 11-29	Time: 1150	By: K	Temperature: 24	(C) IR#: 002
Chlorine: 0.01	Ammonia: 24.7	mg/l	Int. SaltCond: 449	ppt/US
pH: 7.6	Hardness: 67	mg/l	Other: N/A	
NO ₃ : 3.1	NO ₂ : 1.2	mg/l	Condition:	

CHAIN OF CUSTODY

Lab Id: 62889

Please Review & Complete Sections A, B, C, & D.

Sample No: 62889

Check Sample No.: 1 First, Second, or Third.

P.O. No:

B. Use area below to make changes, if the Scheduled Test(s) in "A" are incorrect:

Freshwater Species			Saltwater Species		
<input checked="" type="checkbox"/> Chronic <input type="checkbox"/> 96 Hour <input type="checkbox"/> 48 Hour <input checked="" type="checkbox"/> 24 Hour	<input type="checkbox"/> Chronic <input type="checkbox"/> 96 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 24 Hour	<input type="checkbox"/> Chronic <input type="checkbox"/> 96 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 24 Hour	<input type="checkbox"/> Chronic <input type="checkbox"/> 96 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 24 Hour	<input type="checkbox"/> Chronic <input type="checkbox"/> 96 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 24 Hour	<input type="checkbox"/> Chronic <input type="checkbox"/> 96 Hour <input type="checkbox"/> 48 Hour <input type="checkbox"/> 24 Hour
C. dubia (water flea)	D. pullex (water flea)	D. magna (water flea)	P. promelas (minnow)	Selenastrum (green algae)	M. beryllina (minnow)

Notes: Nov-April Chronic Cerio RWC = 18%
Tests Most Significant Species (BG)

