

HORSESHOE LAKE MANAGEMENT COMMITTEE AGENDA

5:00 P.M. - THURSDAY, JUNE 12, 2014

Woodland Police Station - Council Chambers
200 East Scott Avenue
Woodland, WA 98674

- I. Call to Order
- II. Minutes for May 8, 2014
- III. Continued Business
 - A. Pump & Lake Update
 - Pump Maintenance Log
 - Lake/River Tracking Report
 - B. Water Quality Testing
 - Water Quality Testing - May 7, 2013
 - Department of Ecology Testing - 8/19/13
 - C. Goals & Priorities
 - Milfoil Eradication
 - Carp
 - Chemicals
 - Grant Opportunities
 - DOE Water Quality Grant - Centennial Funding 2015
 - Pollution Control
 - Horseshoe Lake Trail Project Update
 - Sewage Containment - 275 Pinkerton Drive
- IV. New Business
- V. Other
- VI. Adjourn - Next Meeting July 10, 2014 at 5:00 P.M.

CITY OF WOODLAND
HORSESHOE LAKE COMMITTEE MINUTES
MAY 8, 2014

The regular meeting of the Horseshoe Lake Management Committee was held on the above date, at the Woodland Police Station - Council Chambers, 200 East Scott Avenue, Woodland, WA 98674.

Chairman Tom Golik called the meeting to order at approximately 5:03 p.m. Roll call found the following:

COMMITTEE MEMBERS:

Tom Golik, Chairman
Walt Church
Mike Curry
Bill Dunlap
Terry Jones
Francis Patnode (Absent)
Pat Rychel (Absent)
Neil Van Horn (Absent)

MAYOR/COUNCIL/OTHER:

Scott Perry, Councilmember

STAFF:

Jody Bartkowski, Engineering Technician

MINUTES

The March 6, 2014 minutes were approved as corrected.

CONTINUED BUSINESS

- A. Pump and Lake Update.** Discussion ensued regarding pump readings, meeting with the Washington Department of Transportation (WSDOT) at the pump for cleaning, higher water equaling higher pumping capacity, posting of no trespassing signs, valve status, lowering the Lake level for trail construction, procedures for closing the airport valve, and the flapper lid on the River inlet.

Further discussion was held regarding the Department of Ecology weed survey, including growth, breakage, and water level at the time of testing.

- B. Water Quality & Sampling.** Open discussion was held regarding today's water quality testing, scheduling with the Washington State Department of Fish & Wildlife (WDFW), and additional testing that will be done if WDFW is able to participate.

- C. Goals and Priorities.** The following items were discussed:

Weed (Milfoil) Eradication.

Carp - Committee Member Bill Dunlap reported that he saw a group of 50-60 carp near the outlet structure. Discussion ensued regarding the type and size, carp for eating, sturgeon fishing, fishing regulations, draining of the Lake, the previous alum treatment, Lake turnover, and status of the proposed Silver Lake fishing derby.

Chemicals – No update available, waiting for WDFW input on the use of Horseshoe Lake as a "test lake".

Grant Opportunities. No changes to report.

Pollution Control. Staff reported on progress of the new Horseshoe Lake Park Trail. Open discussion was held regarding the amount of fill material near the skate park, drywell installation, rock sizing, path elevation in comparison to the parking area, and the use of fertilizer.

NEW BUSINESS

None

OTHER

- **5-MPH/No Wake Zone.** Discussion was held regarding boats not obeying the rules, milfoil breakage, policing, Lake jurisdiction, and signage. Further discussion was held regarding signage at the boat launch and trailer parking area, committee members placing reminder cards on windshields, items to include on cards, and littering.
- **Tsugawa Pumping Area.** Discussion ensued regarding a white bucket in the water, how long it has been there, and whether it should be removed.

ADJOURNMENT

The meeting was adjourned at approximately 6:10 p.m. The next regular meeting will be held Thursday, June 12, 2014, at 5:00 p.m. at the Woodland Police Station - Council Chambers, 200 East Scott Avenue, Woodland WA 98674.

Tom Golik - Chairman

Date

Jody Bartkowski - Secretary

Date

HORSESHOE LAKE TRACKING

Date	River Level 8:00 AM	Days High Temp	Lake			Valve Status (Turns Open)	Comments
			Level	Temp	Visibility		
1-Feb-14	12.16	50°				Closed	
2-Feb-14	10.67	45°				Closed	
3-Feb-14	10.62	44°				Closed	
4-Feb-14	10.25	39°				Closed	
5-Feb-14	10.02	30°				Closed	
6-Feb-14	9.69	24°				Closed	
7-Feb-14	9.72	30°				Closed	
8-Feb-14	9.71	33°				Closed	
9-Feb-14	10.60	33°				Closed	
10-Feb-14	10.81	41°	Down 7"	44°	10'	Closed	Don't let Dennis touch the valve!
11-Feb-14	10.92	49°				Closed	
12-Feb-14	12.83	56°				Closed	
13-Feb-14	13.53	55°				Closed	
14-Feb-14	13.46	56°				Closed	Lake pump screens cleaned.
15-Feb-14	13.84	53°				Closed	
16-Feb-14	14.79	50°				Closed	
17-Feb-14	14.76	51°	Plus 1"			20	Valve opened for first time this winter.
18-Feb-14	15.65	50°				20	
19-Feb-14	15.89	48°				20	
20-Feb-14	15.46	47°				20	
21-Feb-14	14.97	50°				20	
22-Feb-14	14.48	46°				20	
23-Feb-14	12.66	49°	Plus 1"	45°	11'	20	
24-Feb-14	12.14	47°				20	
25-Feb-14	11.81	54°				20	
26-Feb-14	11.36	54°				Fully Open	
27-Feb-14	11.23	44°				Fully Open	
28-Feb-14	11.34	63°	Full	46°	11'	Fully Open	
1-Mar-14	12.54	49°				Fully Open	
2-Mar-14	12.64	51°				Fully Open	
3-Mar-14	14.35	62°				Fully Open	
4-Mar-14	16.09	59°				Fully Open	
5-Mar-14	16.80	57°				Fully Open	
6-Mar-14	17.38	54°				Fully Open	
7-Mar-14	17.69	60°	Plus 2"	51°	10'	Fully Open	Notice from Pacific Corp - flows ramped up to record levels. WSDOT turned pump OFF as requested by Public Works.
8-Mar-14	18.45	55°				Fully Open	
9-Mar-14	18.47	59°				Fully Open	
10-Mar-14	20.07	56°				Fully Open	Lake pump screens cleaned with WSDOT.
11-Mar-14	16.90	59°				Fully Open	
12-Mar-14	16.50	64°				Fully Open	
13-Mar-14	16.80	59°				Fully Open	
14-Mar-14	16.50	62°				Fully Open	
15-Mar-14	15.15	64°				Fully Open	
16-Mar-14	14.90	56°				Fully Open	

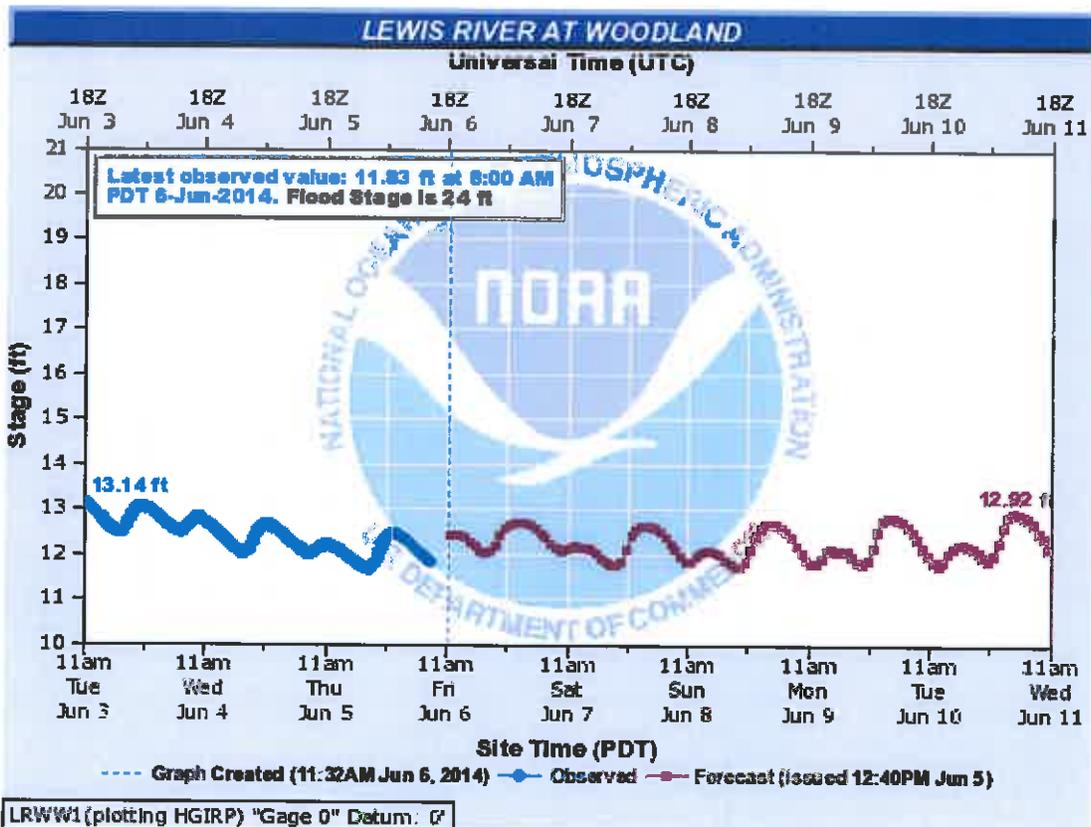
HORSESHOE LAKE TRACKING

Date	River Level 8:00 AM	Days High Temp	Lake			Valve Status (Turns Open)	Comments
			Level	Temp	Visibility		
17-Mar-14	14.82	51°	Down 3"	53°	9'	Fully Open	
18-Mar-14	14.84	55°	Down 5"	53°	9'	20	
19-Mar-14	14.61	50°				20	
20-Mar-14	13.71	50°				20	
21-Mar-14	13.32	55°				20	
22-Mar-14	12.61	63°				20	
23-Mar-14	12.21	62°	Full	53°	8'	20	Water murky.
24-Mar-14	11.58	71°				20	
25-Mar-14	11.23	57°				20	
26-Mar-14	12.02	50°				20	
27-Mar-14	12.72	58°				20	
28-Mar-14	13.89	55°				20	
29-Mar-14	14.57	55°	Plus 1"	59°	9'	20	
30-Mar-14	5.23	54°				20	
31-Mar-14	15.46	62°				20	
1-Apr-14	14.95	52°				20	
2-Apr-14	14.23	57°				Fully Open	Lake level high; lowering for trail project.
3-Apr-14	13.59	57°				Fully Open	
4-Apr-14	13.35	56°				Fully Open	
5-Apr-14	12.67	55°				Fully Open	
6-Apr-14	12.26	64°	Plus 2"	60°	10'	Fully Open	
7-Apr-14	11.63	75°				Fully Open	
8-Apr-14	11.37	69°				Fully Open	
9-Apr-14	11.50	62°				Fully Open	
10-Apr-14	11.19	64°				Fully Open	
11-Apr-14	11.63	67°				Fully Open	
12-Apr-14	11.74	64°				Fully Open	
13-Apr-14	11.68	72°	Full	59°	10'	Fully Open	
14-Apr-14	11.74	70°				Fully Open	
15-Apr-14	11.50	60°				Fully Open	
16-Apr-14	11.78	56°				Fully Open	
17-Apr-14	12.53	54°				Fully Open	
18-Apr-14	12.51	60°				Fully Open	
19-Apr-14	12.47	58°				Fully Open	
20-Apr-14	12.32	63°	Plus 1"	61°	10'	Fully Open	
21-Apr-14	11.82	64°				Fully Open	
22-Apr-14	11.33	54°				Fully Open	
23-Apr-14	12.13	53°				Fully Open	
24-Apr-14	13.38	60°				Fully Open	
25-Apr-14	14.63	57°				Fully Open	
26-Apr-14	14.45	56°	Plus 1"	60°	10'	Fully Open	
27-Apr-14	13.87	55°				Fully Open	
28-Apr-14	13.85	63°	Plus 1/2"	60°	10'	Fully Open	
29-Apr-14	13.83	78°				Fully Open	
30-Apr-14	13.81	85°				Fully Open	
1-May-14	13.69	88°				Fully Open	

HORSESHOE LAKE TRACKING

Date	River Level 8:00 AM	Days High Temp	Lake			Valve Status (Turns Open)	Comments
			Level	Temp	Visibility		
2-May-14	14.38	75°				Fully Open	
3-May-14	13.53	59°				Fully Open	
4-May-14	12.89	60°	Plus 1"	65°	10'	Fully Open	
5-May-14	12.85	61°				Fully Open	
6-May-14	13.55	66°				Fully Open	
7-May-14	14.15	66°				Fully Open	Tested water quality.
8-May-14	13.95	57°				Fully Open	
9-May-14	13.96	57°				Fully Open	
10-May-14	14.04	65°				Fully Open	
11-May-14	14.03	70°	Plus 1"	63°	10'	Fully Open	
12-May-14	13.97	78°				Fully Open	Weather getting warmer.
13-May-14	14.22	85°				Fully Open	
14-May-14	14.32	88°		67°		Fully Open	Weather is HOT.
15-May-14	13.36	82°				Fully Open	
16-May-14	12.87	72°				Fully Open	
17-May-14		69°				Fully Open	
18-May-14		60°				Fully Open	
19-May-14	14.44	72°				Fully Open	
20-May-14	14.20	74°				Fully Open	
21-May-14	14.34	73°				Fully Open	
22-May-14	13.92	81°				Fully Open	
23-May-14	13.38	70°				Fully Open	
24-May-14	13.68	68°				Fully Open	
25-May-14	13.59	67°				Fully Open	
26-May-14	13.77	70°	Full	68°	8'	Fully Open	Murky.
27-May-14	13.47	68°				Fully Open	
28-May-14	13.78	61°				Fully Open	
29-May-14	13.99	67°				Fully Open	
30-May-14	13.69	76°	Plus 1"	68°	8'	Closed	
31-May-14	14.50	75°				Closed	
1-Jun-14	13.40	74°				Closed	
2-Jun-14	12.59	75°				Closed	
3-Jun-14	13.13	71°				Closed	
4-Jun-14	12.95	73°				Closed	Tested water quality.
5-Jun-14	12.60	75°				Closed	
6-Jun-14	12.45						
7-Jun-14	12.68						
8-Jun-14	12.61						
9-Jun-14	12.42						
10-Jun-14	12.51						

**National Weather Service
Advanced Hydrologic Prediction Service
water.weather.gov/ahps/**



LRWW1 (plotting HGIRP) "Gage 0" Datum: 0'

Forecasts for the Lewis River at Woodland are issued routinely year-round.

AddyLab, LLC
2517 E. Evergreen Blvd.
Vancouver, WA. 98661



Phone: 360-750-0055
Fax: 360-750-0057
Email: reports@addylab.com

May 28, 2014

Stacie Kelsey
Inland Fish Program
Region 5 WDFW
Stacie.Kelsey@dfw.wa.gov
bartkowskij@ci.woodland.wa.us

Dear Ms. Kelsey:

Enclosed are the laboratory reports for the Horseshoe Lake water samples collected 5/08/14. All results are intended to be considered in their entirety and AddyLab, LLC is not responsible for use of less than the complete report. Results apply only to the samples submitted to the laboratory for analysis.

If you have any questions, please give me a call. The reference number for this work is 14AL0777. Thank you for your business.

Sincerely,

A handwritten signature in cursive script that reads "Thomas A. Newman".

Thomas Newman
Quality Manager

AddyLab, LLC
2517 E. Evergreen Blvd.
Vancouver, WA 98661



Phone: 360 750-0055
Fax: 360 750-0057
Email: reports@addylab.com

Analytical Report

Client: City of Woodland Public Works
Project: Horseshoe Lake
Sample ID: 1- Inlet
Report Date: 05/27/14

Reference #: 14AL0777
Date Collected: 05/08/14
Date Received: 05/08/14
Collected By: Jodie Bartkowski

Lab #	Analyte	Result	Units	MRL	Method	Date Analyzed	Batch	Analyst
14403328	E. coli	<1.0	^	2.0	SM 9223 B	05/08/14 1300	36-74	JD
A4E0859-01	Total Phosphorus*	0.030	mg/L	0.01	EPA 365.4	05/23/14	A406425	-

Definitions:

- Q RPD value not applicable for sample concentrations less than 5 times the reporting limit.
- mg/L Milligram per Liter
- MRL Method Reporting Limit
- ND Analyte Not Detected at or above the Method Detection Level (MDL).
- J An estimate that is less than the MRL but greater than or equal to the MDL
- N Matrix interference, spike sample recovery not within control limits
- ^ Most Probable Number per 100 mL
- * Total Phosphorus analyzed by BSK Associates.

Test results for pH, color, anions except o-phosphorus, E. coli, coliform bacteria, and turbidity conducted by AddyLab meet all the requirements of NELAP, unless otherwise stated in writing, and relate only to these samples. If you have any questions regarding these results contact Thomas Newman, Quality Manager.

Reviewed By: TMN Date: 5/27/14

AddyLab, LLC
2517 E. Evergreen Blvd.
Vancouver, WA 98661



Phone: 360 750-0055
Fax: 360 750-0057
Email: reports@addylab.com

Analytical Report

Client: City of Woodland Public Works **Reference #:** 14AL0777
Project: Horseshoe Lake **Date Collected:** 05/08/14
Sample ID: 3- F Dock **Date Received:** 05/08/14
Report Date: 05/27/14 **Collected By:** Jodie Bartkowski

Lab #	Analyte	Result	Units	MRL	Method	Date Analyzed	Batch	Analyst
14403329	E. coli	1.0	^	2.0	SM 9223 B	05/08/14 1300	36-74	JD
A4E0859-02	Total Phosphorus*	0.12	mg/L	0.01	EPA 365.4	05/23/14	A406425	-

Definitions: mg/L milligram per Liter
MRL Method Reporting Limit
ND Analyte Not Detected at or above the Method Detection Level (MDL).
J An estimate that is less than the MRL but greater than or equal to the MDL
N Matrix interference, spike sample recovery not within control limits
^ Most Probable Number per 100 mL
* Total Phosphorus analyzed by BSK Associates.

Test results for pH, color, anions except o-phosphorus, E. coli, coliform bacteria, and turbidity conducted by AddyLab meet all the requirements of NELAP, unless otherwise stated in writing, and relate only to these samples. If you have any questions regarding these results contact Thomas Newman, Quality Manager.

Reviewed By:  Date: 5/27/14

AddyLab, LLC
2517 E. Evergreen Blvd.
Vancouver, WA 98661



Phone: 360 750-0055
Fax: 360 750-0057
Email: reports@addylab.com

Analytical Report

Client: City of Woodland Public Works
Project: Horseshoe Lake
Sample ID: 4- Kitchen
Report Date: 05/27/14

Reference #: 14AL0777
Date Collected: 05/08/14
Date Received: 05/08/14
Collected By: Jodie Bartkowski

Lab #	Analyte	Result	Units	MRL	Method	Date Analyzed	Batch	Analyst
14403330	E. coli	17.3	^	2.0	SM 9223 B	05/08/14 1300	36-74	JD
A4E0859-03	Total Phosphorus*	0.045	mg/L	0.01	EPA 365.4	05/23/14	A406425	-

Definitions:

- mg/L Milligram per Liter
- MRL Method Reporting Limit
- ND Analyte Not Detected at or above the Method Detection Level (MDL).
- J An estimate that is less than the MRL but greater than or equal to the MDL
- N Matrix interference, spike sample recovery not within control limits
- ^ Most Probable Number per 100 mL
- * Total Phosphorus analyzed by BSK Associates.

Test results for pH, color, anions except o-phosphorus, E. coli, coliform bacteria, and turbidity conducted by AddyLab meet all the requirements of NELAP, unless otherwise stated in writing, and relate only to these samples. If you have any questions regarding these results contact Thomas Newman, Quality Manager.

Reviewed By: Tom Date: 5/27/14

AddyLab, LLC
2517 E. Evergreen Blvd.
Vancouver, WA 98661



Phone: 360 750-0056
Fax: 360 750-0057
Email: reports@addylab.com

Analytical Report

Client: City of Woodland Public Works
Project: Horseshoe Lake
Sample ID: 7- Rasp. Drain
Report Date: 05/27/14

Reference #: 14AL0777
Date Collected: 05/08/14
Date Received: 05/08/14
Collected By: Jodie Bartkowski

Lab #	Analyte	Result	Units	MRL	Method	Date Analyzed	Batch	Analyst
14403331	E. coli	16.0	^	2.0	SM 9223 B	05/08/14 1300	36-74	JD
A4E0859-04	Total Phosphorus*	0.14	mg/L	0.01	EPA 365.4	05/23/14	A406425	-

Definitions: mg/L Milligram per Liter
MRL Method Reporting Limit
ND Analyte Not Detected at or above the Method Detection Level (MDL).
J An estimate that is less than the MRL but greater than or equal to the MDL
N Matrix interference, spike sample recovery not within control limits
^ Most Probable Number per 100 mL
* Total Phosphorus analyzed by BSK Associates.

Test results for pH, color, anions except o-phosphorus, E. coli, coliform bacteria, and turbidity conducted by AddyLab meet all the requirements of NELAP, unless otherwise stated in writing, and relate only to these samples. If you have any questions regarding these results contact Thomas Newman, Quality Manager.

Reviewed By: DM Date: 5/27/14

AddyLab, LLC
 2517 E. Evergreen Blvd.
 Vancouver, WA 98661



Phone: 360 750-0055
 Fax: 360 750-0057
 Email: reports@addylab.com

Analytical Report

Client:	City of Woodland Public Works	Reference #:	14AL0777
Project:	Horseshoe Lake	Date Collected:	05/08/14
Sample ID:	9- Walts	Date Received:	05/08/14
Report Date:	05/27/14	Collected By:	Jodie Bartkowski

Lab #	Analyte	Result	Units	MRL	Method	Date Analyzed	Batch	Analyst
14403332	E. coli	1.0	^	2.0	SM 9223 B	05/08/14 1300	36-74	JD
A4E0859-05	Total Phosphorus*	0.049	mg/L	0.01	EPA 365.4	05/23/14	A406425	

Definitions:

- mg/L Milligram per Liter
- MRL Method Reporting Limit
- ND Analyte Not Detected at or above the Method Detection Level (MDL).
- J An estimate that is less than the MRL but greater than or equal to the MDL
- N Matrix interference, spike sample recovery not within control limits
- ^ Most Probable Number per 100 mL
- * Total Phosphorus analyzed by BSK Associates.

Test results for pH, color, anions except o-phosphorus, E. coli, coliform bacteria, and turbidity conducted by AddyLab meet all the requirements of NELAP, unless otherwise stated in writing, and relate only to these samples. If you have any questions regarding these results contact Thomas Newman, Quality Manager.

Reviewed By: *TNW* Date: 5/27/14

2517 E. Evergreen Blvd.
Vancouver, WA. 98661



Phone: 360-750-0055
Fax: 360-750-0057
Email: info@addylab.com

14AL0777

CHAIN OF CUSTODY REPORT

CLIENT / SYSTEM NAME: City of Woodland
REPORT TO: ADDRESS OR EMAIL
bartkowskij@ci.woodland.wa.us
Stacie Leisy@dfw.wa.gov
PHONE: 205-7499 FAX: 205-7407

INVOICE TO:
Woodland City Plw
PO Box 9
Woodland WA 98674
PO NUMBER:

REF#

TURNAROUND REQUEST in Business Days*

Organic & Inorganic Analyses

STD. 10 7 5 4 3 2 1 <1

Petroleum Hydrocarbon Analyses

STD. 5 4 3 2 1 <1

OTHER Please Specify _____

*Turnaround Requests less than standard may incur Rush Charges.

CLIENT SAMPLE IDENTIFICATION	SAMPLING DATE/TIME	REQUESTED ANALYSES																		
		Total Ph	E. coli																	
1. Lake Inlet ①	5/8/14 - 10:20	X	X																	
2. F. Dock ③	5/8/14 - 10:30	X	X																	
3. L. of Kitchen ④	5/8/14 - 10:35	X	X																	
4. Raspberry ⑦	5/8/14 - 10:55	X	X																	
5. Walt's Fence ⑨	5/8/14 - 11:07	X	X																	
6.																				
7.																				
8.																				
9.																				
10.																				

MATRIX (W, S, O)	# OF CONT.	SAMPLE LOCATION / COMMENTS
W		
"		
"		
"		
"		
"		
"		
"		
"		
"		

Compliance: WA OR System / PWS ID #: _____ DOH Source / Source ID #: _____ Group (WA Only): A B

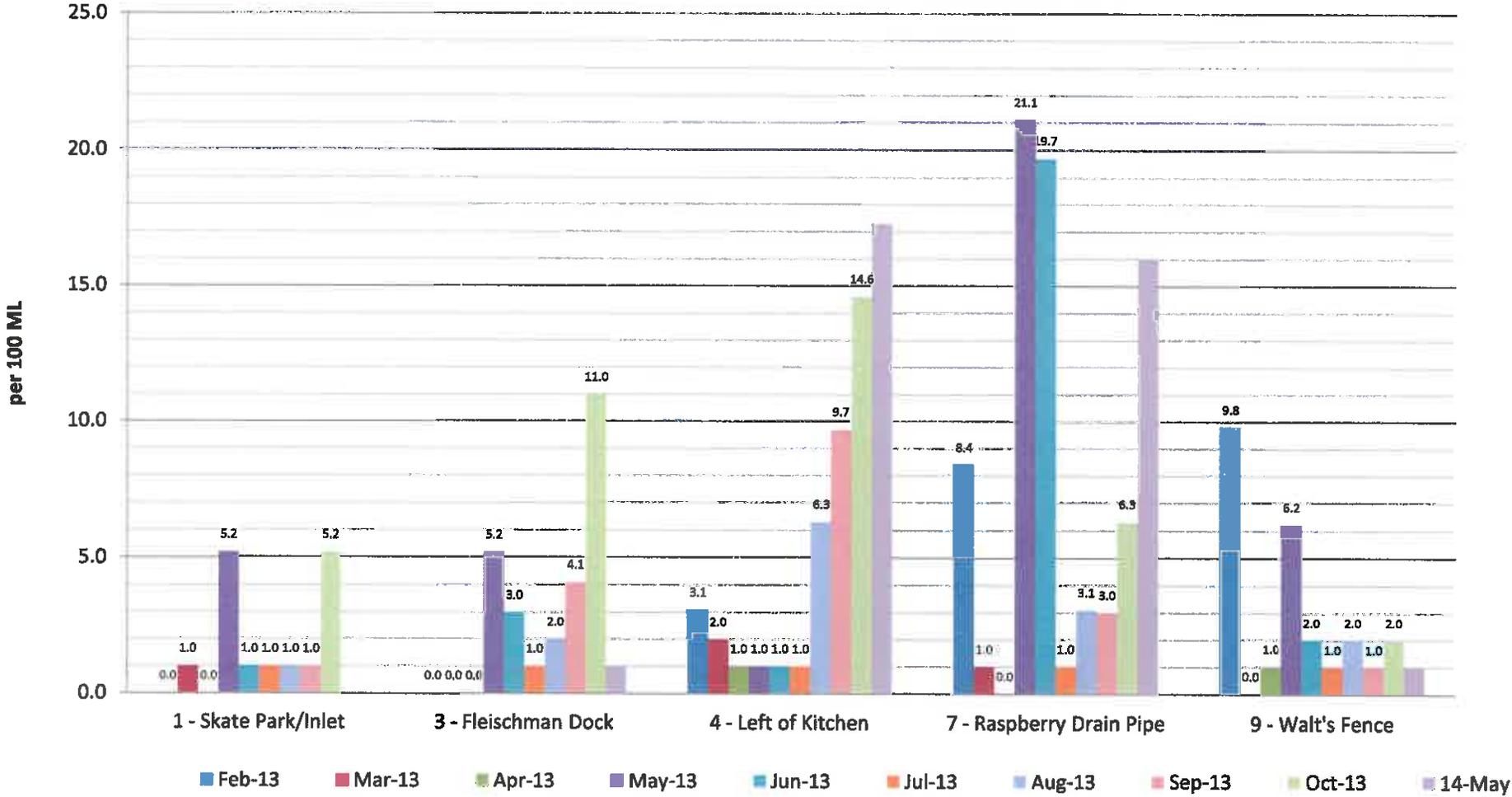
Sample Composition: Single Source _____ Blended _____ Composite _____ Distribution Sample _____

Sample Taken: Before Treatment _____ After Treatment _____ No Treatment _____

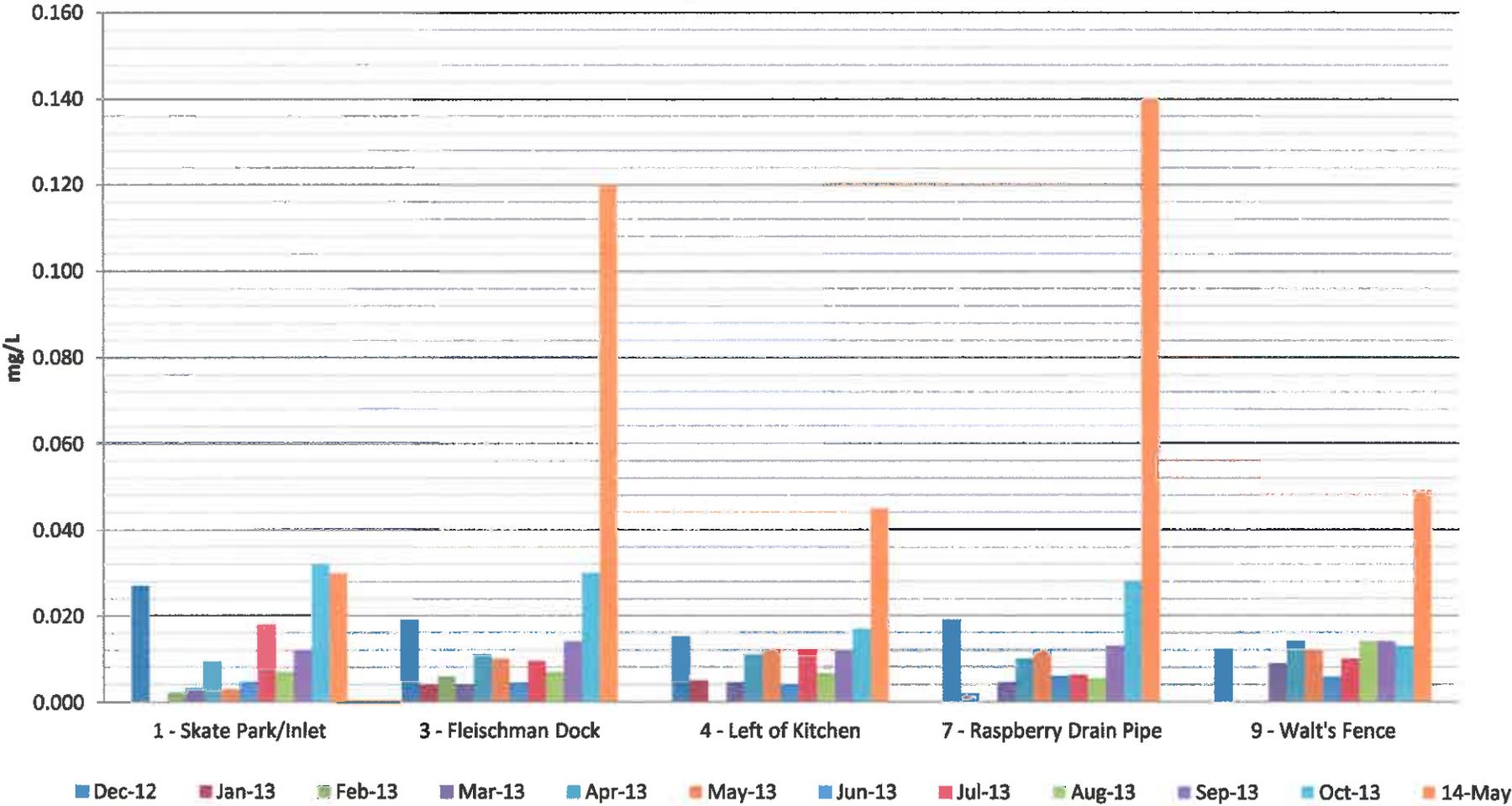
County _____

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME	TEMP
Jody Bartkowski	City of Woodland	5/8/14	12:14	Dustin Hansen		5/8/14	12:14	17°C AL
Amanda Mundy	AddyLab	5-8-14	12:30					

Horseshoe Lake Addy Lab Test Results E. Coli



Horseshoe Lake Addy Lab Test Results Phosphorus



Waterbody Name: Horseshoe Lake

County: Cowlitz

Date: 8/19/2013 **Comments:** Weather sunny, light breeze. Surface temp 24 C. Water green. Popular swimming area at the park. Very little plant growth, maybe treated around swimming area? Milfoil found at far SE end. Water quality data being collected by the lake committee this year.

<i>Scientific name</i>	<i>Common name</i>	<i>Distribution Value*</i>	<i>Comments</i>
<i>Eleocharis sp.</i>	spike-rush	2	
<i>Elodea sp.</i>	waterweed	2	some narrow leaved, <i>E. nuttallii</i> ?
<i>Iris pseudacorus</i>	yellow flag	2	patches
<i>Juncus sp.</i>	rush	2	
<i>Juncus sp. or Eleocharis sp.</i>	small grass-like plants	2	
<i>Myriophyllum spicatum</i>	Eurasian water-milfoil	2	rooted plants at SE end, fragments seen in scattered locations
<i>Nitella sp.</i>	stonewort	2	
<i>Phalaris arundinacia</i>	reed canarygrass	3	along much of shore
<i>Potamogeton nodosus</i>	longleaf pondweed	2	
<i>Potamogeton sp (thin leaved)</i>	thin leaved pondweed	1	
<i>Salix sp.</i>	willow	2	
<i>Schoenoplectus tabernaemont</i>	softstem bulrush	2	
<i>Typha latifolia</i>	common cat-tail	1	

Lake level at the time of testing: 15" below top of Outlet.

* 1 = scarce; in 1 or a few locations 2 = common, with a wide patchy distribution
 3 = large patches, codominant with other species 4 = dominant, but other species present
 5 = monospecific, dense growth excluding other species

GRASS CARP PERMIT REQUIREMENT HIGHLIGHTS

- Grass carp cannot be stocked where they will be detrimental to any population of a state- or federal-listed threatened or endangered species, or their habitat
- Grass carp stocked into water bodies within the 100-year flood plain must be removed annually during seasons of potential flooding.
- All inlets and outlets of water bodies into which grass carp will be stocked must be screened with screens approved by ODFW. (Note: at a minimum, screens must be 1) self-cleaning or 2) fixed panels installed in tandem to allow one screen at a time to be removed for cleaning, with a third backup screen available for emergency replacement. Each screen must have openings 1 inch or less for fish stocked 12-19 inches total length, or 2 inches or less for fish stocked over 19 inches total length.)
- Part of the approval process to stock grass carp includes an on-site visit and evaluation by an ODFW fish biologist.
- Grass carp may only be stocked into water bodies on private land or land owned or controlled by an irrigation or drainage district; public access must be restricted in order that no individual or entity may remove grass carp from the site and transport them to any other site without prior written approval from ODFW.
- Each grass carp must be implanted with a unique Passive Induced Transmitter tag (PIT-tag) of frequency 134.2 kilohertz.
- Grass carp stocked must be 12 inches or greater in length.

- Stocking will occur only in lakes, ponds, or reservoirs less than 10 acres; or ditches and canals.

These are a few of the primary requirements to obtain grass carp. If you feel that you can meet these requirements, the process to obtain a grass carp stocking permit begins with a call to the Grass Carp Coordinator at ODFW. The telephone number is 503. 947. 6200. The Coordinator will discuss your specific situation with you and will send an application packet afterwards if you desire.

Once ODFW receives an application from you, review can take up to 8 weeks, so please plan in advance.

ADDITIONAL INFORMATION

Aquatic weed management techniques:

www.clr.pdx.edu/publications/iavmp.pdf

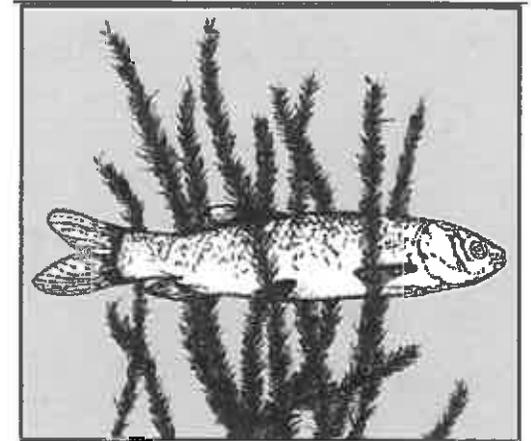
Aquatic plant identification:

<http://aquaplant.tamu.edu/>

<http://dnr.metrokc.gov/wlr/waterres/smlakes/weed.htm>

http://www.ppws.vt.edu/scott/weed_id/aquatics.htm

THE USE OF GRASS CARP TO CONTROL AQUATIC WEEDS



**Oregon Department of Fish
and Wildlife
Grass Carp Coordinator
3406 Cherry Avenue NE
Salem OR 97303**

(503) 947- 6200

Aquatic weeds can be a serious problem for pond owners in Oregon. They restrict access to fishing areas, reduce fish harvest, and decrease the usefulness, attractiveness and aesthetic values of a pond. Herbicides, water change regimes, dyes, nutrient loading, proper pond construction, pond renovation and biological methods can successfully control unwanted aquatic weed growth. The physical and chemical characteristics of the pond and the pond owner's objectives dictate which method is most appropriate. One method of aquatic weed control is the use of sterile triploid grass carp.



A nine- inch triploid grass carp stocked in a pond with heavy weed infestation grew to a length of 29 inches and weight of almost 20 pounds in 16 months.

Grass carp (*Ctenopharyngodon idella*) occur naturally in large rivers of eastern China and the former Soviet Union. The U.S. Bureau of Sport Fisheries and Wildlife introduced it into the United States in 1963 in cooperation with Auburn University. The feeding habits of the grass carp were well known and it was thought to have great potential as a biological weed control agent. However, many concerns existed about grass carp reproducing in the wild and becoming an environmental nuisance by destroying valuable areas such as wetlands, swamps, and waterfowl feeding grounds. Because of these concerns, early research focused on developing a sterile single population. Attempts included creating single gender populations, which resulted in sterile hybrids; success was limited because these methods were seldom 100% effective and verification of sterility was difficult. In the early

1980s researchers and commercial producers began treating eggs with heat, cold, or pressure to produce fish with abnormal chromosome numbers. The normal diploid grass carp has 48 chromosomes; the triploid grass car has 72. These extra chromosomes result in sterility. Oregon law requires each grass carp be verified and documented as a triploid by the U.S. Fish and Wildlife Service.

FEEDING HABITS

Triploid grass carp prefer succulent young submersed plants. Recent field studies in Washington State have shown that use of grass carp for maintenance of desired level of vegetation has rarely been successful. Use of grass carp can also increase non native plants as grass carp selectively remove highly preferred native plants. The table below lists some common aquatic plants and rates them by grass carp preference.

Table 1. Feeding preferences of grass carp on some common aquatic plants

HIGH	LOW
Elodea (American and Brazilian) Water celery Pondweed (thin leaved)	Cattail Arrowhead Bulrush Milfoil
MODERATE	Parrot feather Reeds Sedges Filamentous Algae
Bladderwort Coontail Duckweeds Fanwort Pondweeds (broad leaved) Water pennywort	Water Hyacinth Waterlily Watermeal Watershield Yellow cowlily

Use of grass carp can also increase non- native plants as grass carp selectively remove highly preferred native plants. In most situations, complete removal of vegetation is not desirable as it provides cover for other fish and attachment surfaces for fish food organisms.

STOCKING RATES

Stocking rates vary depending on plant species, distribution, density, and the pond owner's objectives. In Oregon, the stocked limit of grass carp per acre is 22 fish.

WHAT ELSE SHOULD I KNOW?

Combining grass carp and other methods can reduce the number of fish and time required to control aquatic weeds. For example, mechanical removal can be used before fish introductions. If the established vegetation is removed, fewer fish can control the tender new growth.

Time of stocking affects the initial degree of weed control. Fish are cold- blooded animals whose feeding rates and metabolism are affected by water temperature. Grass carp feeding is greatest when water temperatures are between 70°F and 80°F and negligible when water temperatures are less than 50°F. Mortality associated with handling stress is less when water temperatures are cooler; fish stocked in the late spring are more likely to survive, but they will not begin feeding heavily until early summer.

Grass carp will not reproduce in ponds. The lifespan of grass carp is between 10 to 20 years. Grass carp will provide effective vegetation control for eight to ten years. Once stocked, grass carp are extremely difficult to remove from ponds. They are almost impossible to remove by seining or angling. The only option is draining the pond.

Fishing Contests

 Buy Your License Online!

The table below lists all bass, walleye, trout, tiger muskie, and mixed species contests to be held in Washington State waters during the 2013 and 2014 Calendar Year. *Please note that this list is subject to change.*

- **A largemouth bass restriction** is in effect for bass fishing contests held on Banks Lake (Grant Co.) and Long Lake (Spokane Co.) during May and June – Only one largemouth bass 17" or greater may be retained per person.
- **Columbia River*** - Columbia River below Bonneville Dam

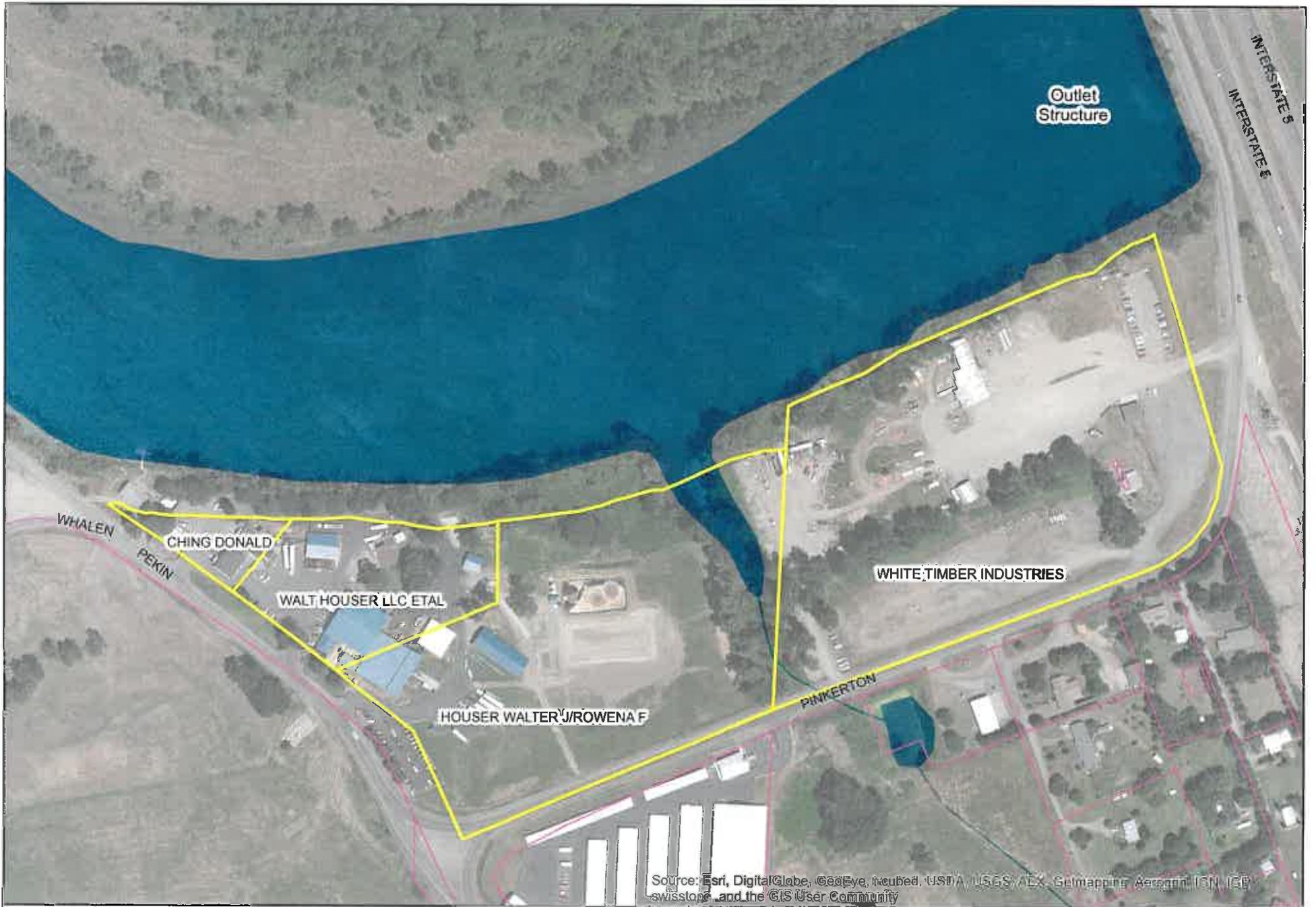
Other Information

- Fishing Contest Rules, Applications and Reporting
- Bass and Walleye Fishing Contest Result Summaries

2014 Fishing Contest Calendar

Updated June 2, 2014

County	Body of Water	Date Start	Date End	Sponsor	Species	Who May Qualify		
Asotin	Grande Ronde River	2/7/2014	4/12/2014	Boggan's Oasis	Hatchery Steelhead	Open		
Benton	Lake Wallula	5/17/2014	5/18/2014	Northwest Bass	Bass	Members		
		6/21/2014	6/22/2014	American Bass Association - Washington	Bass	Members		
		8/23/2014	8/24/2014	Washington State B.A.S.S. Nation	Bass	Members		
		9/5/2014	9/6/2014	American Bass Association - Washington	Bass	Members		
		10/11/2014	10/12/2014	Columbia Basin Bass Club	Bass	Members		
		3/1/2014	3/2/2014	Ranch & Home	Walleye	Open		
		8/16/2014	8/16/2014	American Bass Association - Oregon	Bass	Members		
Chelan	Fish Lake	5/3/2014	5/3/2014	Bill Wilson Family and Friends Invitational	Trout	Members		
		6/8/2014	6/8/2014	Lake Wenatchee Recreational Club	Trout, Bass, Perch	Open		
	6/14/2014	6/14/2014	Icicle Creek Chapter TU	Trout	Open			
	Lake Chelan	5/17/2014	5/17/2014	Central WA Bass Club	Bass	Members		
		5/17/2014	5/17/2014	Student Angler Federation	Bass	Members		
			6/7/2014	6/8/2014	Chelan Bass Club	Bass	Open	
			7/12/2014	7/13/2014	Northend Bass Club	Bass	Members	
			8/16/2014	8/17/2014	Washington Bass Association	Bass	Members	
			8/16/2014	8/17/2014	Wenatchee Valley Bass Club	Bass	Open	
			8/23/2014	8/24/2014	Washington State Bass Federation	Bass	Members	
			9/13/2014	9/13/2014	Potholes Bass Club	Bass	Members	
			Lake Entiat	6/13/2014	6/13/2014	East Wenatchee Rotary Club	Northern Pike/minnow	Open
			Wapato Lake	6/14/2014	6/15/2014	Wenatchee Valley Bass Club	Bass	Open
	Wenatchee Valley College Fountain	5/30/2014	5/30/2014	Wenatchee Valley College	Trout	Open		
Cowlitz	Lake Merwin	9/6/2014	9/7/2014	NW Tiger Pac	Tiger Muskie	Open		
		10/11/2014	10/12/2014	NW Tiger Pac	Tiger Muskie	Open		
	Silver Lake	4/26/2014	4/27/2014	Capital City Bass Club	Bass	Open		
		5/3/2014	5/4/2014	ML St. Helens Bass Masters	Bass	Open		
		8/21/2014	8/22/2014	WDFW Region 5	Grass Carp	Open		
			7/19/2014	7/20/2014	WDFW Region 5	Grass Carp	Open	
			8/2/2014	8/3/2014	WDFW Region 5	Grass Carp	Open	
Douglas	Jameson Lake	5/24/2014	5/25/2014	Jack's Resort	Trout	Open		
Ferry	Curlew Lake	9/19/2014	9/21/2014	Mountain Muskies	Tiger Muskie	Open		
Franklin	Scootenesy Reservoir	6/7/2014	6/7/2014	Ringold Chapter Pheasants Forever	Bass, Walleye	Members		
Grant	Banks Lake	4/12/2014	4/13/2014	Northwest Bass	Bass	Members		
		4/26/2014	4/27/2014	Washington State B.A.S.S. Nation	Bass	Members		
		4/26/2014	4/26/2014	Grand Coulee Dam Area Chamber of Commerce	Trout	Open - Adults		
		4/26/2014	4/26/2014	Grand Coulee Dam Area Chamber of Commerce	Trout	Open - Juveniles		
		4/27/2014	4/27/2014	Grand Coulee Dam Area Chamber of Commerce	Trout	Open - Adults		
		4/27/2014	4/27/2014	Grand Coulee Dam Area Chamber of Commerce	Trout	Open - Juveniles		
		5/17/2014	5/18/2014	Gem Enterprises	Walleye	Open		
		5/24/2014	5/26/2014	Washington State Bass Federation	Bass	Open		



Jody Bartkowski

From: Mary Parsons
Sent: Thursday, May 22, 2014 1:34 PM
To: Jody Bartkowski
Subject: FW: Walt Church complaint

Hi Jody,

Here is the response from Andrea, with Cowlitz County Environmental Health regarding the RV on the property located at 275 Pinkerton.

Thanks
Mary

From: Yoho, Andrea [<mailto:YohoA@co.cowlitz.wa.us>]
Sent: Thursday, May 22, 2014 11:23 AM
To: Mary Parsons
Subject: RE: Walt Church complaint

White Timber RV sewage response

Hello Mary,

I spoke with the owner of 275 Pinkerton and he explained to me that the purpose of the RV is for their business' night-watchman. Apparently they have had issues with theft in the past. Regarding the RV's method of sewage disposal, the RV is self contained and they have it pumped regularly by a licensed professional. I hope this information eases Mr. Church's mind as well as the Horseshoe Lake Management Committee. If you, or they, have any more questions, please feel free to ask.

Sincerely,

Andrea Yoho
Environmental Health Specialist
Cowlitz County Department of Health
(360) 414-5599 Ext 6447

Cowlitz County Contact

From: Mary Parsons [<mailto:ParsonsM@ci.woodland.wa.us>]
Sent: Tuesday, May 06, 2014 2:45 PM
To: Yoho, Andrea
Subject: FW: Walt Church complaint

Good afternoon,

Walt Church called this afternoon wanting to know the status of this of his complaint (below). I told him that I forwarded this to Cowlitz Environmental Health. Walt asked that you contact him at the number below.