South Coast Basin Status Report Appendices

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Appendix A: Section 303D and 305B Information

Every two years, DEQ is required to assess water quality and report to EPA on the condition of Oregon's waters. DEQ prepares an Integrated Report that meets the requirements of the federal Clean Water Act (CWA) for Section 305(b) and Section 303(d).

CWA Section 305(b) requires a report on the overall condition of Oregon's waters.
CWA Section 303(d) requires identifying waters that do not meet water quality standards and where a Total Maximum Daily Load (TMDL) needs to be developed.

The Integrated Report includes an assessment of each water body where data are available, and the list of waters identified under Section 303(d) as water quality limited and needing a TMDL.

DEQ submitted Oregon's 2010 Integrated Report and 303(d) list to EPA in May 2011. On March 15, 2012, the EPA partially approved and partially disapproved Oregon's 2010 303(d) list consistent with the requirements of Clean Water Act (CWA) Section 303(d) and 40 CFR 130.7. As required by the EPA regulations at 40 CFR §130.7(d)(2), the Agency conducted its own assessment and identified 1004 water quality limited segment/pollutant pairs not meeting the state's water quality standards and accepted public comment on the proposed additions between March 15, 2012 and April 30, 2012.

After considering comments received from the public, the EPA is adding 870 water quality limited segment/pollutant pairs to Oregon's 2010 List. Enclosed are: 1) the final list of additional water quality limited segment/pollutant pairs to add to Oregon's 2010 303(d) list; 2) the decision rationale which provides further explanation of the EPA's decision on this action; and 3) a detailed response to public comments. ODEQ must add these additional water quality limited segment/pollutant pairs to its long term schedule for TMDL development.

In the future, the EPA expects ODEQ will:

- use a sediment listing methodology such as the EPA used for its additions to Oregon's 2010 List;
- develop and use listing methodologies for narrative water quality standards;
- include all biological impairments in Category 5;
- assess all water quality standards, including narrative and numeric criterion, designated uses, and antidegradation on all waters in Oregon; and
- solicit and gather all existing and readily available information regarding water quality, including reviewing information in STORET (now WQX) and other readily accessible federal databases and information sources such as human health and ecological risk assessments, and other available information from Superfund, RCRA, or state hazardous substances cleanup sites.

DEQ is in the process of completing the 2012 Integrated Report and 303(d) list. The draft list of water quality limited waters is open for public review and comment: January 2, 2014 through February 3, 2014. For the 2012 Integrated Report DEQ is implementing the Watershed Approach and issued a focused call for data from two priority basins: Willamette and Umatilla.

The following tables identify the status of water quality conditions by sub-basin. Tables titled "Insufficient Data" identify waterbodies and parameters where some data is available and that

data indicates that the identified parameter has been exceeded criteria but the data set is not of sufficient size to fully evaluate the parameter for 303d listing purposes.

Table 1 - Coos Sub-basin 2010 303d Listing Requiring a TMDL			
Waterbody (Stream/Lake)	**River Miles**	**Parameter**	**Season**
Eel Creek	0 to 2.5	Biological Criteria	Year Around
Isthmus Slough	0 to 10.6	Dissolved Oxygen	June 1 - September 30
Millicoma River	0 to 8.9		October 1 - May 31
South Fork Coos River	0 to 2.6		Year Around
Sunset Beach	NA	Enterococcus (Recreational Contact)	Year Around
Bastendorff Beach			Summer
Catching Slough	0 to 5.6	Fecal Coliform (Recreational Contact)	FallWinterSpring
Haynes Inlet	0 to 3.3		FallWinterSpring
Kentuck Slough	0 to 2.2		FallWinterSpring
Larson Slough	0 to 3.9		Year Around
Pony Creek	0 to 5.8		FallWinterSpring
Stock Slough	0 to 1.1		Year Around
Willanch Slough	0.7 to 2.8		
North Slough	0 to 2.4	Fecal Coliform (Shellfish Growing)	Year Around
Catching Creek	0 to 4.6		
Catching Slough	0 to 5.6		
Coalbank Slough	0 to 0.5		
Coos Bay	0 to 7.8		
Coos Bay	7.8 to 12.3		
Coos River	0 to 6.5		
Echo Creek	0 to 2.5		
Haynes Inlet	0 to 3.3		
Isthmus Slough	0 to 10.6		
Joe Ney Slough	0 to 2.2		
Kentuck Slough	0 to 2.2		
Larson Slough	0 to 3.9		
Millicoma River	0 to 8.9		
North Inlet	0 to 3.3		
Palouse Creek	0 to 10.5		
Pony Creek	0 to 5.8		
Pony Slough	0 to 0.8		
Ross Slough	0 to 3.1		
Shinglehouse Slough	0 to 0.8		
South Fork Coos River	0 to 31.1		
South Slough	0 to 5.3		
Stock Slough	0 to 1.1		
Willanch Creek	0 to 3.9		
Winchester Creek	0 to 5.4		
Elk Creek	0 to 8.7	Iron	Year Around
Isthmus Slough	0 to 10.6	Manganese	Year Around

Table 1 - Coos Sub-basin 2010 303d Listing Requiring a TMDL			
Waterbody (Stream/Lake)	**River Miles**	**Parameter**	**Season**
Cedar Creek	0 to 11.6	Temperature	Year Around (Non-spawning)
Williams River	0 to 20.9		
Fiddle Creek	0 to 13.4		
Burnt Creek	0 to 2.6		
Tioga Creek	0 to 17.5		
Tioga Creek	0 to 16.2	Temperature	October 15 – May 15
EPA Additions			
Catching Creek	0 to 4.6	Biological Criteria	Year Round
Cedar Creek	0 to 11.6		
Johnson Creek	0 to 9.3		
Murphy Creek	0 to 3.9		
Unnamed Stream	0 to 1.8		
Williams River	0 to 16.2		
Winchester Creek	0 to 5.4		
Tenmile and North Tenmile Lakes	0 to 4.5	chlorophyll a	Summer
Kentuck Slough	0 to 2.2	Dissolved Oxygen	May 16 - Dec 31
Kentuck Slough	0 to 2.2		Jan 1 - May 15
Millicoma River	0 to 8.9		Year Round
Millicoma River	0 to 8.9		
Catching Creek	0 to 11.2	*e. Coli*	Fall-Winter-Spring
Kentuck Slough	0 to 2.2		
Mettman Creek	0 to 3.5		
Stock Slough	0 to 1.1		
Pony Creek	0 to 5.8		
Catching Creek	0 to 4.6		Summer
Catching Creek	0 to 11.2		
Larson Slough	0 to 3.9		
Pony Creek	0 to 5.8		
Ross Slough	0 to 3.1		
South Slough	0 to 5.3		
Stock Slough	0 to 1.1		
Coalbank Slough	0.5 to 2.5	Fecal Coliform	Year Round
Cooston Channel	0 to 3		
Davis Slough	0 to 1.3		
Day Inlet	0 to 0.6		
Larson Creek	0 to 4.1		
Mettman Creek	0 to 3.5		
Noble Creek	0 to 3.6		
Sullivan Creek	0 to 3.3		
Noble Creek	0 to 3.6	pH	fall-winter-spring
Tenmile Lake	0 to 5		Summer
Arrow Creek	0 to 4.3	Temperature	Year Around Non Spawning
Bottom Creek	0 to 9.7		
Daniels Creek	0 to 7.7		
Deer Creek	0 to 4		
Deton Creek	0 to 2.4		
Elk Creek	0 to 8.7		

Table 1 - Coos Sub-basin 2010 303d Listing Requiring a TMDL			
Waterbody (Stream/Lake)	**River Miles**	**Parameter**	**Season**
Fall Creek	0 to 7.7		
Hog Ranch Creek	0 to 2.2		
Kelly Creek	0 to 1.4		
Kentuck Creek	0 to 3.4		
Mettman Creek	0 to 3.5		
Morgan Creek	0 to 4.6		
North Slough	0 to 6.1		
Packard Creek	0 to 2.3		
Palouse Creek	0 to 10.5		
Panther Creek	0 to 2.4		
South Fork Coos River	0 to 31.1		
Sullivan Creek	0 to 3.3		
West Fork Millicoma River	0 to 34.8		
Wilson Creek	0 to 6.6		
Bessey Creek	0 to 2.4		Year Around
Catching Creek	1.4 to 4.6		
Coalbank Slough	2.4 to 2.5		
Eel Creek	0 to 2.5		
Larson Creek	0 to 4.1		
Larson Slough	0.2 to 3.9		
Mart Davis Creek	0 to 2.9		
Noble Creek	0 to 3.6		
Pony Creek	0 to 5.8		
Ross Slough	0 to 5.2		
Stock Slough	0 to 2.3		
Willanch Slough	0.7 to 2.8		

Table 2 – Coos Sub-basin Insufficient Data			
Waterbody (Stream/Lake)	**River Mile**	**Parameter**	**Season**
East Fork Millicoma River	0 to 23.7	Alkalinity	Year Around
Elk Creek	0 to 8.7		
Millicoma River	0 to 8.9		
Miner Creek	0 to 1.8		
South Fork Coos River	0 to 31.1		
Tioga Creek	0 to 17.5		
West Fork Millicoma River	0 to 34.8		
West Fork Silver Creek	0 to 1.7		
Williams River	0 to 20.9		
Bell Creek	0 to 3.6	Biological Criteria	
Fivemile Creek	0 to 9.9		
Williams River	15.6 to 20.9		
Benson Creek	0 to 8.2		
Panther Creek	0 to 5.3		
West Fork Millicoma River	18.4 to 29.7		
Millicoma River	0 to 8.9	Chlorophyll a	Summer

Table 2 – Coos Sub-basin Insufficient Data			
Waterbody (Stream/Lake)	**River Mile**	**Parameter**	**Season**
South Fork Coos River	0 to 31.1		
Coos Bay	7.8 to 12.3	Chromium (hex)	Undefined
Coos Bay	7.8 to 12.3	Copper	
Adams Creek	0 to 5.4	Dissolved Oxygen	Year Around (Non-spawning)
Benson Creek	0 to 8.2		
Johnson Creek	0 to 9.3		
North Tenmile Lake	0 to 4.5		
Panther Creek	0 to 5.3		
Shutter Creek	0 to 2		
Tenmile Creek	0 to 5		
Tenmile Lake	0 to 5		
Tioga Creek	0 to 17.5		
Sullivan Creek	0 to 3.3	*e. Coli*	Summer
Isthmus Slough	10.6 to 12.9	Fecal Coliform	Year Around
Day Creek	0 to 1.4	Iron	
Panther Creek	0 to 5.3	Iron	
Storey Creek	0 to 1.3	Iron	
Day Creek	0 to 1.4	Manganese	
Coos Bay	7.8 to 12.3	Lead	Undefined
Coos Bay	7.8 to 12.3	Nickel	
North Tenmile Lake	0 to 0	pH	Summer
Eel Lake	0 to 2.5		
Adams Creek	0 to 5.4	Phosphate Phosphorus	
Mettman Creek	0 to 3.5		
Miner Creek	0 to 1.8		
Tioga Creek	0 to 17.5		
Benson Creek	0 to 8.2	Sedimentation	Undefined
Big Creek	0 to 8.4		
Johnson Creek	0 to 9.3		
Shutter Creek	0 to 2		
Big Creek	0 to 8.4		
Clear Creek	0 to 3.8		
Coos Bay	0 to 7.8		
Coos Bay	7.8 to 12.3		
Coos River	0 to 6.5		
Daniels Creek	0 to 7.7		
Day Creek	0 to 1.4		
Fall Creek	0 to 7.7		
Horsfall Lake (Spirit Lake)	0 to 0		
Joe Ney Slough	0 to 2.2		
Johnson Creek	0 to 9.3		
Kentuck Slough	0 to 2.2		
Larson Slough	0 to 3.9		
Matson Creek	0 to 11.2		
Millicoma River	0 to 8.9		
Morgan Creek	0 to 4.6		
North Slough	0 to 2.4		

Table 2 – Coos Sub-basin Insufficient Data			
Waterbody (Stream/Lake)	**River Mile**	**Parameter**	**Season**
Palouse Creek	0 to 10.5		
South Fork Coos River	0 to 31.1		
South Slough	0 to 5.3		
Storey Creek	0 to 1.3		
Tenmile Creek	0 to 5		
Williams River	0 to 20.9		
Catching Slough	0 to 5.6	Tributyltin	Year Around
Coos Bay	7.8 to 12.3		
North Slough	0 to 2.4		
Coos Bay	7.8 to 12.3	Zinc	Undefined

Table 3 – Coquille Sub-Basin 2010 303d Listings Requiring a TMDL			
Waterbody (Stream/Lake)	**River Miles**	**Parameter**	**Season**
Sru Lake	0 to 0	Aquatic Weeds Or Algae	Undefined
Coquille River	4.2 to 35.6	Chlorophyll a	Summer
Bear Creek	0 to 13.2	Dissolved Oxygen	Fall Winter Spring
Coquille River	0 to 35.6		January 1 - May 15
North Fork Coquille River	0 to 18.5		
Middle Fork Coquille River	0 to 11.2		October 15 - May 15
South Fork Coquille River	4.7 to 18.1		
Cunningham Creek	0 to 7.4		Year Around
Middle Fork Coquille River	0 to 11.2		Year Around (Non-spawning)
North Fork Coquille River	0 to 27.9		
South Fork Coquille River	0 to 18.1		
Bear Creek	0 to 13.2	Fecal Coliform Recreational Contact	FallWinterSpring
Coquille River	4.2 to 35.6		
Cunningham Creek	0 to 7.4		
Cunningham Creek	0 to 7.4		Summer
Bear Creek	0 to 13.2	Fecal Coliform Shellfish Growing	Year Around
Coquille River	0 to 4.2		
Coquille River	4.2 to 35.6		
Ferry Creek	0 to 3.6		
Fishtrap Creek	0 to 4.7	Iron	
Baker Creek	0 to 2.9	Temperature	Summer
Belieu Creek	0 to 3.1		
Coquille River	21 to 35.3		
East Fork Coquille River	0 to 26.2		
Rowland Creek	0 to 4.6		
Salmon Creek	0 to 9.2		
Unnamed1	0 to 3.6		
Woodward Creek	0 to 7.6		
Alder Creek	0 to 3.1		Year Around (Non-spawning)
Battle Creek	0 to 1.5		
Bingham Creek	0 to 2		
Boulder Creek	0 to 4.1		
Dice Creek	0 to 4.2		
Elk Creek	0 to 5.7		

Table 3 – Coquille Sub-Basin 2010 303d Listings Requiring a TMDL			
Waterbody (Stream/Lake)	**River Miles**	**Parameter**	**Season**
Middle Creek	0 to 24.2		
Middle Fork Coquille River	11.2 to 39.6		
Moon Creek	0 to 4.7		
North Fork Coquille River	0 to 27.9		
North Fork Coquille River	27.9 to 52.3		
Rock Creek	0 to 11.5		
South Fork Coquille River	18.1 to 61.9		
Twelvemile Creek	0 to 10.2		
EPA Additions			
Bill Creek	0 to 7.7	Biological Criteria	Year Round
Hudson Creek	0 to 6.3		
Johns Creek	0 to 2.5		
Lake Creek	0 to 0.9		
Mill Creek	0 to 2		
Myrtle Creek	0 to 17		
North Fork Coquille River	0 to 48.6		
South Fork Coquille River	0 to 51.9		
South Fork Coquille River	53.4 to 61.9		
Steel Creek	0 to 4.9		
Ward Creek	0 to 3.3		
Hall Creek	0 to 9	Dissolved Oxygen	May 16 - Dec 31
Middle Fork Coquille River	0 to 39.6		Jun 16 - Dec 31
Mill Creek	0 to 2		May 16 - Dec 31
Reed Creek	0 to 3.4		Jun 16 - Dec 31
Bear Creek	0 to 13.2	*e. Coli*	Fall-Winter-Spring
Calloway Creek	0 to 1.9		
Coquille River	4.2 to 35.6		
Cunningham Creek	0 to 7.4		
Lampa Creek	0 to 5.7		
Middle Fork Coquille River	0 to 39.6		
North Fork Coquille River	0 to 19		
Reed Creek	0 to 2.5		
South Fork Coquille River	0 to 18.9		
Calloway Creek	0 to 1.9		Summer
Cunningham Creek	0 to 7.4		
Hall Creek	0 to 9		
Lampa Creek	0 to 5.7		
Middle Fork Coquille River	0 to 39.6		
North Fork Coquille River	0 to 19		
Reed Creek	0 to 2.5		
North Fork Coquille River	0 to 19	Fecal Coliform	Year Round
Bear Creek	0 to 13.2	Temperature	Year Around Non Spawning
Hatchet Slough	0 to 3.5		
Middle Fork Coquille River	0 to 11.2		
South Fork Coquille River	0 to 18.1		
Catching Creek	0 to 11.1		Year Around
Hall Creek	0 to 9		
Jim Belieu Creek	0 to 3.7		
Lampa Creek	0 to 5.7		

Table 3 – Coquille Sub-Basin 2010 303d Listings Requiring a TMDL			
Waterbody (Stream/Lake)	**River Miles**	**Parameter**	**Season**
Reed Creek	0 to 3.4		
Middle Fork Coquille River	0 to 11.1		Oct 15 - May 15
Middle Fork Coquille River	11.1 to 19.6		Sep 15 - Jun 15
South Fork Coquille River	18.1 to 47.1		
Hatchet Slough	0 to 1.8		Oct 15 - May 15

Table 4 – Coquille Sub-basin Insufficient Data			
Waterbody (Stream/Lake)	**River Mile**	**Parameter**	**Season**
Coquille River	0 to 35.6	Alkalinity	Year Around
E.F. Coquille River Trib	0 to 1.3		
East Fork Coquille River	0 to 33		
Honcho Creek	0 to 1.5		
Middle Fork Coquille River	0 to 39.6		
North Fork Coquille River	0 to 52.3		
Rock Creek	0 to 11.5		
South Fork Coquille River	0 to 61.9		
West Fork Brummit Creek Trib	0 to 2		
Coquille River	0 to 23.9	Ammonia	Year Around
South Fork Coquille River	0 to 9.9		
Bill Creek	0 to 7.7	Biological Criteria	Year Around
Hall Creek	0 to 1.5		
Hudson Creek	0 to 6.3		
Johns Creek	0 to 2.5		
Lake Creek	0 to 0.9		
Mill Creek	0 to 2		
Myrtle Creek	0 to 17		
North Fork Coquille River	0 to 48.6		
Pyburn Creek	0 to 1.6		
South Fork Coquille River	0 to 51.9		
South Fork Coquille River	53.4 to 61.9		
Steel Creek	0 to 4.9		
Ward Creek	0 to 3.3		
Middle Creek	0 to 24.2	Dissolved Oxygen	Year Around (Non-spawning)
Middle Fork Coquille River	11.2 to 39.6		
Mill Creek	0 to 2		
South Fork Coquille River	18.1 to 61.9		
South Fork Coquille Trib	0 to 3.4		
Coquille River	4.2 to 35.6	*e. Coli*	FallWinterSpring
North Fork Coquille River	0 to 19		
Catching Creek	0 to 11.2		
Cunningham Creek	0 to 7.4		
Moon Creek	0 to 4.7		
Cunningham Creek	0 to 7.4	*e. Coli*	Summer
Moon Creek	0 to 4.7		
North Fork Coquille River	19 to 52.3		
Coquille River	4.2 to 35.6	Fecal Coliform (Recreational	Summer
Ferry Creek	0 to 3.6		

Table 4 – Coquille Sub-basin Insufficient Data			
Waterbody (Stream/Lake)	**River Mile**	**Parameter**	**Season**
Middle Fork Coquille River	0 to 39.6	Contact)	
E.F. Coquille River Trib	0 to 1.3	Iron	Year Around
Middle Creek	0 to 24.2		
Ferry Creek	0 to 3.6	pH	FallWinterSpring
Coquille River	0 to 35.6	Phosphate Phosphorus	Summer
Little N Fk Coquille River	0 to 3.1	Temperature	Summer
Unnamed (-124.0945 43.2086)	0 to 1.6		
Yellow Creek	0 to 4.1		
North Fork Coquille River	0 to 52.3	Turbidity	Undefined
Coquille River	25.5 to 35.6		
South Fork Coquille River	29.57 to 61.9		
Bandon Wayside	NA	Enterococcus	Summer
Bandon South Jetty			

Table 5 – Sixes Sub-basin 2010 303d Listing Requiring a TMDL			
Waterbody (Stream/Lake)	**River Miles**	**Parameter**	**Season**
Boulder Creek / Floras Lake	0.8 to 2.1	Aquatic Weeds	Undefined
Garrison Lake	0 to 0		
Sixes River	4.4 to 29.4	Dissolved Oxygen	October 15 - May 15
Hubbard Creek Beach	NA	Enterococcus	Summer
Floras Creek	12 to 12.8	pH	
Garrison Lake *Point source only TMDL Approved*	0 to 0		Undefined
		Phosphorus	Year Around
Bald Mountain Creek	0 to 2.3	Temperature	Year Around (Non-spawning)
Cedar Creek	0 to 4.5		
Crystal Creek	0 to 7.3		
East Fork Floras Creek	0 to 7.5		
Edson Creek	0 to 5.8		
Elk River	0 to 29.9		
Euchre Creek	0 to 12.8		
Floras Creek	0 to 12.8		
North Fork Floras Creek	0 to 10.9		
Sixes River	0 to 30.1		
South Fork Floras Creek	0 to 3.7		
Swamp Creek	0 to 1.5		
Willow Creek	0 to 6.9		
EPA Additions			
Floras Creek	0 to 12.8	Year Round	Biological Criteria
Fourmile Creek	0 to 9.3		
North Fork Sixes River	0 to 5.1		
Sixes River	0 to 13.1		
Sixes River	15.1 to 30.1		
Sunshine Creek	0 to 1.2		

Table 5 – Sixes Sub-basin 2010 303d Listing Requiring a TMDL			
Waterbody (Stream/Lake)	**River Miles**	**Parameter**	**Season**
Boulder Creek / Floras Lake	0.8 to 2.1	Fall-Winter-Spring	chlorophyll a
Boulder Creek	0 to 2.6	Oct 15 - May 15	Dissolved Oxygen
Floras Creek	1 to 9.2	May 16 - Oct 14	
North Fork Floras Creek	0 to 10.9	May 16 - Dec 31	
Sixes River	0 to 30.1	May 16 - Oct 14	
Unnamed Boulder Creek Tributary	0 to 1.4	May 16 - Dec 31	
Unnamed Boulder Creek Tributary	0 to 1.4	Jan 1 - May 15	
Boulder Creek / Floras Lake	0 to 1.4	Year Round	Iron
Bethel Creek	0 to 5.9	Year Around	Temperature
Butte Creek	0 to 3.6		
Davis Creek	0 to 4.2		
Fourmile Creek	0 to 11.6		
Morten Creek	0 to 6		
Twomile Creek	0 to 9.1		
Pea Creek	0 to 1.4		
Boulder Creek	0 to 6.1		

Table 6 – Sixes Sub-basin Insufficient Data			
Waterbody (Stream/Lake)	**River Miles**	**Parameter**	**Season**
Elk River	0 to 29.9	Alkalinity	Year Around
Floras Creek	0 to 12.8		
Sixes River	0 to 17.7		
Elk River	3.7 to 29.9	Dissolved Oxygen	October 15 - May 15
Sixes River	0 to 30.1		Year Around (Non-spawning)
Redibough Creek	0 to 2.7		
Floras Creek	0 to 12.8	*e. Coli*	FallWinterSpring
Euchre Creek	0 to 12.8		
North Fork Floras Creek	0 to 10.9		
Elk River	0 to 29.9	Fecal Coliform	FallWinterSpring
Elk River	0 to 29.9	pH	Summer
Benson Creek	0 to 2.3	Sedimentation	Undefined
Butler Creek	0 to 3.7		
Euchre Creek	0 to 12.8		
Floras Creek	0 to 12.8		
Sixes River	0 to 30.1		
Dry Creek	0 to 8.8	Temperature	Summer
Butler Creek	0 to 3.7		
New River	0 to 6.9		
South Fork Sixes River	0 to 7		
Floras Creek	3.89 to 12.8	Turbidity	Undefined
North Fork Hubbard Creek	0 to 1.7		
Battle Rock State Park	NA	Enterococcus	FallWinterSpring
Hubbard Creek Beach			Summer

Table 7 – Chetco Sub-basin 303d Listings Requiring a TMDL			
Waterbody (Stream/Lake)	**River Miles**	**Parameter**	**Season**
Harris Beach	NA	Enterococcus	Year Around
Mill Beach			
Pistol River	0 to 19.8	Fecal Coliform *Shellfish Growing*	Year Around
Winchuck River	1 to 11.1	Dissolved Oxygen	October 15 - May 15
Pistol River	0 to 19.8	pH	Summer
Hunter Creek	0 to 7.2		
South Fork Pistol River	0 to 0.5	Temperature	Year Around (Non-spawning)
Chetco River	0 to 57.1		
Deep Creek	0 to 2.1		
East Fork Winchuck River	0 to 7.5		
Hunter Creek	0 to 18.4		
Jack Creek	0 to 1.2		
North Fork Chetco River	0 to 12.1		
North Fork Hunter Creek	0 to 4.8		
North Fork Smith River	0 to 1.6		
Pistol River	0 to 19.8		
Winchuck river	0 to 11.1		
EPA Additions			
Chetco River	0 to 57.1	Year Round	Biological Criteria
East Fork Winchuck River	0 to 7.5		
Hunter Creek	0 to 18.4	May 16 - Oct 14	Dissolved Oxygen
Pistol River	1.08 to 12.91		
Pistol River	0 to 1.08	Year Round	
Winchuck River	0 to 11.1	May 16 - Oct 14	
Boulder Creek	0 to 9.5	Year Around Non Spawning	Temperature
Crook Creek	0 to 2.3		
Eagle Creek	0 to 6.8		
East Fork Pistol River	0 to 4.6		
Emily Creek	0 to 8.1		
Fourth of July Creek	0 to 4.6		
North Fork Pistol River	0 to 2.8		
Turner Creek	0 to 1.5		
Wheeler Creek	0 to 11		

Table 8 – Chetco Sub-basin Insufficient Data			
Waterbody	**River Mile**	**Parameter**	**Season**
Chetco River	0 to 57.1	Alkalinity	Year Around
Emily Creek	0 to 8.1		
Pistol River	0 to 19.8		
South Fork Whalehead Creek	0 to 2.3		
Winchuck River	0 to 11.1		
Winchuck River	0 to 11.1	Dissolved Oxygen	October 1 - May 31
Pistol River	0 to 19.8	Fecal Coliform (Recreational	FallWinterSpring

Table 8 – Chetco Sub-basin Insufficient Data			
Waterbody	**River Mile**	**Parameter**	**Season**
		Contact)	
Chetco River	0 to 39.4	pH	Summer
Winchuck River	0 to 11.1		
Bravo Creek	0 to 8.3	Sedimentation	Undefined
Chetco River	0 to 39.4		
Deep Creek	0 to 2.1		
Deer Creek	0 to 1		
Eagle Creek	0 to 6.8		
Hunter Creek	0 to 16.6		
Jack Creek	0 to 5.6		
North Fork Chetco River	0 to 5.1		
Pistol River	0 to 19.8		
South Fork Chetco River	0 to 13.7		
Tincup Creek	0 to 12.1		
Wheeler Creek	0 to 11		
Winchuck River	0 to 11.1		
Hawk Creek	0 to 1.7	Temperature	Summer
Little Chetco River	0 to 6.7		
Bravo Creek	0 to 8.3		
Tincup Creek	0 to 12.1		Undefined

Table 9 – South Coast Basin Water Quality Limited TMDL Not Needed		
Sub-basin	**Habitat Modification**	**Flow Modification**
Coos	Yes	No
Coquille	Yes	Yes
Sixes	Yes	Yes
Chetco	Yes	Yes

Appendix B: South Coast Basin Land Use Detail

NRCS, 2006, Basin Profiles, ftp://ftp-fc.sc.egov.usda.gov/OR/HUC/basins/southwest/

Figure 1 – Coquille Sub-basin Land Use

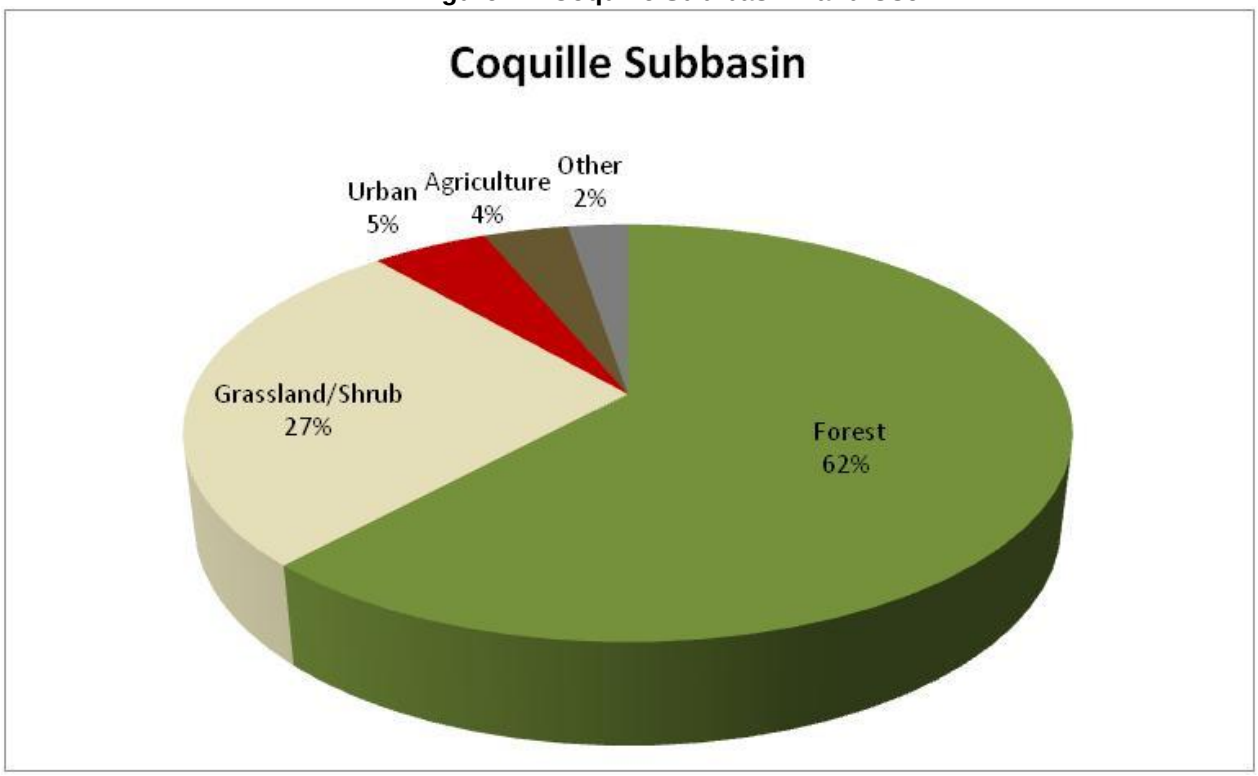


Table 10 – Coquille Sub-basin Land Cover and Use				
Land Cover/Land Use *(NLCD[2])*	**Ownership - *(2003 Draft BLM Surface Map Set[1])***			
	Public	**Private**	**Tribal**	**Totals**
	Acres / %	**Acres / %**	**Acres / %**	
Forest	215,000/32	386,500/57	5,300/1	**606,800/90**
Grass/Pasture/ Hay	*	55,800/8	*	**59,500/9**
Water/Wetlands/Developed/ Barren	*	7,500/1	0	**7,900/1**
Oregon HUC Totals b	**219,200/32**	**450,900/66**	**5,400/1**	**675,500/100**

**: Less than one percent of total acres are not shown.*
a: Estimate from Farm Service Agency records and includes CRP/CREP.
b: Totals are approximate due to rounding and small unknown acreages.

Special Considerations for This 8-Digit HUC:

The NRCS field office estimates that cranberries are grown on approximately 1,200 acres.
Pasture and hay is grown on land used for dairy, beef, and sheep operations as well as on small farms.
Thirty-seven percent of the private forest land is under non-industrial ownership and management and sixty-three percent is under industrial ownership.

Figure 2 – Coos Sub-basin Land Use

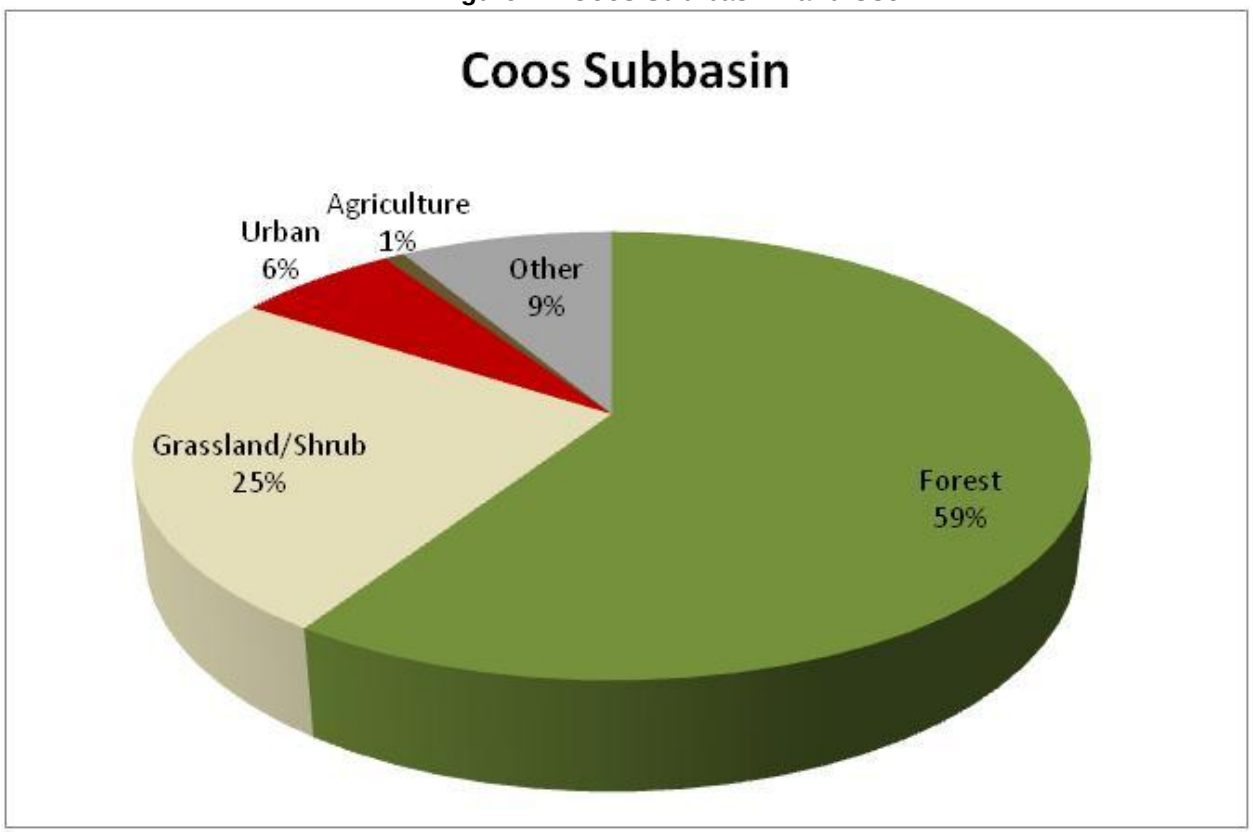


Table 11 – Coos Sub-basin Land Cover and Use				
Land Cover/Land Use (*NLCD*[2])	**Ownership - (*2003 Draft BLM Surface Map Set*[1])**			
	Public	**Private**	**Tribal**	**Totals/%**
	Acres/%			
Forest	112,700/25	296,500/64	0	**410,100/89**
Grass/Pasture/ Hay	*	20,000/4	0	**23,700/5**
Water/Wetlands/Developed/ Barren	9,000/2	15,300/3	0	**25,400/6**
Oregon HUC Totals b	**124,900/27**	**332,100/72**	**0**	**459,500/100**

**: Less than one percent of total acre uses are not shown. See below for special considerations.*
a: Estimate from Farm Service Agency records and includes CRP/CREP.
b: Totals are approximate due to rounding and small unknown acreages.

Special Considerations for this 8-Digit HUC:

Approximately 76 percent of the private forestland is under industrial forest ownership (OSU, Forestry Sciences Laboratory).

- The NRCS field office estimates that cranberries are grown on approximately 1,200 acres.
- Pasture and hay is grown in areas of dairy, beef, and sheep operations as well as on small farms.

Figure 3 – Sixes Sub-basin Land Use

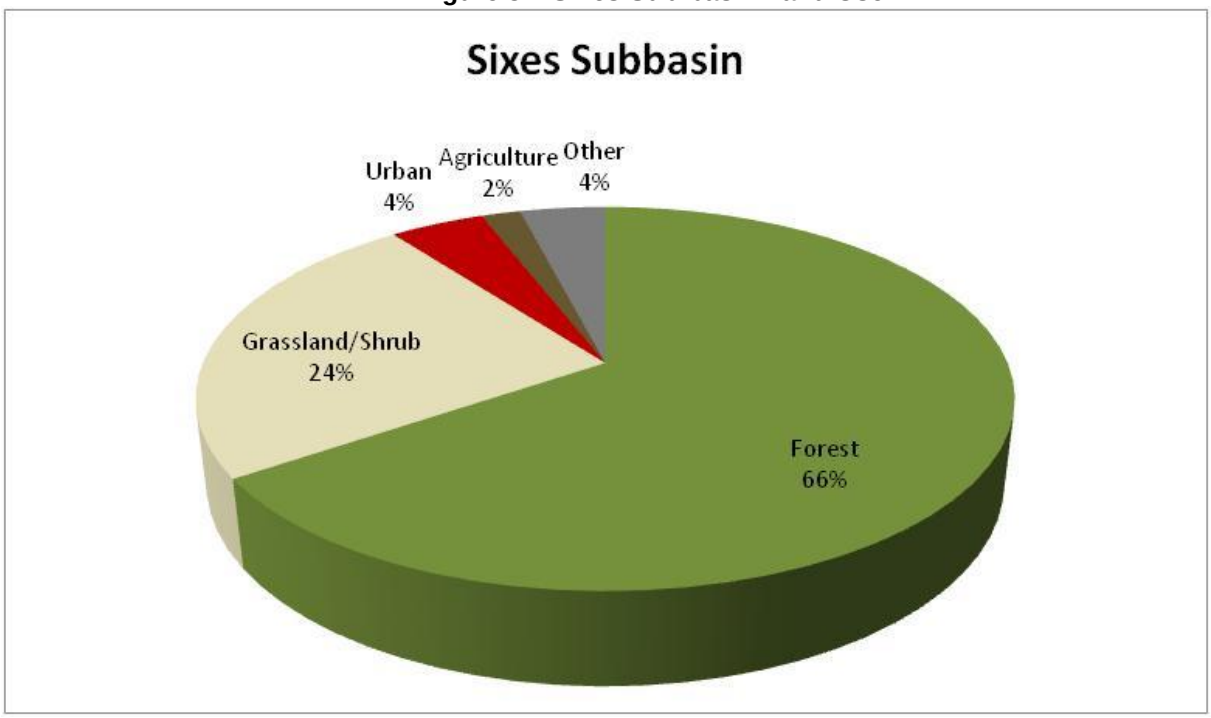


Table 12 – Sixes Sub-basin Land Cover and Use			
Land Cover/Land Use *(NLCD[2])*	**Ownership - *(2003 Draft BLM Surface Map Set[1])***		
	Public	**Private**	**Totals/%**
	Acres/%		
Forest	83,000/28	187,900/63	**271,000/91**
Grass/Pasture/Hay	*	19,900/7	**21,000/7**
Water/Wetlands/Developed/ Barren	*	4,200/1	**5,900/2**
Oregon HUC Totals b	**84,900/28**	**213,600/71**	**299,600/100**

**: Less than one percent of total acre uses are not shown. See below for special considerations.*
a: Estimate from Farm Service Agency records and includes CRP/CREP.
b: Totals are approximate due to rounding and small unknown acreages.

Special Considerations for This 8-Digit HUC:
Approximately 900 acres of cranberries (orchard/vineyard/berry crops) are grown in the hydrologic unit (field office estimate).
Pasture and hay is grown on land used for dairy and beef operations as well as on small farms.
Thirty-nine percent of the private forest land is under industrial ownership and management, and sixty-one percent are under non-industrial ownership.

Figure 4 – Chetco Sub-basin Land Use

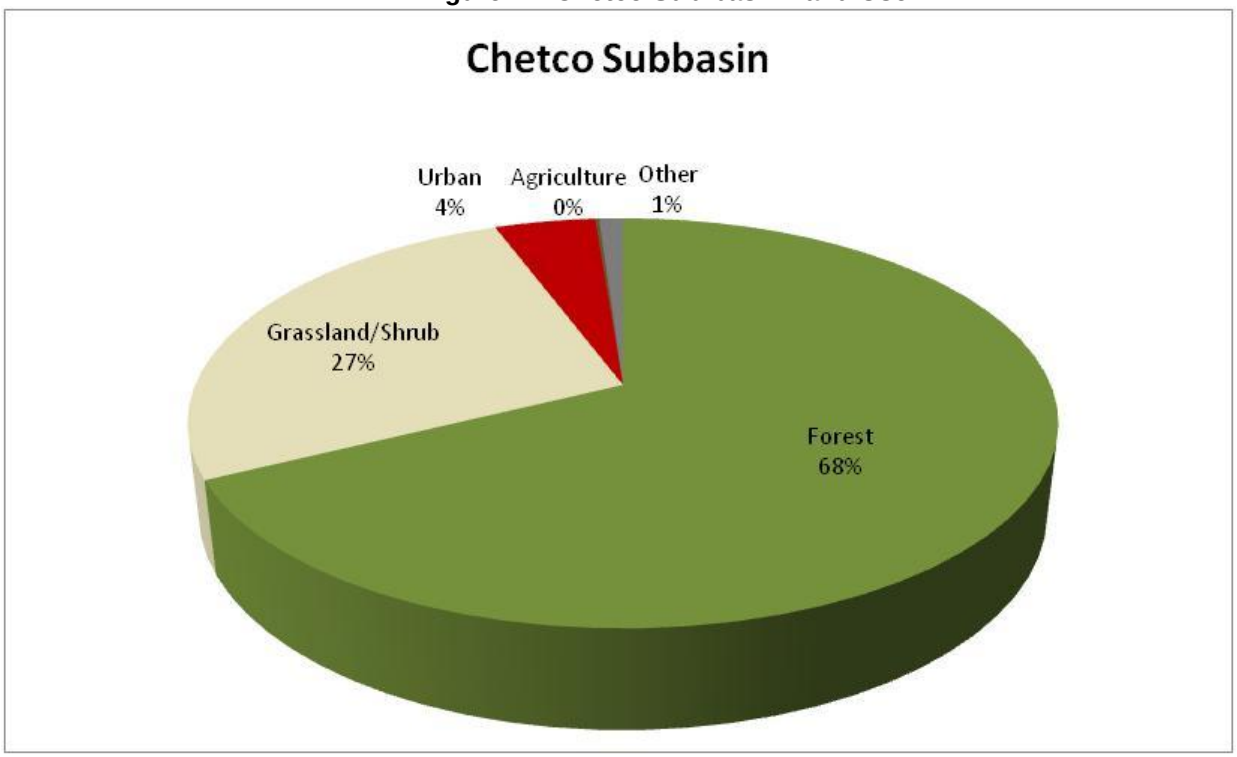


Table 13 – Chetco Sub-basin Land Cover and Use			
Land Cover/Land Use ***(NLCD[2])***	**Ownership - *(2003 Draft BLM Surface Map Set[1])***		
	Public	**Private**	**Totals/%**
	Acres/%		
Forest	254,800/65	108,500/28/2	**364,400/93**
Grass/Pasture/ Hay	11,300/3	8,300/2	**19,800/5**
Shrub/ Rangelands	3,500/1	*	**4,400/1**
Oregon HUC Totals b	**270,400/68**	**120,600/30**	**392,800/100**

**: Less than one percent of total acre uses are not shown. See below for special considerations.*
a: Estimate from Farm Service Agency records and includes CRP/CREP.
b: Totals are approximate due to rounding and small unknown acreages.

Special Considerations for This 8-Digit HUC:
NRCS staff estimate that there are 700 acres of lily bulbs (row crops) grown in this hydrologic unit.
Most pasture and hay is on small farms.
Sixty-two percent of the private forest land is under industrial ownership and management.

Smith River Sub-basin

The Smith River 8-Digit Hydrologic Unit Code (HUC) watershed is comprised of 57,900 acres in Oregon. Most of the watershed lies in California. The Oregon portion of the watershed is almost entirely publicly owned. There are no known farms or ranches on the privately owned land. Trees, grass, and shrubs cover 99 percent of the part of the watershed in Oregon.

Table 14– Smith River Sub-basin Land Cover and Use

Land Cover/Land Use *(NLCD[2])*	**Ownership - *(2003 Draft BLM Surface Map Set[1])***			
	Public	**Private**	**Tribal**	**Totals/%**
	Acres/%	**Acres/%**	**Acres/%**	
Forest	53,300/92	*	0/0	**54,100/93**
Grass/Pasture/Hay	2,800/5	*	0/0	**2,800/5**
Shrub/Rangelands	1,000/2	*	0/0	**1,000/2**
Oregon HUC Totals b	**57,100/99**	*****	**0/0**	**57,900/100**

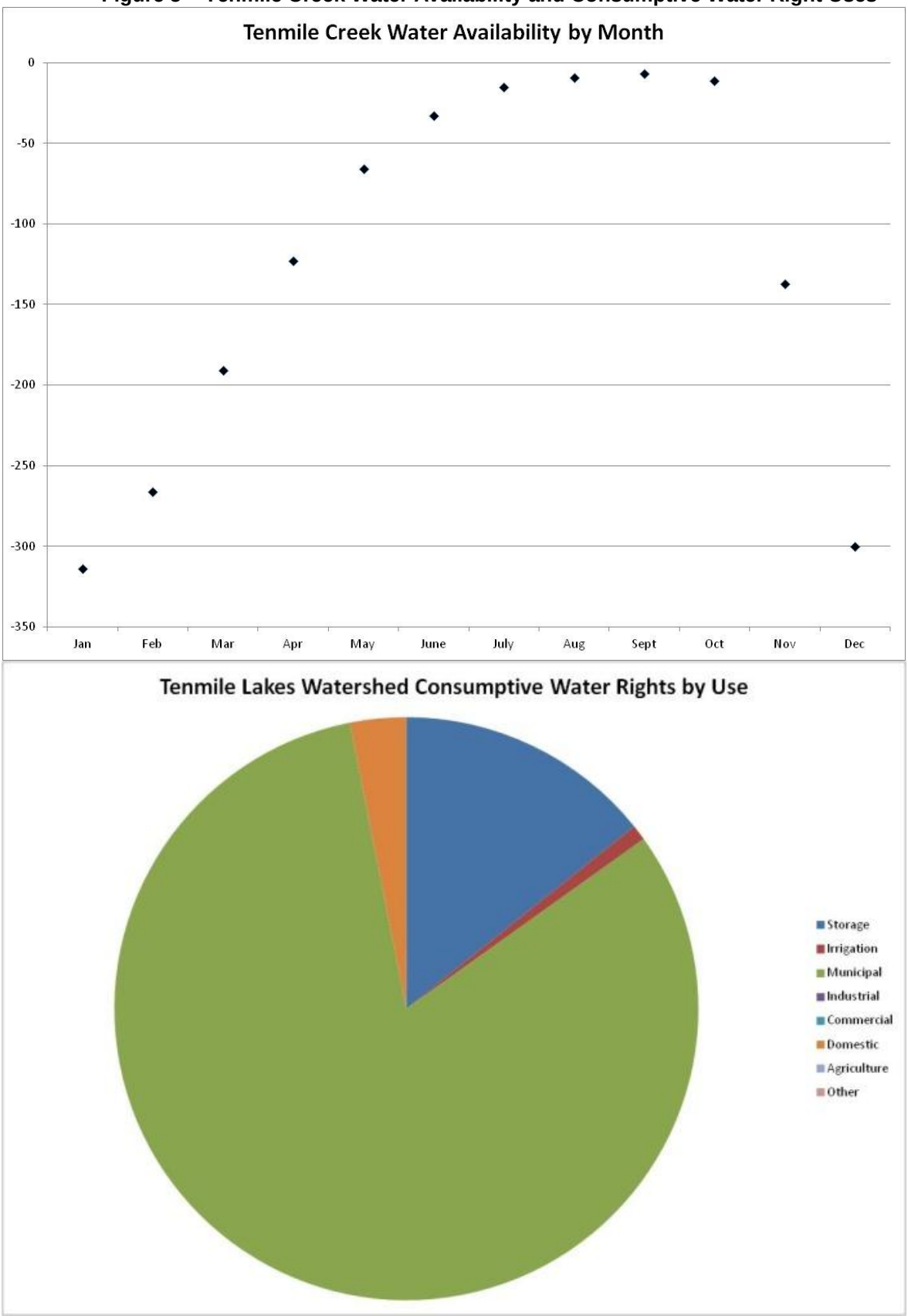
**: Less than 1 percent of total acres. See below for special considerations.*
a: Estimate from Farm Service Agency records and includes CRP/CREP.
b: Totals are approximate due to rounding and small unknown acreages.

Special Considerations for This 8-Digit HUC:
Most of this watershed lies in California, and the portion in Oregon is largely public forestland.

Appendix C: Water Availability and Water Rights

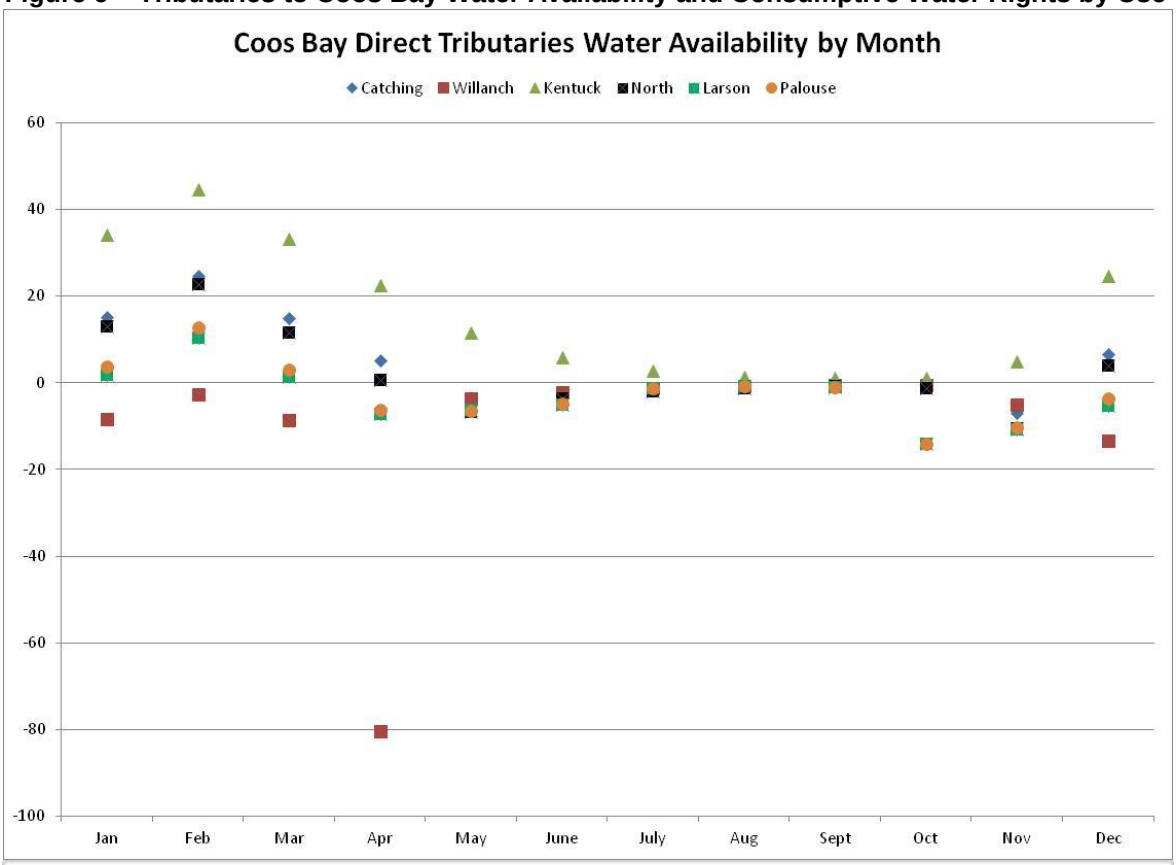
The graphs below depict water availability in streams discharging to the Pacific Ocean. The accompanying pie charts illustrate examples of current consumptive uses. During periods where values fall below zero, no water is available for allocation. Negative values illustrate that stream flows are over allocated and activities that augment instream flows would be beneficial. In most instances instream flow allocations are junior to other consumptive uses and may not be fully met or fully support the needs of salmonids and other aquatic life.

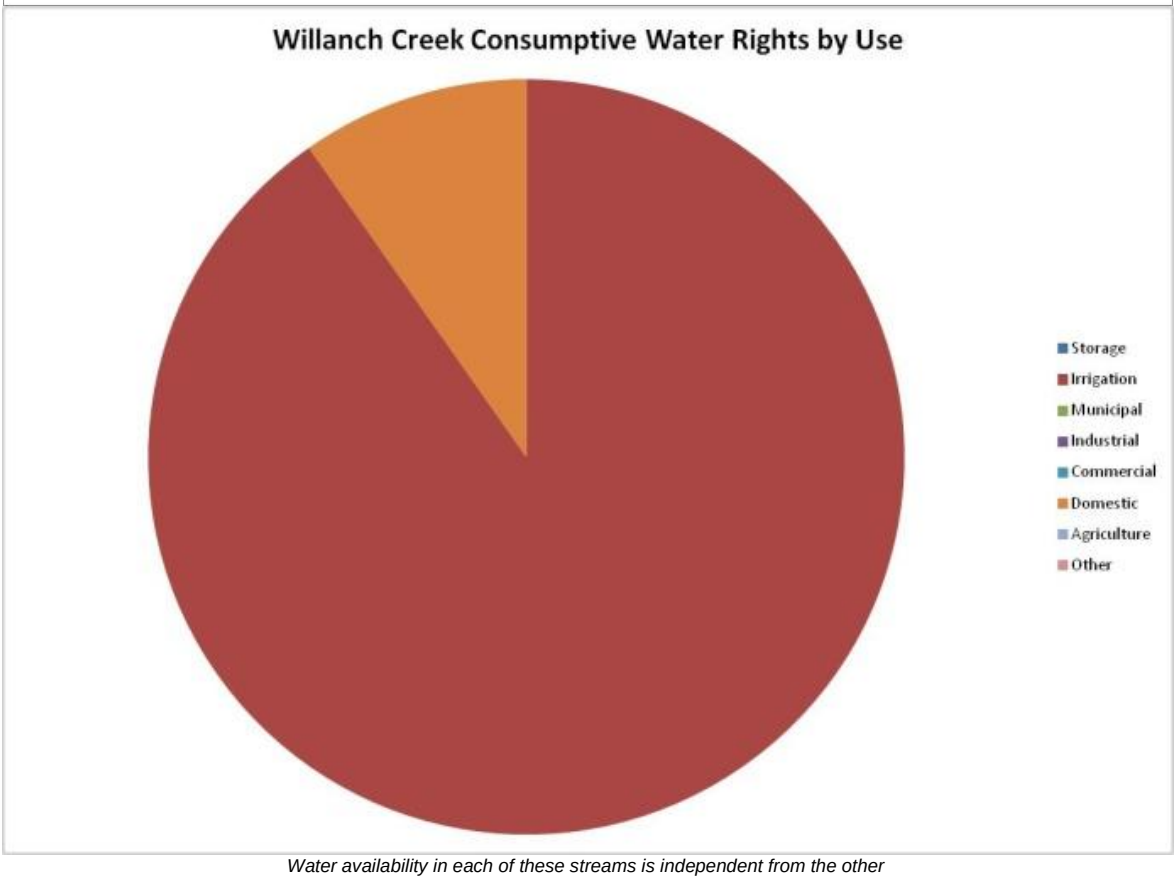
Figure 5 – Tenmile Creek Water Availability and Consumptive Water Right Uses



Water availability in the Tenmile Watershed is limited year around by Tenmile Creek

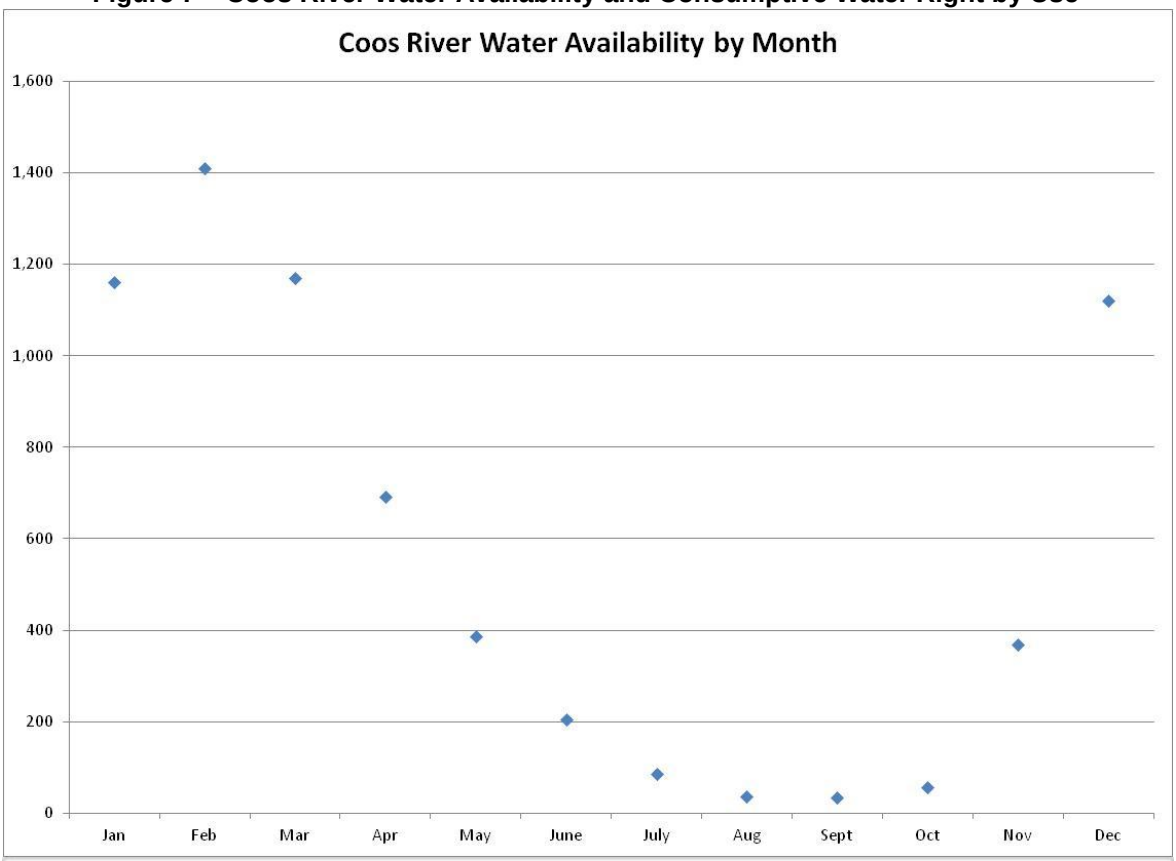
Figure 6 – Tributaries to Coos Bay Water Availability and Consumptive Water Rights by Use





Water availability in each of these streams is independent from the other

Figure 7 – Coos River Water Availability and Consumptive Water Right by Use



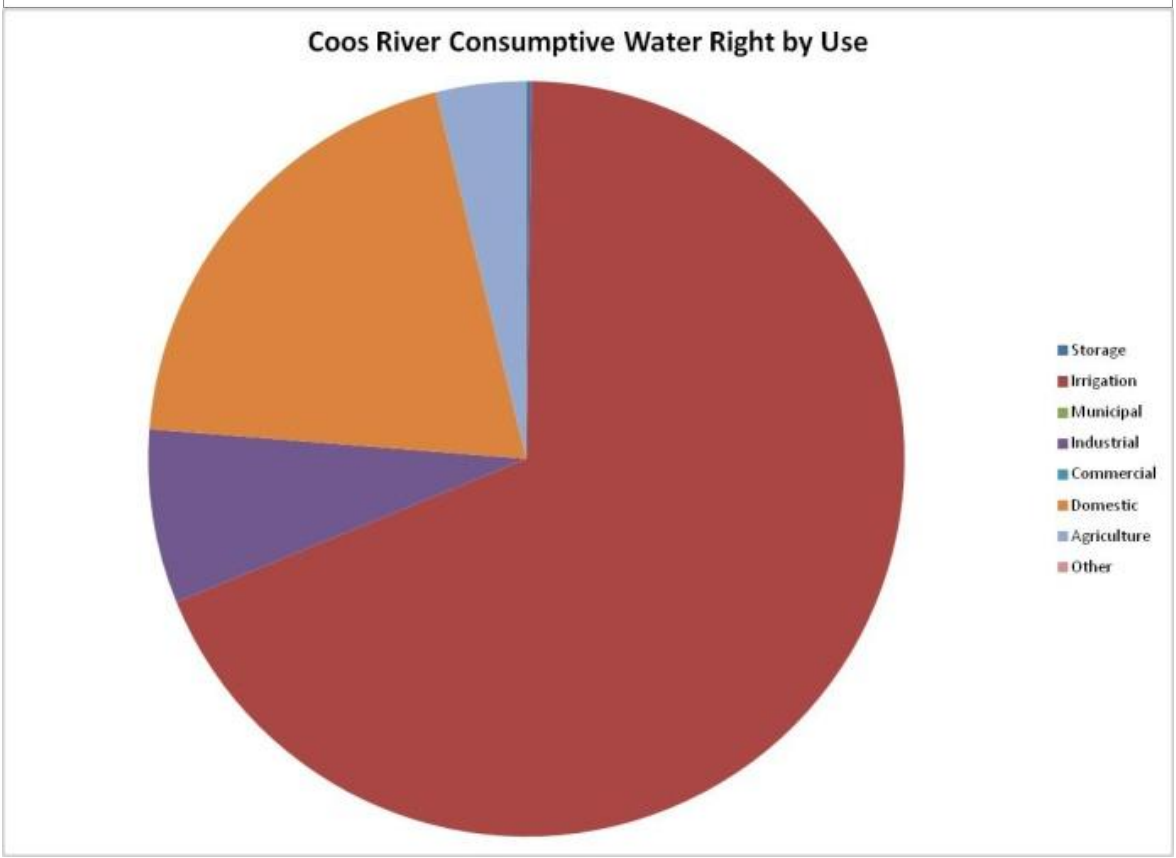
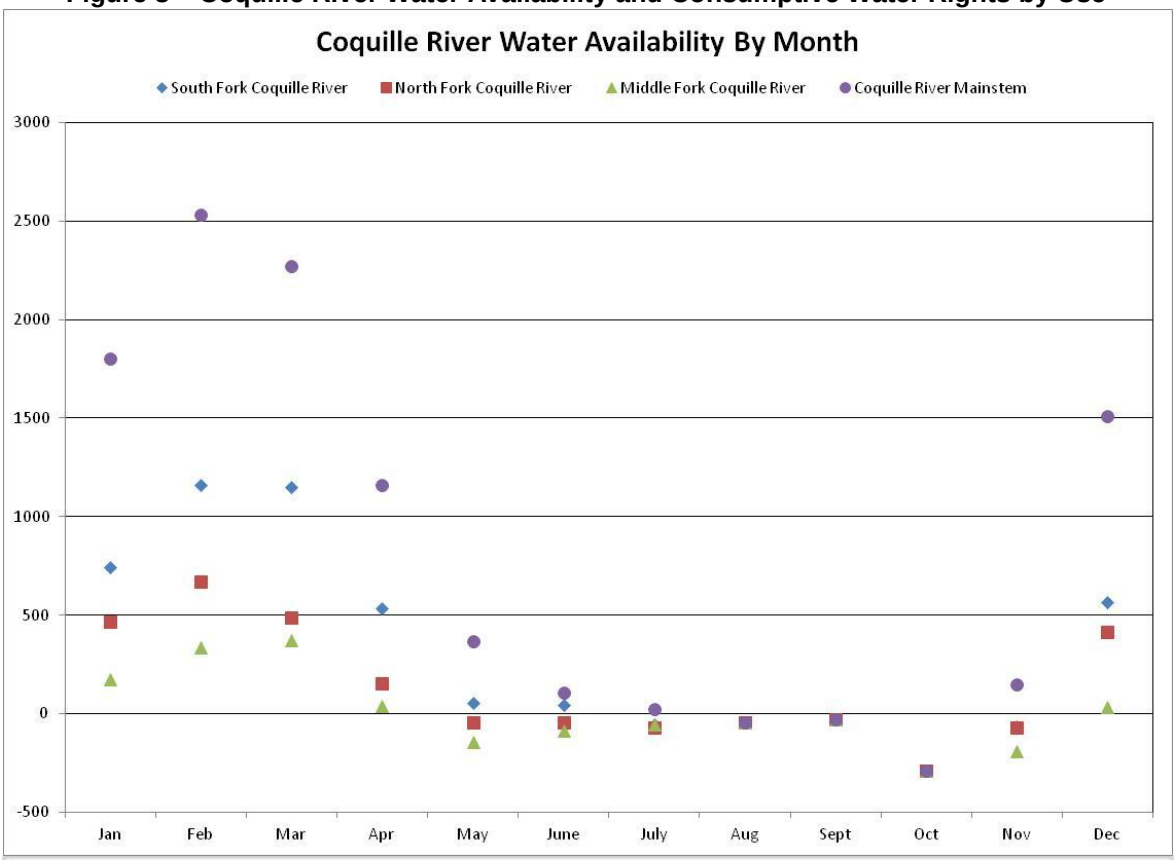
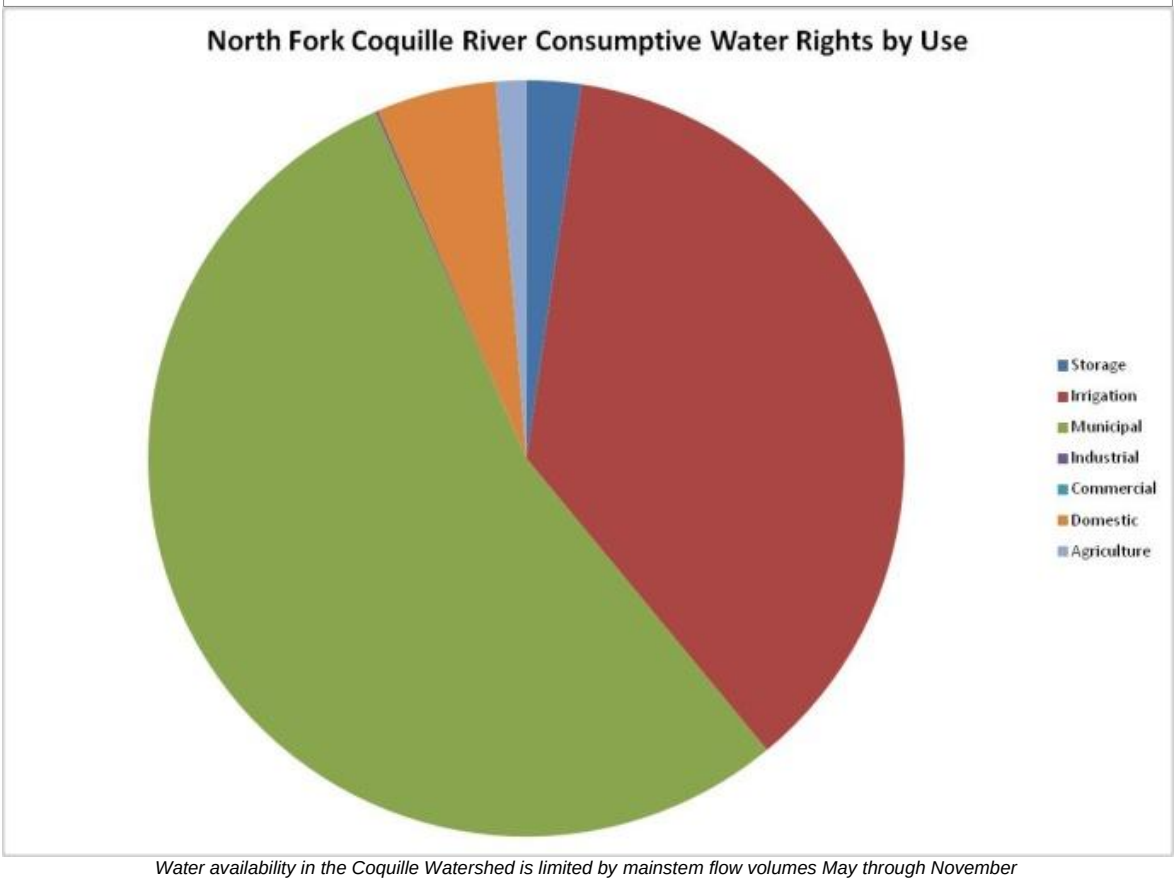


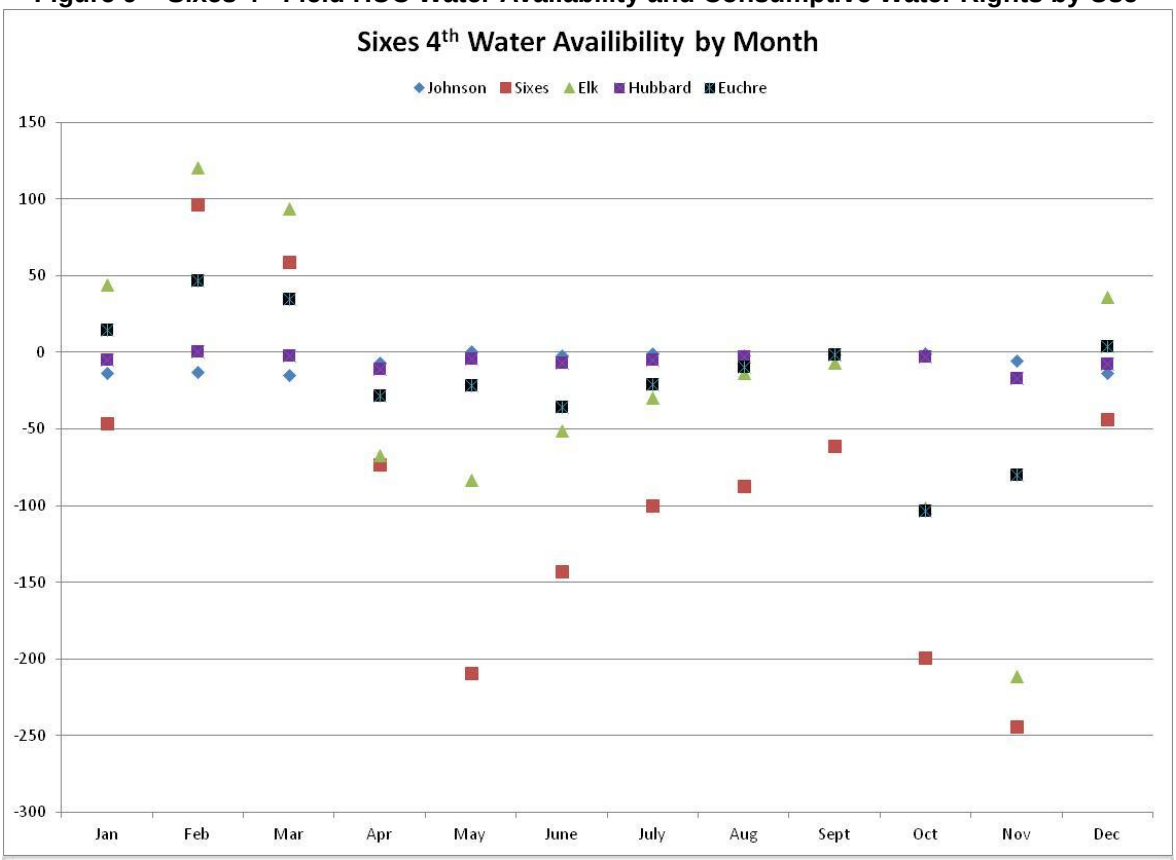
Figure 8 – Coquille River Water Availability and Consumptive Water Rights by Use

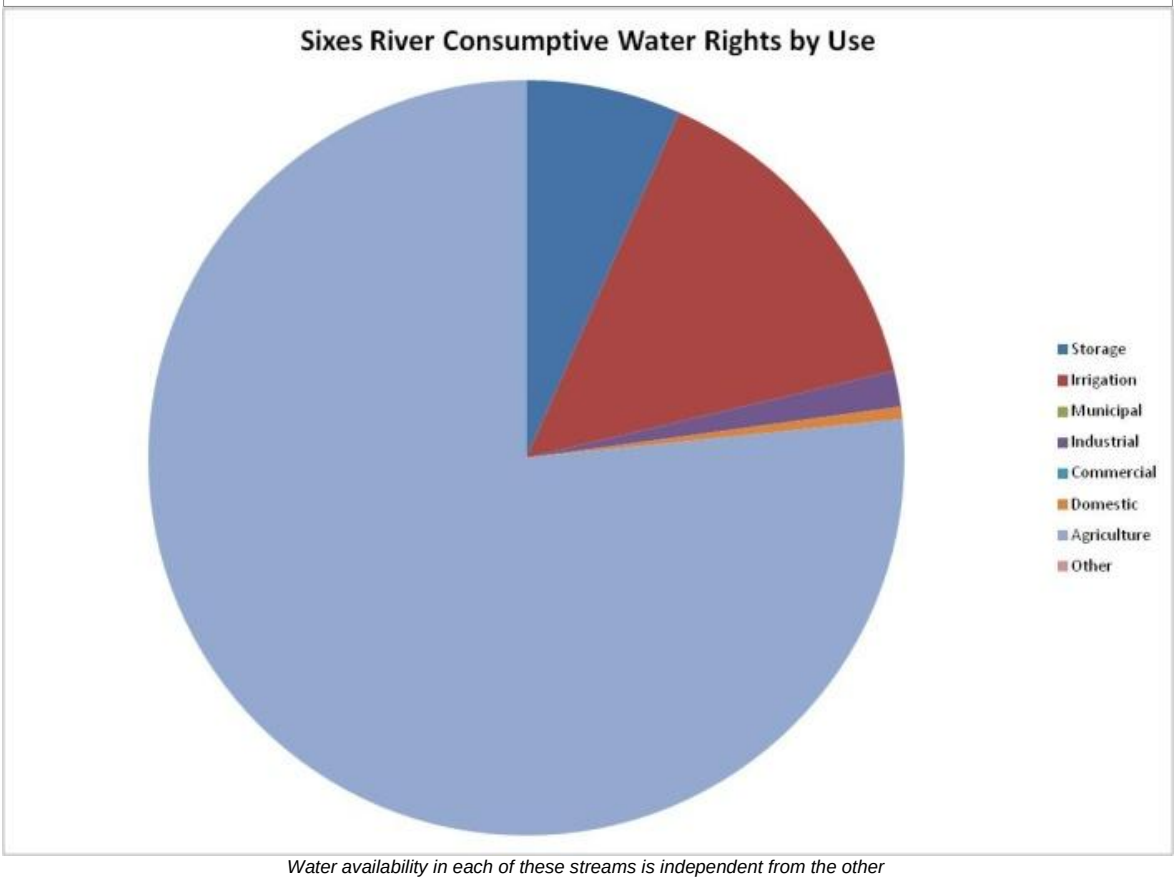




Water availability in the Coquille Watershed is limited by mainstem flow volumes May through November

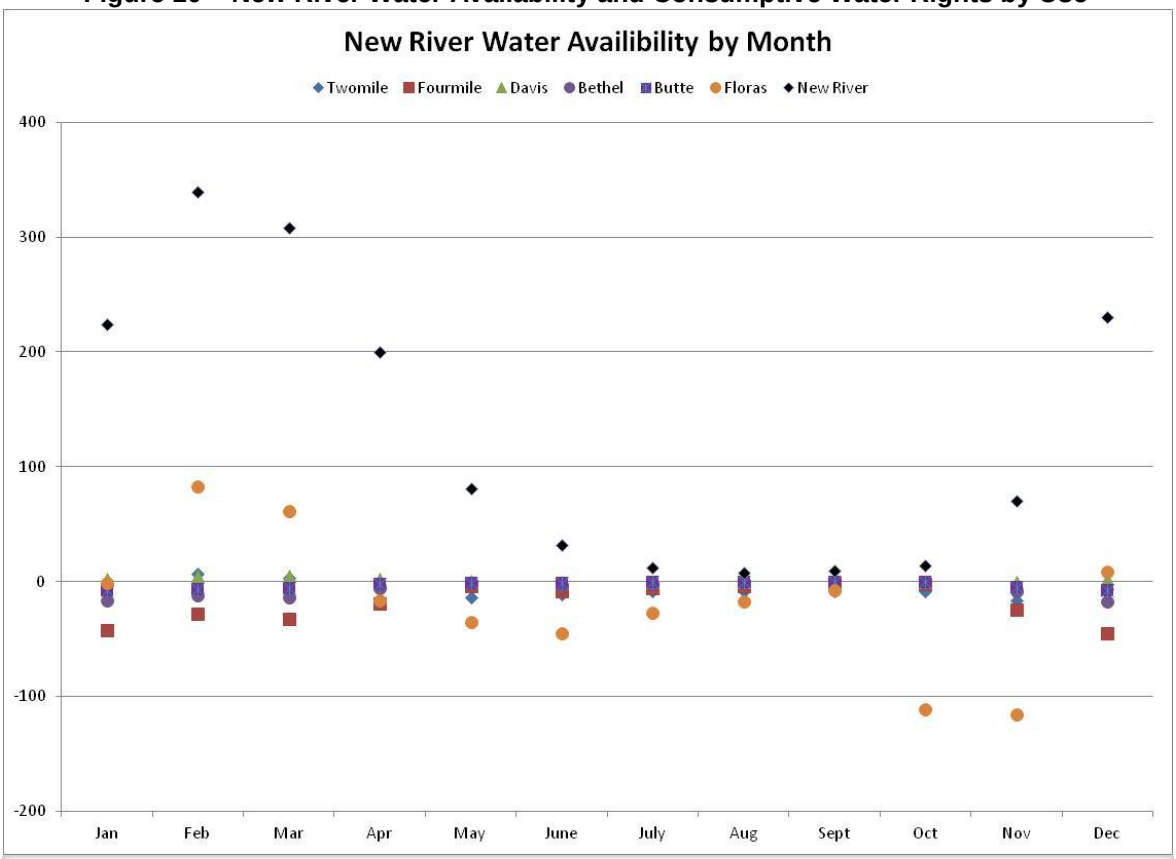
Figure 9 – Sixes 4th Field HUC Water Availability and Consumptive Water Rights by Use

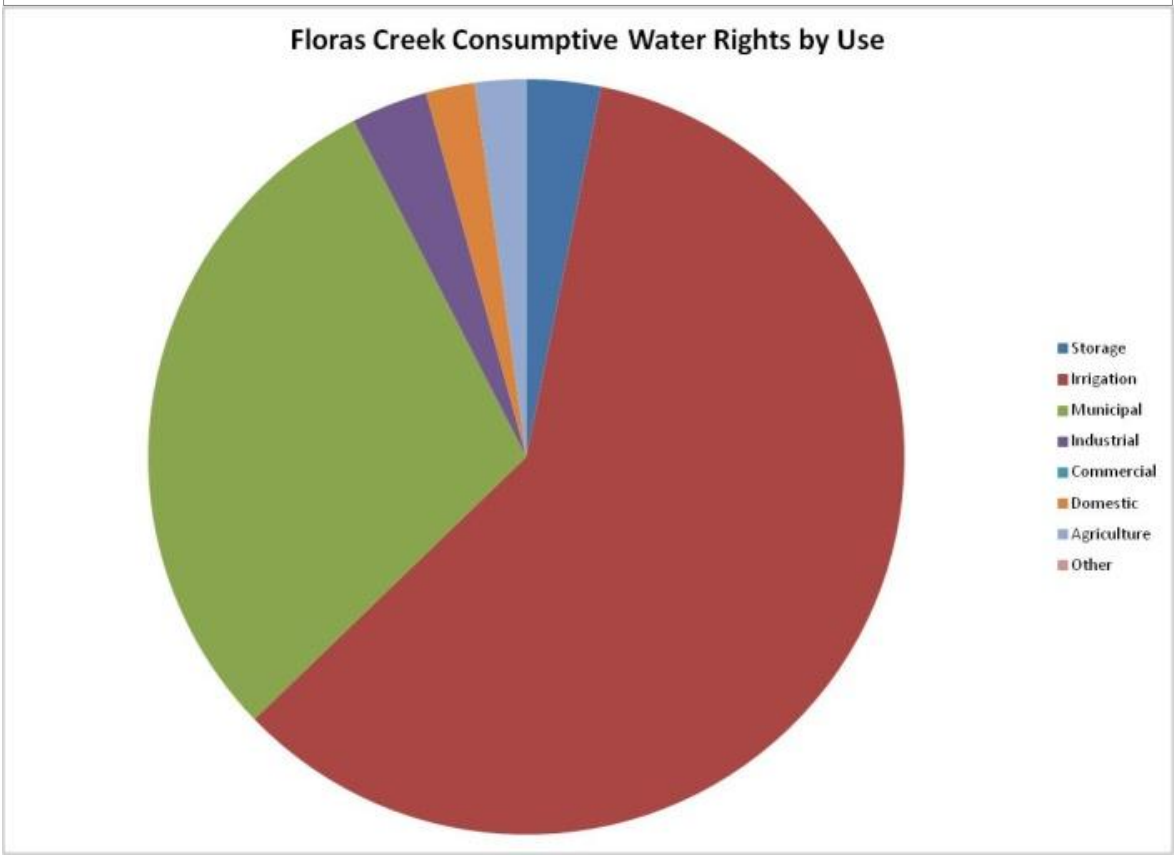




Water availability in each of these streams is independent from the other

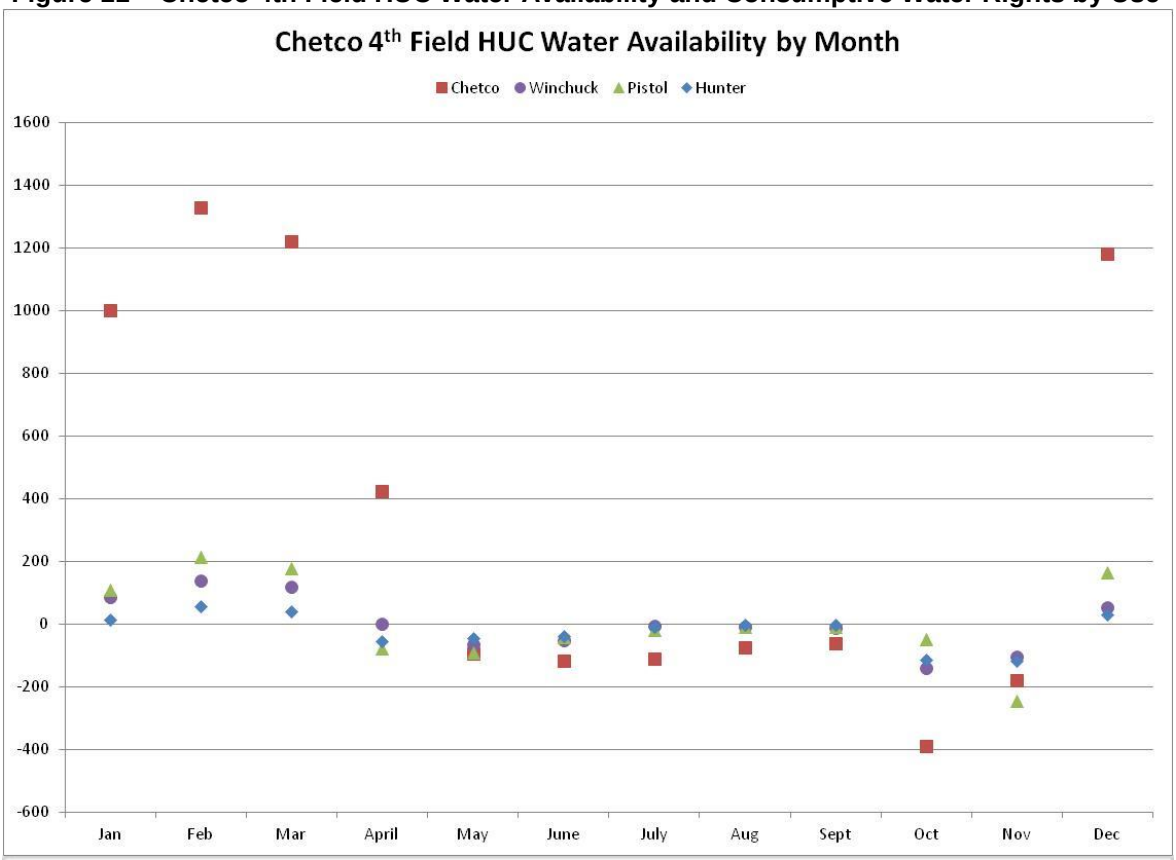
Figure 10 – New River Water Availability and Consumptive Water Rights by Use

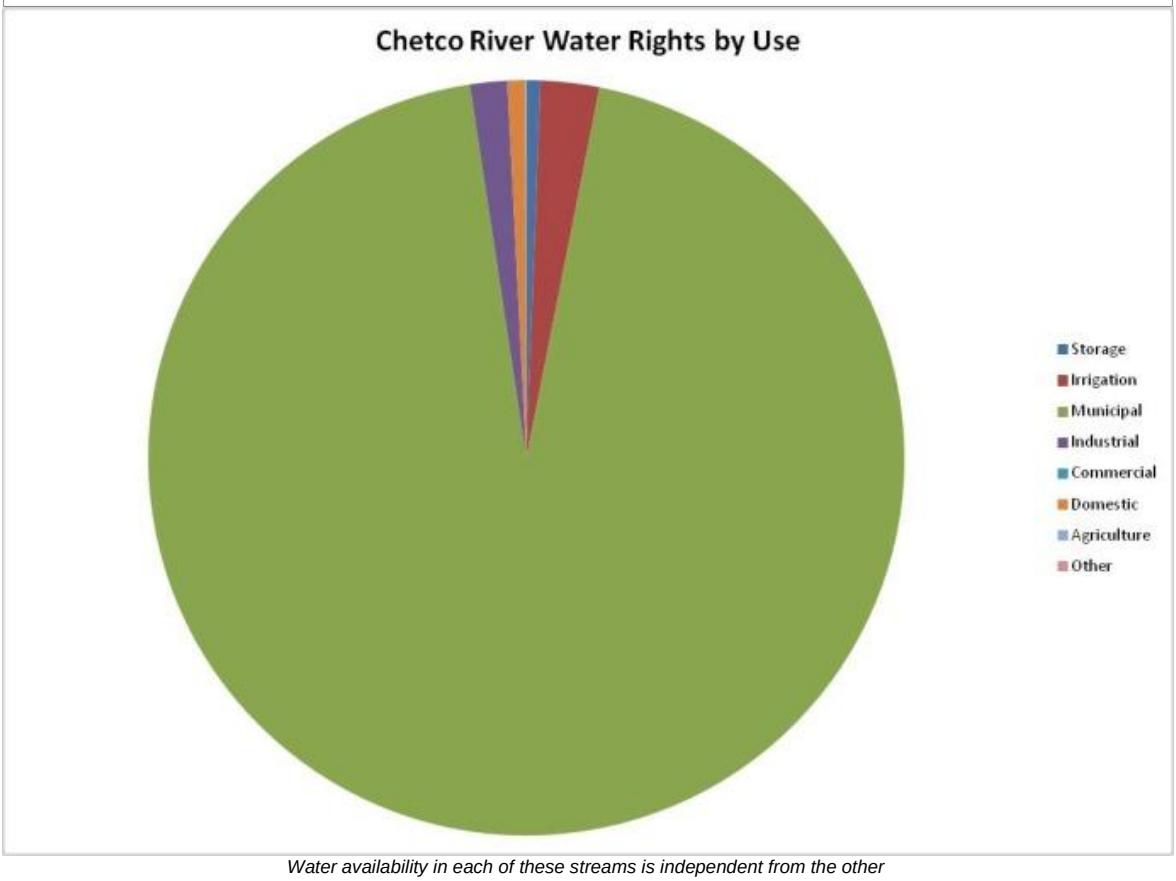




Water is currently available year around in New River but not always available in the larger tributaries of New River.

Figure 11 – Chetco 4th Field HUC Water Availability and Consumptive Water Rights by Use





Water availability in each of these streams is independent from the other

Appendix D: General NPDES Permits by Sub-basin

Table 15 – Coos 4th Field HUC – General NPDES Permits	
Facility Name	**Permit Type**
Lakeside Water District	GEN02
Knutson Towboat Company	GEN04
Bandon Pacific, INC	GEN09
California Shellfish Company, INC	
Clausen, Lilli & Max DBA	
Oregon Resources Corporation	GEN10
LTM, Incorporated	
Main Rock - Kentuck Cr	GEN12A
Kenstone Quarry	
Smith Quarry	
K-Mart Sand Pit	
Millington Concrete Plant	
Davis Slough Facility	
Oregon Resources Corporation	
Koostone Quarry	
Main Rock - Kentuck Cr	
Joe Ney Construction and Demolition Landfill	Gen 12Z
Port Of Coos Bay - Charleston Shipyard	
Coos Bay Sanitary Service	
Benny Hempstead Excavating, Inc.	
Beaver Hill Incinerator and Disposal Site	
First Student, Inc. #20245 Coos Bay	
G-P West/Coos Bay	
Empire Wood Products (DBA)	
Shinglehouse Auto Wreckers And Salvage	
LTM, Incorporated	
Northwest Hardwoods, Inc. - Coos Bay	
Southern Oregon Marine	
Sause Bros., Inc.	
Southport Forest Products	
Public Disposal & Recycling Center	
Millington Log Yard	
Southwest Regional Airport	
North Bend STP	
Ocean Terminals Co.	
Oregon Chip Terminal Inc.	
Roseburg Forest Products Co.-North Bend Chip Site	
Southport Sawmill	
Benny Hempstead Excavating, Inc.	GEN17A
Rental Service Corp. #578	
Sweet Trucking	
South Coast Auto Group	GEN17B

Table 15 – Coos 4th Field HUC – General NPDES Permits	
Facility Name	**Permit Type**
WPCF Permits	
Oregon Dunes Koa, Inc.	WPCF-DOM-Da
OPRD - Sunset Bay State Park STP	WPCF-DOM-E
Mt. Terrace Mobile Home Park	WPCFOS-Bii
Coos Bay Heights Mobile Home Park	
Woodpecker Camp	
Riley Ranch County Park	
D. B. Western, Inc.	
The Hilltop House	
J. A. Reeves Living Trust - Tamarac Apartments	
Sand N Wood Mobile Villa	
Oceanside RV Park	WPCFOS-BiiiRGF>
Ridgeview Village	
Wildwood Estates Mobile Home Park	
North Bayside Estates	
Ocean Pines RV Park	
Horsfall Campground	
Harmon, Thomas A.	WPCFOS-BivSF<

Table 16 – Coquille 4th Field HUC – NPDES Permits	
Facility Name	**General Permit Type**
Roseburg Lumber - Coquille Plywood #6 Plant	GEN01
OPRD - Bullards Beach State Park	GEN02
Powers WTP	
Coquille WTP	
Myrtle Point WTP	
Powers WTP	
ODFW - Bandon Fish Hatchery	GEN03
Roseburg Lumber - Coquille Plywood #6 Plant	GEN04
LTM, Incorporated	GEN10
Eckley Quarry & Weekley Quarry	GEN12A
Main Rock Products - Ainsley Pit	
Bandon Concrete & Development, Inc.	
Hervey Quarry	
Kincheloe & Sons, Inc.	
Leep Quarry	
Oregon Overseas Timber Co, Inc.	GEN12Z
Coquille STP	
Coquille Plywood #6 Plant	
Hodge Distributor, Bulk Plant	
Oregon Cranberry Co	GEN14A
Old Coyote Winery	
Old Bridge Winery	

Table 16 – Coquille 4th Field HUC – NPDES Permits	
Facility Name	**General Permit Type**
WPCF Permits	
Bandon Dunes	WPCF-DOM-Da
OPRD - Bullards Beach State Park	WPCF-DOM-E
Econo Rooter Services Inc.	
Greenland Recycling, LLC	WPCF-IW-B15
Ocean Spray Cranberries	WPCF-IW-B03
Lake Bradley Christian Retreat and Conference Center	WPCFOS-Bii
Beach Loop RV Village	
Roseburg Lumber - Coquille Plywood #6 Plant	
Sleepy Hollow RV, LLC	
Camp Myrtlewood	
Mike Gray	WPCFOS-BivAS<
Lance B Pickle	
Robin's Nest RV Park	
Joy's BBQ & Family Dining	WPCFOS-BivRGF<
Bandon By The Sea RV Park LLC	WPCFOS-BiiiRGF>
Alan Schmidt/Nola Crowder	WPCFOS-BivSF<

Table 17 – Sixes 4th Field HUC – NPDES Permits	
Facility Name	**Permit Type**
Langlois Water District	GEN02
Port Orford, City Of	
Gold Beach, City Of	
ODFW - Elk River Hatchery	GEN03
LTM, Incorporated	GEN12A
Oregon Department Of Transportation	
LTM, Incorporated DBA	
WPCF Individual Permits	
Camp Fircroft	WPCFOS-Bii
Elk River Campground	
Curry County Parks Department	WPCFOS-BiiiAS>
Mountain View Court Mobile Home Park	
Humbug Mountain State Park	WPCFOS-BiiiRGF>
Robert C. Head	
US BLM - Sixes River Recreation Site	WPCFOS-BivAS<
Robert L. & Patricia A. Ashton	

Table 18 – Chetco 4th Field HUC – NPDES Permits	
Facility Name	**Permit Type**
Brookings WTP	GEN02
South Coast Lumber Co. - Sawmill	GEN04
Curry County Road Department	GEN12A
Da-Tone Rock Products, Inc.	

Table 18 – Chetco 4th Field HUC – NPDES Permits	
Facility Name	**Permit Type**
Freeman Rock, Inc.	
South Coast Lumber Co.	
Tidewater Contactors, Inc.	
Tidewater Contractors Inc.	
Tidewater Contractors, Inc.	
Oregon Department of Transportation	
Brookings, City Of	GEN12Z
Curry Transfer & Recycling, Inc. DBA	
Pacific Wood Laminates, Inc	
South Coast Lumber Co.	
Brandy Peak Distillery And Winery	GEN14A
United Parcel Service, Inc.	GEN17A
WPCF Individual Permits	
Roto-Rooter Of Curry Co.	WPCF-DOM-F
At Rivers Edge RV Resort	WPCFOS-Bii
Camellia Park Sanitary District	
Chetco River Resort	
Outreach Gospel Mission	
Rainbow Rock Village M.H.P.	
Whaleshead Beach Resort, Limited Partnership	WPCFOS-BiiiRGF>
Pleasant Hill Mobile Home Park	
Sandpiper Subdivision	
Crissey Field State Park	WPCFOS-BiiiSF>
SOCC Curry Campus	WPCFOS-Bix

Appendix E: CEMAP Sampling Site Detail

Table 19 - CEMAP Site Detail				
LASAR #	**EMAP Station ID**	**Lat**	**Long**	**Station Description**
1999 Stations				
20698	OR99-0039	43.4227778	-124.24583	Coos Bay
20699	OR99-0040	43.4138889	-124.20667	Coos Bay
20700	OR99-0041	43.4066667	-124.21806	Coos Bay
20701	OR99-0042	43.3863889	-124.2925	Coos Bay
20702	OR99-0043	43.4041667	-124.19917	Coos Bay
20703	OR99-0044	43.3672222	-124.30333	Coos Bay
20704	OR99-0045	43.3416667	-124.32056	South Slough
20705	OR99-0046	43.37	-124.1475	Coos River
20706	OR99-0047	43.3772222	-124.10778	Coos River
20707	OR99-0048	43.35	-124.16861	Catching Slough
20708	OR99-0049	43.3211111	-124.15417	Catching Slough
2001 Stations				
25637	OR01-0001	43.306038	-124.31895	South Slough off Coos Bay
25641	OR01-0005	43.134118	-124.32826	Coquille River @ RM 9
25643	OR01-0007	43.365711	-124.21005	Isthmus Slough East of Coos Bay city center
25655	OR01-0019	43.331281	-124.19372	Isthmus Slough offshore of Millington
25657	OR01-0021	43.144998	-124.40251	Coquille River @ RM 3
25661	OR01-0025	43.408214	-124.21217	Coos Bay East of North Bend
25665	OR01-0029	43.375855	-124.3131	Coos Bay West shore off North spit
25667	OR01-0031	42.058816	-124.26587	Chetco River @ RM 1.1
25669	OR01-0033	43.134171	-124.41291	Coquille River @ RM 2 off Bullards Beach
25673	OR01-0037	43.346688	-124.16283	Catching Slough South of Coos River
2002 Stations				
28906	OR02-0002	43.45036	-124.200111	Coos Bay North, east shore near boat ramp
28908	OR02-0004	43.385004	-124.207536	Coos Bay Southeast, north of a blind
28910	OR02-0006	43.412687	-124.199202	Coos Bay Northeast, south of Kentuck inlet
28914	OR02-0010	43.432701	-124.21928	Coos Bay North, south of Russell Point
28918	OR02-0014	43.419325	-124.275305	Coos Bay West, north green marker 19
28920	OR02-0016	43.335357	-124.317673	Coos Bay South Slough near Joe Ney slough
28922	OR02-0018	43.418034	-124.238827	Pony slough east of airport
28924	OR02-0020	43.369427	-124.173631	Coos Bay Southeast, near red marker 8

LASAR #	EMAP Station ID	Lat	Long	Station Description
28912	OR02-0021	42.850375	-124.537863	Sixes River, north of picnic area
28927	OR02-0022	43.421166	-124.21099	Coos Bay Northeast, near range marker
28926	OR02-0024	43.331579	-124.324874	South Slough north of Collver Point
28930	OR02-0026	43.412335	-124.234765	Pony slough southeast of airport
28932	OR02-0028	43.283146	-124.229306	Isthmus slough, south of Hwy 101 & 42 Jct.
28934	OR02-0030	43.394397	-124.191448	Coos Bay East, near Cooston
28935	OR02-0031	43.466112	-124.199523	Coos Bay North, far northwest shore
28938	OR02-0034	43.386864	-124.296895	Coos Bay West, west shore near spoil area
28940	OR02-0036	43.38527	-124.185027	Coos Bay SE, south of Crawford Point
28942	OR02-0038	43.430725	-124.208668	Coos Bay Northeast, off Glasgow
28946	OR02-0042	43.367643	-124.208923	Isthmus slough, near green marker 43
28984	OR02-0044	43.316291	-124.20187	Isthmus slough, S of Shinglehouse slough
28986	OR02-0046	43.376807	-124.188112	Coos Bay Southeast, near green marker 1
28988	OR02-0048	43.133358	-124.41447	Coquille River @ RM 1.9, west shore
28954	OR02-0050	43.445563	-124.229152	Coos Bay N, north of Trans Pacific Parkway
28992	OR02-0054	43.418254	-124.194872	Coos Bay Northeast, Kentuck Inlet
28994	OR02-0056	43.324845	-124.313553	Coos Bay South Slough Browns Cove
29003	OR02-0058	43.398053	-124.212574	Coos Bay East, south of range maker
29007	OR02-0062	43.387357	-124.198099	Coos Bay Southeast, west of Crawford Point
29008	OR02-0063	43.445028	-124.217496	Coos Bay North, east of Hwy 101
29012	OR02-0067	43.448442	-124.212511	Coos Bay NE, Haynes Inlet S of Shorewood
29014	OR02-0069	43.393827	-124.196066	Coos Bay East, south of Pierce Point
29016	OR02-0071	43.402417	-124.21039	Coos Bay East, near range marker
29018	OR02-0073	43.350865	-124.314667	Coos Bay South near Fossil point
2004 Stations				
31586	OR04-0022	43.158757	-124.345003	Coquille River RM 6.8 NE Shore

LASAR #	EMAP Station ID	Lat	Long	Station Description
31594	OR04-0030	43.324375	-124.322601	South Slough 0.1 NM NE of Younker Point
31595	OR04-0031	43.37663	-124.197653	CB N of Marshfield Ch .45 NM W of Mkr #1
31597	OR04-0033	43.373925	-124.203719	CB S of Marshfield Ch near Green Mkr
31601	OR04-0037	43.448584	-124.20967	Coos Bay Haynes Inlet near Marker #7
31603	OR04-0039	43.403169	-124.211048	Coos Bay E side 0.6 NM W of Pierce Pt.
31629	OR04-0075	43.359965	-124.315055	Coos Bay W 0.4 NM N of Fossil Pt.
2005 Stations				
32168	OR05-0008	43.44867	-124.21995	Haynes Inlet 0.2 NM NW of Green Mkr #5
32174	OR05-0014	43.27119	-124.22538	Isthmus Slough 0.7 NM N of Manning Gulch
32176	OR05-0016	43.14365	-124.34071	Coquille River RM 8 near Parkersburg City
32180	OR05-0020	43.39921	-124.20496	Coos Bay E 0.3 NM W of Pierce Pt.
2006 Stations				
32938	OR06-0004	43.37706	-124.20117	Coos Bay SE 0.2 NM E of Iso green marker
32946	OR06-0012	43.42534	-124.23833	Coos Bay North near Pony Slough mouth
32958	OR06-0024	43.36152	-124.31641	Coos Bay West 0.05 NM E of red marker #8

Appendix F: Biomonitoring Sampling Site Detail and Condition

Table 20 – South Coast Basin Invertebrate Sample Locations and Conditions							
Station	**Site Name**	**Longitude**	**Latitude**	**Date**	**Temperature Score Condition**	**Fine Sediment Score Condition**	**PREDATOR Condition**
Chetco							
31467	Boulder Ck @ mouth	-124.038	42.2768	1999	Good	Good	Least Disturbed
35789	Windy Ck @ RM 2.4	-124.1494	42.3286	1999	Good	Good	Least Disturbed
21847	EF Winchuck R @ RM 1.81	-124.0912	42.0501	1999	Fair	Good	Moderately Disturbed
929955	Whalehead Ck (SF)	-124.3057	42.1495	2003	Good	Poor	Moderately Disturbed
21814	Chetco R @ RM 56.09	-123.9123	42.1739	2001	Good	Good	Most Disturbed
35790	EF Winchuck R @ RM 0.2	-124.106	42.0382	1999	Poor	Good	Most Disturbed
Coos							
33403	Bottom Ck (ODFW)	-123.7202	43.363	2006	Good	Fair	Enriched
34691	EF Millicoma R @ RM 15.37	-123.8849	43.4131	2007	Poor	Fair	Least Disturbed
38482	Burnt Ck	-123.7836	43.2569	2005	Good	Good	Least Disturbed
34697	Deer Cr @ RM 0.96	-123.9538	43.5933	2007	Good	Good	Least Disturbed
26829	EF Millicoma R	-123.8452	43.4245	2002	Good	Good	Least Disturbed
33402	Eight R Ck (ODFW)	-123.8598	43.271	2006	Good	Poor	Least Disturbed
33407	Elk Ck 2 (ODFW)	-123.9405	43.5467	2006	Poor	Fair	Least Disturbed
21795	Elk Ck@ RM 1.38	-123.9351	43.5739	1999	Good	Good	Least Disturbed
24414	Mink Ck, 1/4 mile U/S from drop-in off BLM road 26-10-14.8 (SF Coos)	-123.8475	43.3264	2000	Good	Good	Least Disturbed
33405	Packard Ck (ODFW)	-124.0236	43.4048	2006	Good	Fair	Least Disturbed
34692	Schumacher Cr @ Mouth US of WF Millicoma Rd	-124.0372	43.479	2007	Good	Poor	Least Disturbed

Station	Site Name	Longitude	Latitude	Date	Temperature Score Condition	Fine Sediment Score Condition	PREDATOR Condition
33401	Shotgun Ck (ODFW)	-123.7649	43.2938	2006	Good	Fair	Least Disturbed
26827	Tioga Ck	-123.8047	43.2902	2002	Poor	Fair	Least Disturbed
21796	Tioga Ck@ RM 17.74	-123.7556	43.1947	1999	Good	Fair	Least Disturbed
25311	WF Silver Ck, EF Millicoma	-123.9548	43.4935	2003	Good	Poor	Least Disturbed
33409	Willanch Ck, trib A (ODFW)	-124.1273	43.417	2006	Good	Good	Least Disturbed
33404	Williams R (ODFW)	-123.6707	43.2377	2006	Poor	Good	Least Disturbed
34693	Woodruff Cr @ RM 1.12	-124.0056	43.4254	2007	Good	Good	Least Disturbed
33400	Wren Smith Ck (ODFW)	-124.077	43.3212	2006	Good	Fair	Least Disturbed
35788	Palouse Ck @ RM 6.9	-124.1055	43.5161	1999	Good	Good	Moderately Disturbed
13216	WF Millicoma R 0.25 miles U/S of hatchery	-124.0088	43.4904	2007	Poor	Good	Moderately Disturbed
33408	Willanch Ck (ODFW)	-124.1538	43.4124	2006	Good	Poor	Moderately Disturbed
26968	Williams R	-123.7264	43.2617	2002	Poor	Fair	Moderately Disturbed
34694	Catching Cr @ RM 3.73	-124.1563	43.2635	2007	Poor	Poor	Most Disturbed
34674	Cedar Cr @ RM 2.58 (Williams R)	-123.7024	43.3277	2007	Poor	Poor	Most Disturbed
21843	Dalton Ck@ River Mile 0.38	-124.3252	43.2768	1999	Good	Poor	Most Disturbed
33411	Eel Ck (ODFW)	-124.1833	43.5888	2006	Good	Poor	Most Disturbed
34688	Johnson Cr @ RM 6.0	-124.0486	43.5265	2007	Good	Poor	Most Disturbed
34686	Murphy Cr @ RM 1.20	-124.0931	43.6149	2007	Poor	Poor	Most Disturbed
34687	Murphy Cr @ RM 1.86	-124.0821	43.6193	2007	Fair	Poor	Most Disturbed
32435	Williams R @ RM 15 near Mile Post 37	-123.6723	43.243	2007	Poor	Good	Most Disturbed

Station	Site Name	Longitude	Latitude	Date	Temperature Score Condition	Fine Sediment Score Condition	PREDATOR Condition
33398	Winchester Ck, trib D (ODFW)	-124.3214	43.2431	2006	Fair	Poor	Most Disturbed
Coquille							
23832	Bear Ck@ RM 13.30 (Coquille)	-124.2819	43.0206	2000	Good	Fair	Least Disturbed
33397	Coquille R, NF 1 (ODFW)	-123.8901	43.3085	2006	Good	Good	Least Disturbed
33389	Crater Ck (ODFW)	-124.0666	42.7109	2006	Good	Good	Least Disturbed
25299	Dement Ck, Coquille	-124.2093	42.9416	2001	Good	Fair	Least Disturbed
23829	Elk Ck @ RM 1.47 (Coquille R, E Fk, N Fk)	-123.9999	43.1105	2000	Poor	Fair	Least Disturbed
33378	Fat Elk Ck (ODFW)	-124.2437	43.151	2006	Good	Poor	Least Disturbed
23831	Johnson Ck @ RM 0.88 (Coquille, SF)	-124.0794	42.7554	2000	Good	Good	Least Disturbed
34700	Johnson Cr @ RM 3.43 US of Poverty Gulch	-124.1172	42.7626	2007	Good	Good	Least Disturbed
33379	Kausen Ck (ODFW)	-124.1704	43.1159	2006	Good	Poor	Least Disturbed
33383	King Ck (ODFW)	-124.0237	43.0409	2006	Good	Fair	Least Disturbed
25307	King Ck, Coquille	-124.0177	43.0501	2001	Good	Fair	Least Disturbed
34680	Lost Cr @ RM 0.05 (Mid Cr)	-123.9736	43.2371	2007	Good	Good	Least Disturbed
33394	Middle Ck (ODFW)	-123.9814	43.2328	2006	Poor	Fair	Least Disturbed
21793	Middle Ck @ RM 23.22	-123.8804	43.2556	1999	Good	Fair	Least Disturbed
34678	Middle Cr @ RM 21.72	-123.8785	43.2363	2007	Good	Good	Least Disturbed
33396	Moon Ck (ODFW)	-123.9604	43.2924	2006	Good	Poor	Least Disturbed
29921	Rock Ck	-123.8814	42.9042	2003	Good	Good	Least Disturbed

Station	Site Name	Longitude	Latitude	Date	Temperature Score Condition	Fine Sediment Score Condition	PREDATOR Condition
24421	Rock Ck @ 30-10-30 br (MF Coquille)	-123.8279	43.0194	2000	Good	Good	Least Disturbed
33387	Salmon Ck (ODFW)	-124.1062	42.847	2006	Poor	Fair	Least Disturbed
25309	SF Coquille R	-123.9838	42.7606	2001	Poor	Fair	Least Disturbed
33392	SF Elk Ck (ODFW)	-123.973	43.1086	2006	Poor	Fair	Least Disturbed
26828	Slater Ck - MF Coquille	-123.7995	42.9459	2002	Good	Good	Least Disturbed
30404	Upper Land Ck	-124.0448	42.8292	2003	Good	Fair	Least Disturbed
34677	Weekly Cr @ RM 0.11 (EF Coquille R)	-124.0539	43.1109	2007	Poor	Poor	Least Disturbed
34690	Woodward Ck (RM 3.90) Trib @ RM 0.60	-124.0848	43.2584	2007	Good	Fair	Least Disturbed
23833	Upper Rock Ck @ RM 11.5 (MF Coquille)	-123.7403	43.0903	2000	Good	Fair	Moderately Disturbed
26834	WF Brummit Ck trib	-123.8405	43.2112	2002	Good	Good	Moderately Disturbed
33377	Bill Ck (ODFW)	-124.3404	43.0612	2006	Poor	Poor	Most Disturbed
34689	Coquille R NF @ RM 30.15	-124.0391	43.2588	2007	Poor	Good	Most Disturbed
34681	Coquille R NF @ RM 31	-124.0273	43.2566	2007	Poor	Poor	Most Disturbed
21799	Hall Ck @ RM 1.48	-124.0298	42.7682	2002	Good	Good	Most Disturbed
34679	Hudson Ck @ RM 3.61	-123.984	43.2629	2007	Poor	Poor	Most Disturbed
33390	Johns Ck (ODFW)	-124.0599	43.0782	2006	Good	Fair	Most Disturbed
34698	Lake Cr @ RM 0.16	-124.0645	42.7061	2007	Good	Good	Most Disturbed
21797	Mill Ck @ RM 1.30	-124.1882	42.9744	2005	Good	Fair	Most Disturbed
33385	Myrtle Ck (ODFW)	-124.0135	42.9745	2006	Poor	Poor	Most Disturbed

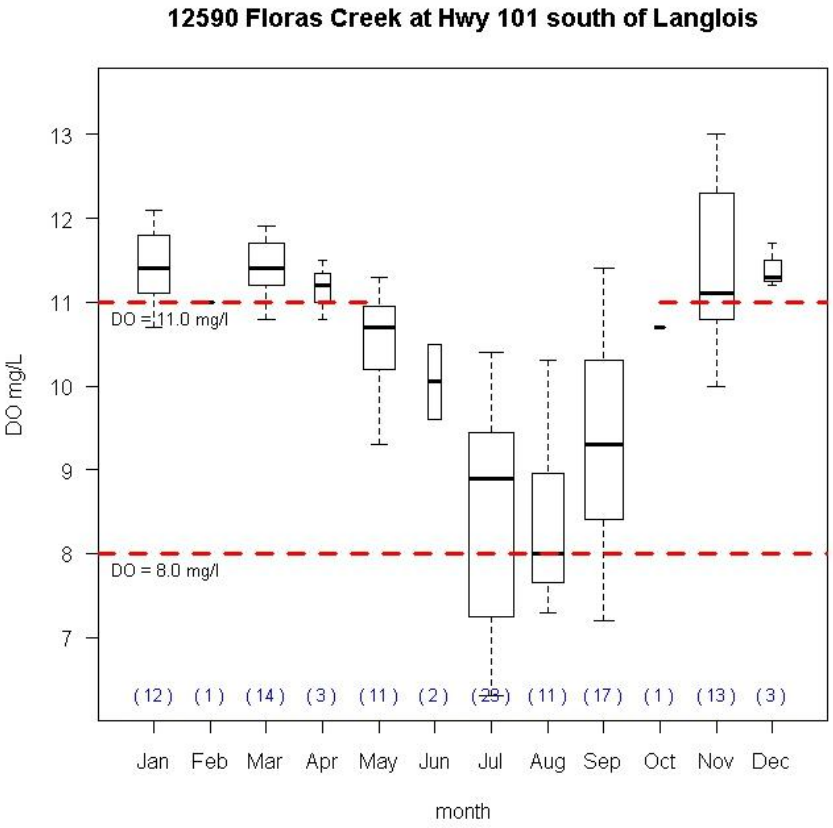
Station	Site Name	Longitude	Latitude	Date	Temperature Score Condition	Fine Sediment Score Condition	PREDATOR Condition
23830	Pyburn Ck @ RM 1.01 (Salmon Ck, Coquille)	-124.1011	42.833	2000	Good	Good	Most Disturbed
20392	SF Coquille 200 feet D/S of Powers STP	-124.0673	42.8888	2005	Poor	Fair	Most Disturbed
20394	SF Coquille 50 feet U/S of Powers STP	-124.0674	42.8881	2005	Poor	Good	Most Disturbed
23834	SF Coquille R @ RM 55.5	-123.9473	42.7884	2000	Good	Good	Most Disturbed
34682	Steel Cr @ Mouth (EF Coq R)	-123.9622	43.1574	2007	Poor	Fair	Most Disturbed
33381	Ward Ck (ODFW)	-124.2359	43.0427	2006	Good	Poor	Most Disturbed
34675	Ward Cr @ RM 2.55	-124.2382	43.0394	2007	Good	Poor	Most Disturbed
Sixes							
38485	Anvil Ck (Elk R Trib)	-124.398	42.7402	2005	Good	Good	Least Disturbed
35794	Elk R NF @ RM 0.4	-124.2018	42.7222	1998	Good	Good	Least Disturbed
33374	Fourmile Ck 2 (ODFW)	-124.3316	42.9869	2006	Good	Fair	Least Disturbed
38486	Red Cedar Ck (Elk R Trib)	-124.318	42.709	2005	Good	Good	Least Disturbed
21798	Redibaugh Ck @ RM 1.33	-124.371	43.0272	1999	Good	Fair	Least Disturbed
26830	Sixes R	-124.3838	42.8079	2002	Poor	Fair	Least Disturbed
38483	Dry Run Ck (Brush Ck Trib)	-124.4315	42.6962	2005	Good	Good	Moderately Disturbed
24084	Floras Ck @ Mormon Camp	-124.4139	42.9131	2007	Poor	Good	Most Disturbed
34685	Floras Ck @ RM 2.69	-124.4634	42.9147	2007	Poor	Poor	Most Disturbed
34676	Fourmile Cr @ RM 7.78	-124.3494	42.9934	2007	Fair	Poor	Most Disturbed
34684	Sixes R @ RM 17.0 US of Elephant Rock Ck	-124.3179	42.8046	2007	Poor	Poor	Most Disturbed

Station	Site Name	Longitude	Latitude	Date	Temperature Score Condition	Fine Sediment Score Condition	PREDATOR Condition
21794	Sixes R @ RM 19.22	-124.3061	42.8042	2006	Poor	Fair	Most Disturbed
34699	Sixes R @ RM 20.28 D/S of Big Cr	-124.2622	42.8081	2007	Poor	Fair	Most Disturbed
34683	Sixes R @ RM 25.29	-124.1948	42.8199	2007	Poor	Fair	Most Disturbed
33368	Sixes R 2 (ODFW)	-124.4184	42.8103	2006	Poor	Fair	Most Disturbed
38484	Sunshine Ck (Elk R Trib)	-124.3063	42.716	2005	Good	Good	Most Disturbed
Smith River							
21848	Chrome Ck @ RM 0.22	-123.9802	42.0453	1999	Good	Good	Least Disturbed
35748	Chrome Ck (RM 0.8) Trib @ RM 0.1	-123.9713	42.053	1999	Good	Good	Least Disturbed
35749	Smith R NF @ RM 7.5	-123.982	42.0424	1999	Poor	Good	Moderately Disturbed

Appendix G: Water Quality Data Graphics and Detail

Floras Creek Ambient Sampling

Figure 12 – Floras Creek Dissolved Oxygen



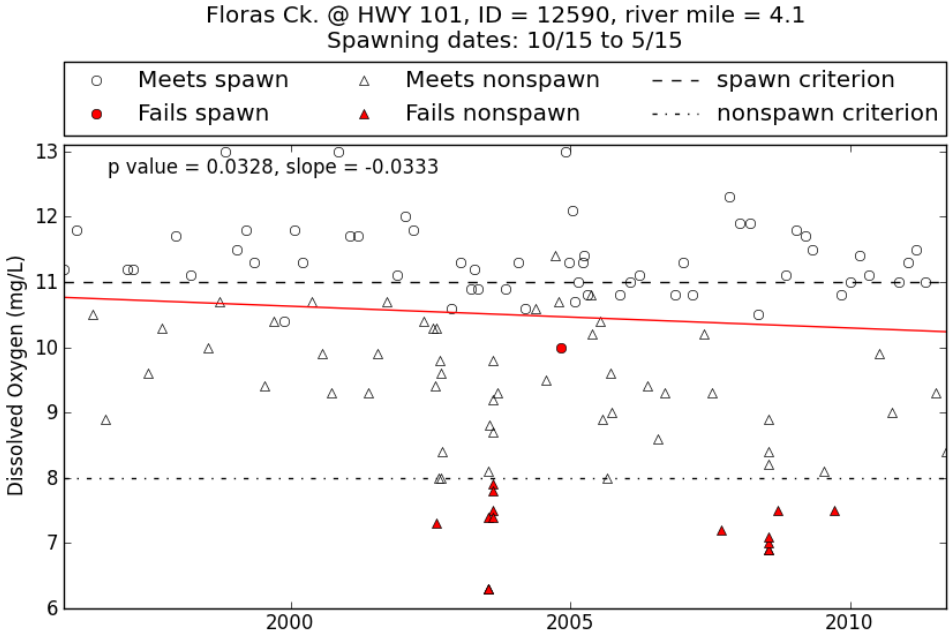
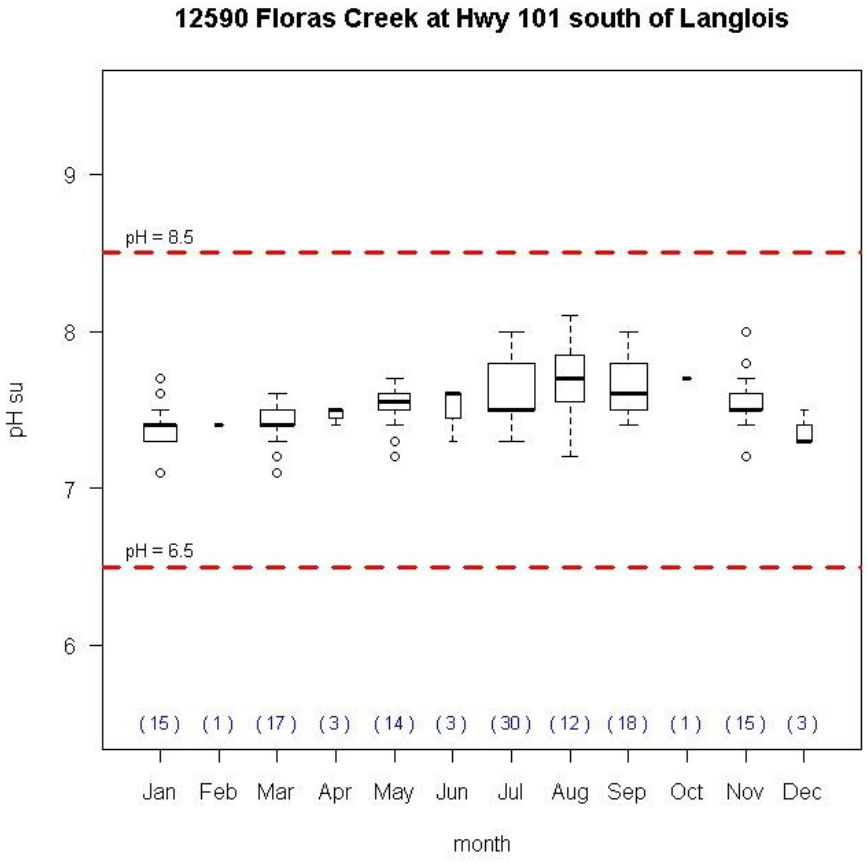


Figure 13 – Floras Creek pH



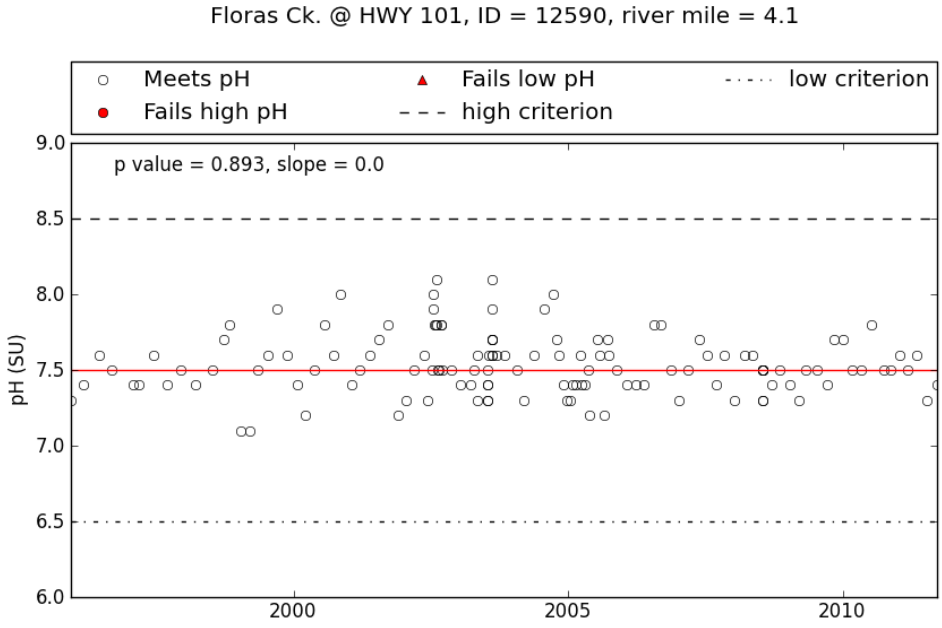
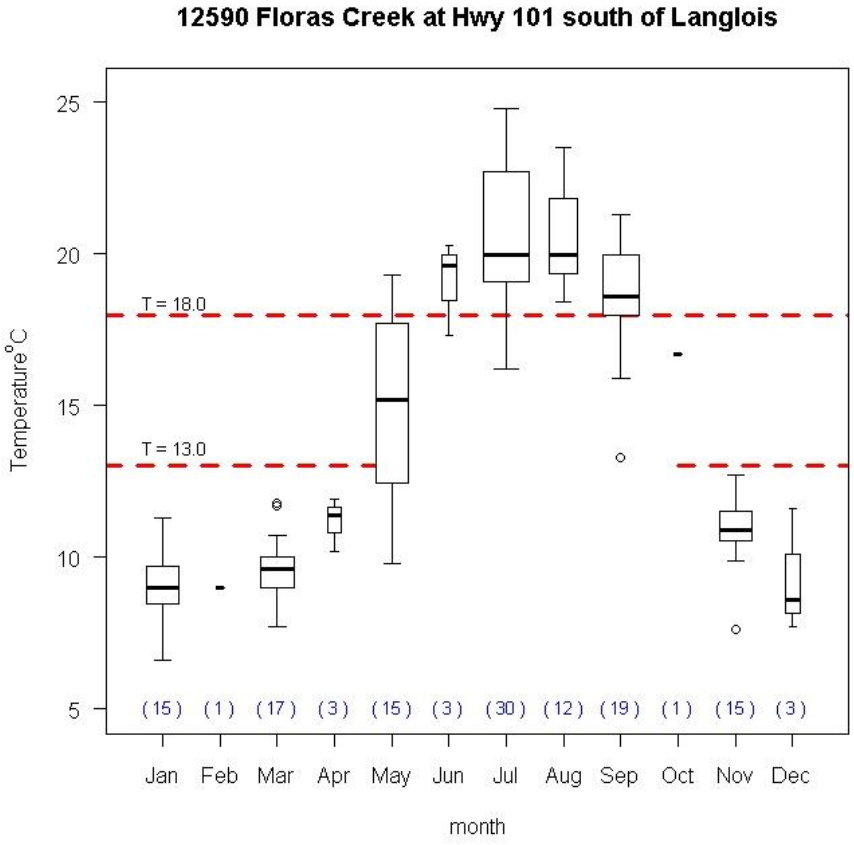


Figure 14 – Floras Creek Temperature



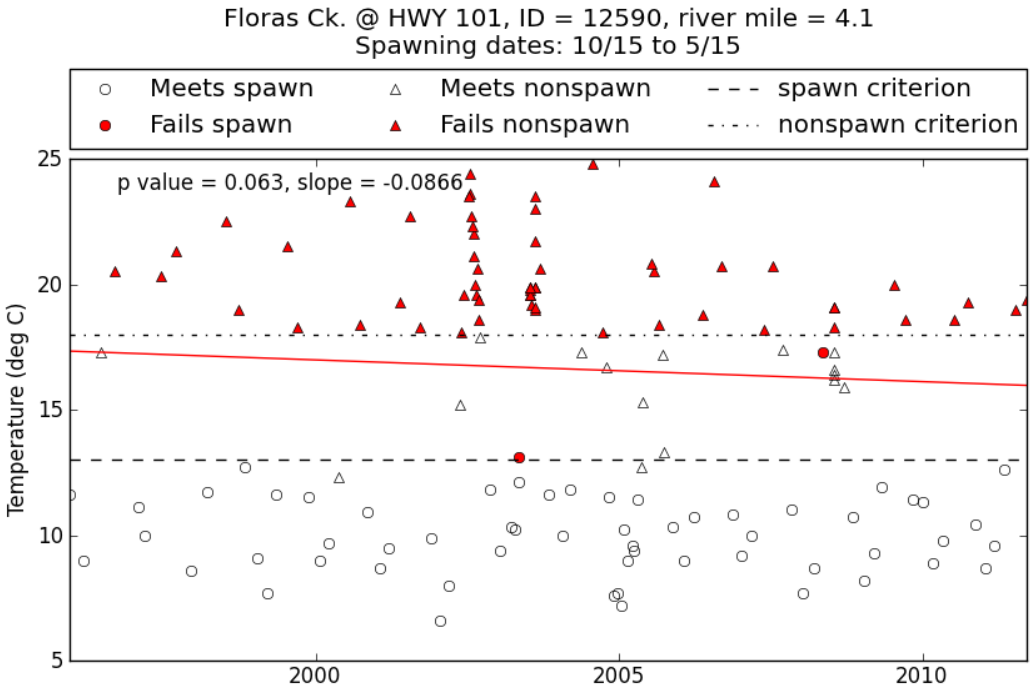
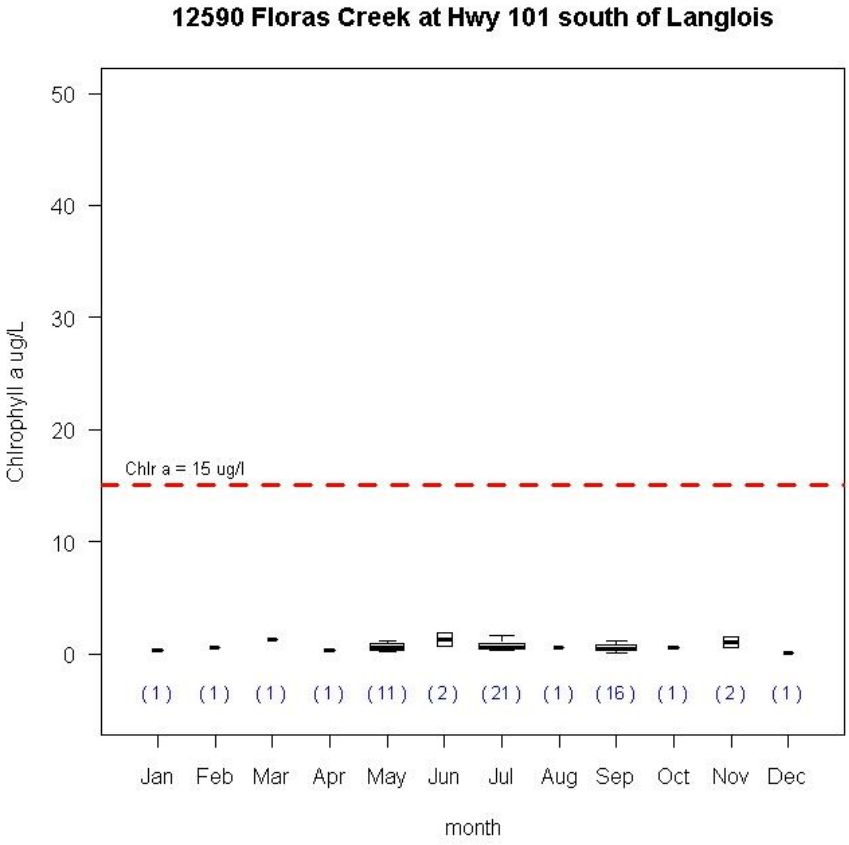


Figure 15 – Floras Creek Chlorophyll a



Floras Ck. @ HWY 101, ID = 12590, river mile = 4.1

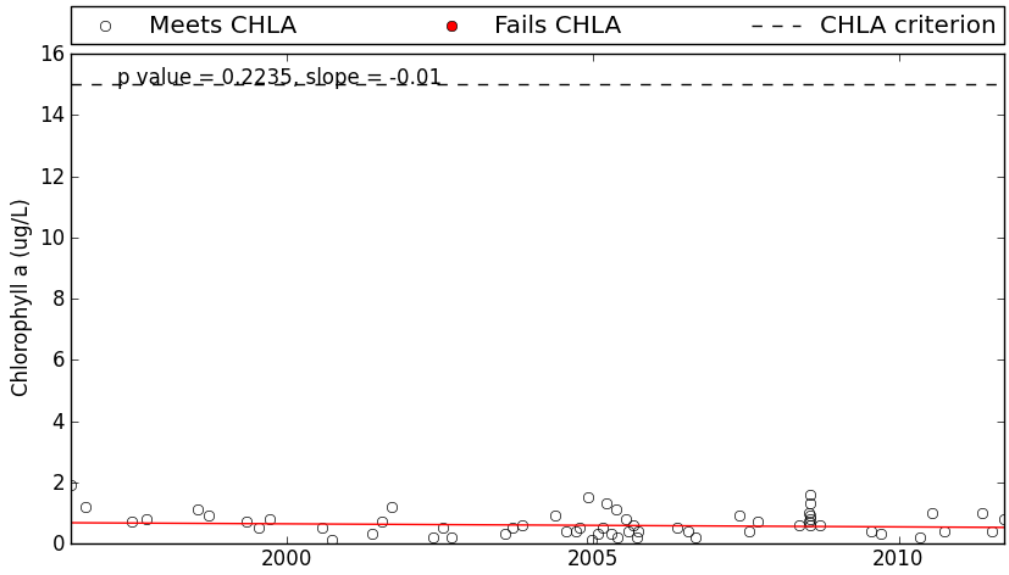
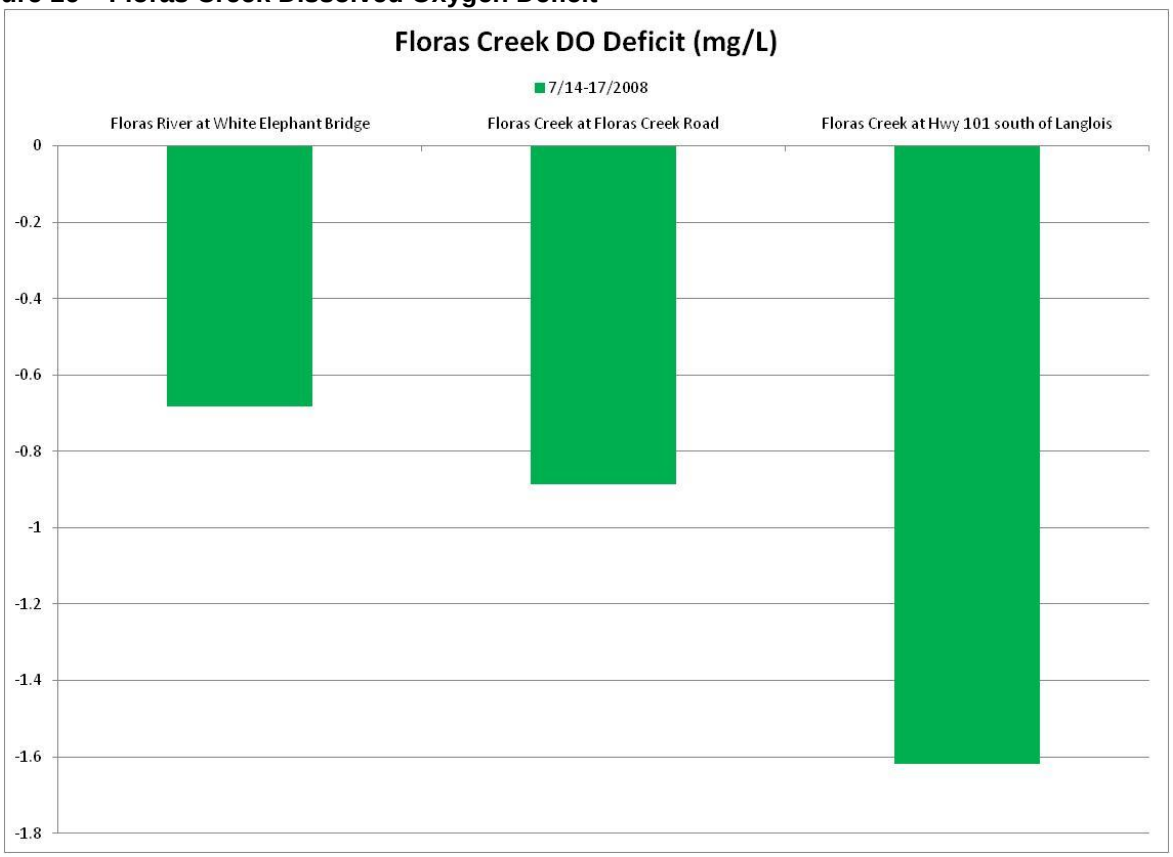


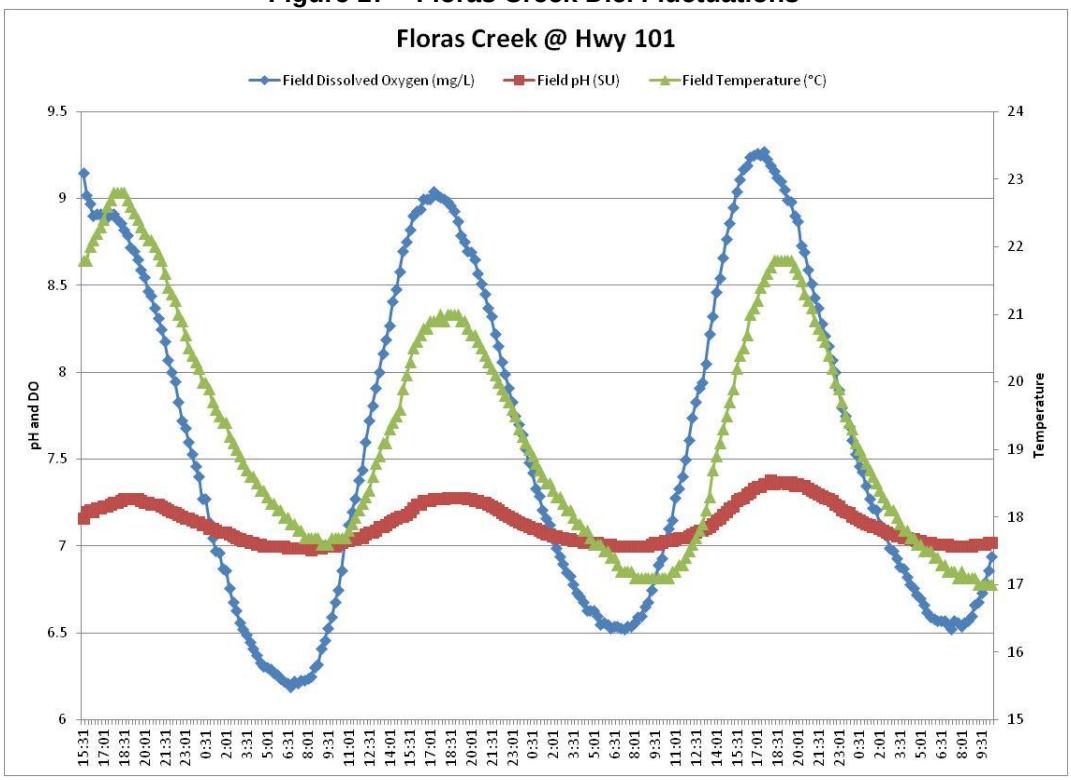
Table 21 – Floras Creek Dissolved Oxygen Deficit					
LASAR	**Site Name**	**Period of Record 2008**	**Average DO (mg/L)**	**Average DO 100% Sat (mg/L)**	**Average DO Deficit (mg/L)**
29542	Floras River at White Elephant Bridge	7/14-17	8.89	9.57	-0.68
35082	Floras Creek at Floras Creek Road*	7/15-16	8.45	9.33	-0.89
12590	Floras Creek at Hwy 101 south of Langlois	7/14-17	7.62	9.24	-1.62

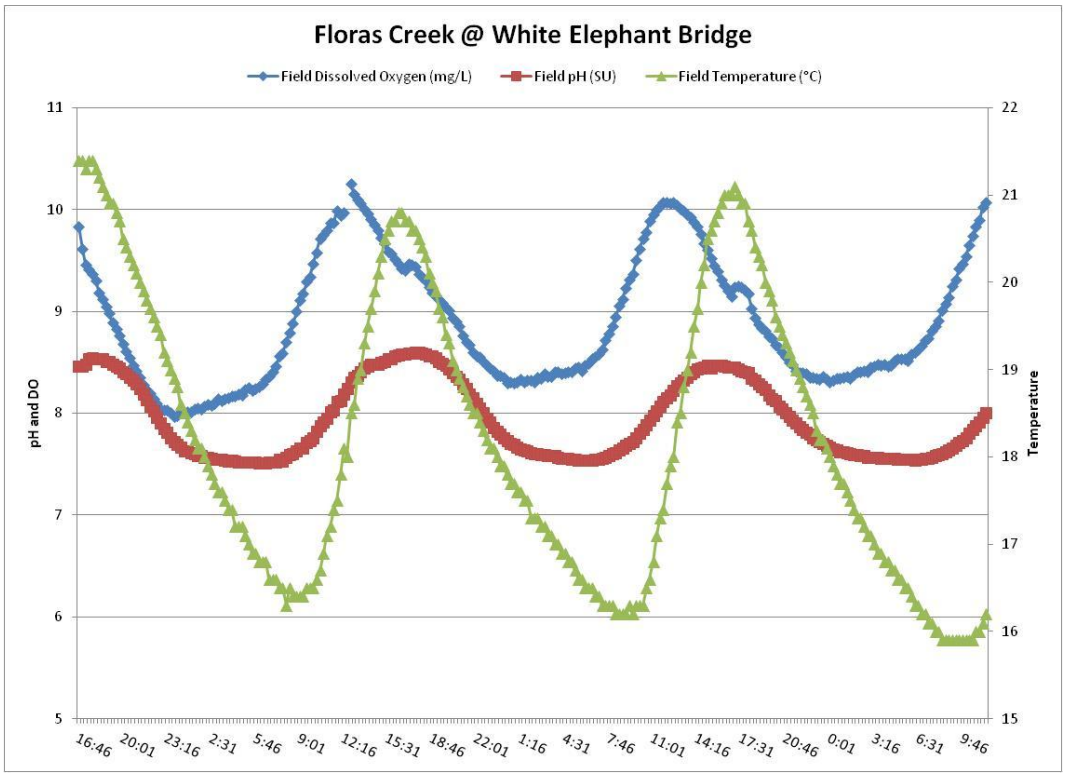
Figure 16 – Floras Creek Dissolved Oxygen Deficit



Floras Creek Diel Fluctuations – July 2008

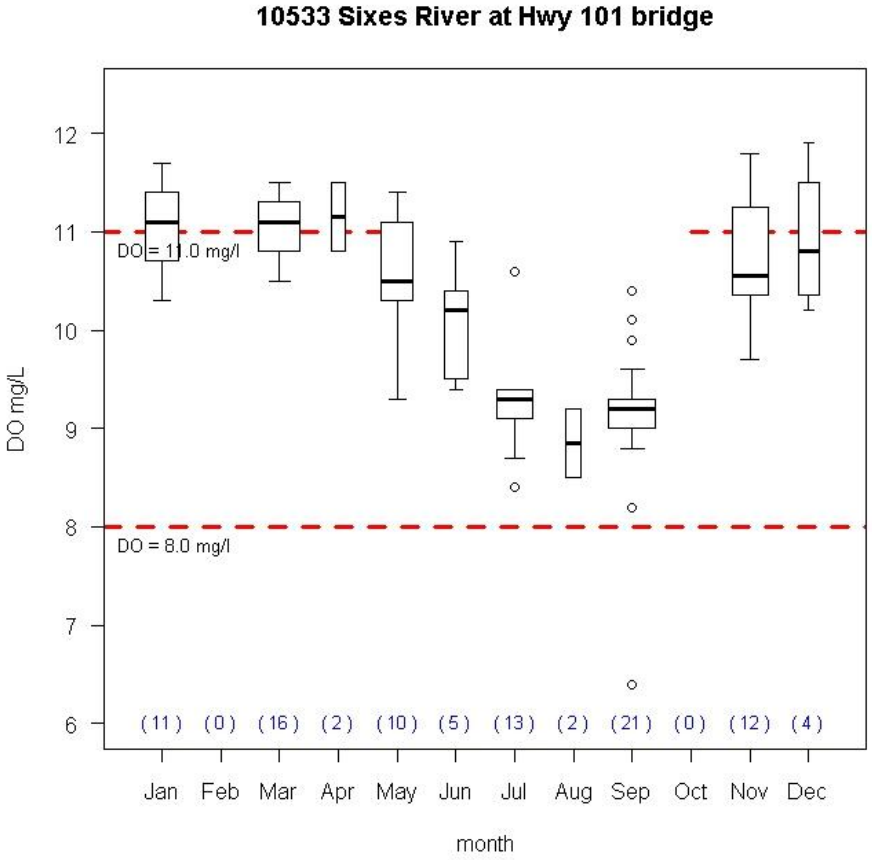
Figure 17 – Floras Creek Diel Fluctuations





Sixes River Ambient Sampling

Figure 18 – Sixes River Dissolved Oxygen



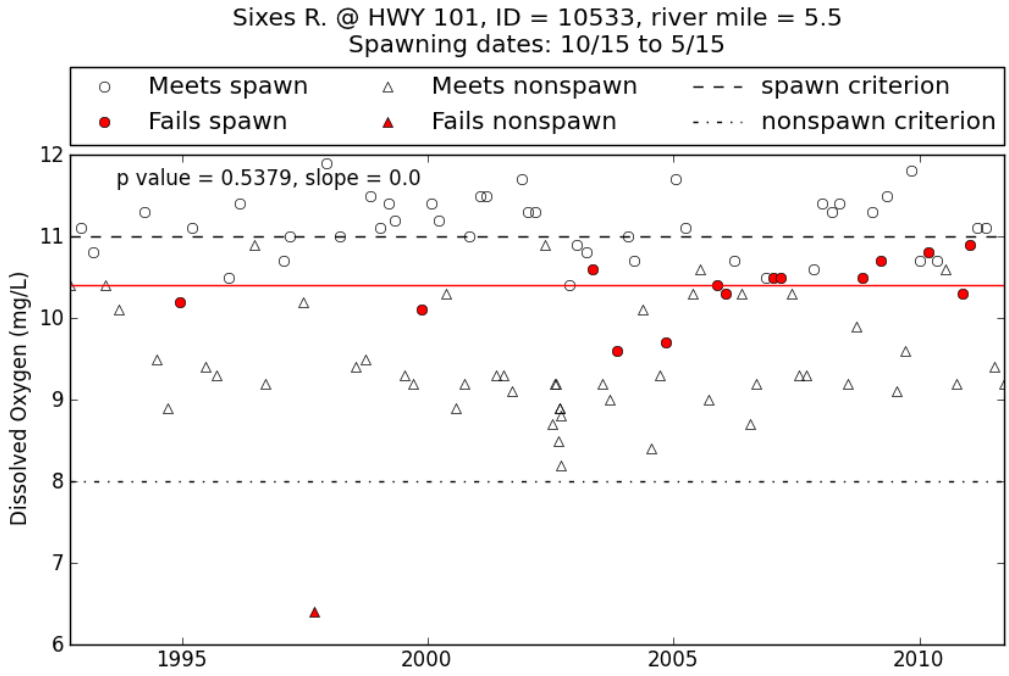
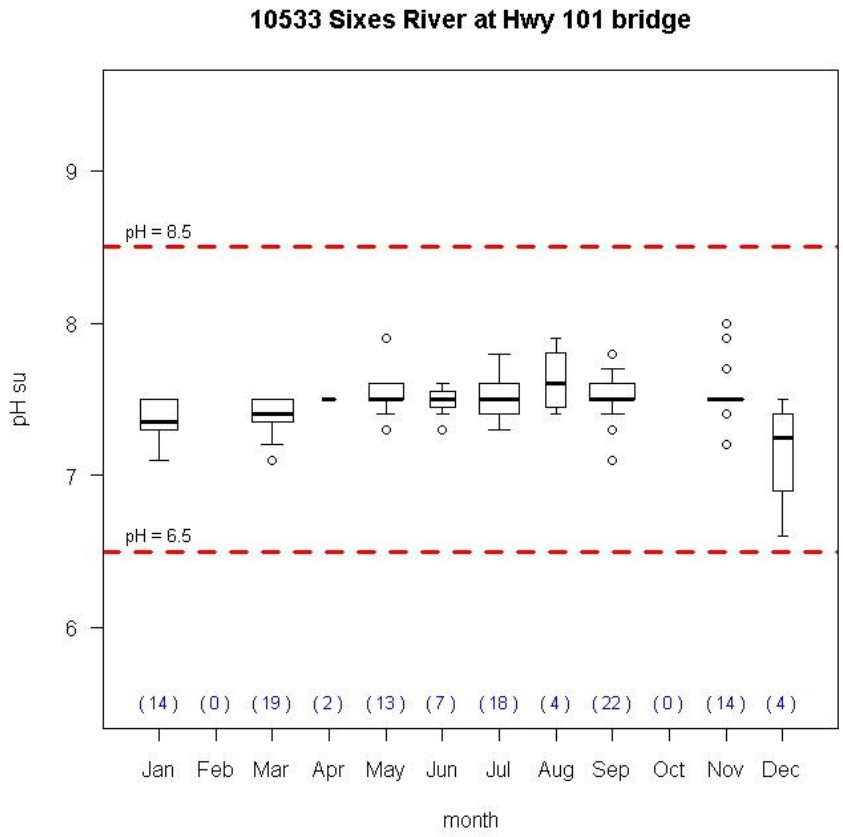


Figure 19 – Sixes River Ambient Sampling, pH



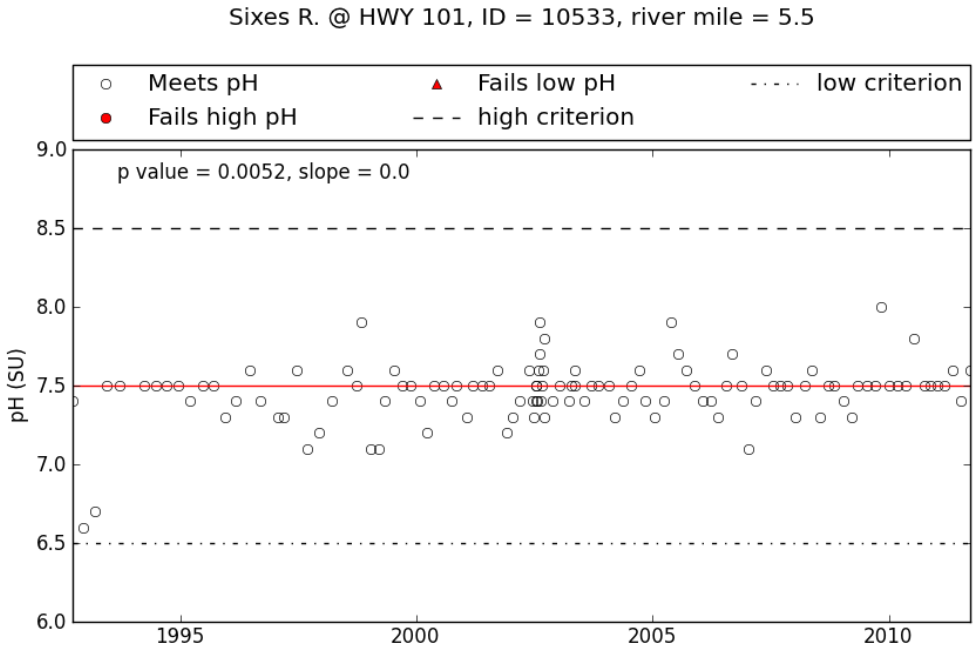
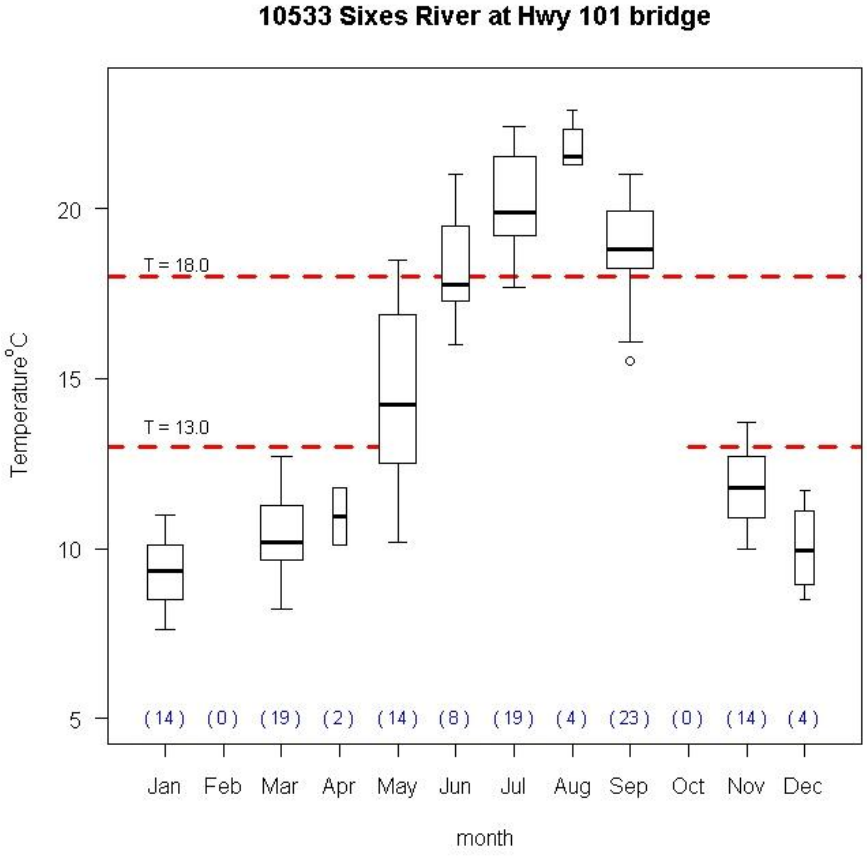


Figure 20 – Sixes River Temperature



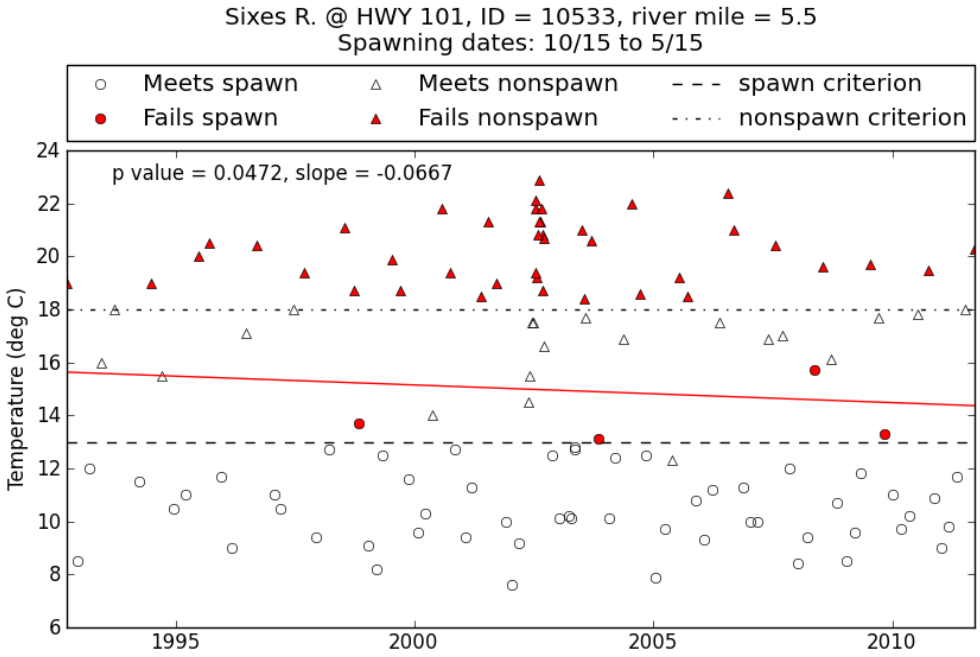
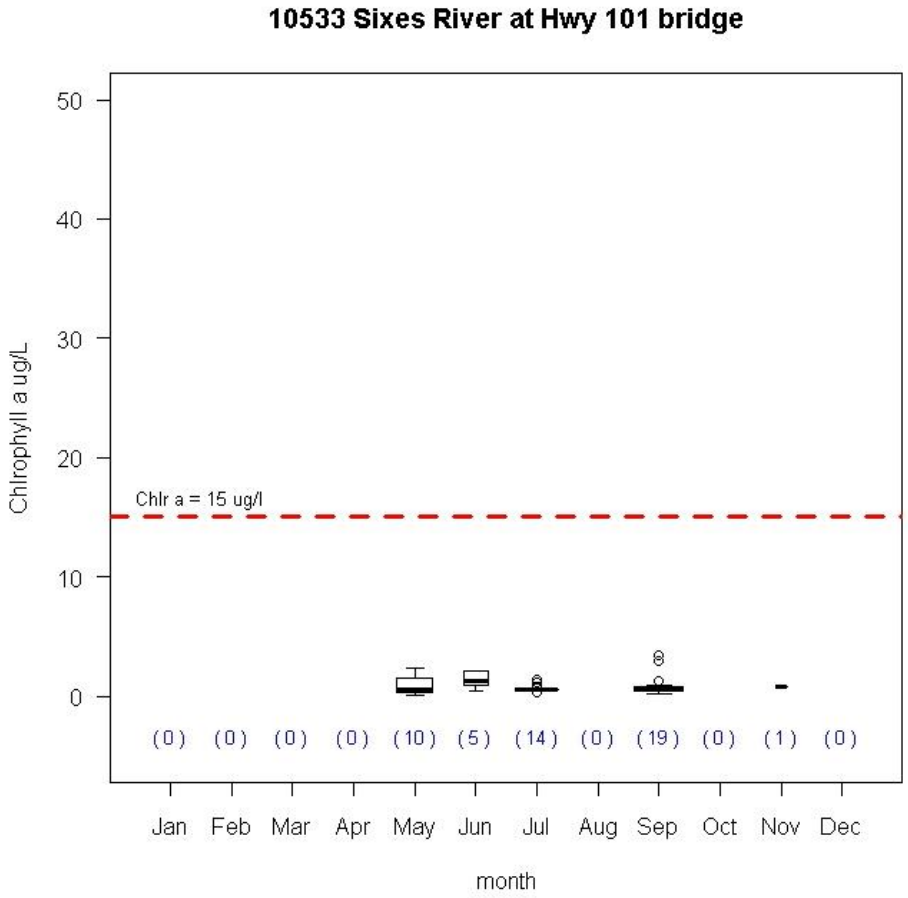


Figure 21 – Sixes River Chlorophyll a



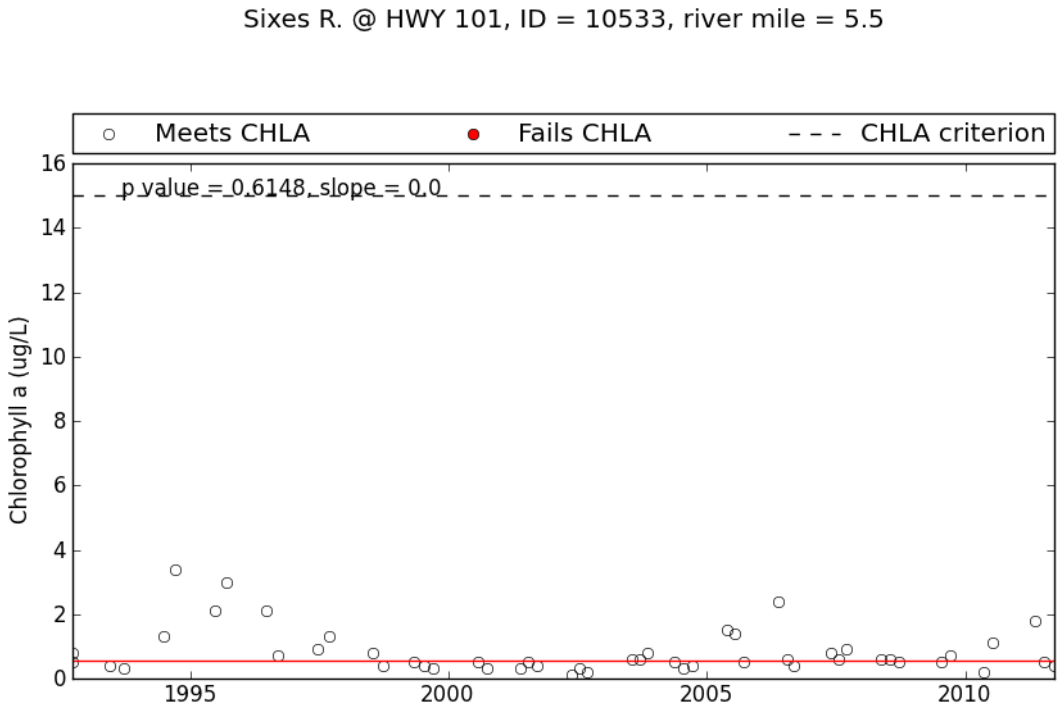
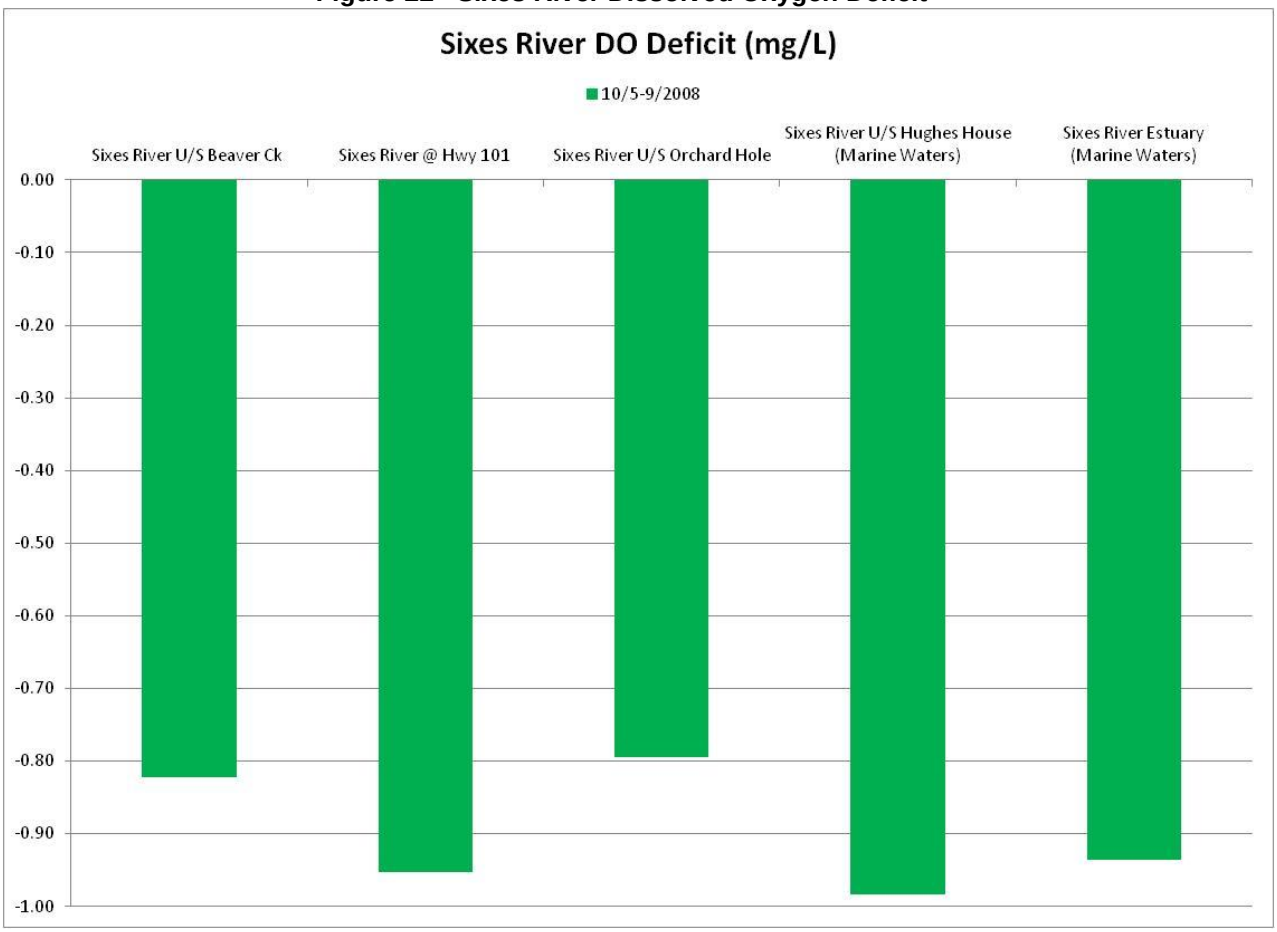


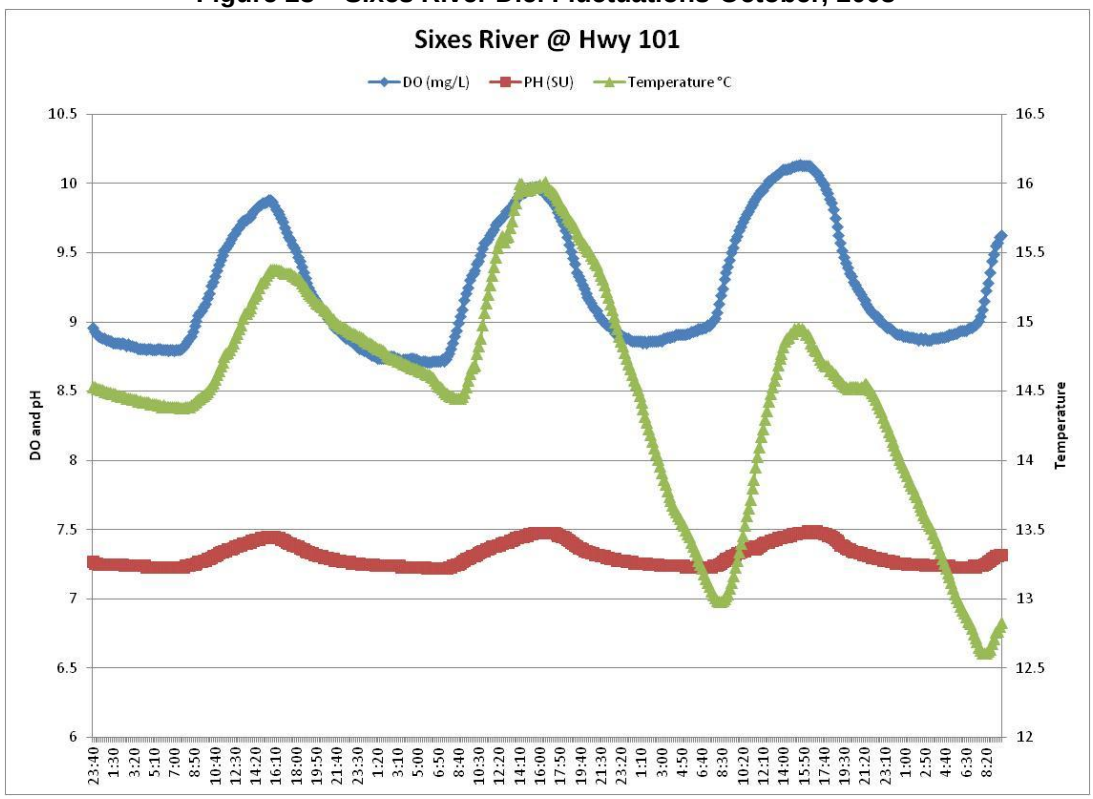
Table 22 – Sixes River Dissolved Oxygen Deficit					
LASAR	**Site Name**	**Period of Record 2008**	**Average DO (mg/L)**	**Average DO Sat (mg/L)**	**Average DO Deficit (mg/L)**
34295	Sixes River U/S Beaver Ck	10/6-9	9.37	10.19	-0.82
32819	Sixes River @ Hwy 101	10/5-9	9.23	10.19	-0.95
NA	Sixes River U/S Orchard Hole	10/6-9	9.47	10.27	-0.80
29550	Sixes River U/S Hughes House (Marine Waters)	10/6-9	9.18	10.16	-0.98
28912	Sixes River Estuary (Marine Waters)	10/6-9	8.44	9.37	-0.94

Figure 22– Sixes River Dissolved Oxygen Deficit



Sixes River Diel Fluctuations

Figure 23 – Sixes River Diel Fluctuations-October, 2008



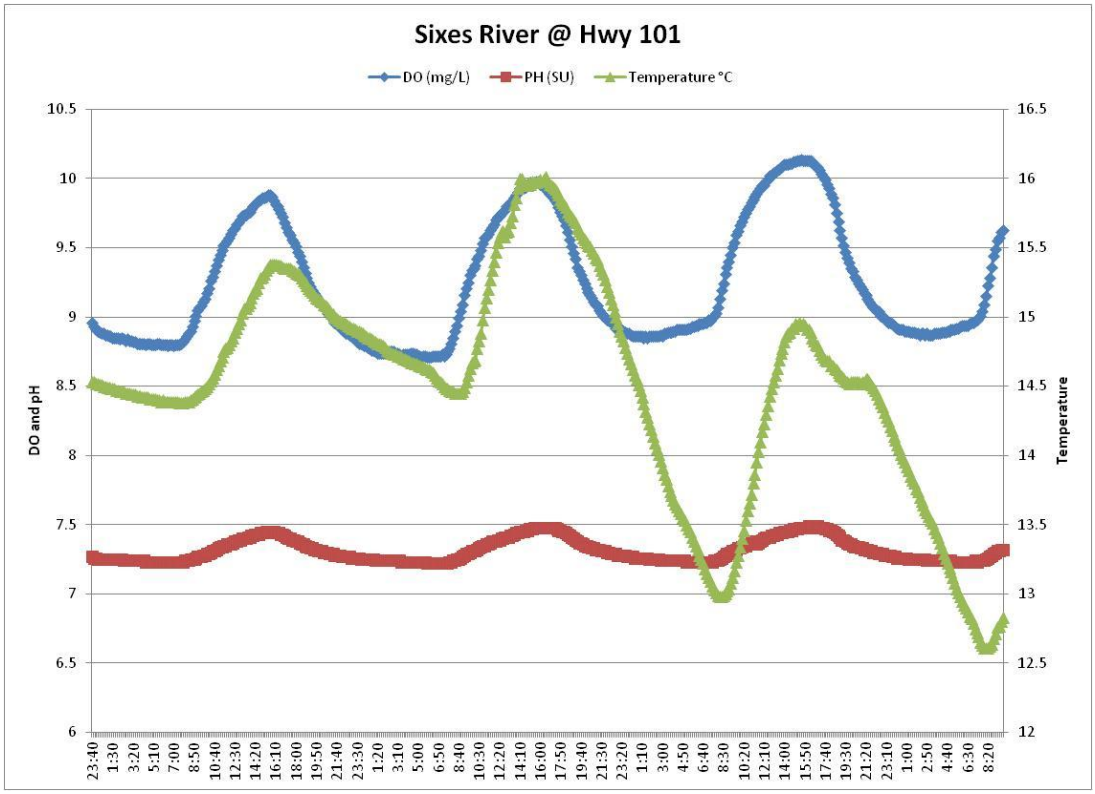
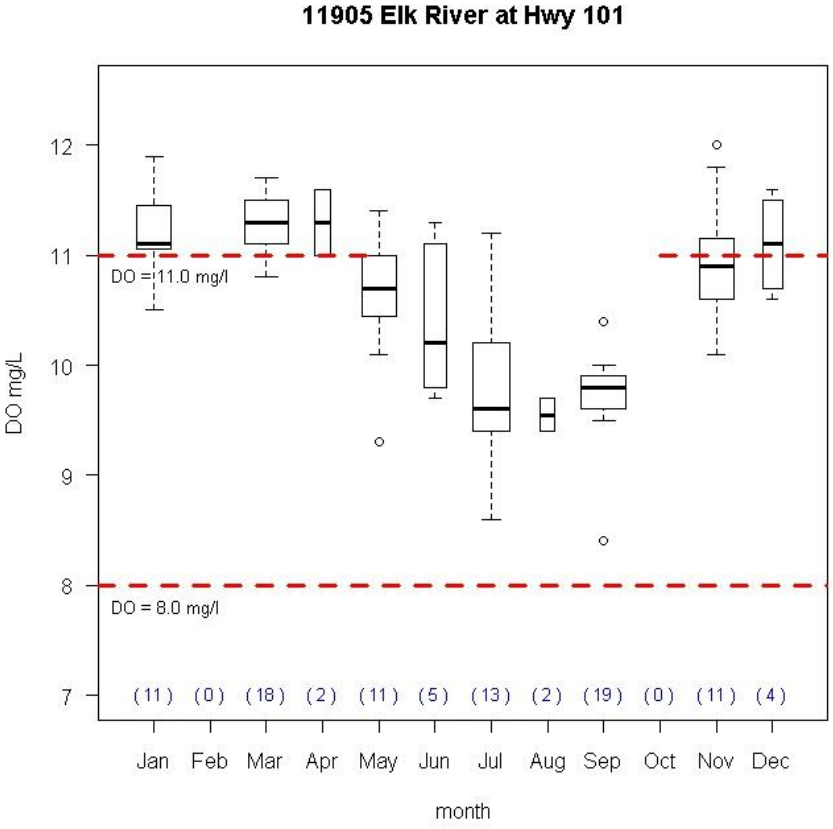


Figure 24 – Elk River Dissolved Oxygen



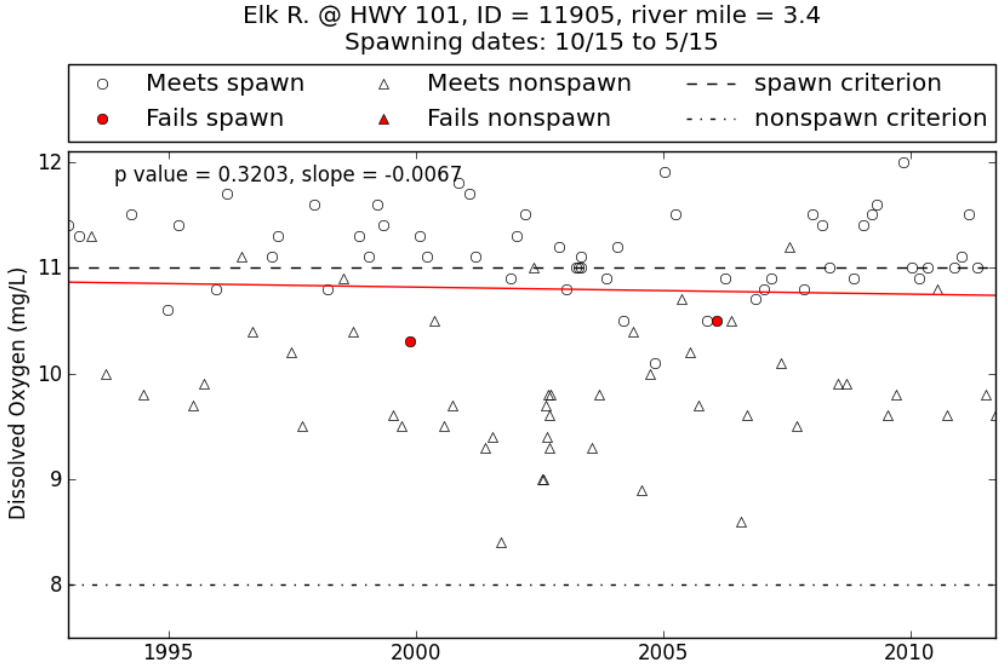
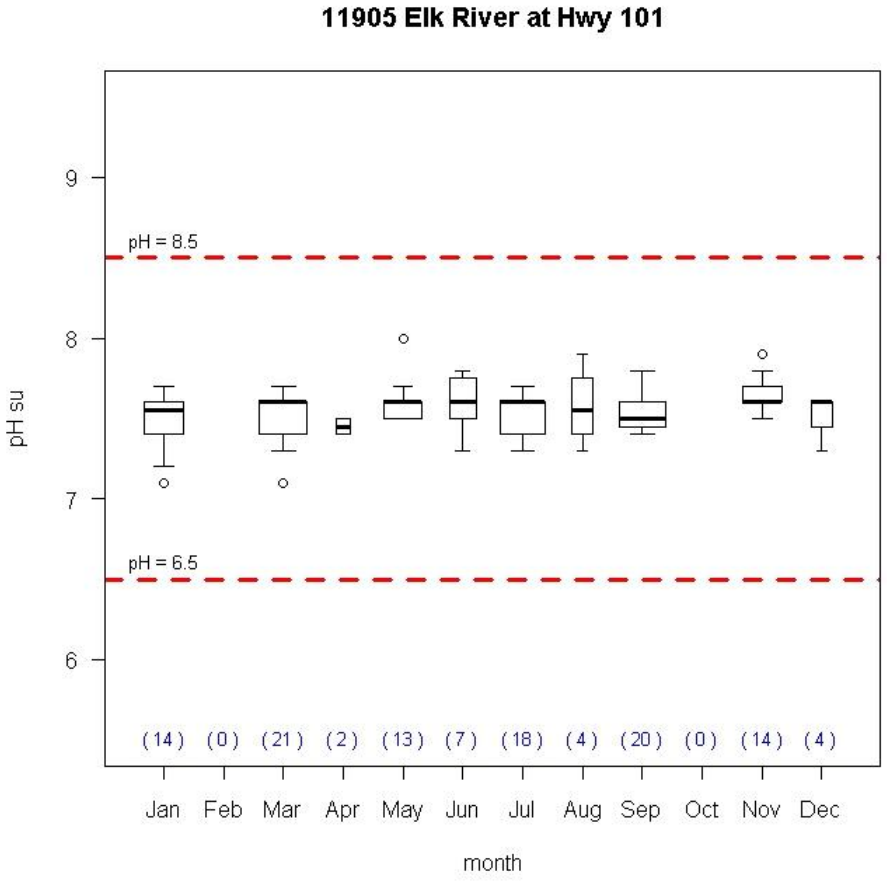


Figure 25 – Elk River pH



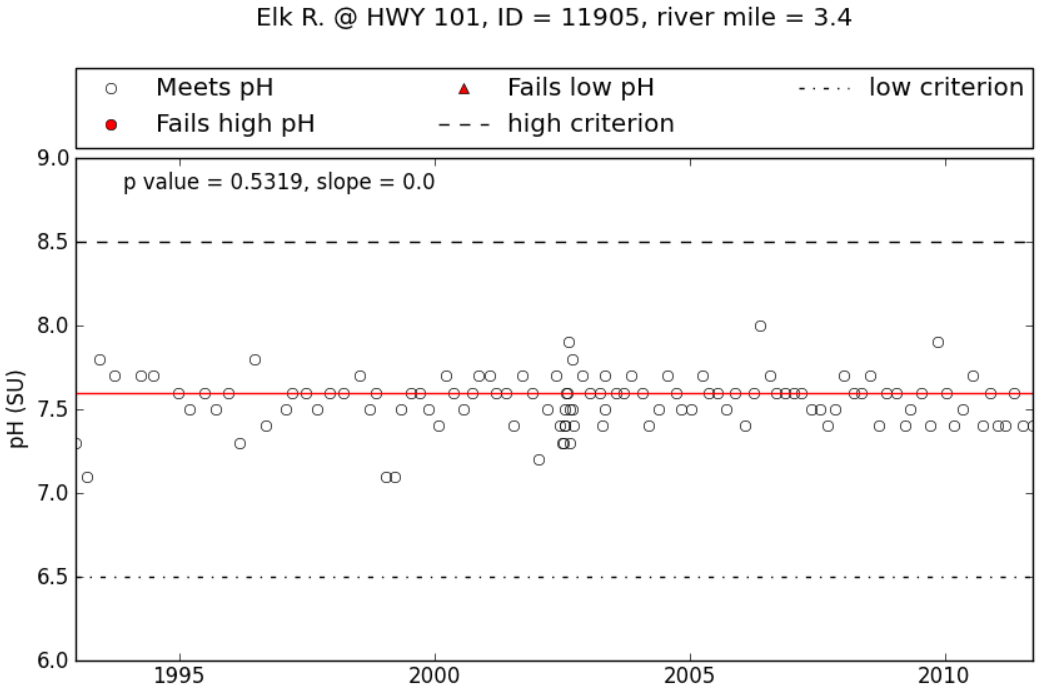
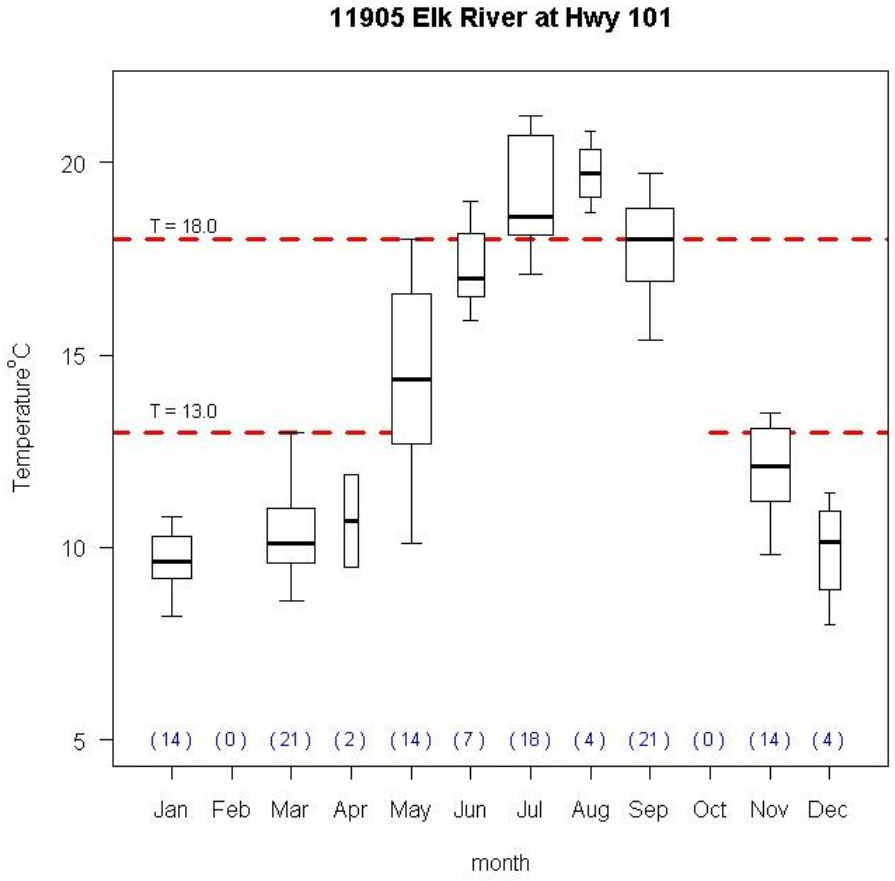


Figure 26 – Elk River Temperature



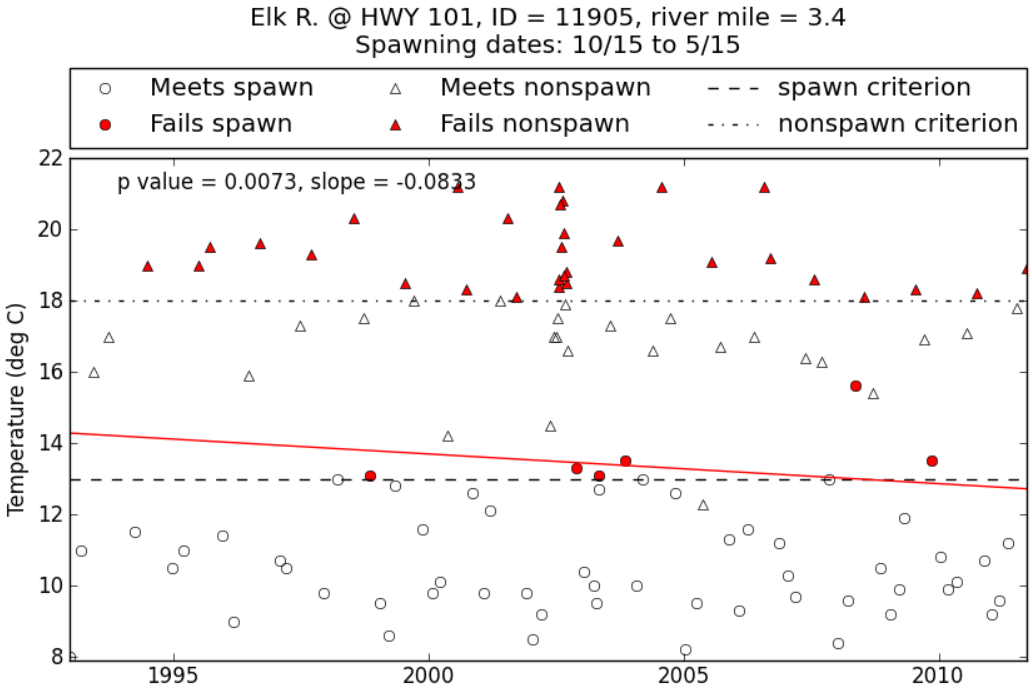
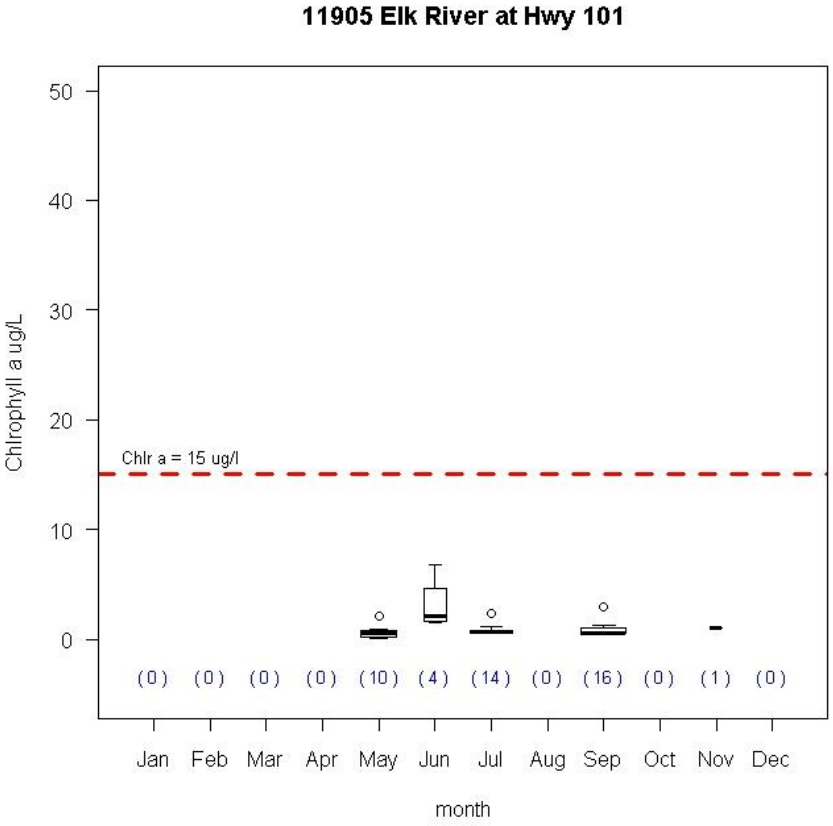
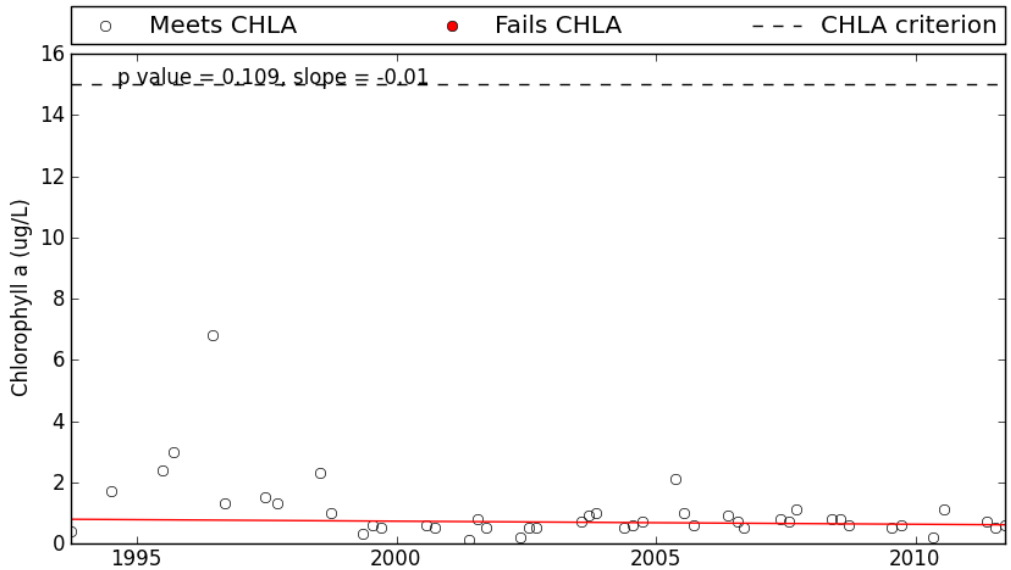


Figure 27 – Elk River Chlorophyll a



Elk R. @ HWY 101, ID = 11905, river mile = 3.4



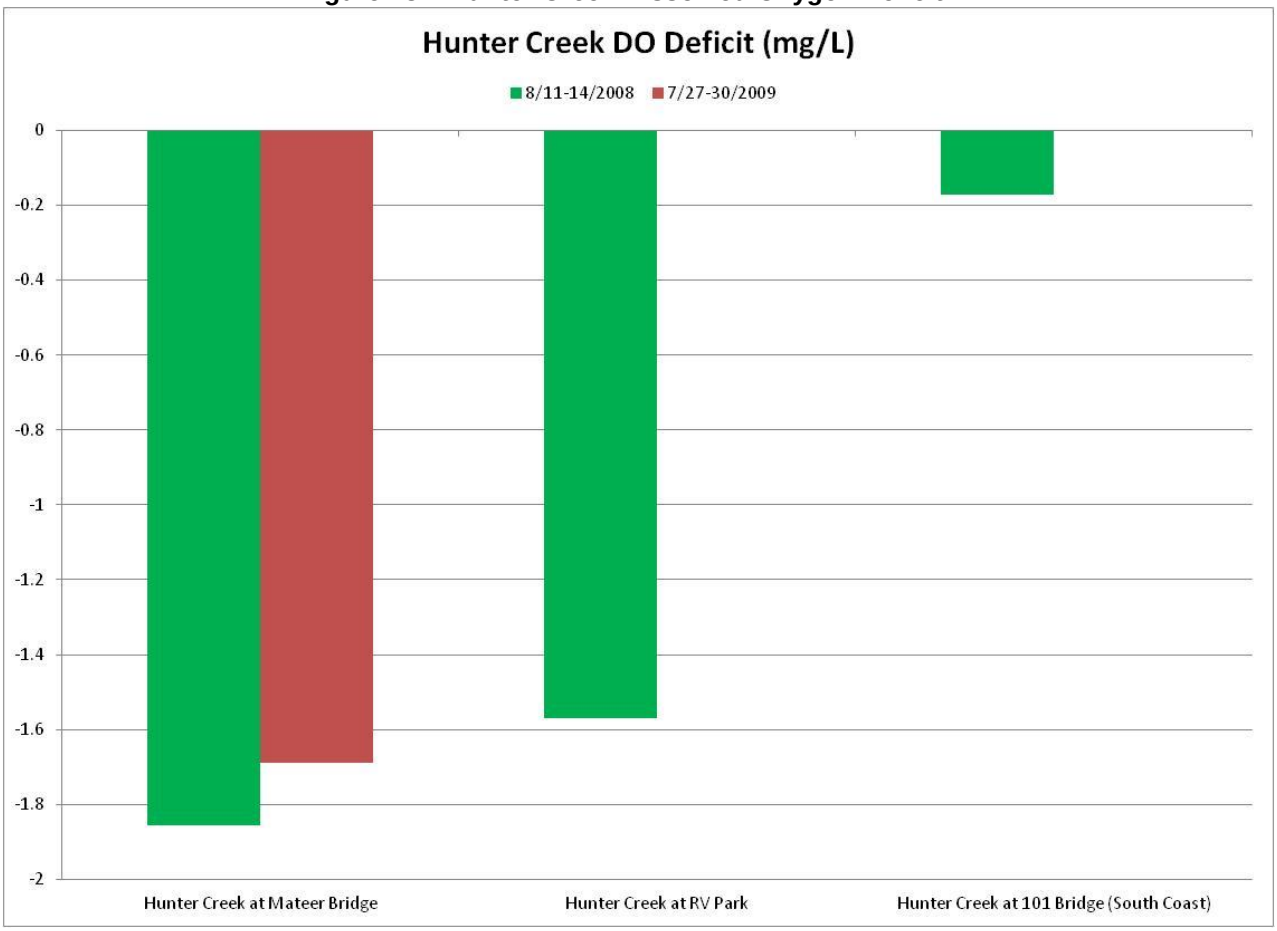
Elk River - No continuous monitoring data is available for this site.

Hunter Creek Dissolved Oxygen and pH TMDL Intensive – July 2008

Not an ambient site–No Box or Trend Plots were developed for this site.

Table 23 – Hunter Creek Dissolved Oxygen Deficit					
LASAR Number	**Site Name**	**Period of Record 2008, 2009**	**Average DO (mg/L)**	**Average DO Sat (mg/L)**	**Average DO Deficit (mg/L)**
23753	Hunter Creek at Mateer Bridge	8/11-14	9.3	11.1	-1.9
23753	Hunter Creek at Mateer Bridge	**7/27-30**	8.2	9.9	-1.7
32021	Hunter Creek at RV Park	8/11-13	8.3	9.8	-1.6
25444	Hunter Creek at 101 Bridge	8/11-14	9.6	9.7	-0.2

Figure 28 – Hunter Creek Dissolved Oxygen Deficit



Hunter Creek Diel Fluctuations – August 2008

Figure 29 – Hunter Creek Mateer Bridge

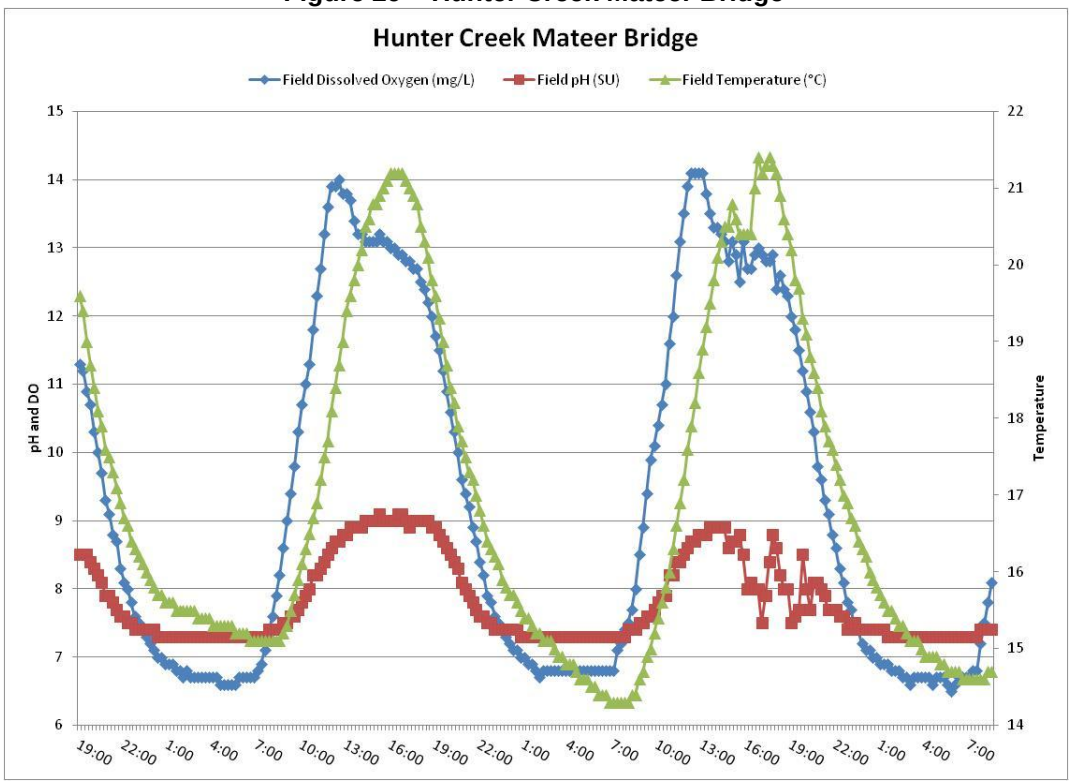
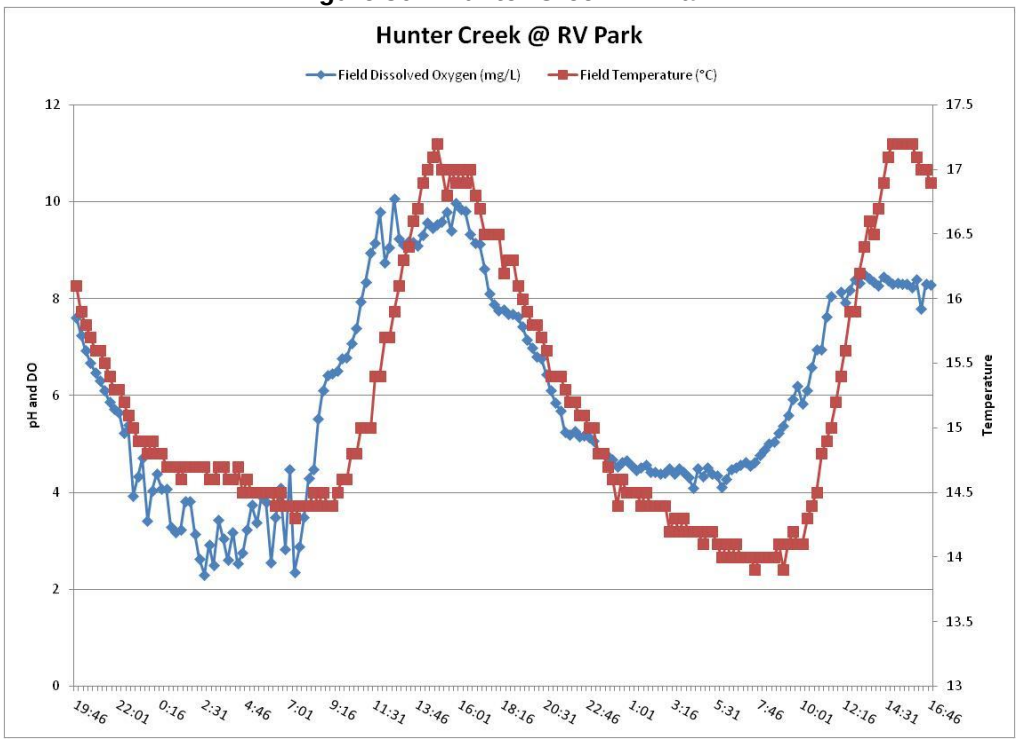
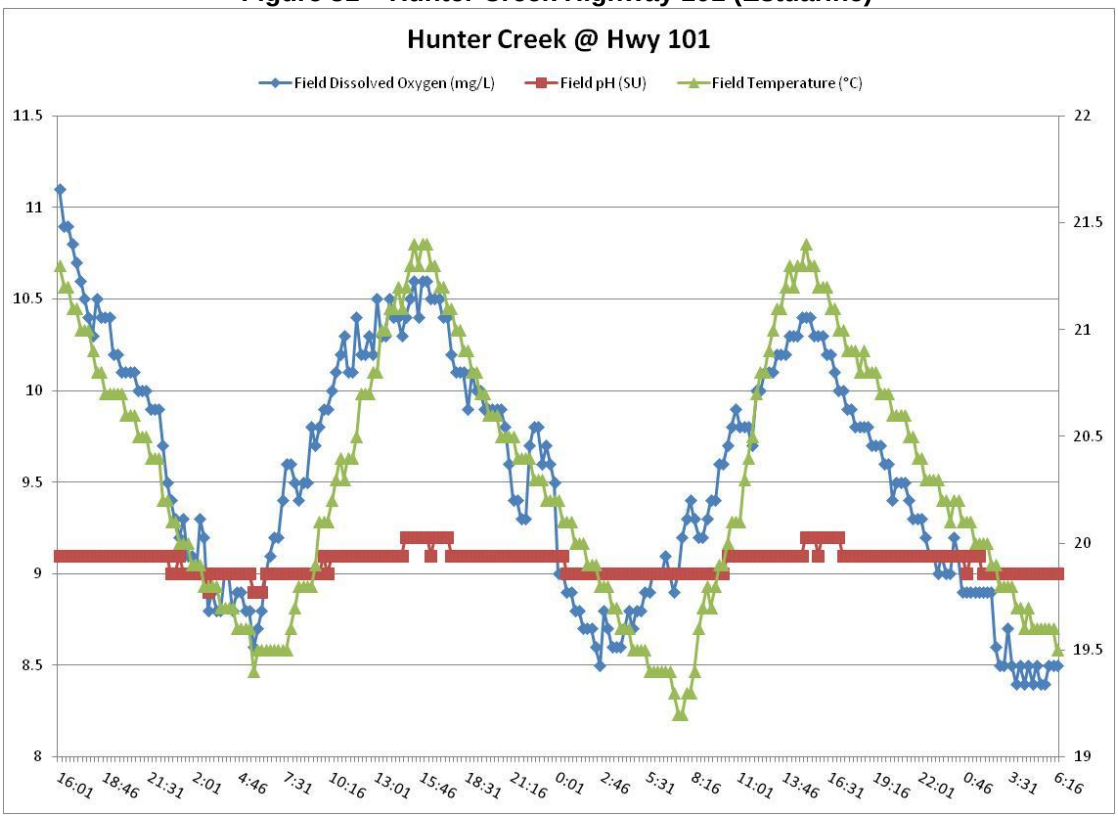


Figure 30 – Hunter Creek RV Park



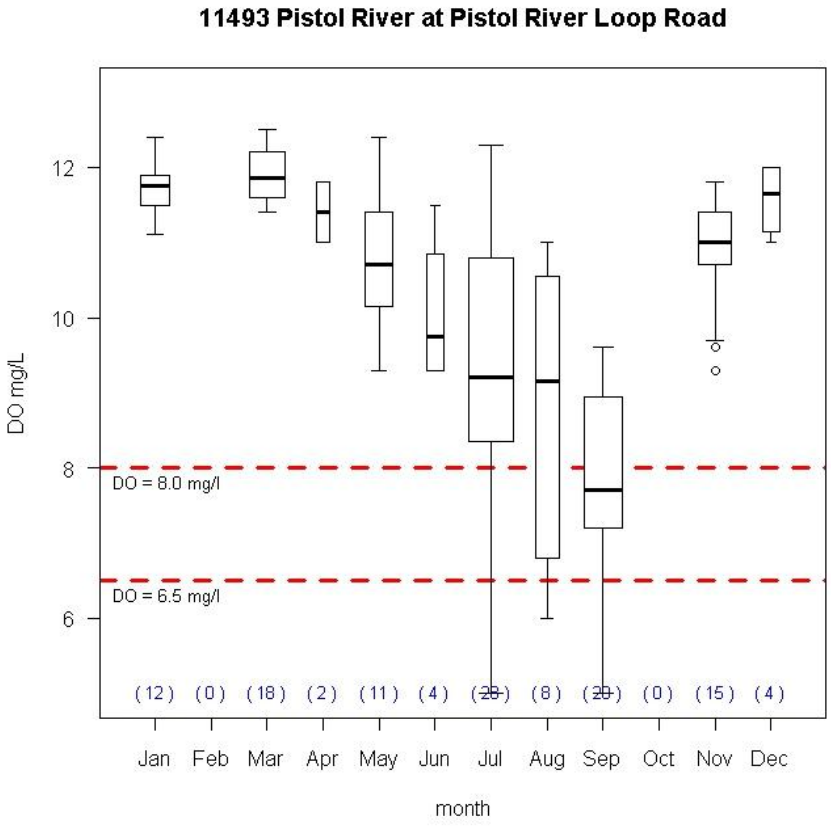
No PH available/Site is fresh water

Figure 31 – Hunter Creek Highway 101 (Estuarine)



Pistol River Ambient Sampling

Figure 32 – Pistol River Dissolved Oxygen



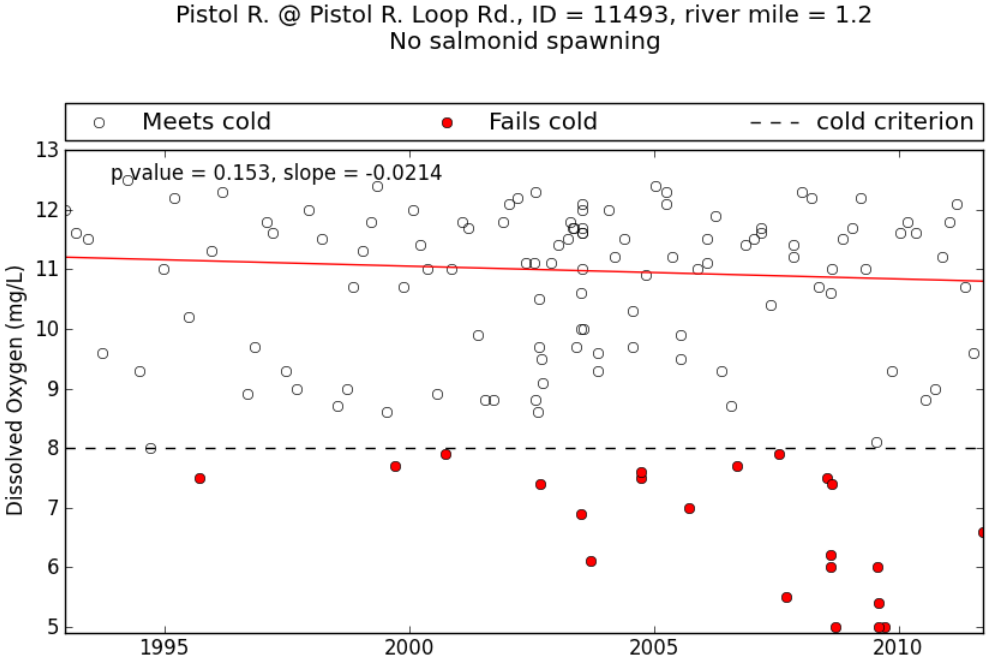
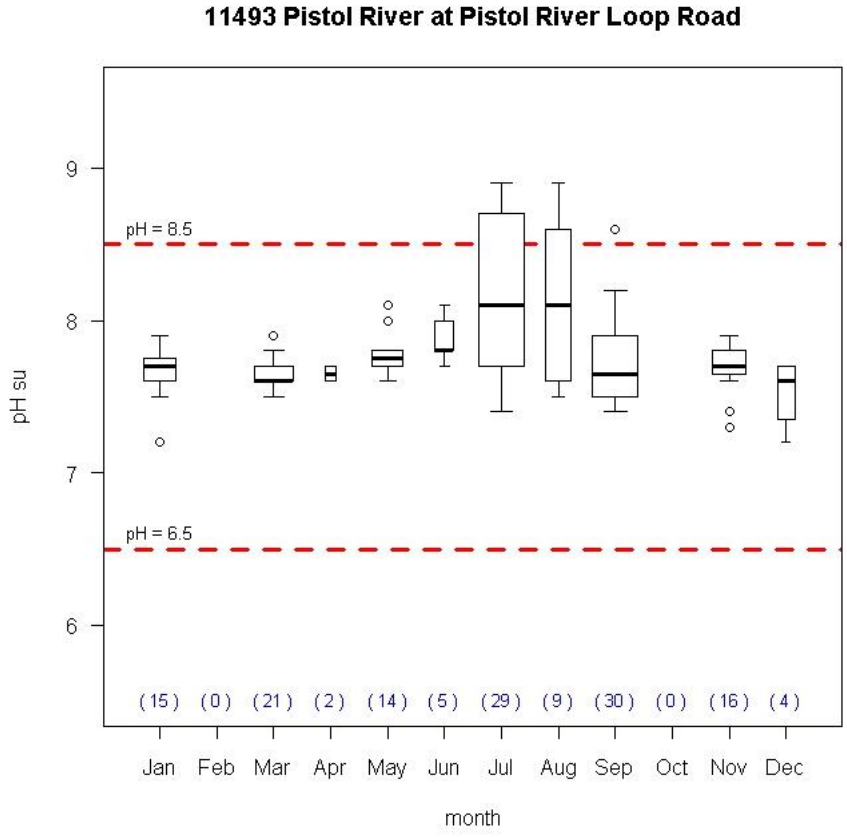


Figure 33 – Pistol River pH



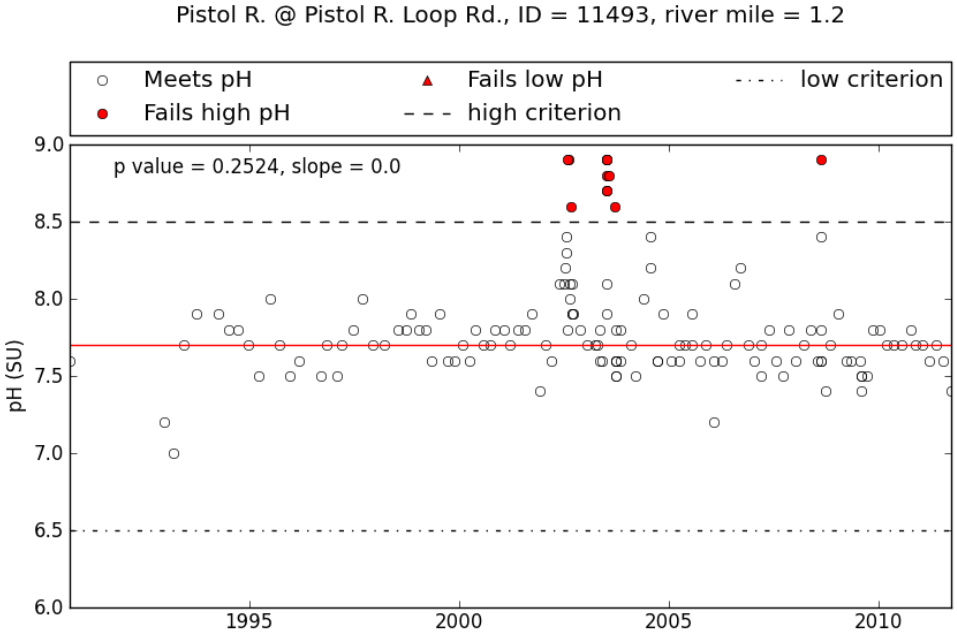
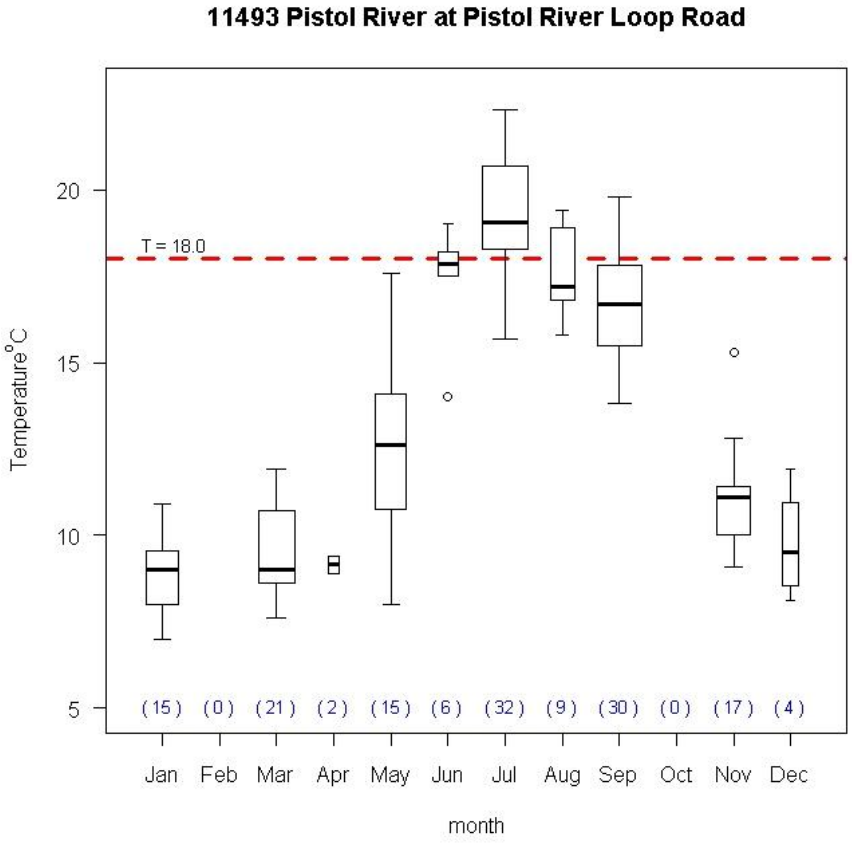


Figure 34 – Pistol River Temperature



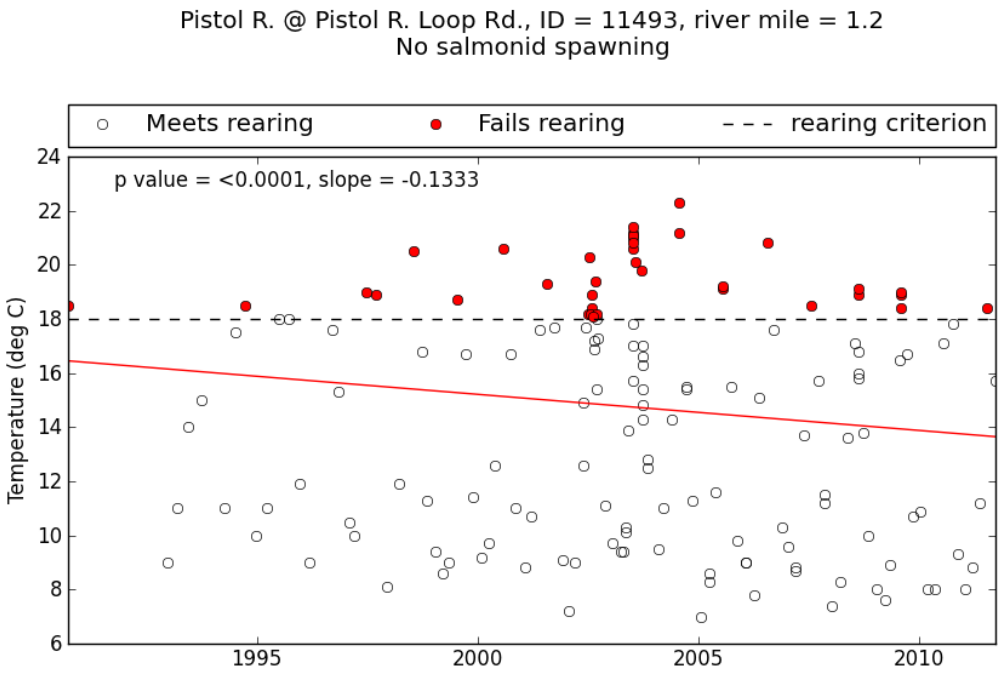
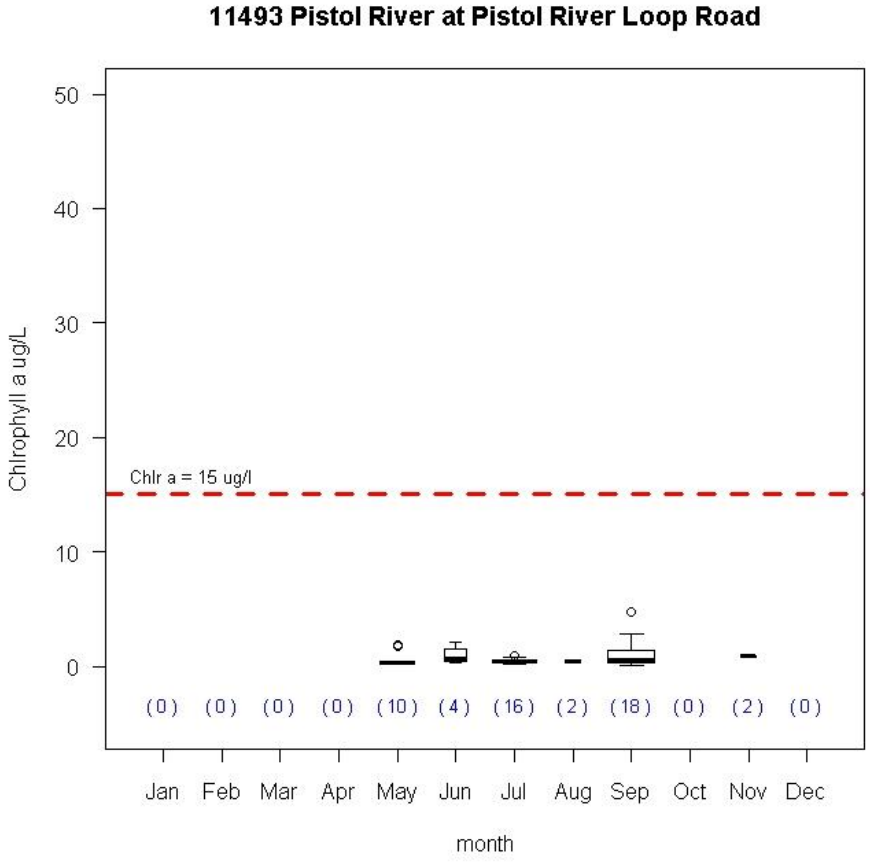
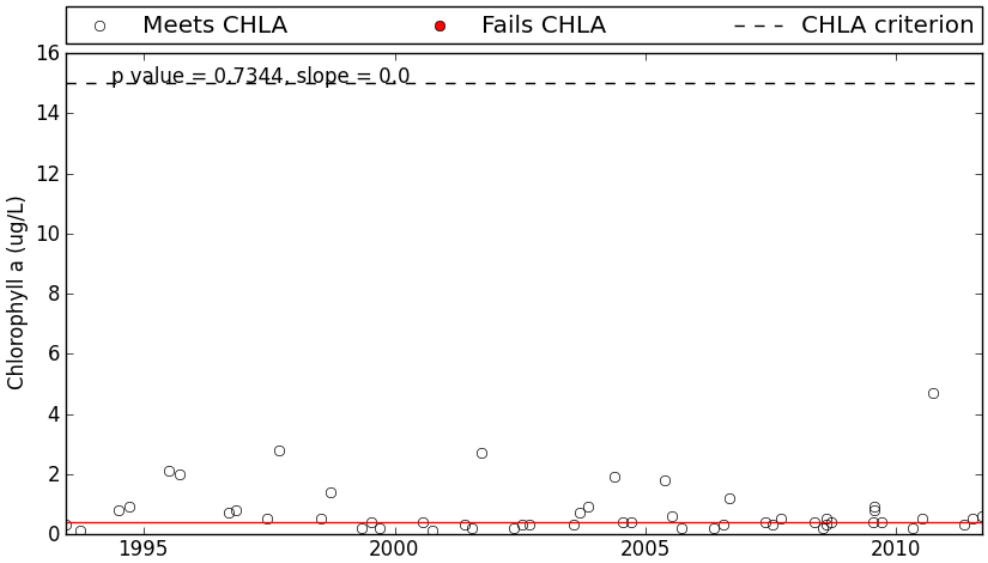


Figure 35 – Pistol River Chlorophyll a



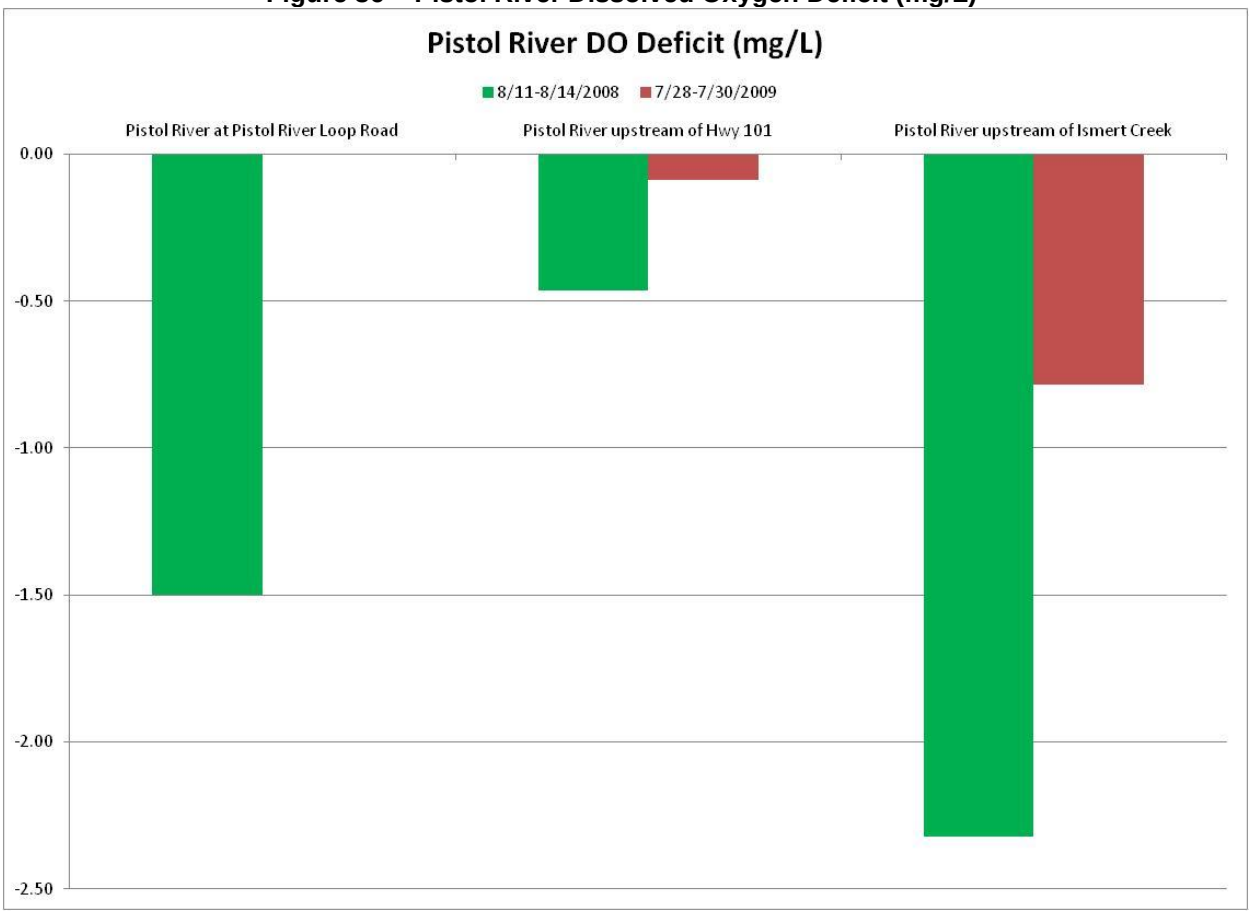
Pistol R. @ Pistol R. Loop Rd., ID = 11493, river mile = 1.2



Pistol River Dissolved Oxygen and pH TMDL Intensive – August 2008

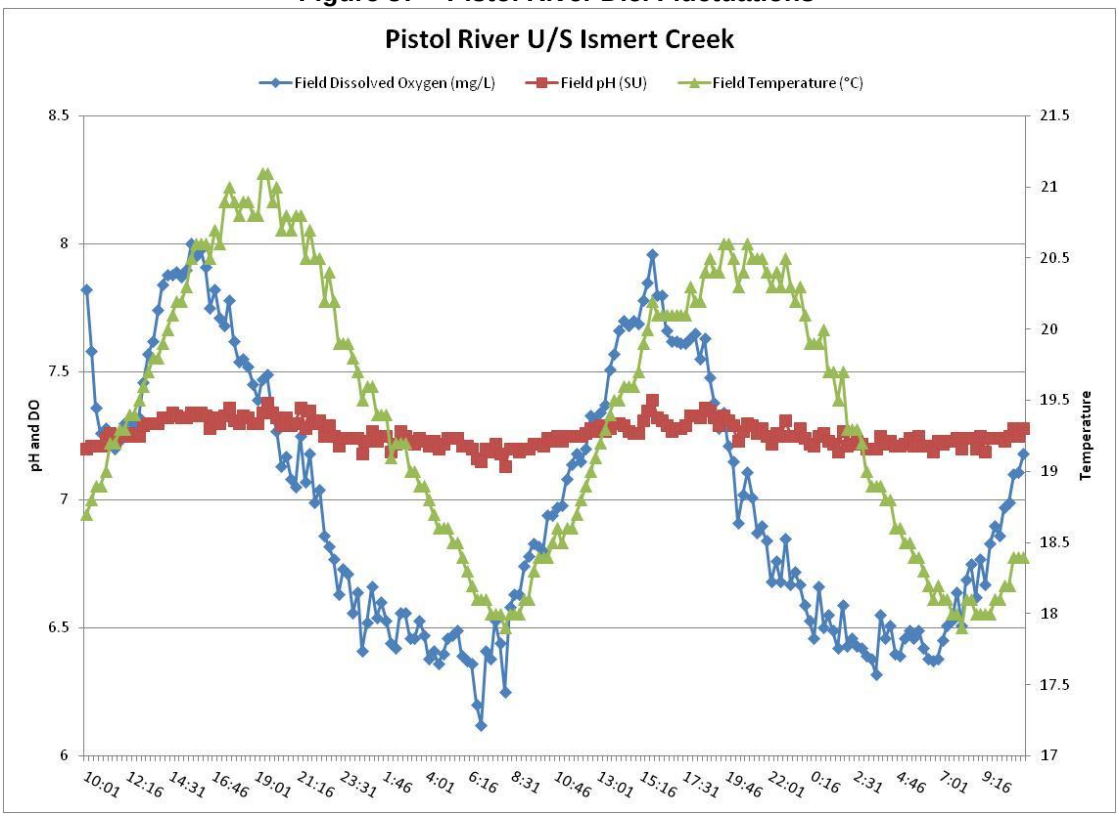
Table 24 – Pistol River Dissolved Oxygen Deficit					
LASAR	**Site Name**	**Period of Record 2008, 2009**	**Average DO (mg/L)**	**Average DO Sat (mg/L)**	**Average DO Deficit (mg/L)**
10535	Pistol River upstream of Hwy 101 (Marine Influence)	8/11-8/14	8.93	9.40	-0.46
10535	Pistol River upstream of Hwy 101	**7/28-7/30**	8.67	8.75	-0.09
32023	Pistol River upstream of Ismert Creek	8/12-8/14	7.00	9.32	-2.32
32023	Pistol River upstream of Ismert Creek	**7/28-7/30**	8.44	9.23	-0.78
11493	Pistol River at Pistol River Loop Road (Tidal Backwater, Some Marine Influence)	8/11-8/14	8.90	10.41	-1.50

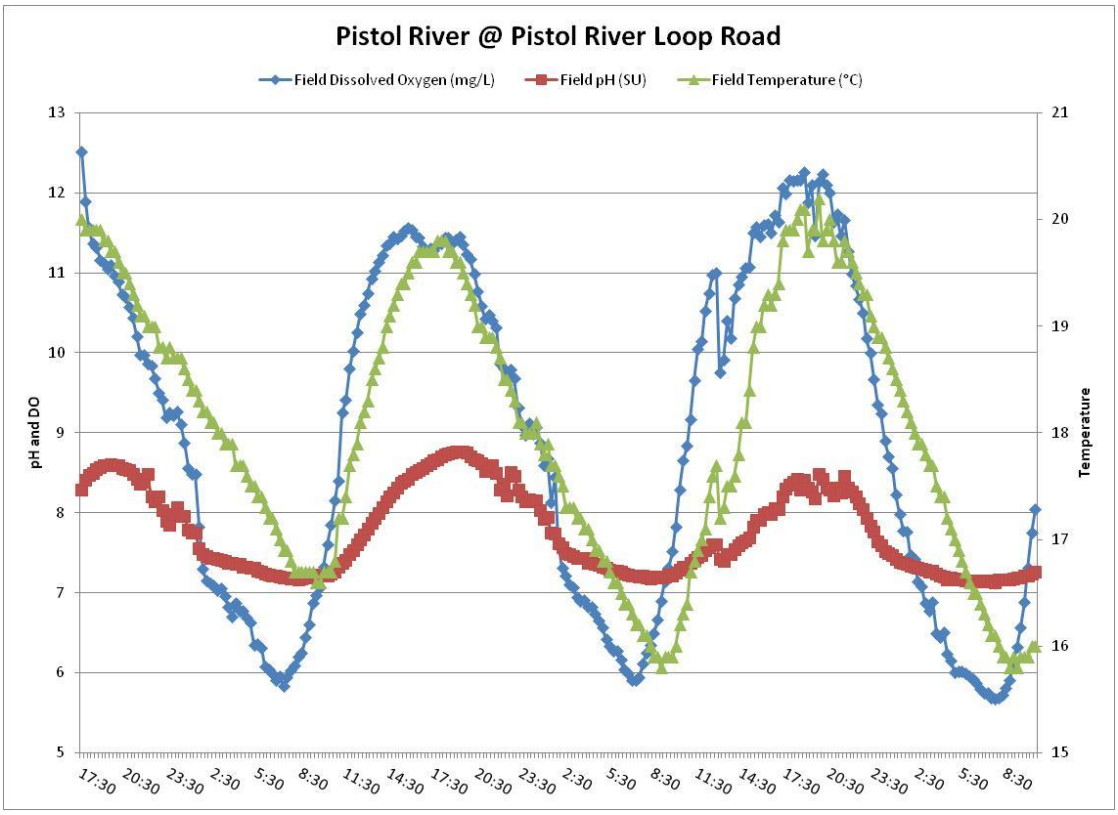
Figure 36 – Pistol River Dissolved Oxygen Deficit (mg/L)



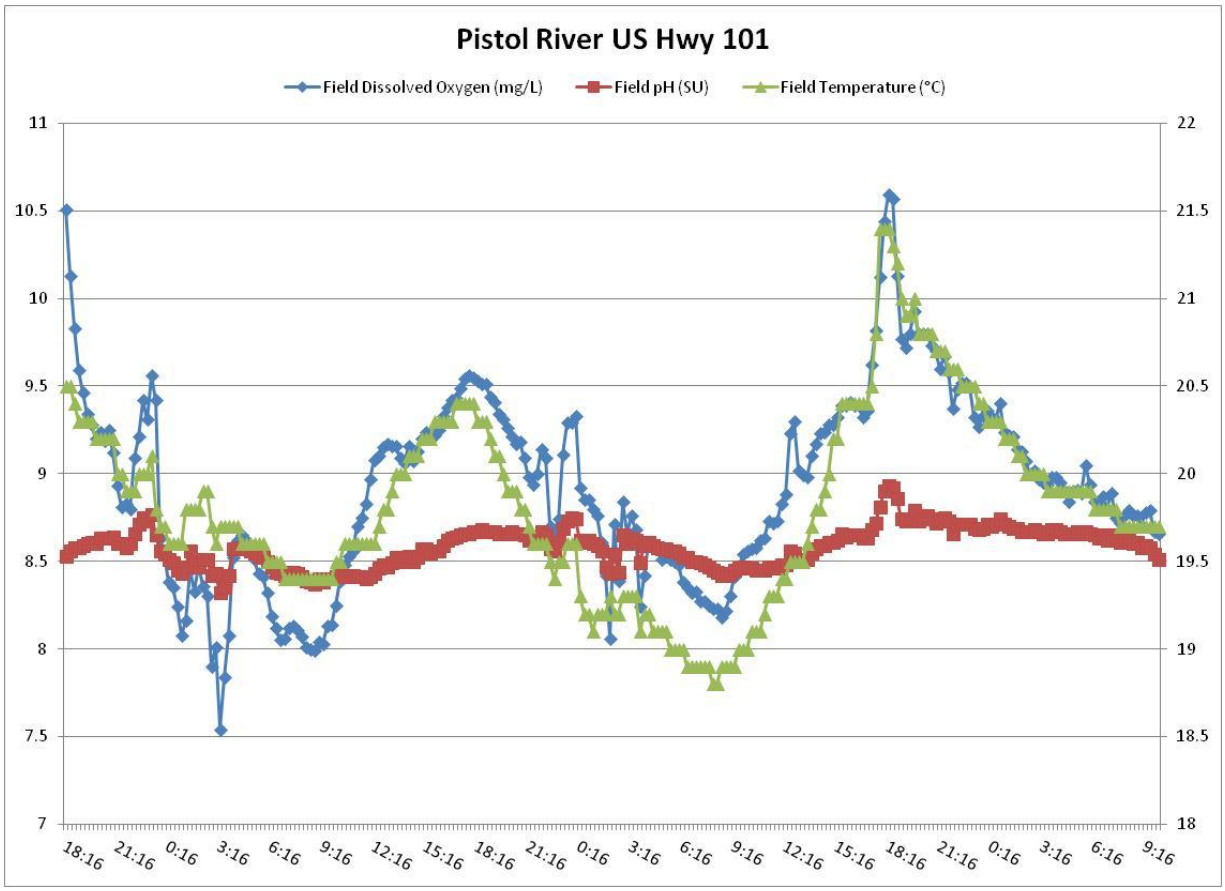
Pistol River Diel Fluctuations

Figure 37 – Pistol River Diel Fluctuations





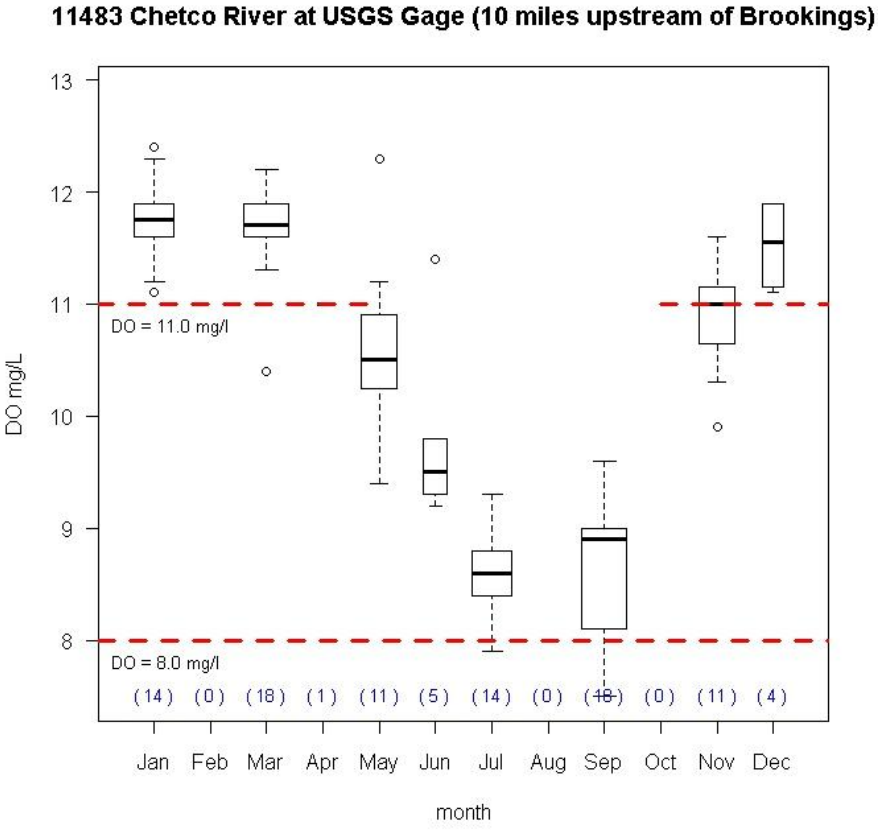
Site was slightly estuarine



Site is estuarine

Chetco River Ambient Sampling

Figure 38 – Chetco River Dissolved Oxygen



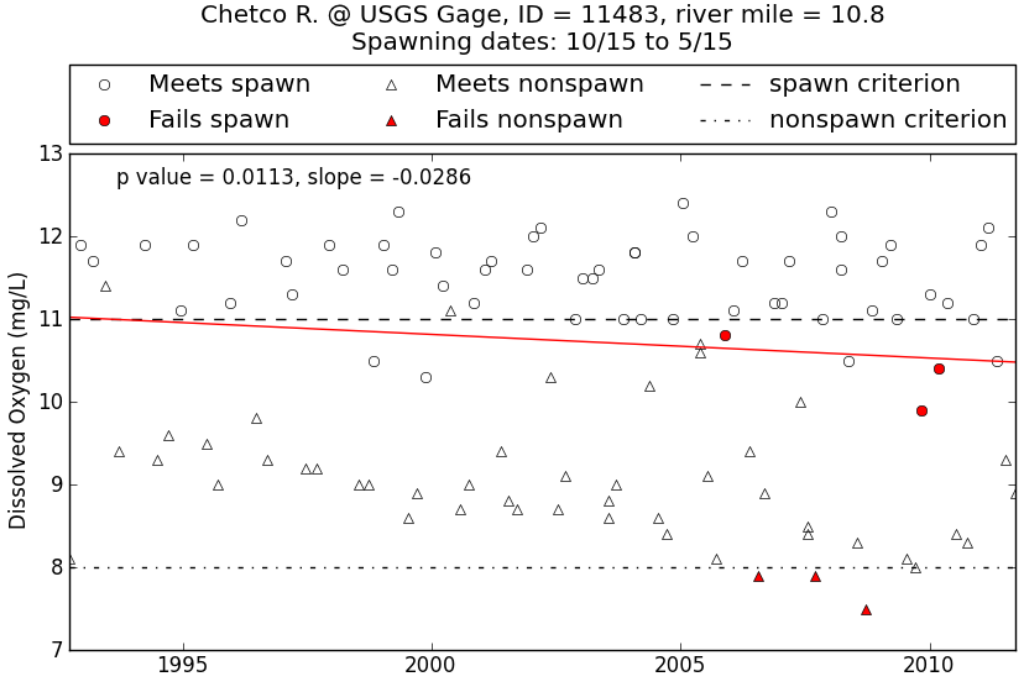
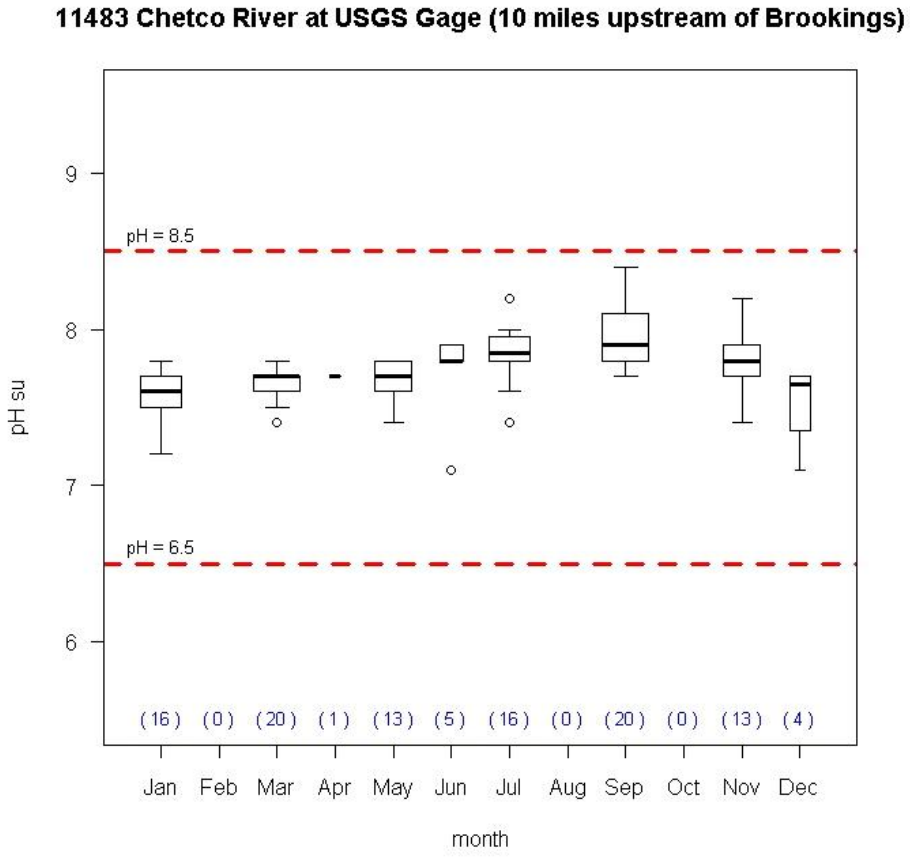


Figure 39 – Chetco River pH



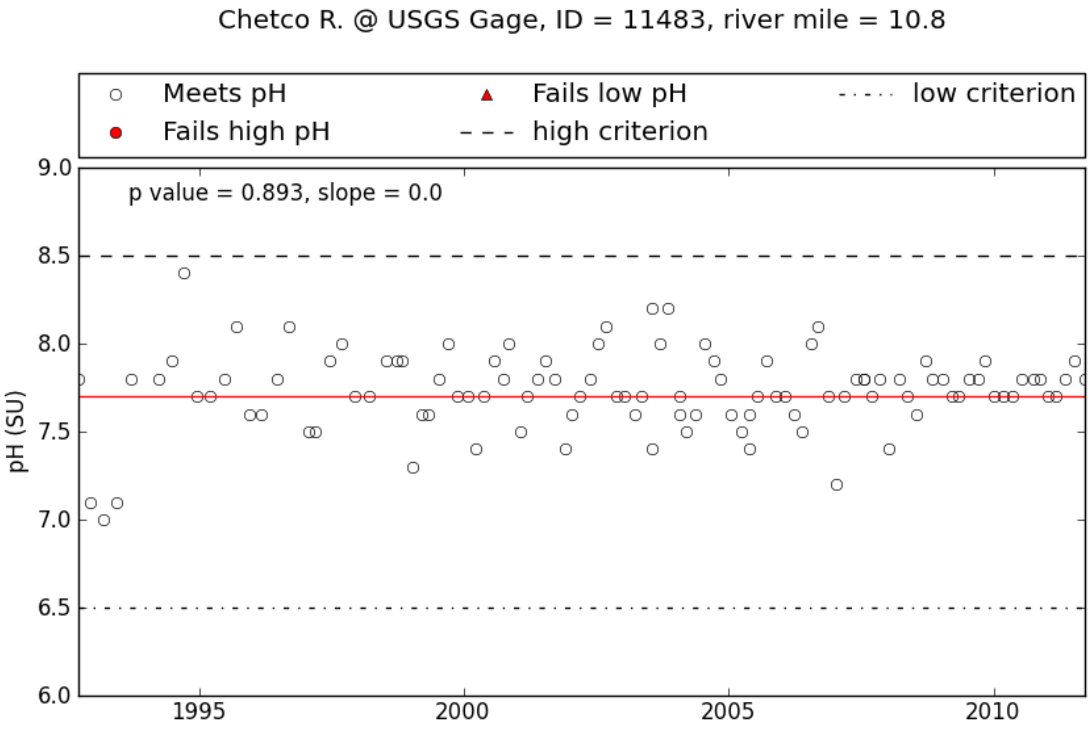
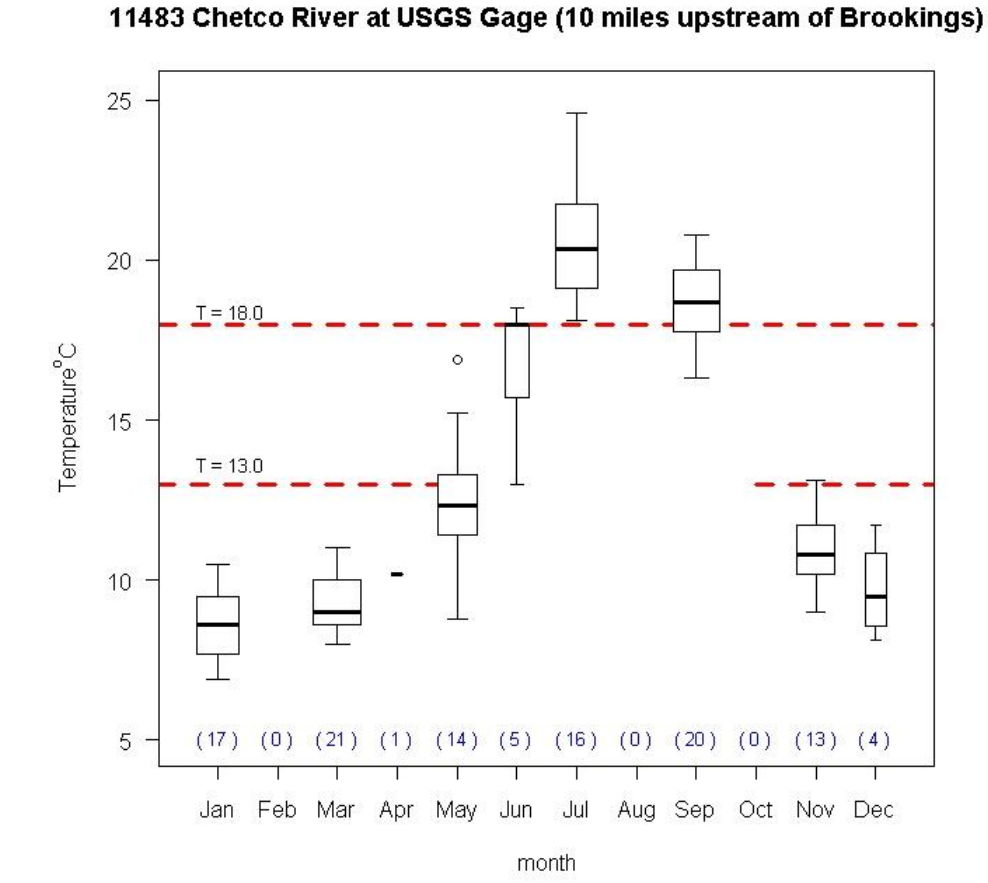


Figure 40 – Chetco River Temperature



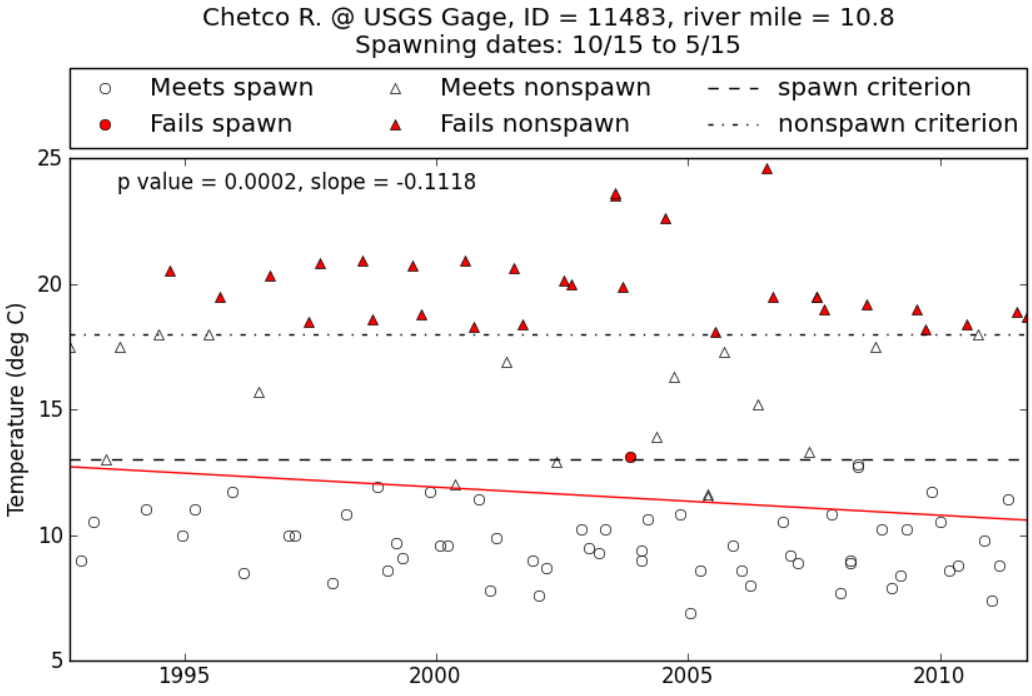
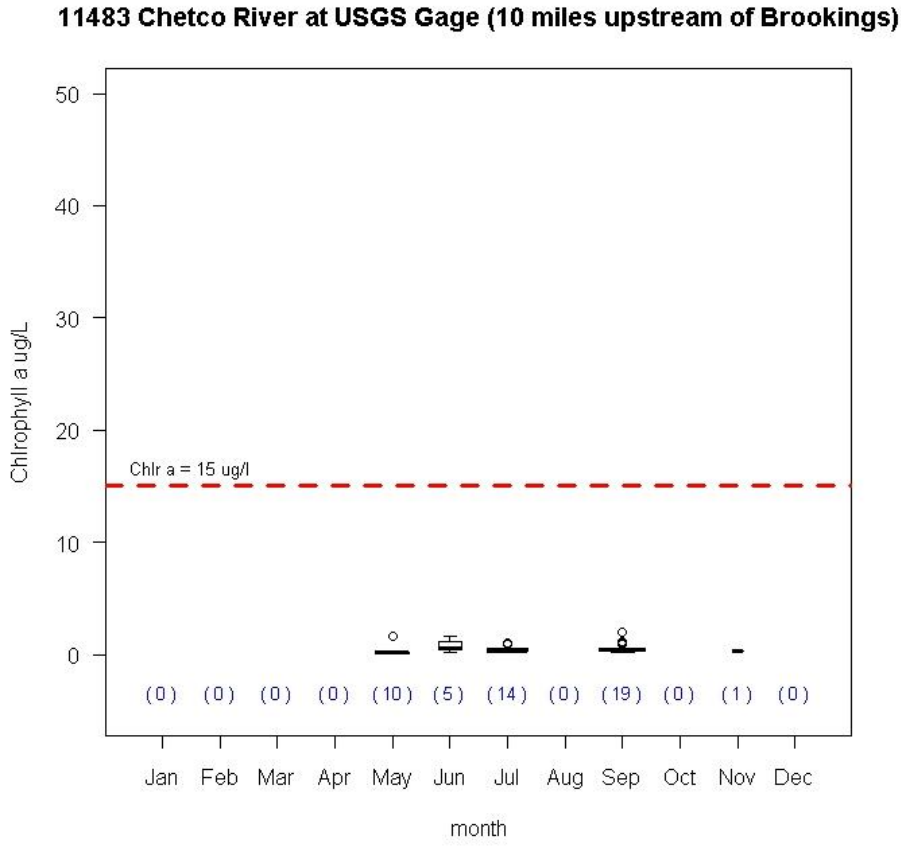
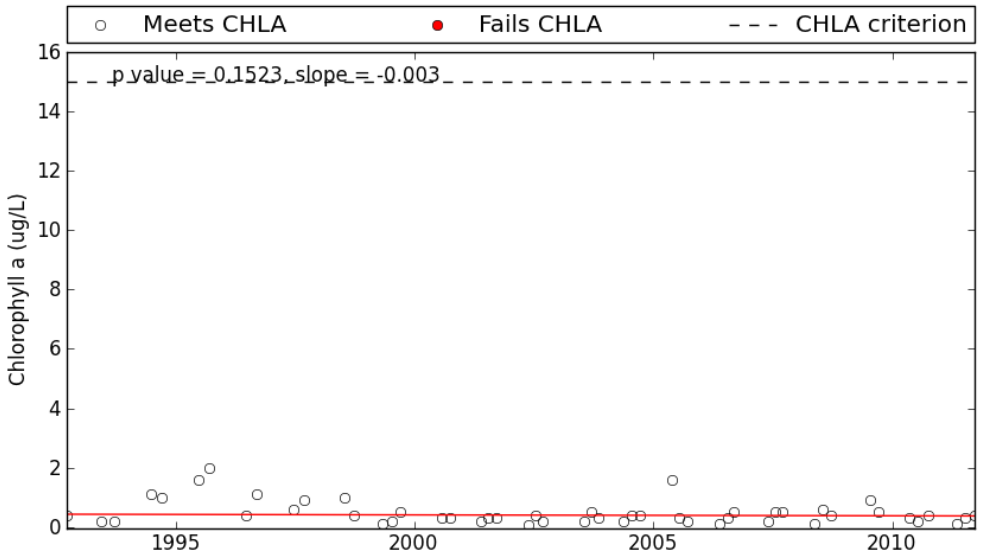


Figure 41 – Chetco River Chlorophyll a

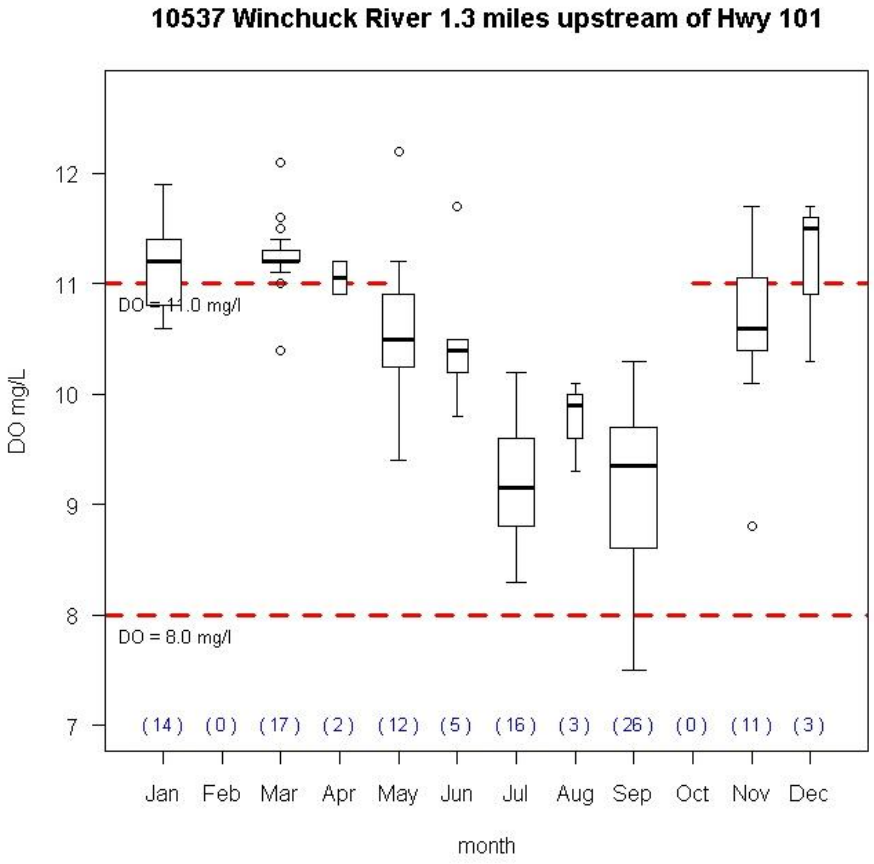


Chetco R. @ USGS Gage, ID = 11483, river mile = 10.8



Chetco River – Temperature is the only continuous monitoring data available for this site

Figure 42 – Winchuck River - Dissolved Oxygen



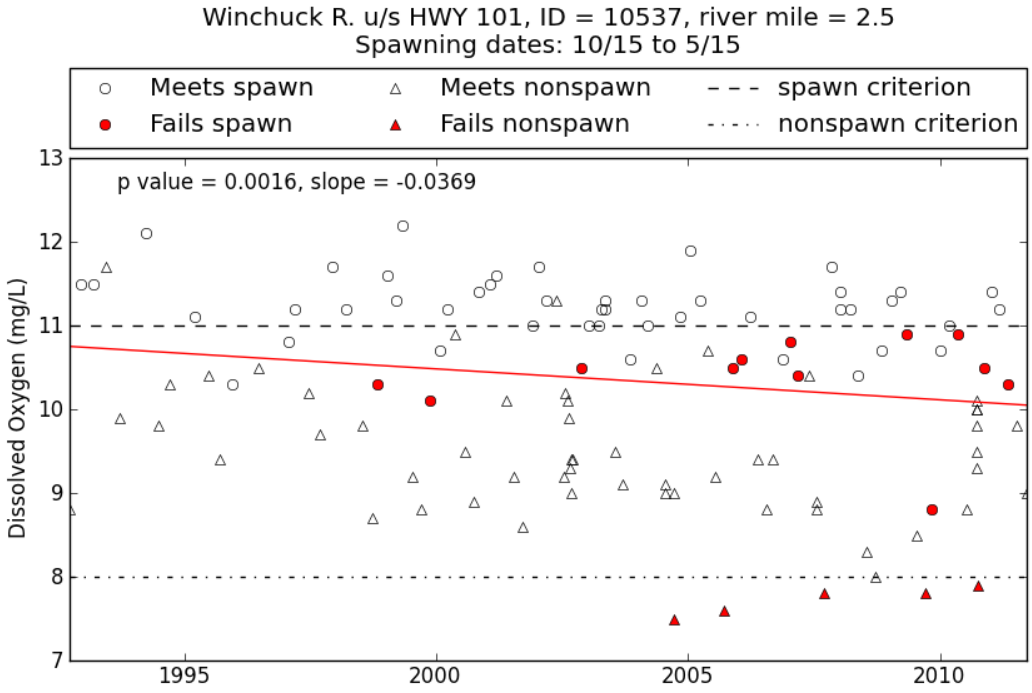
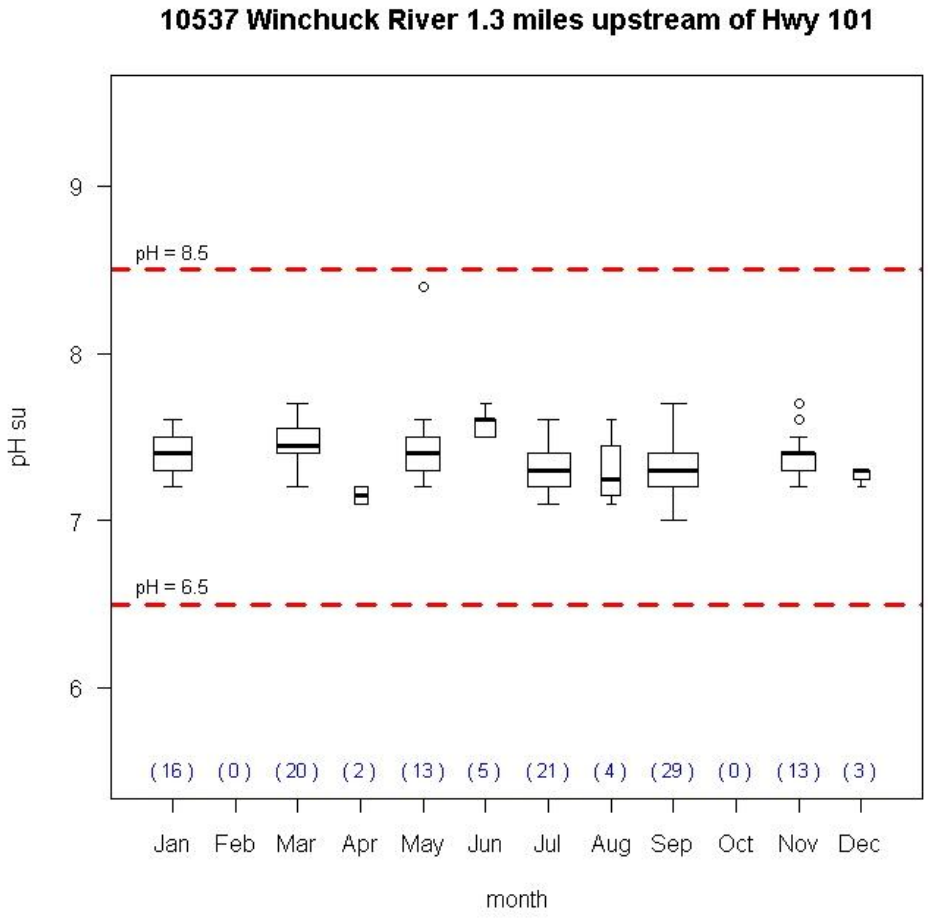


Figure 43 – Winchuck - River pH



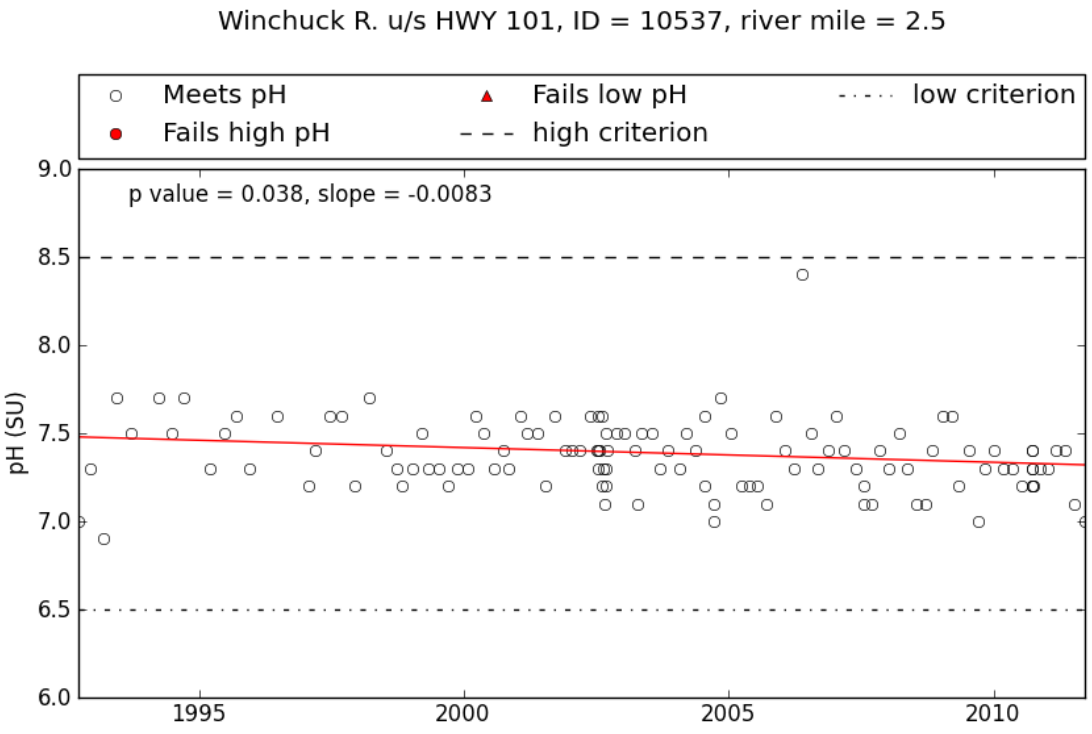
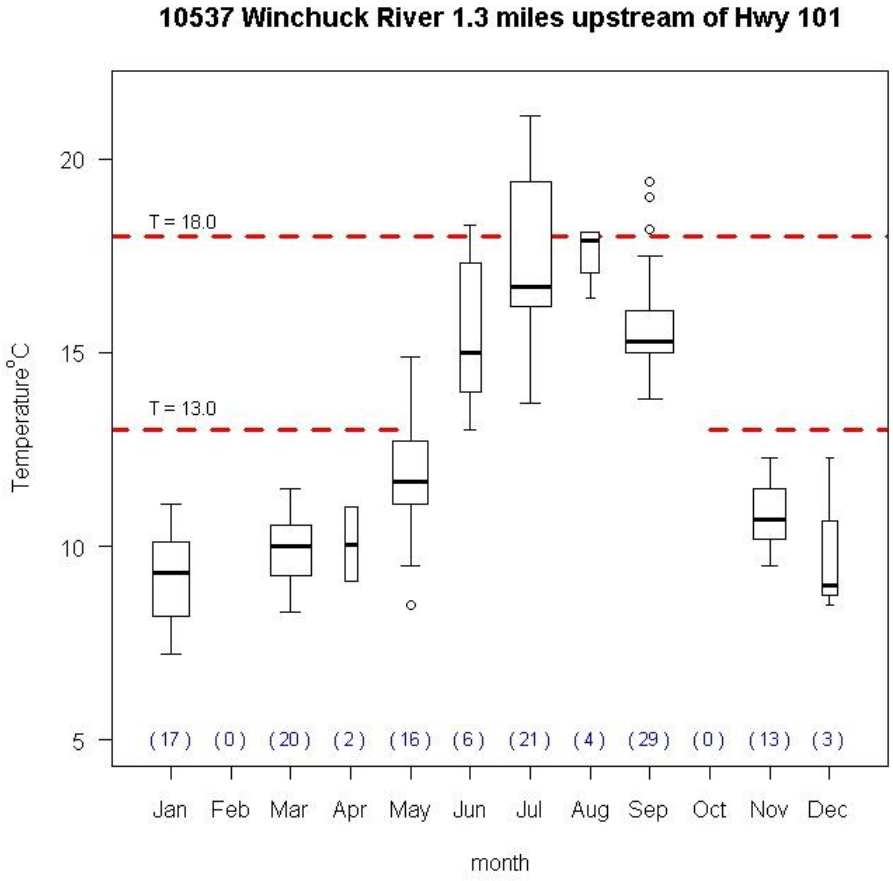


Figure 44 – Winchuck River Temperature



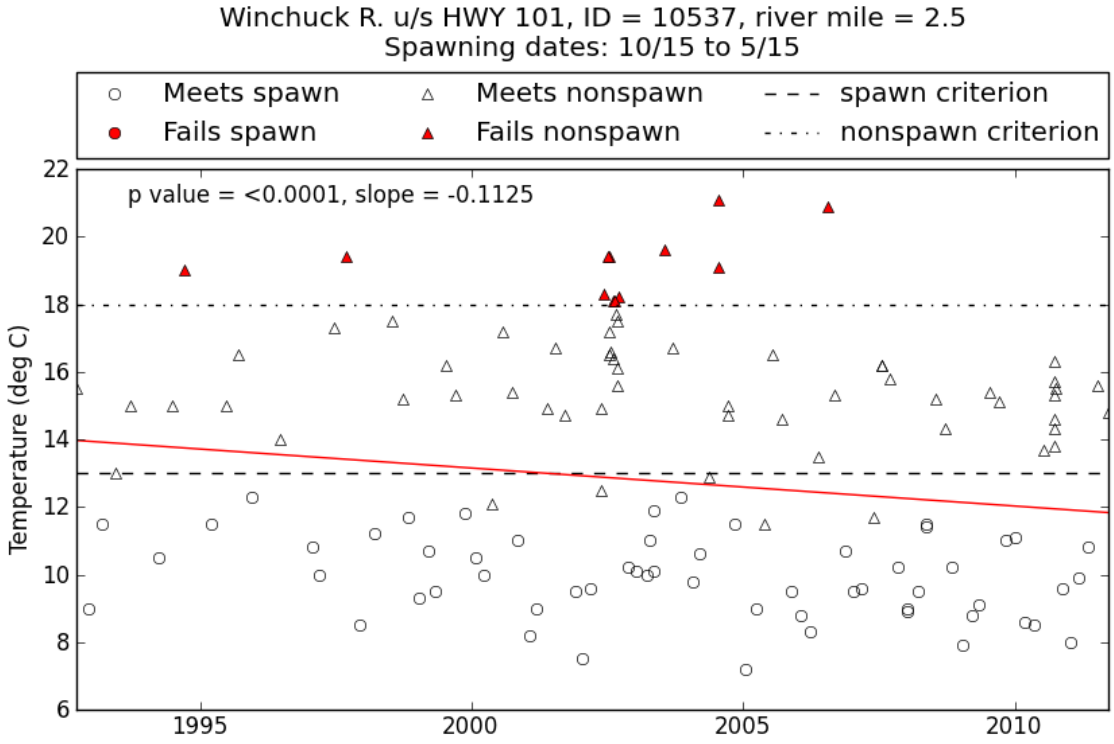
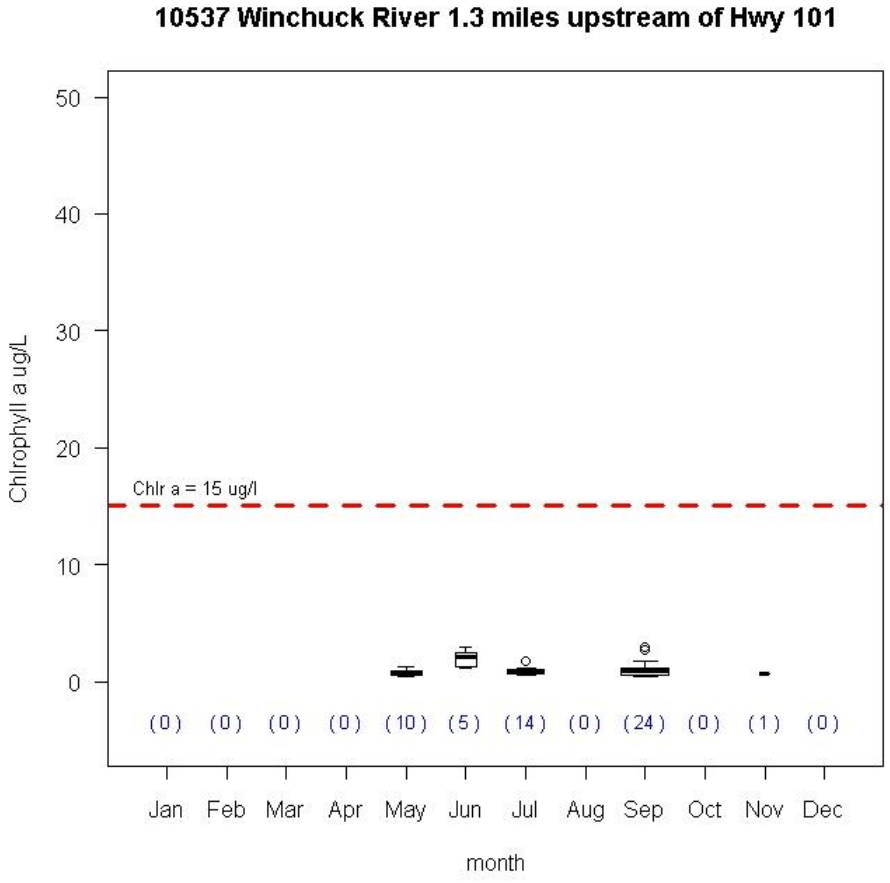
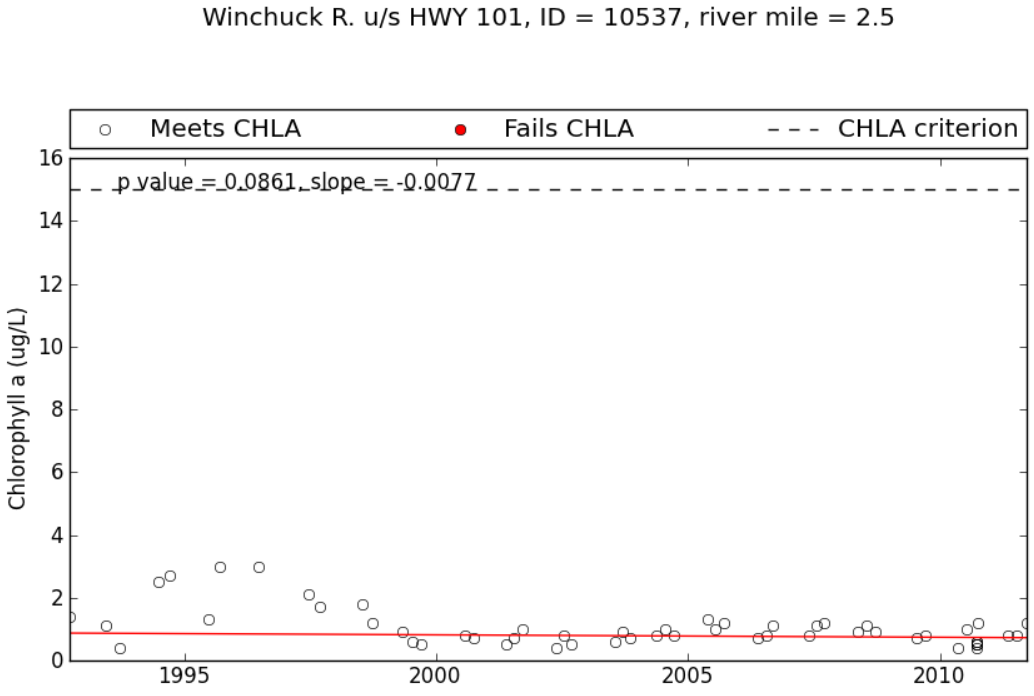


Figure 45 – Winchuck River Chlorophyll a

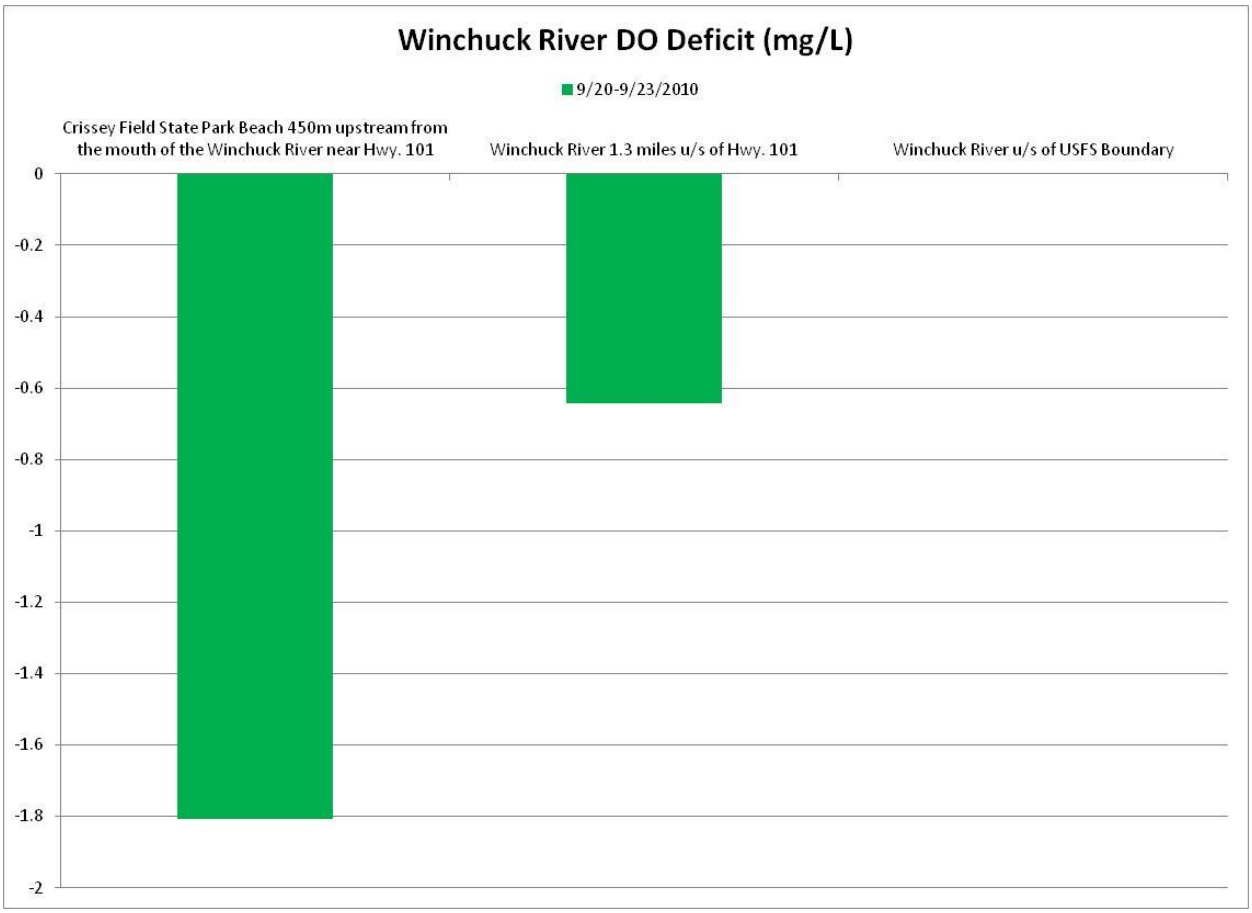




Winchuck River Spawning Dissolved Oxygen TMDL Intensive – September 2010

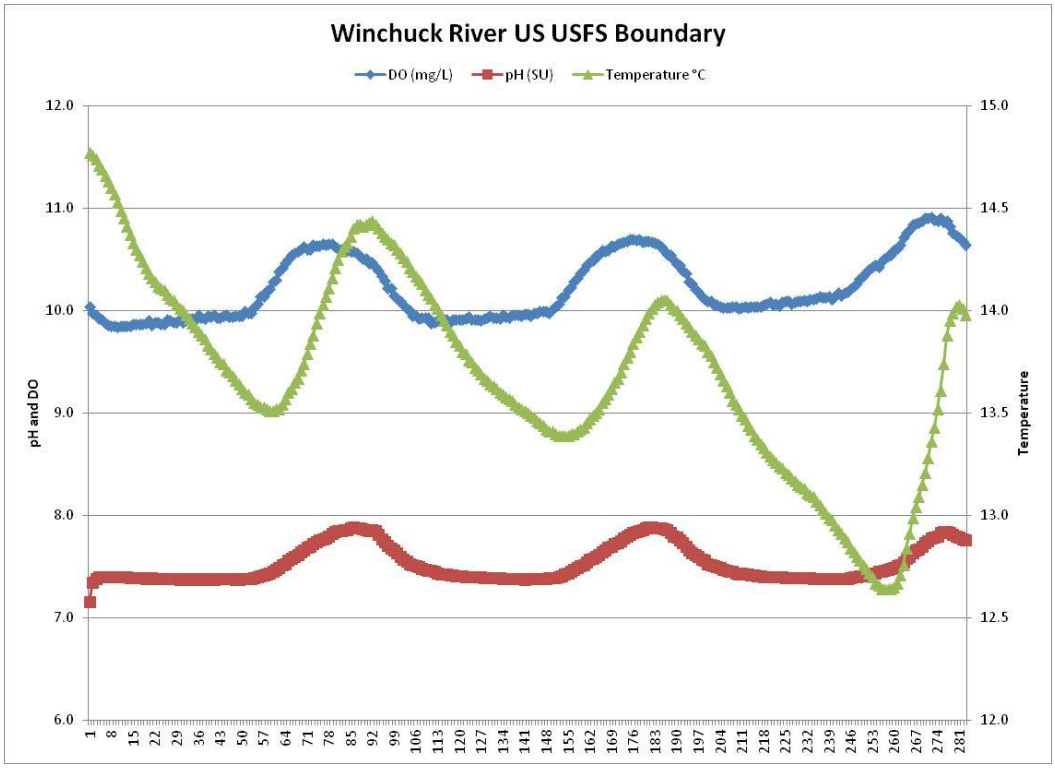
Table 25 – Winchuck River-Dissolved Oxygen Deficit					
LASAR	**Site Name**	**Period of Record 2010**	**Average DO (mg/L)**	**Average DO Sat (mg/L)**	**Average DO Deficit (mg/L)**
36228	Winchuck River near Hwy. 101 *(Marine Influence)*	9/20-9/23	8.57	10.37	-1.81
10537	Winchuck River 1.3 miles u/s of Hwy. 101	9/20-9/23	9.85	10.50	-0.64
32024	Winchuck River u/s of USFS Boundary	9/20-9/23	10.23	10.23	**0**

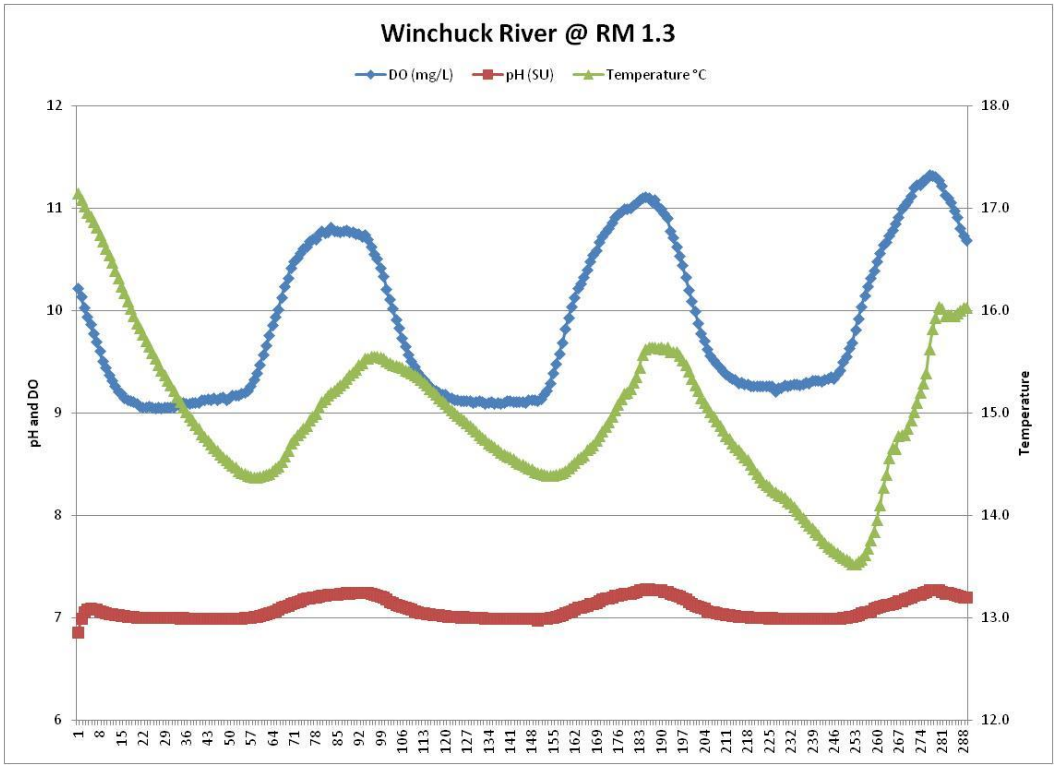
Figure 46 – Winchuck River Dissolved Oxygen Deficit (mg/L)

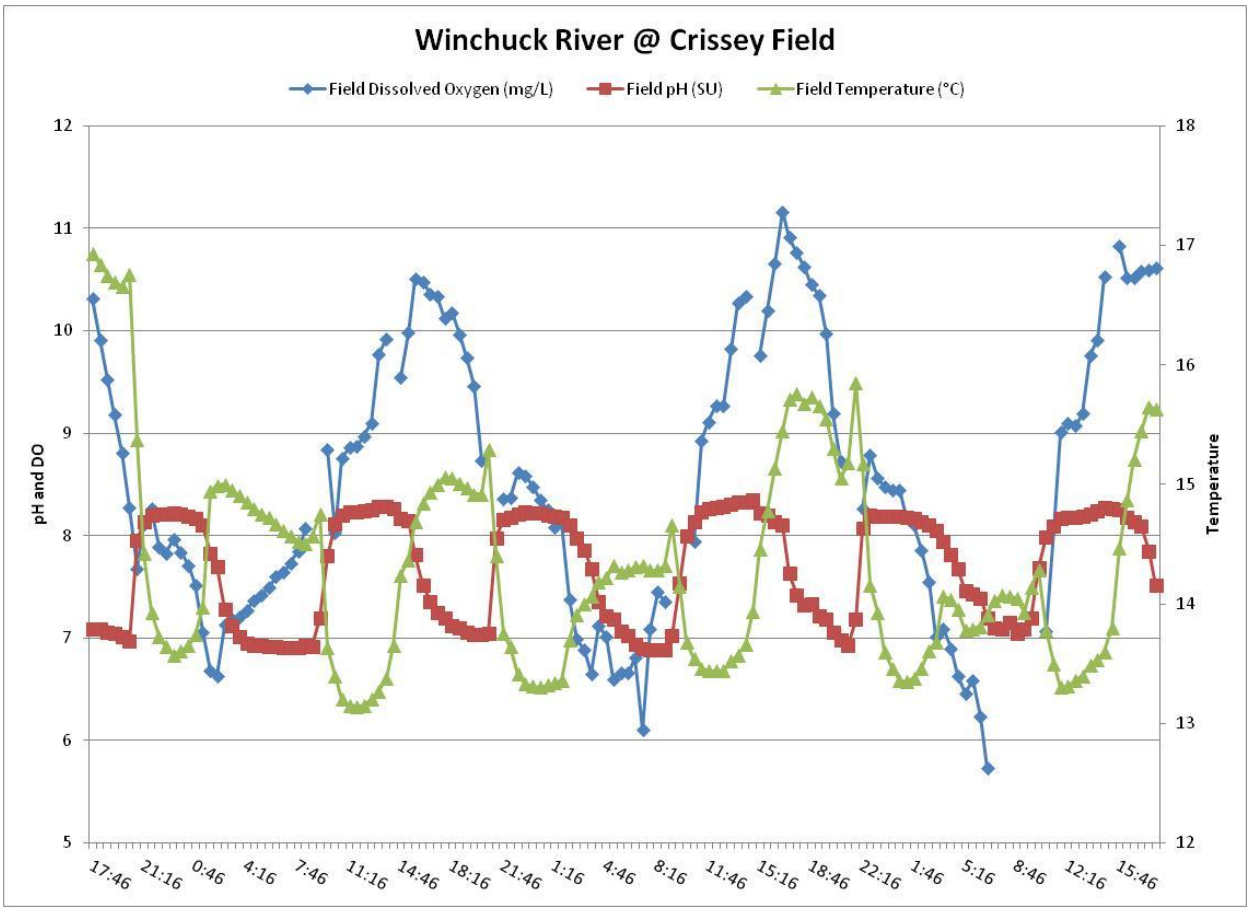


Winchuck River Diel Fluctuations – Bar Bound Condition (Pre Spawn)

Figure 47 – Winchuck River Diel Fluctuations







Site is estuarine

Ambient Sampling Nutrients

Figure 48 – Floras Creek - Nutrients

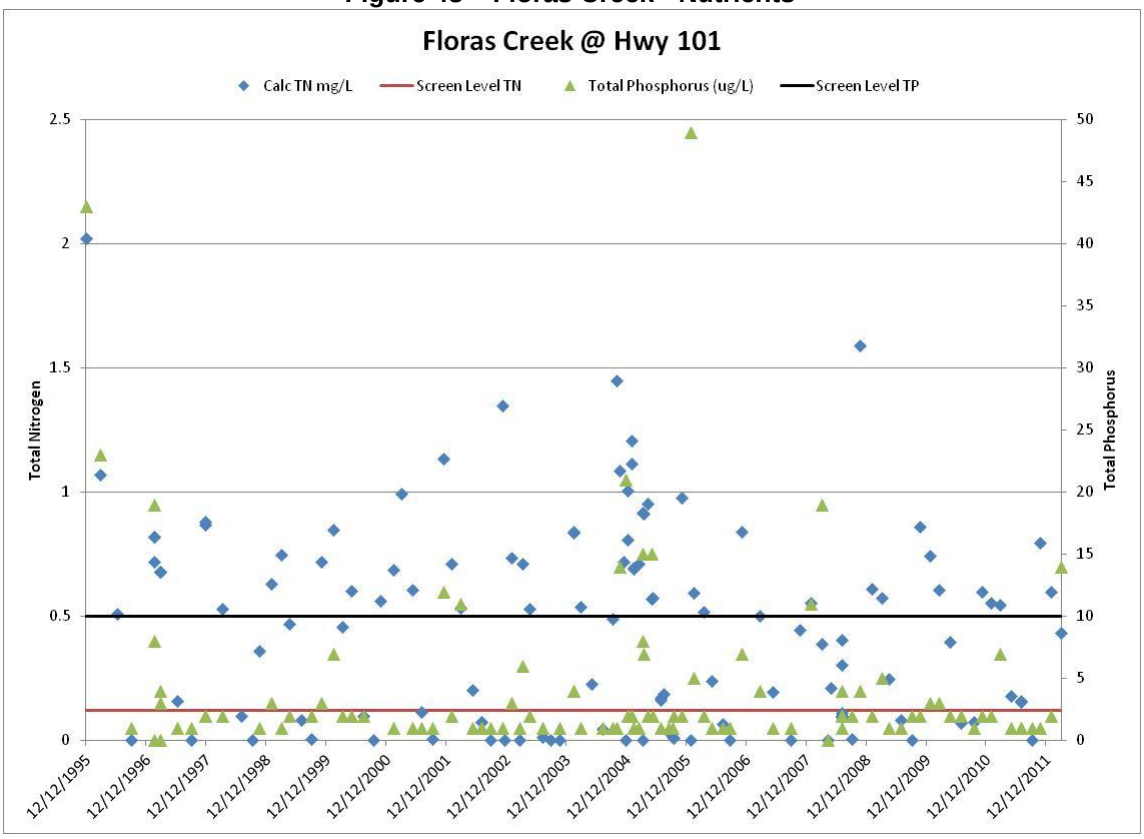


Figure 49 – Sixes River - Nutrients

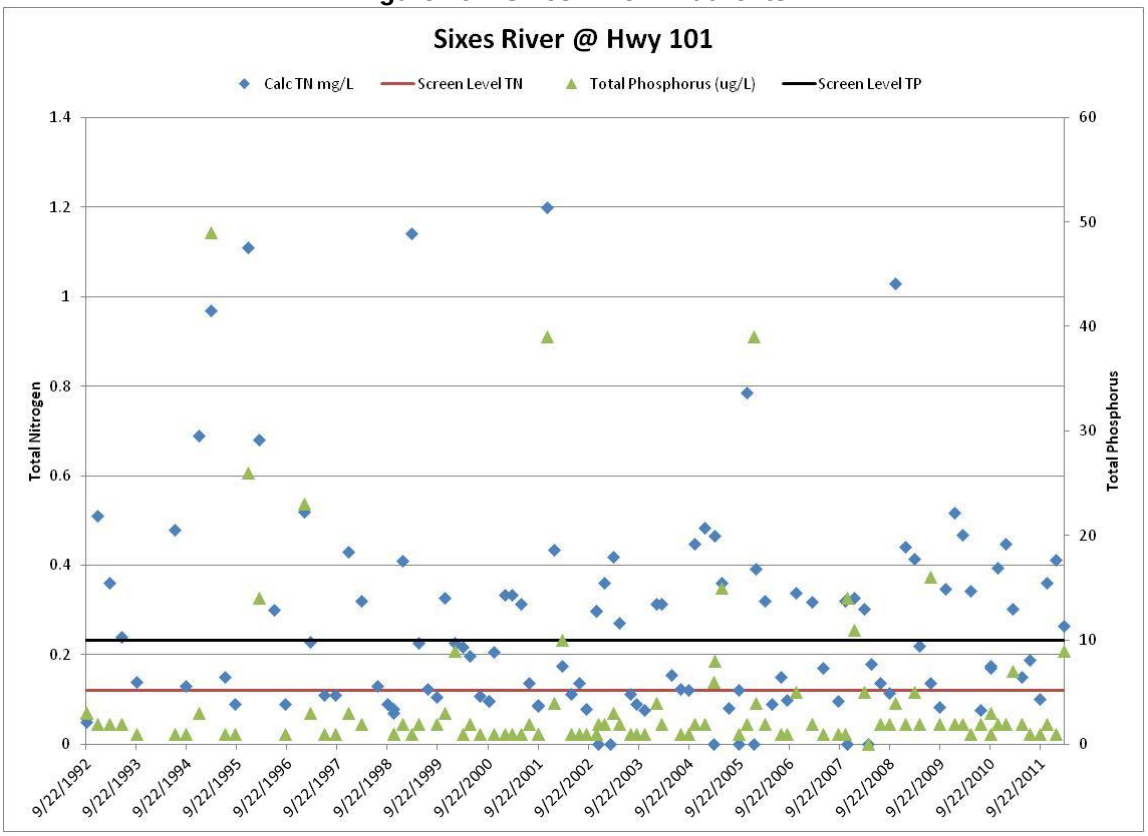


Figure 50 – Elk River Nutrients

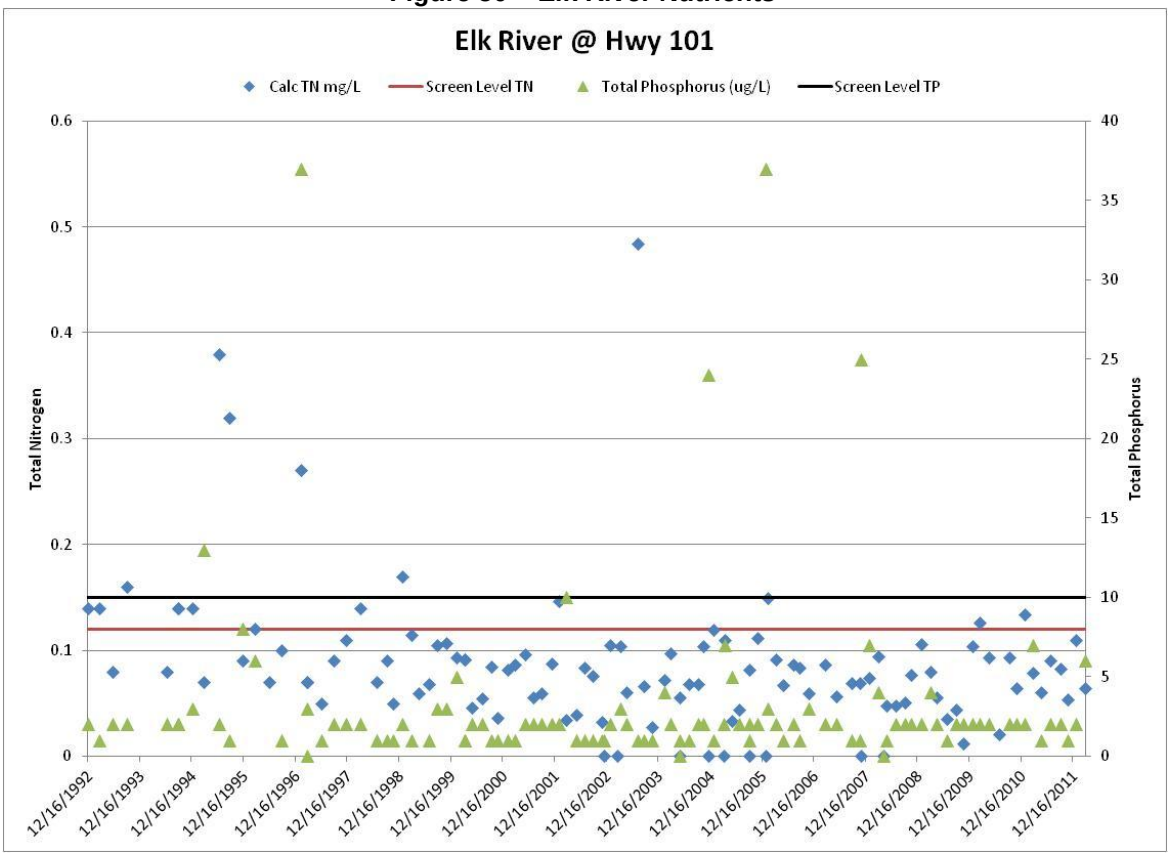


Figure 51 – Pistol River Nutrients

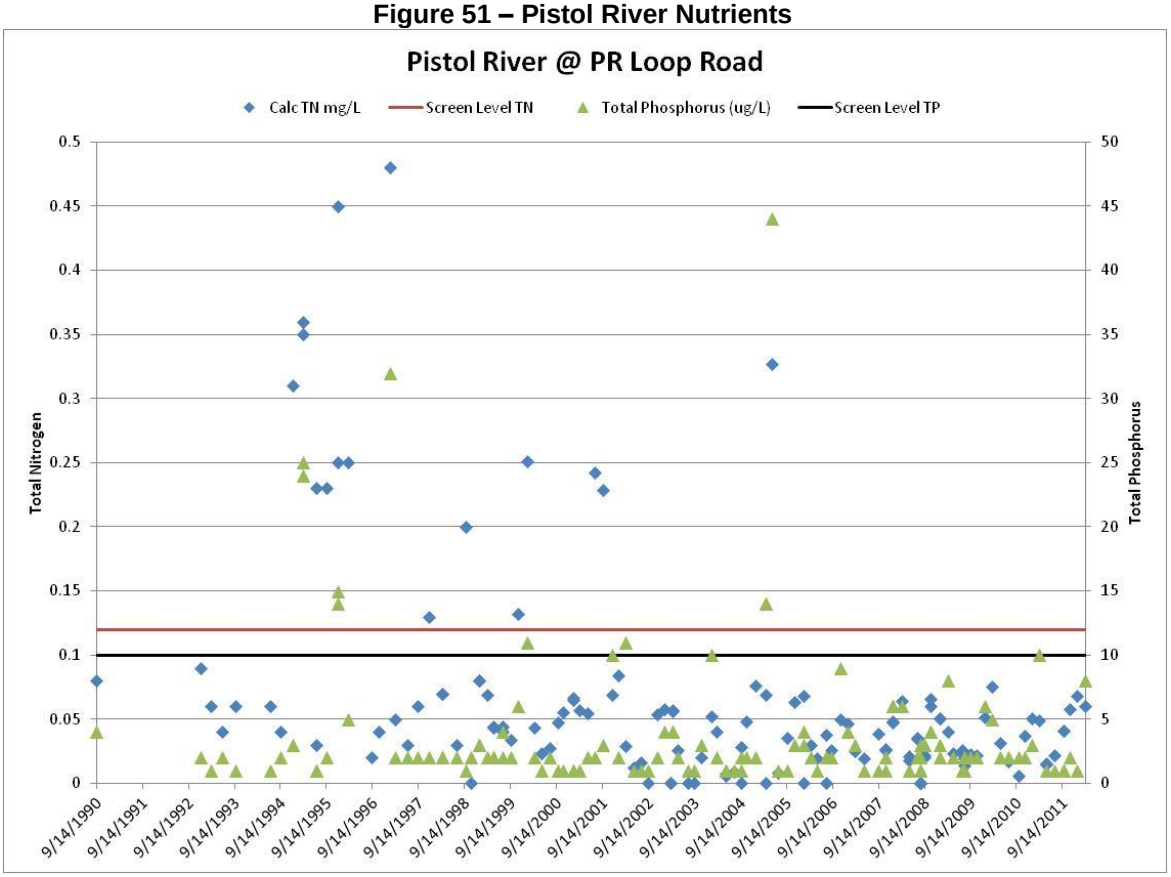


Figure 52 – Chetco River Nutrients

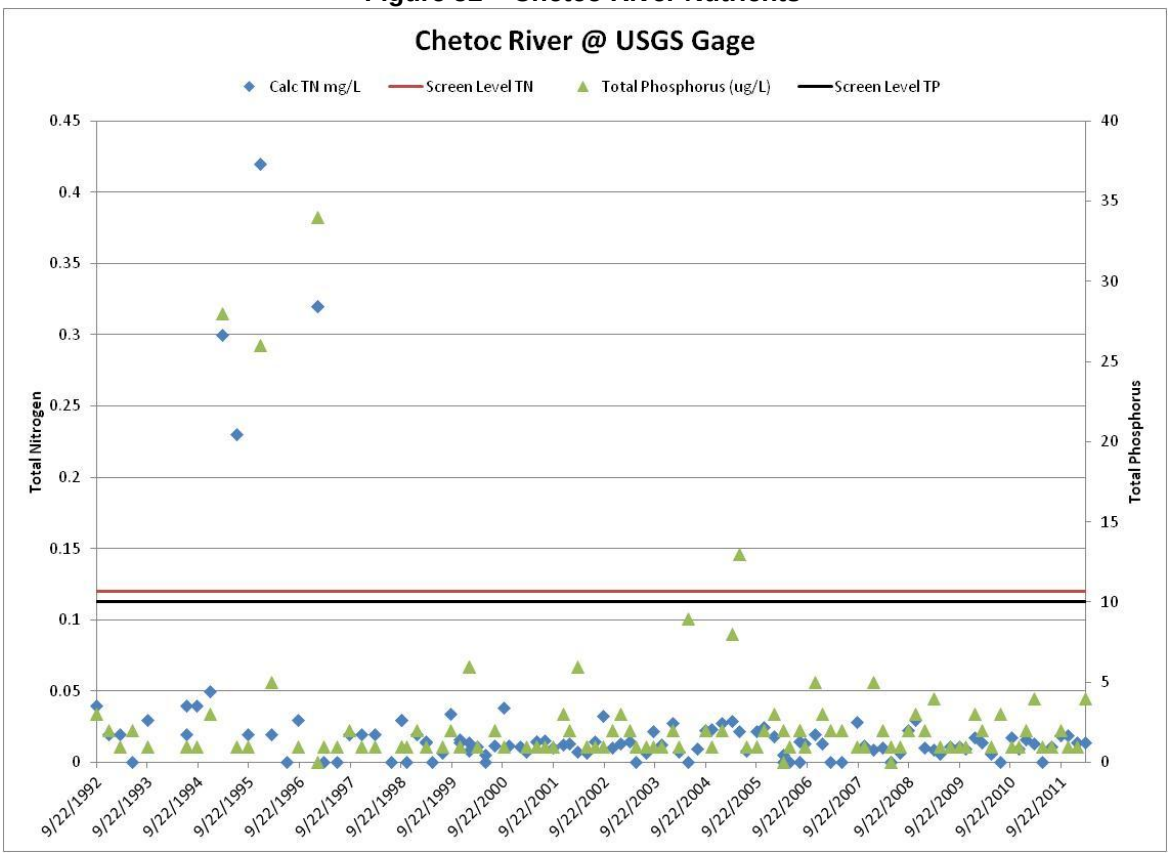
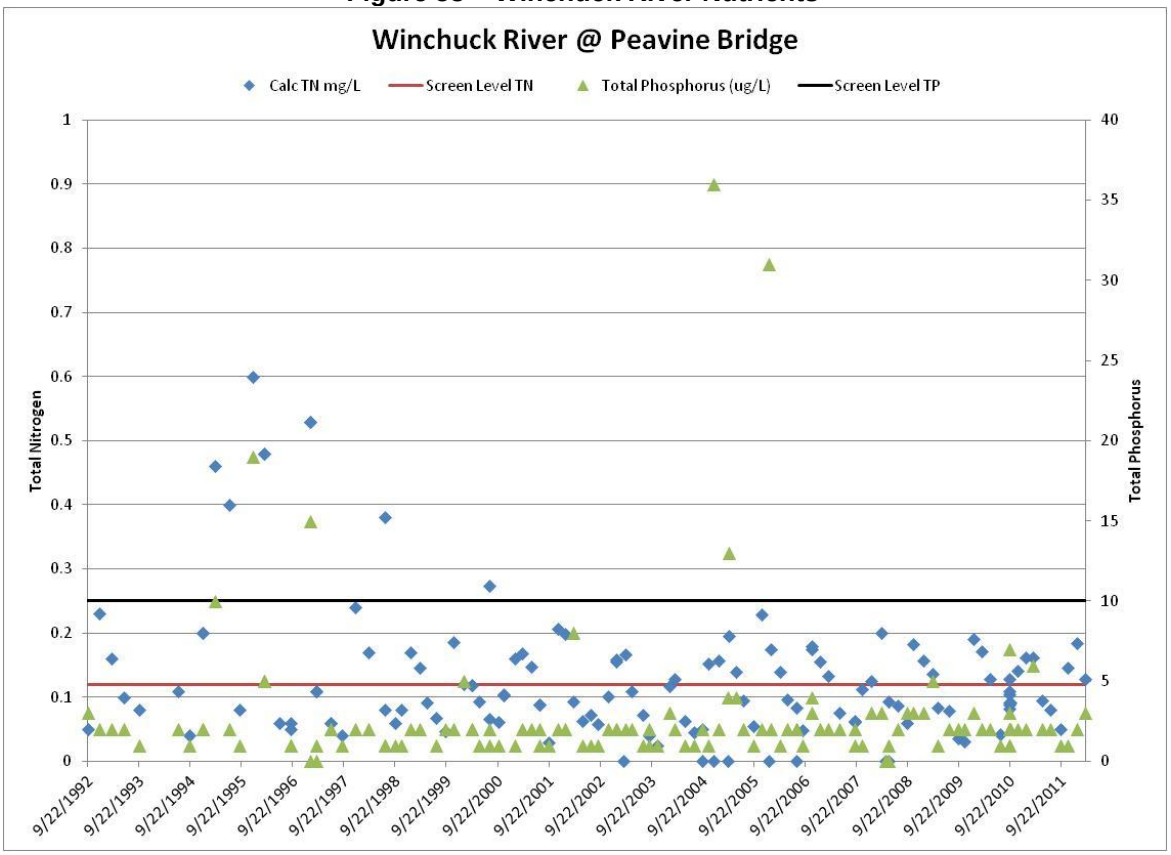
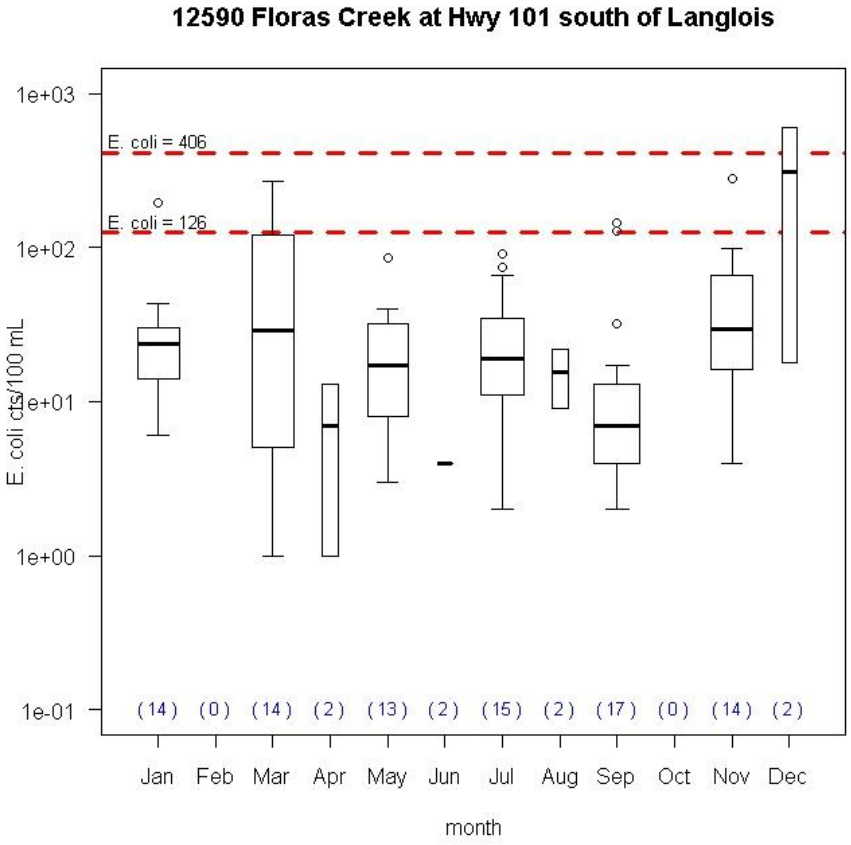


Figure 53 – Winchuck River Nutrients



South Coast Basin Ambient Sampling Bacteria

Figure 54 – Floras Creek - Bacteria



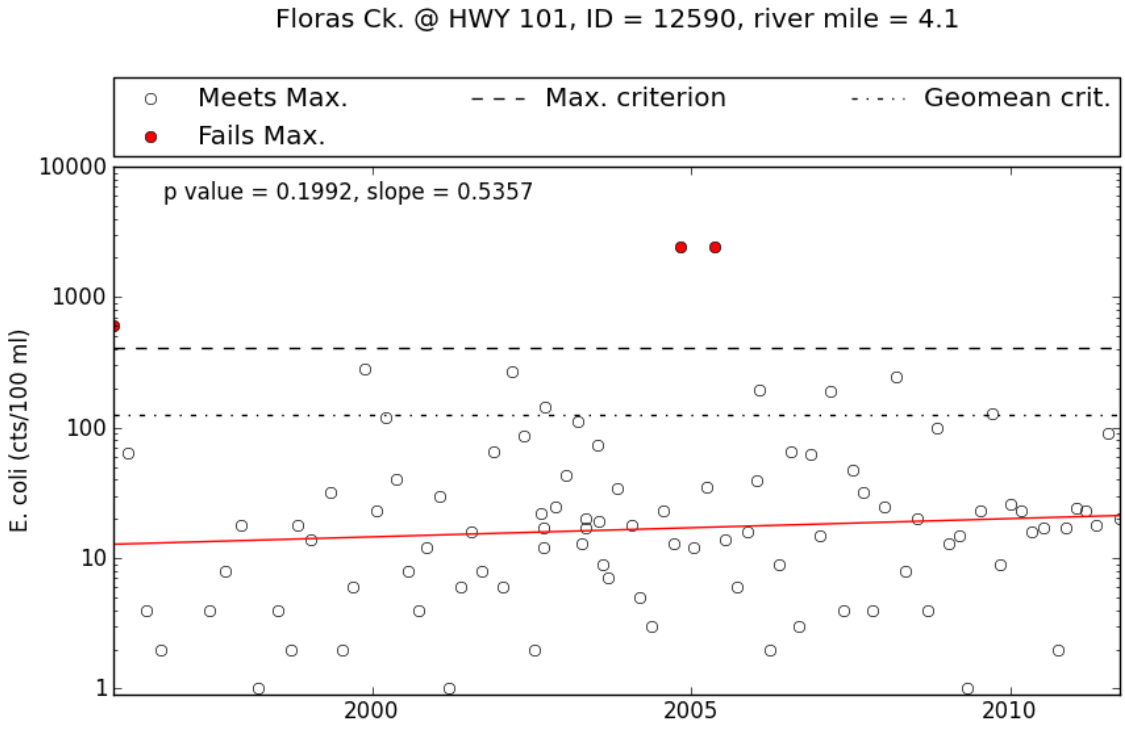
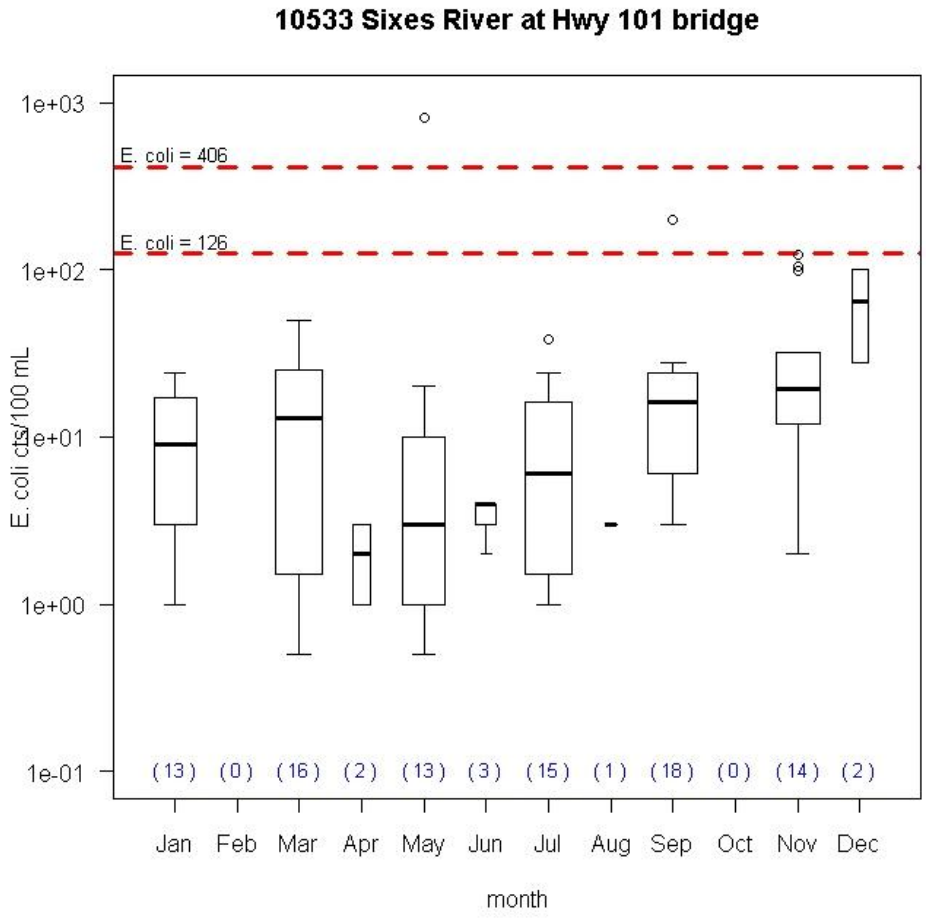


Figure 55 – Sixes River - Bacteria



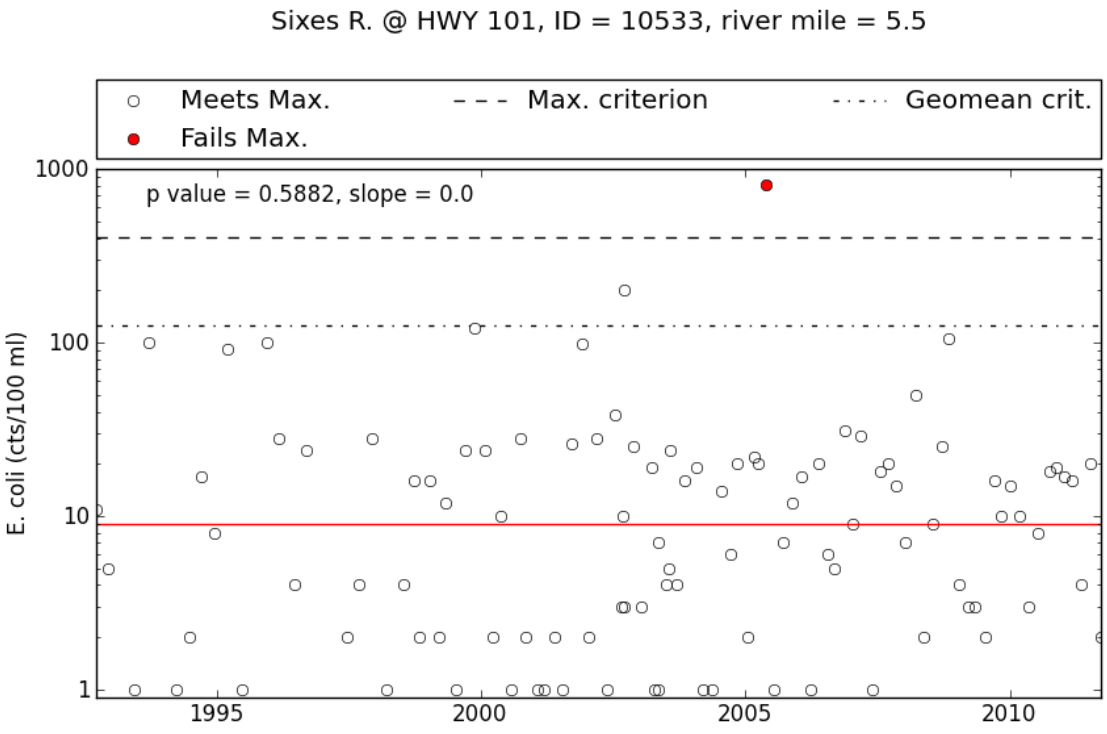
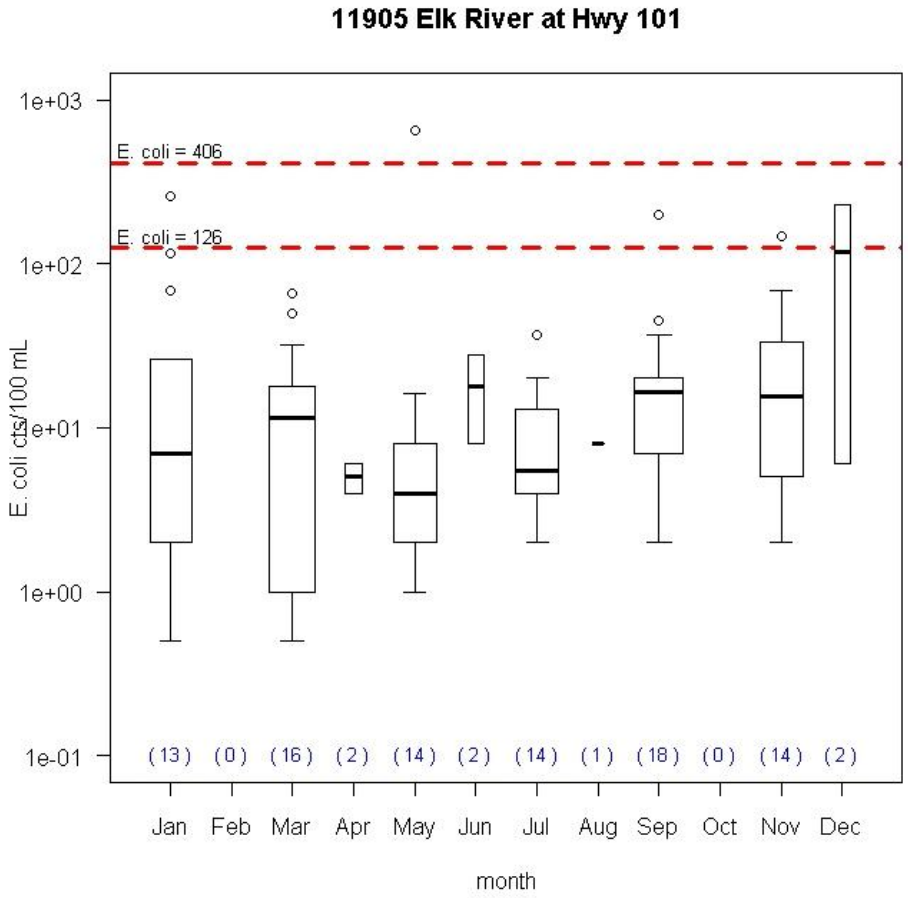


Figure 56 – Elk River Bacteria



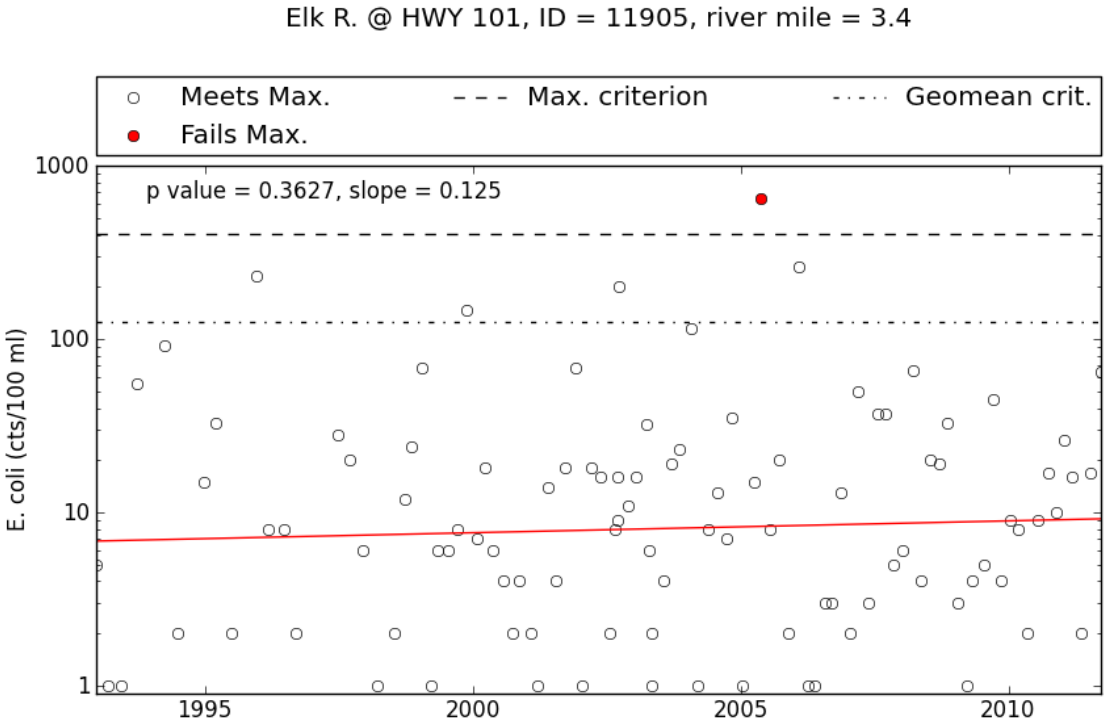
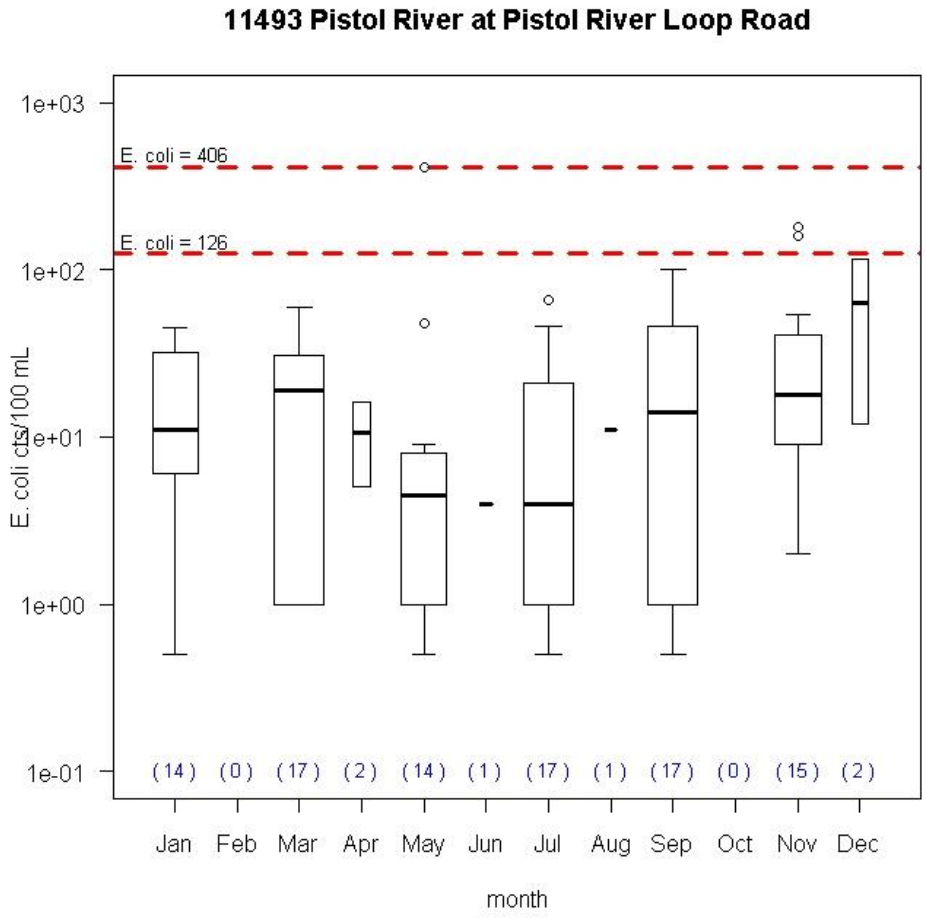


Figure 57 – Pistol River Bacteria



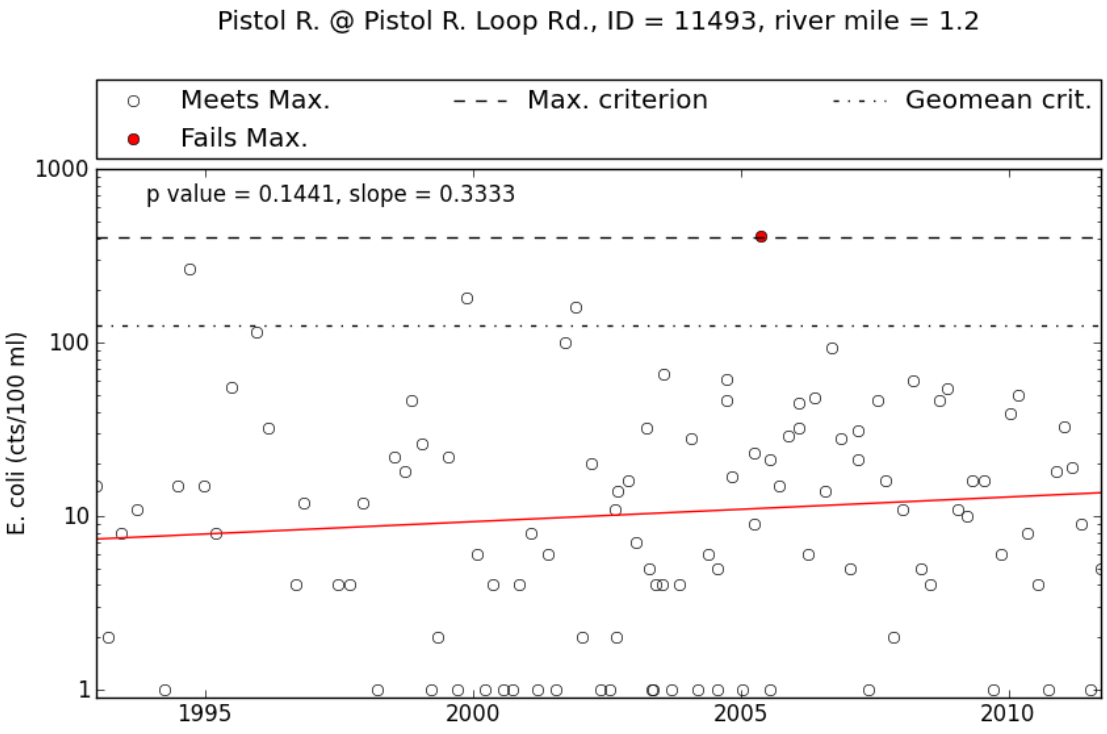
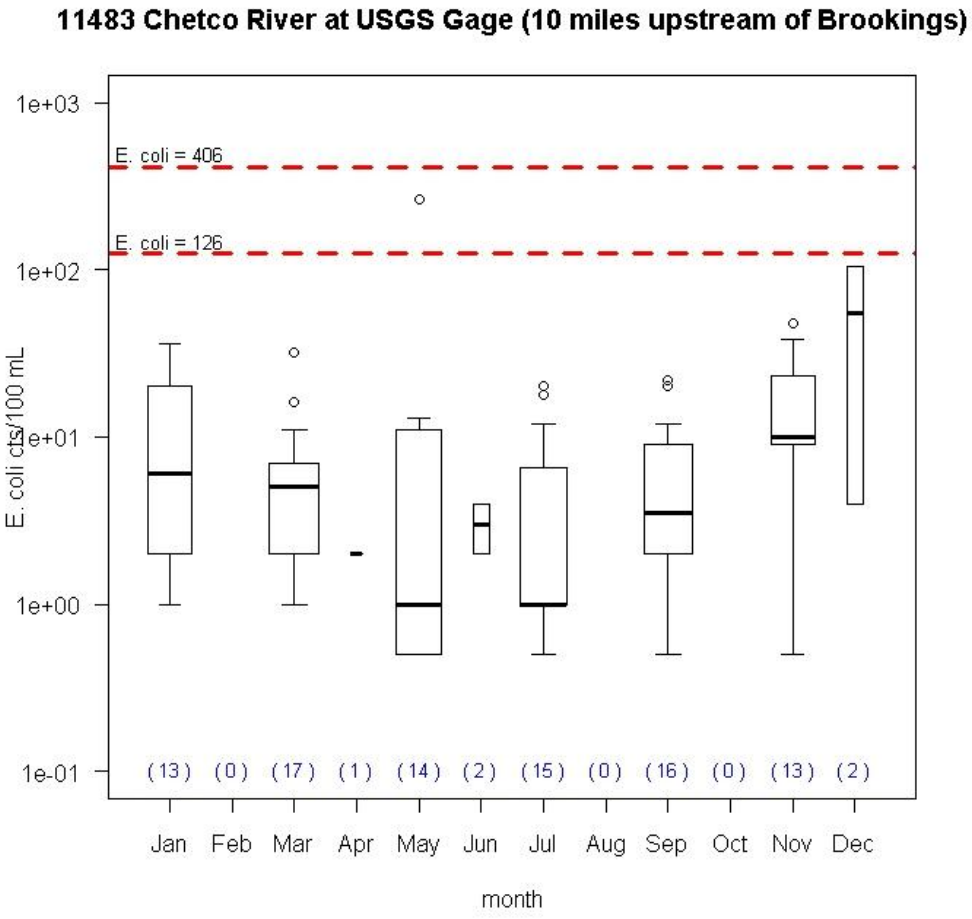


Figure 58 – Chetco River Bacteria



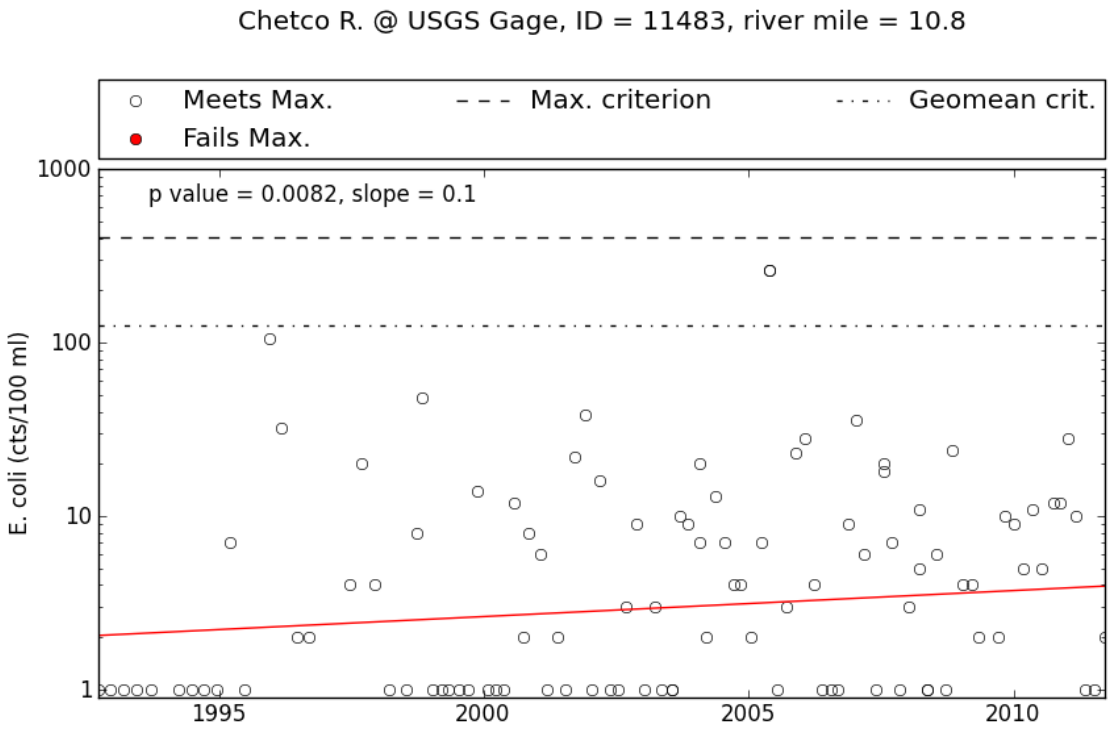
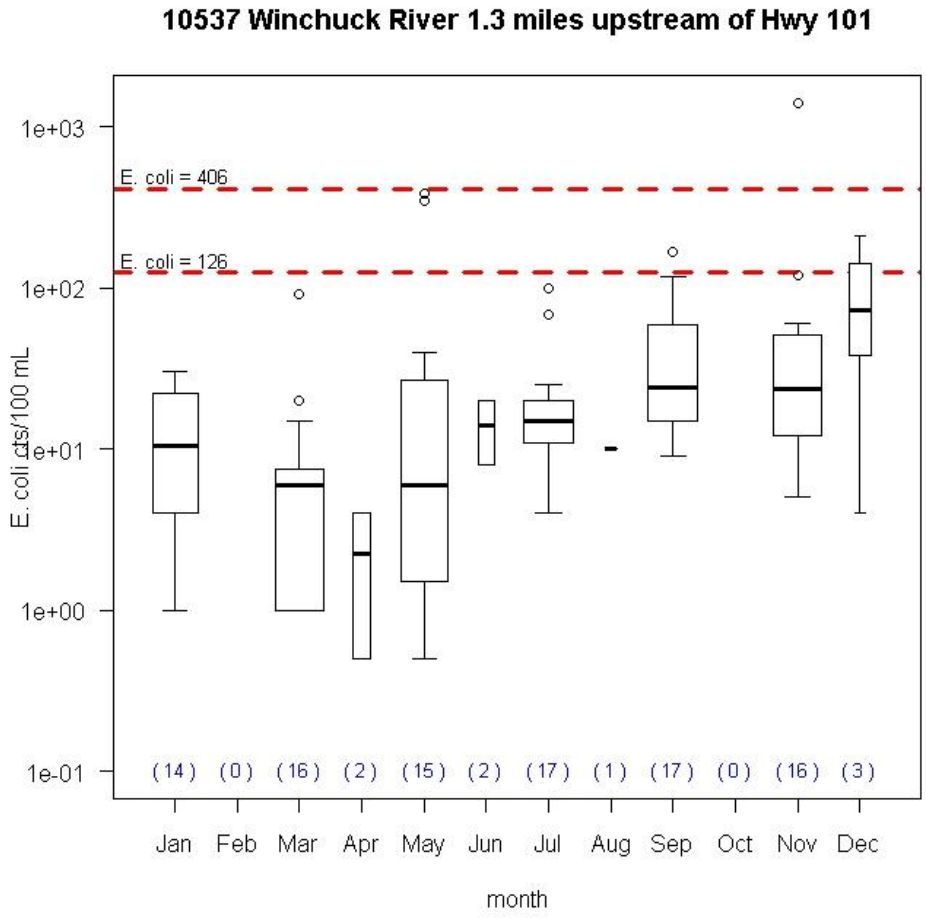


Figure 59 – Winchuck River Bacteria



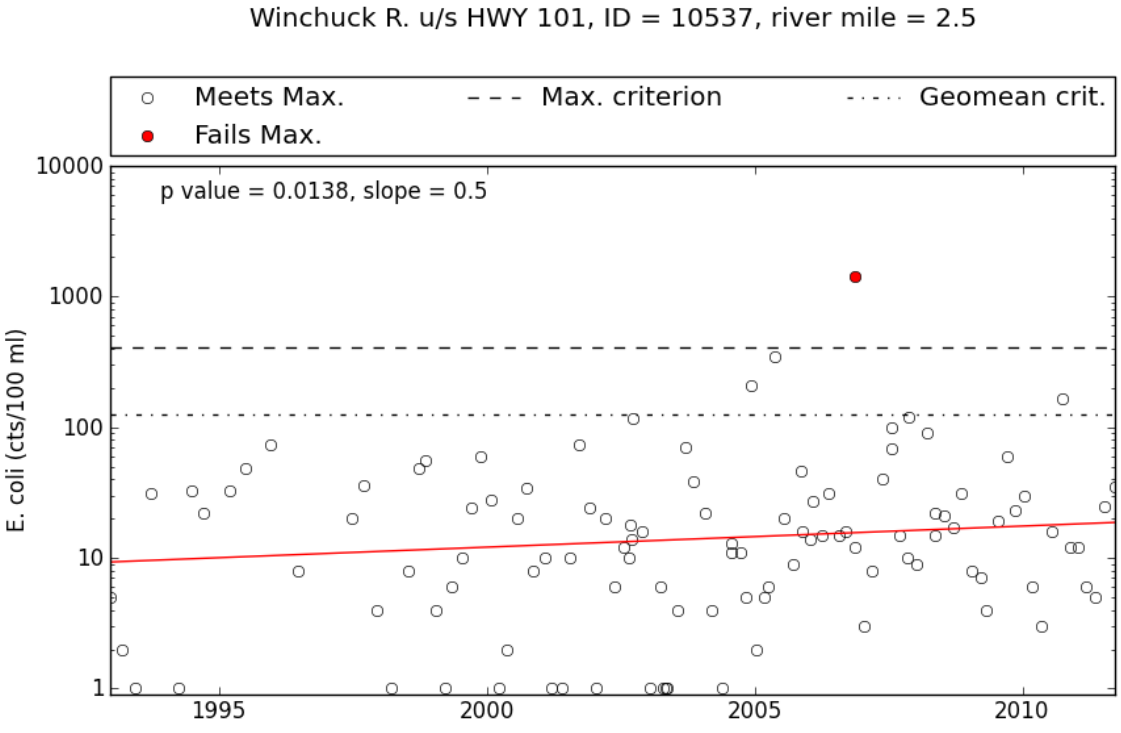
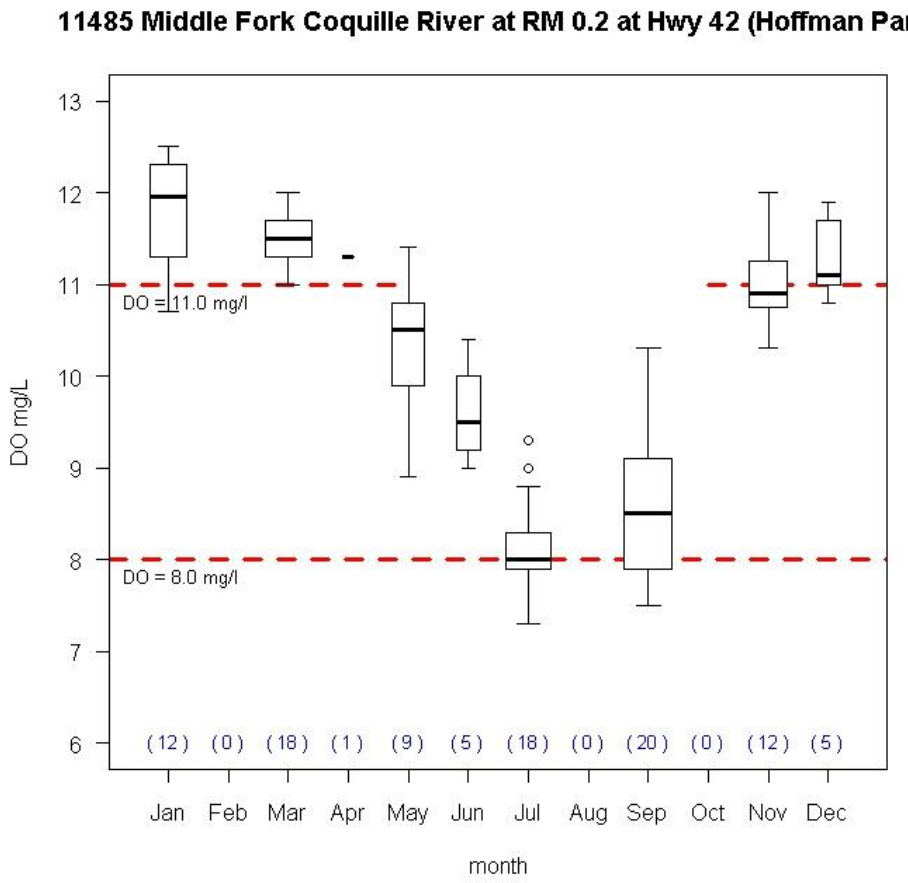


Figure 60 – Middle Fork Coquille River Dissolved Oxygen



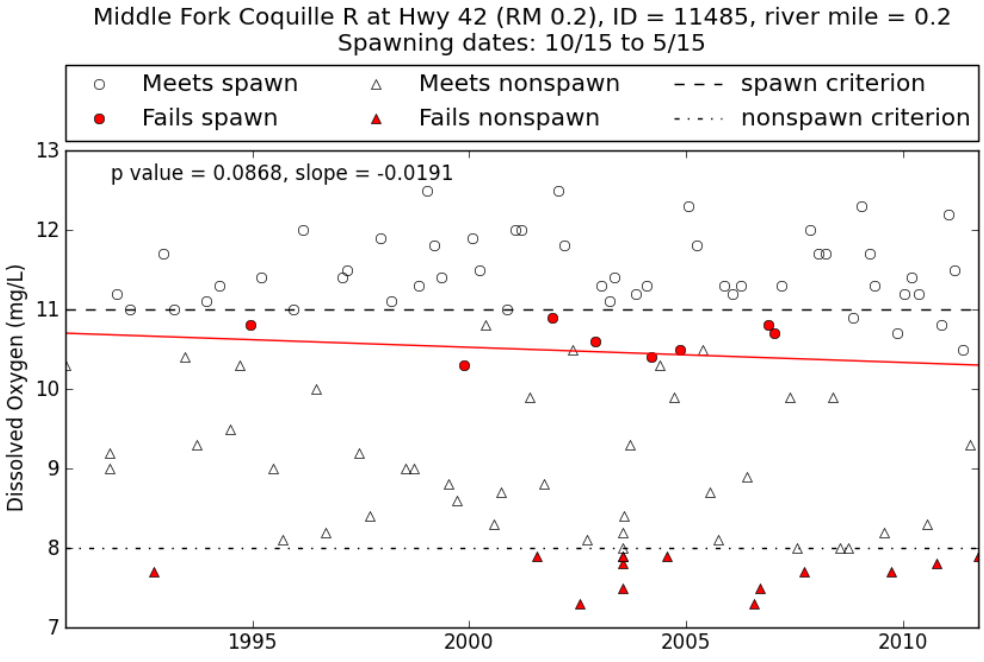
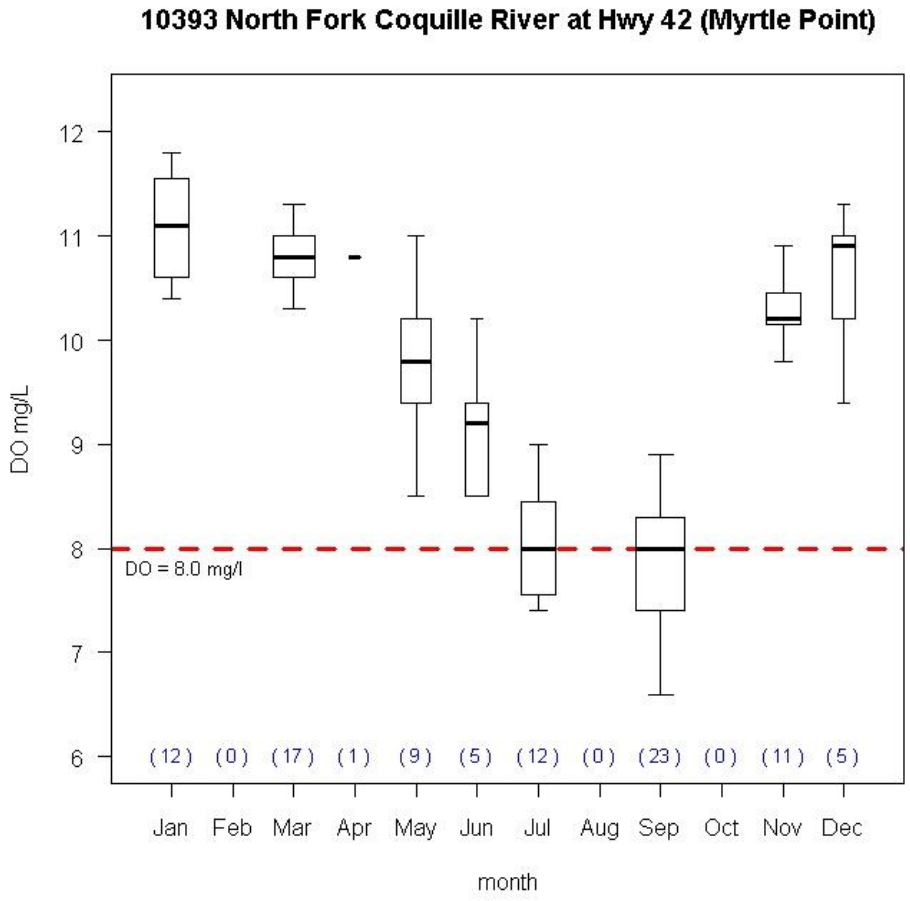


Figure 61 – North Fork Coquille River Dissolved Oxygen



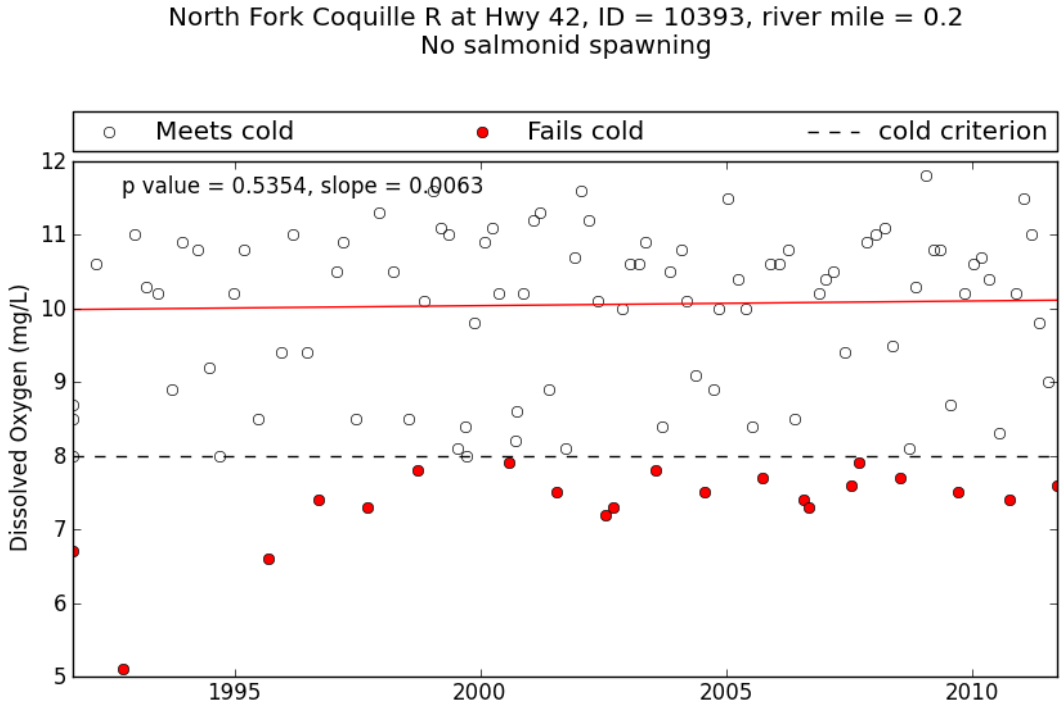
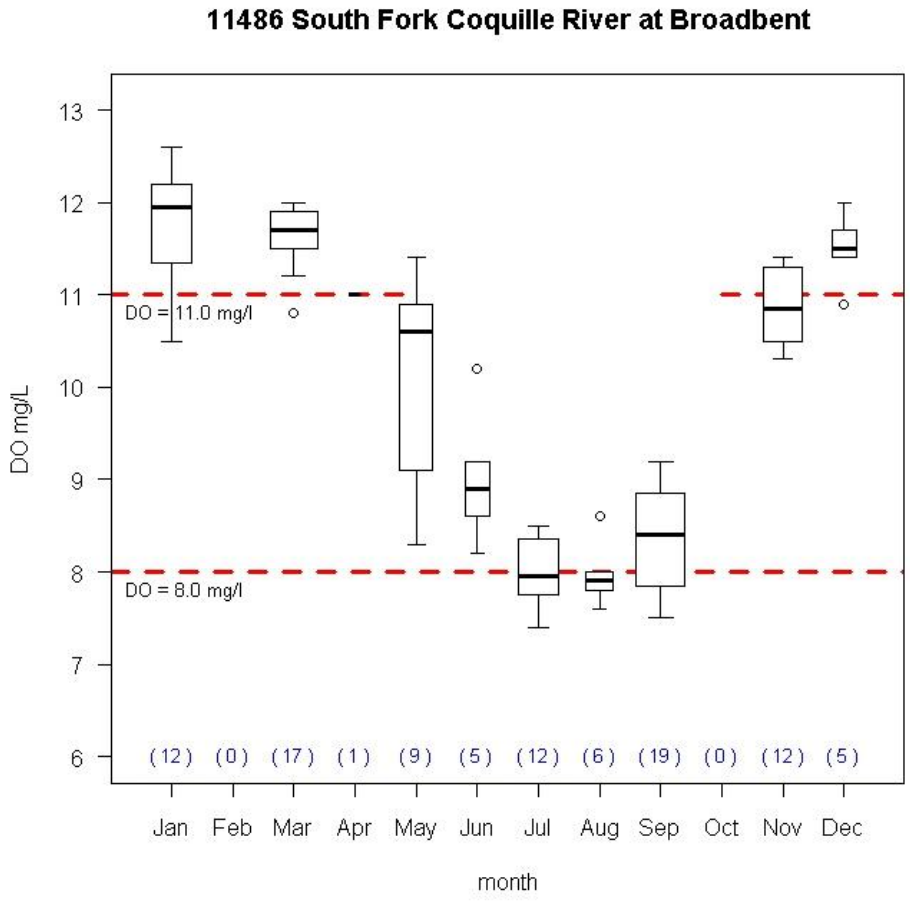


Figure 62 – South Fork Coquille River Dissolved Oxygen



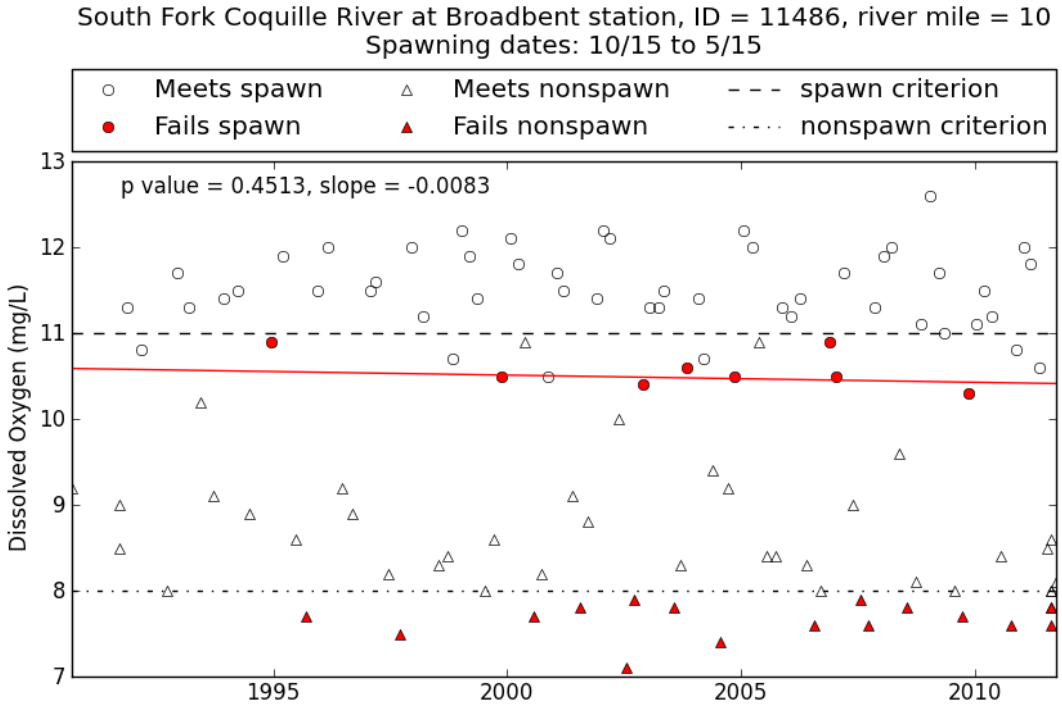
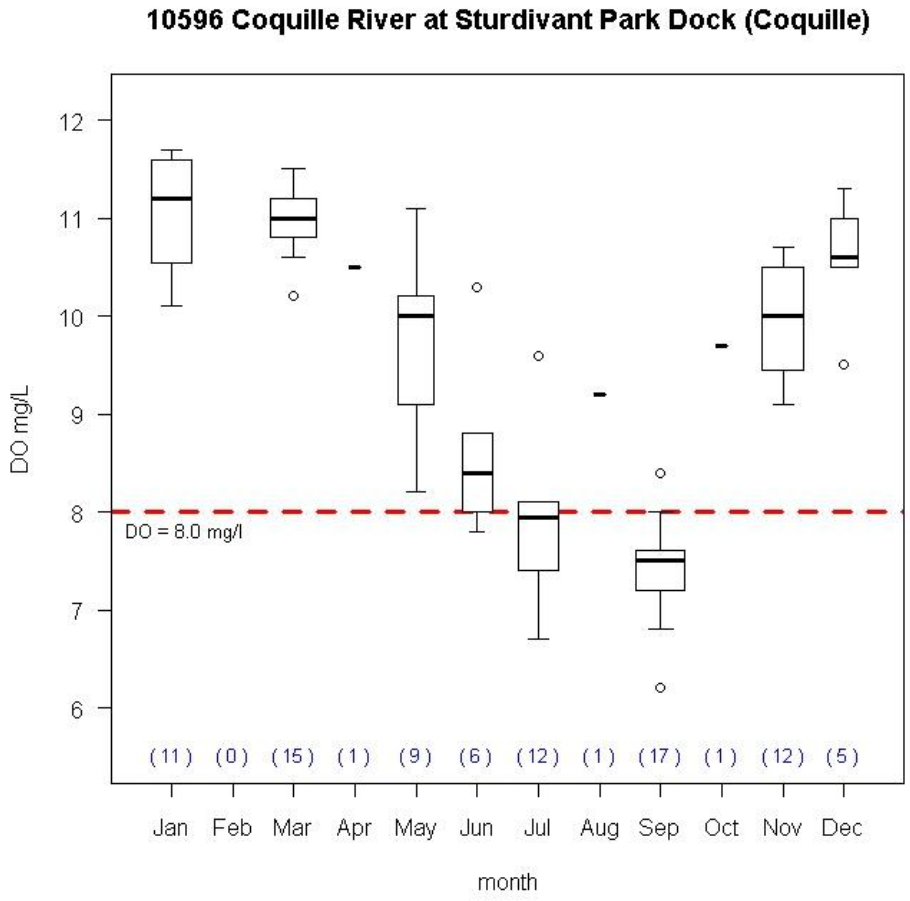


Figure 63 – Mainstem Coquille River Dissolved Oxygen



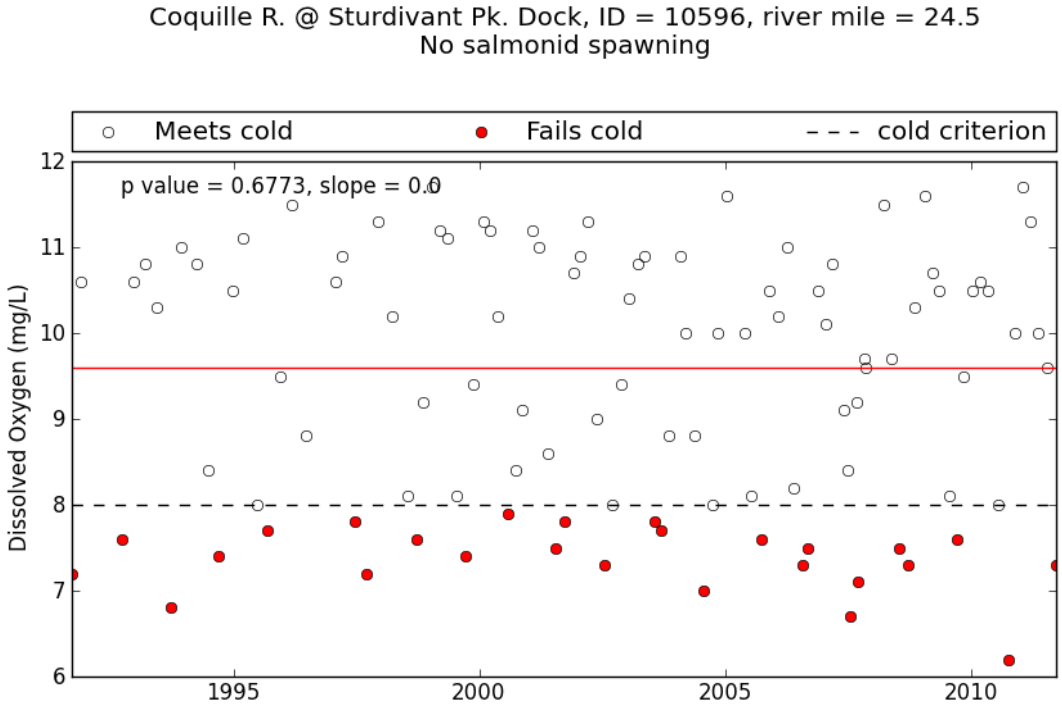
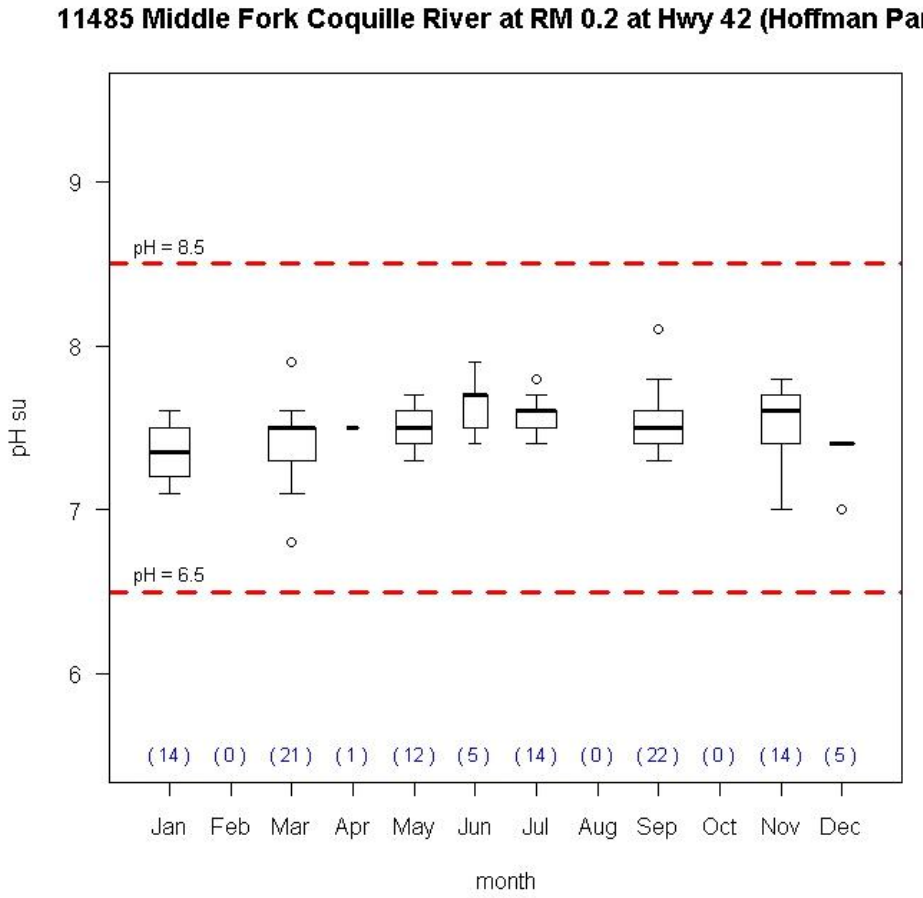


Figure 64 – Middle Fork Coquille River pH



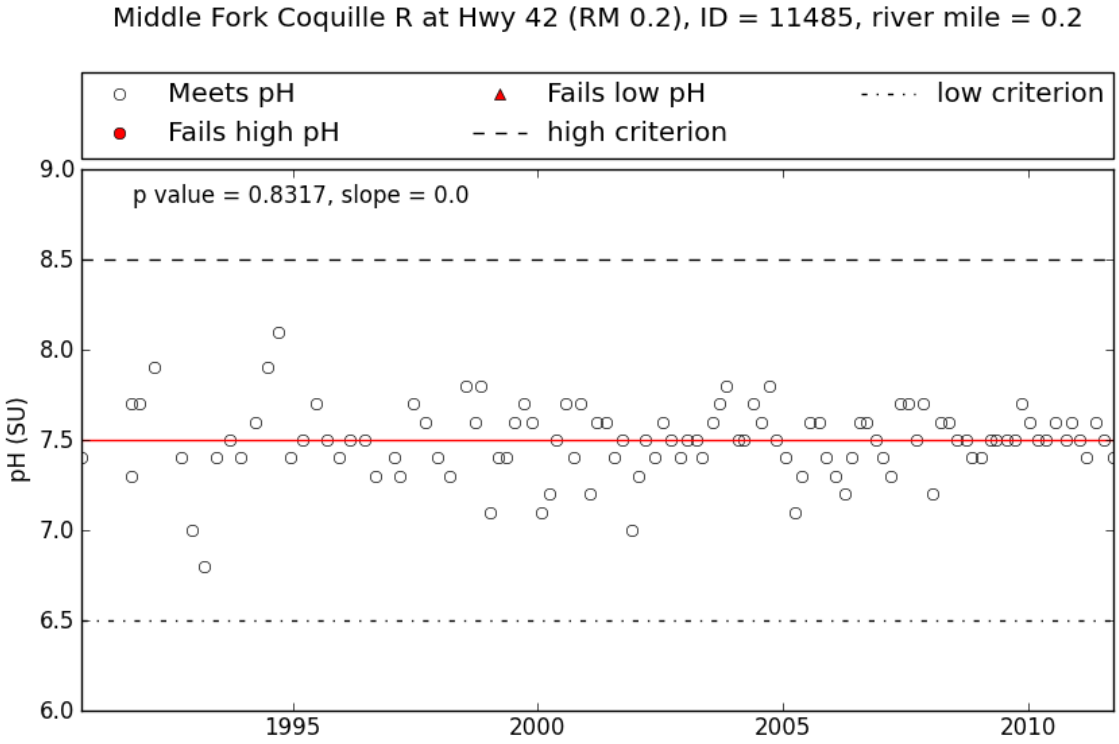
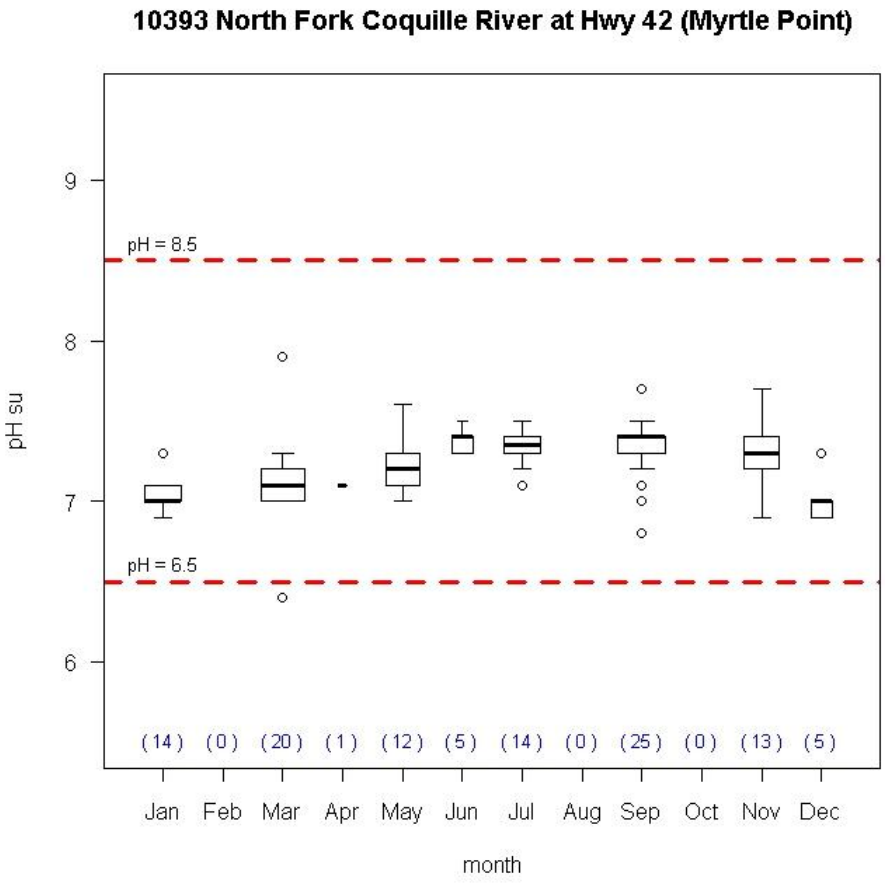


Figure 65 – North Fork Coquille River pH



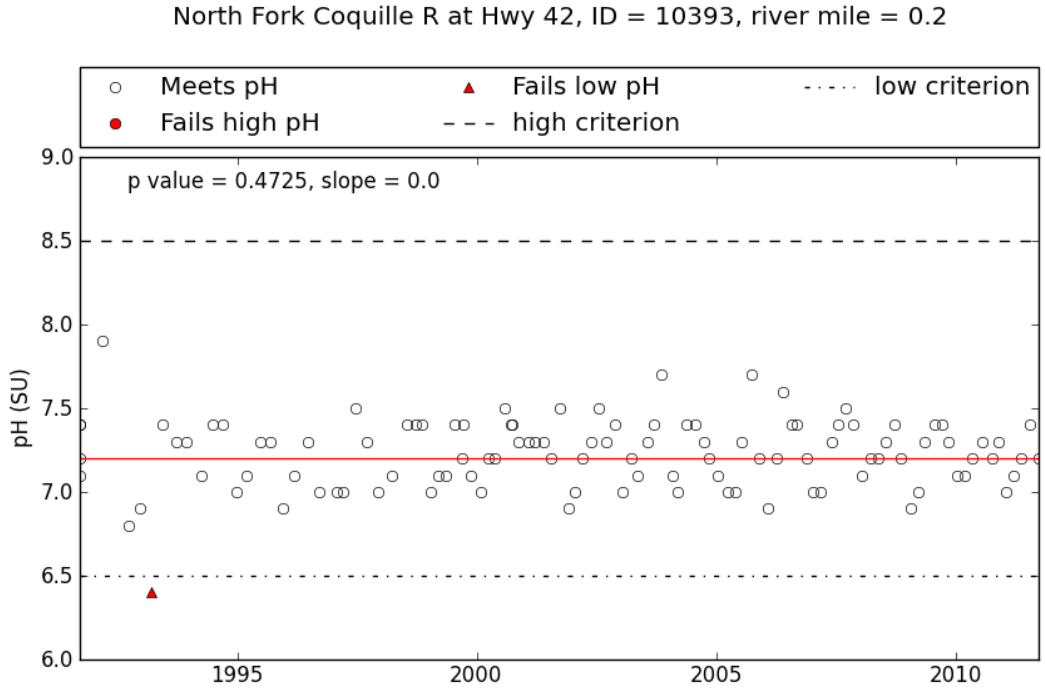
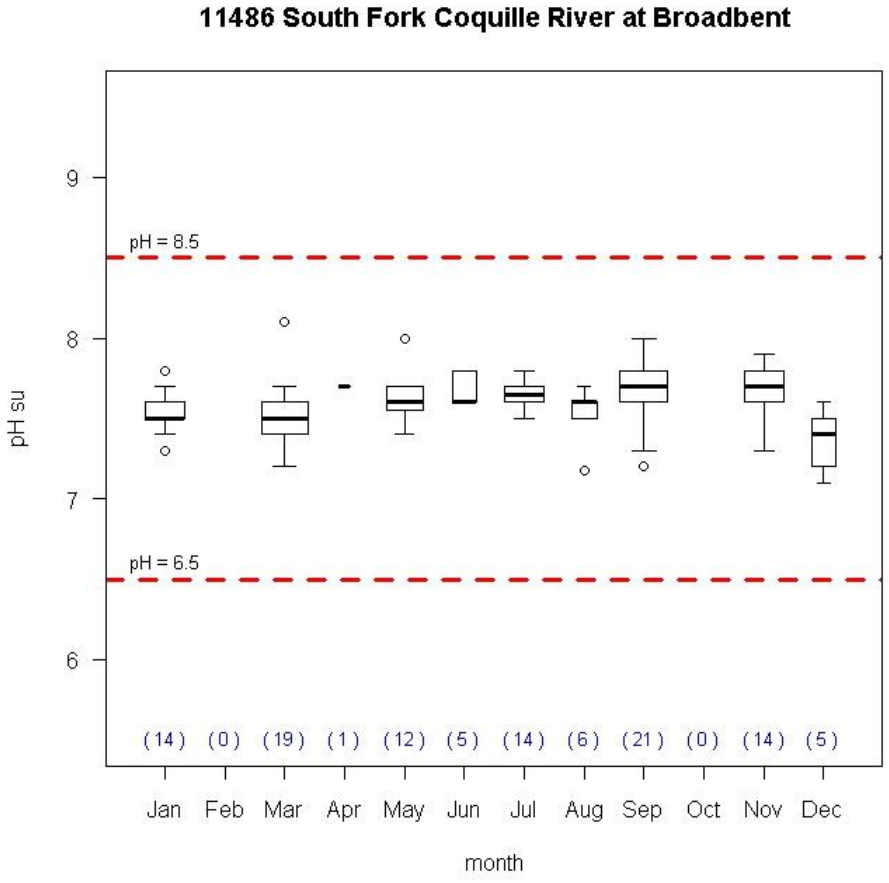


Figure 66 – South Fork Coquille River pH



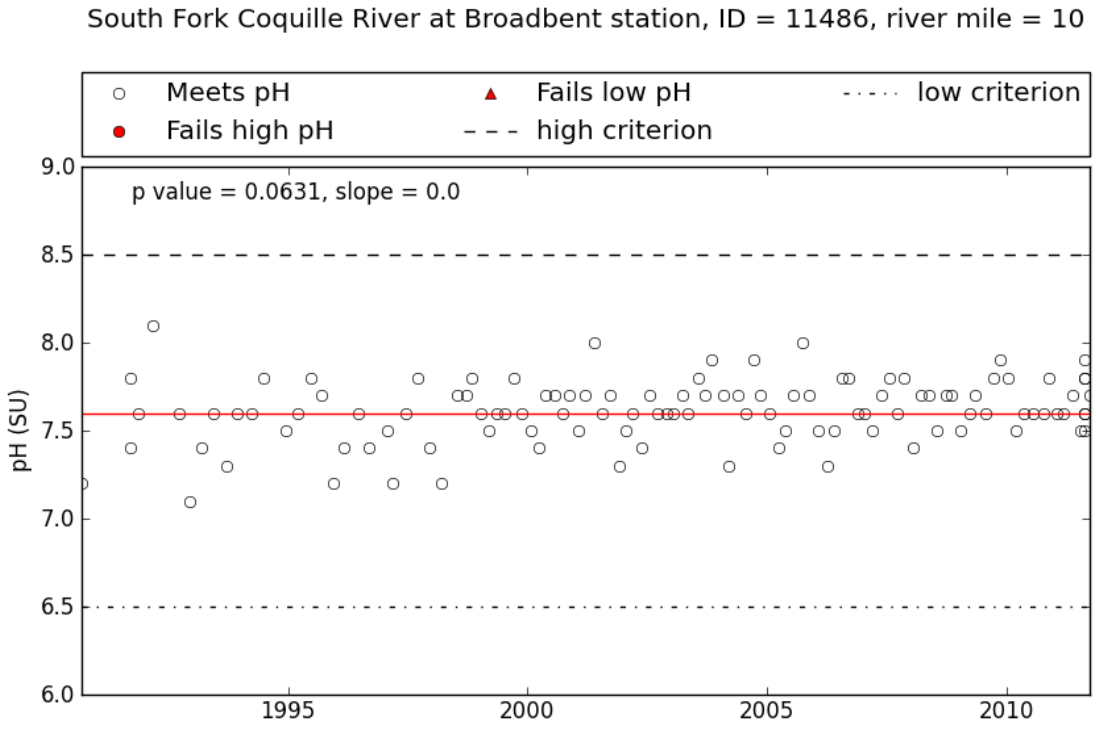
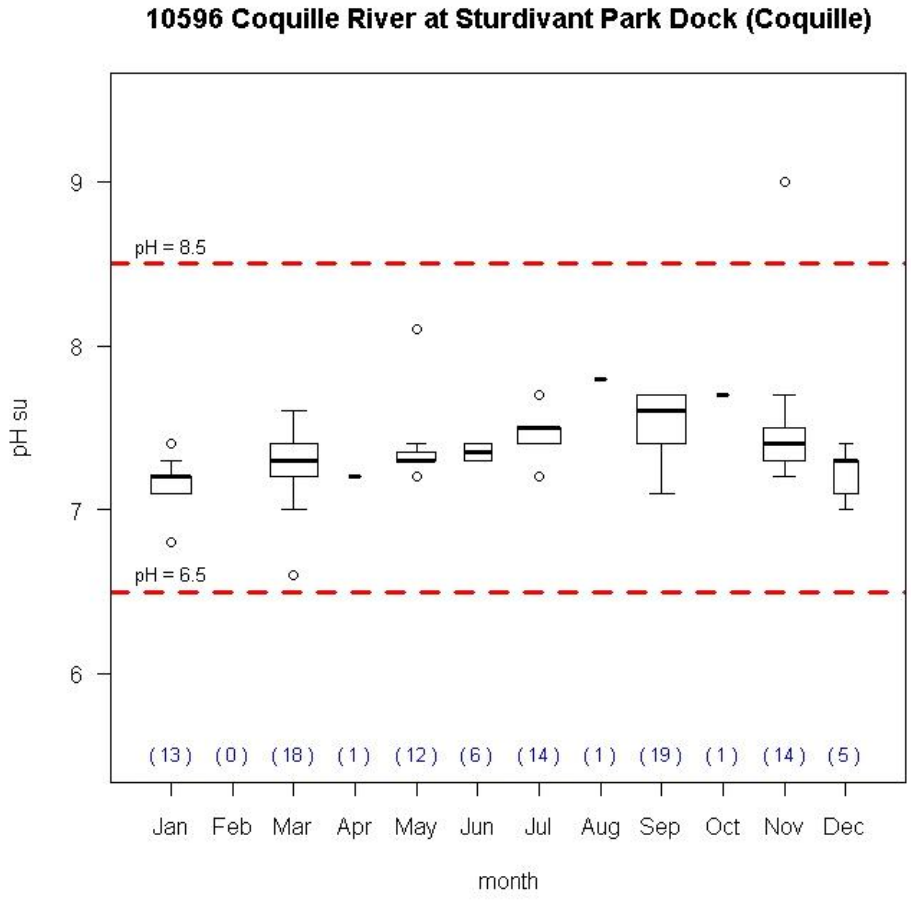


Figure 67 – Mainstem Coquille River pH



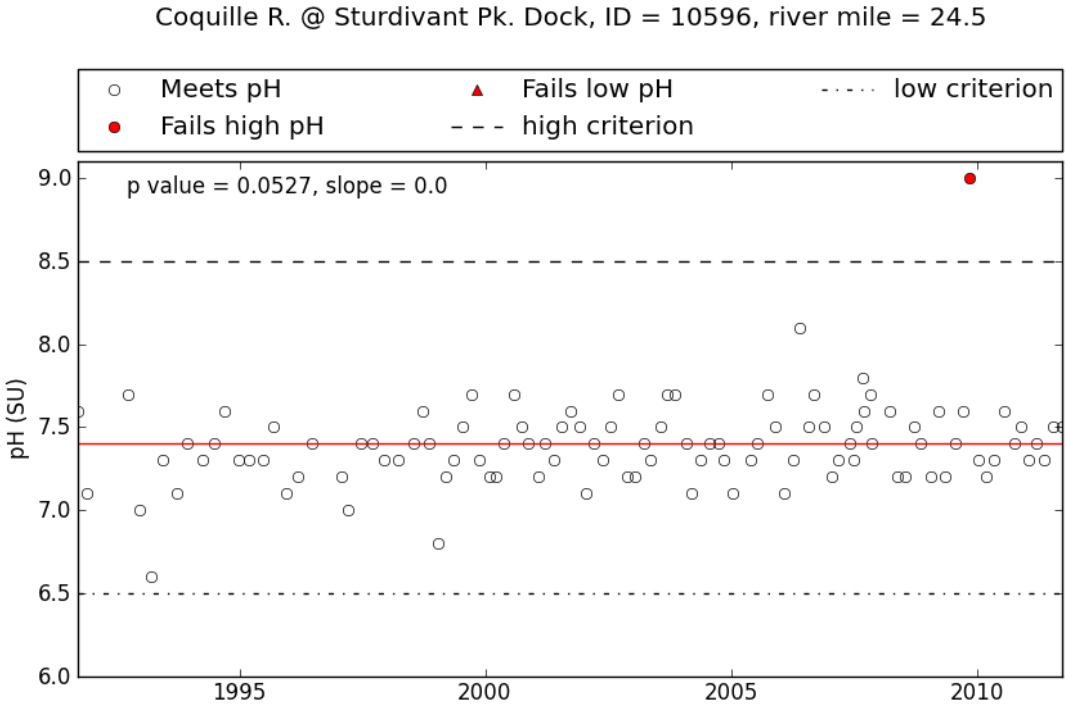
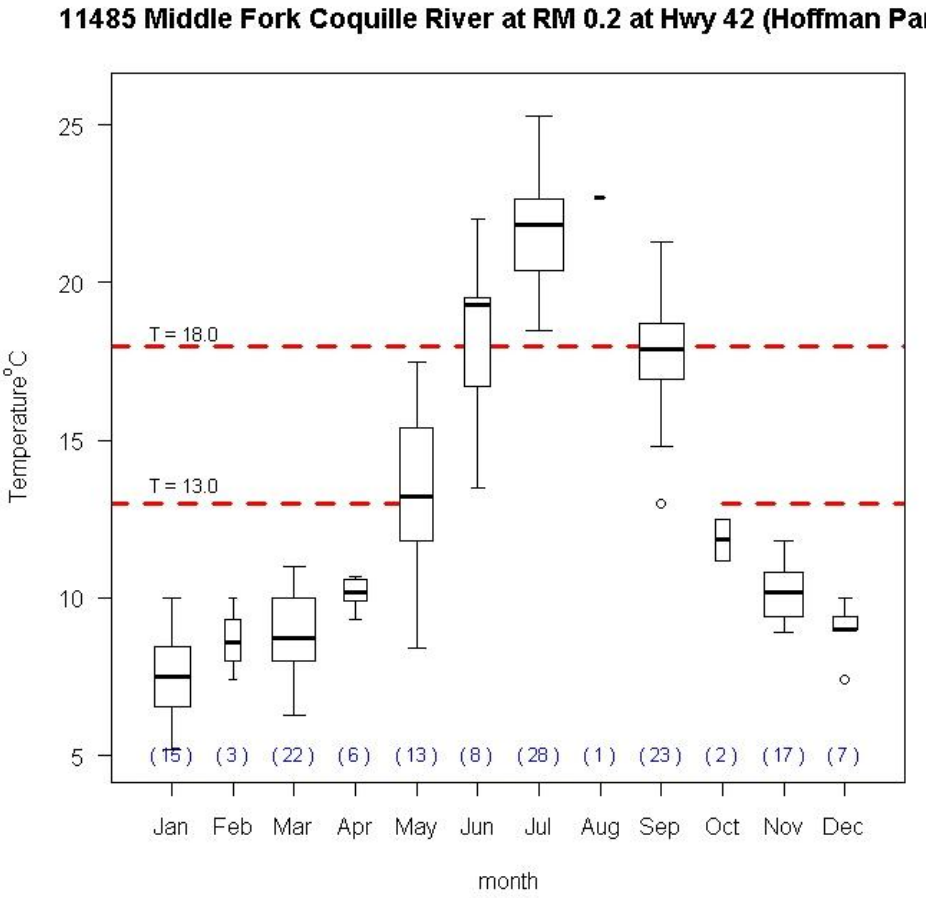


Figure 68 – Middle Fork Coquille River Temperature



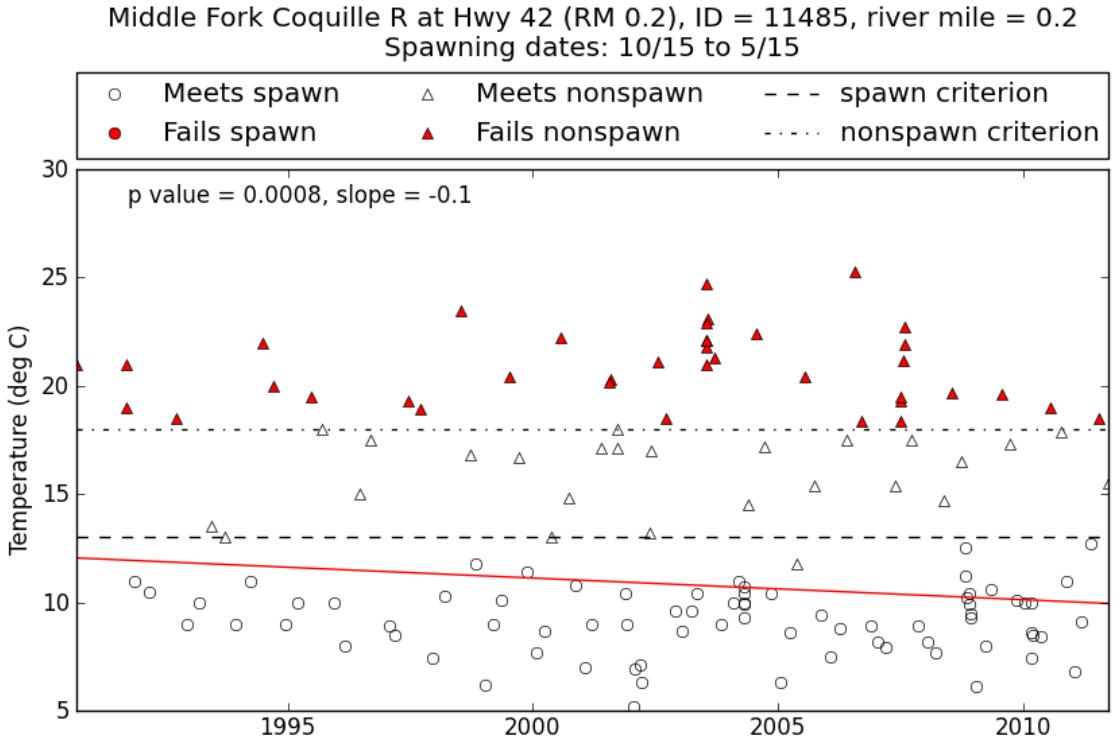
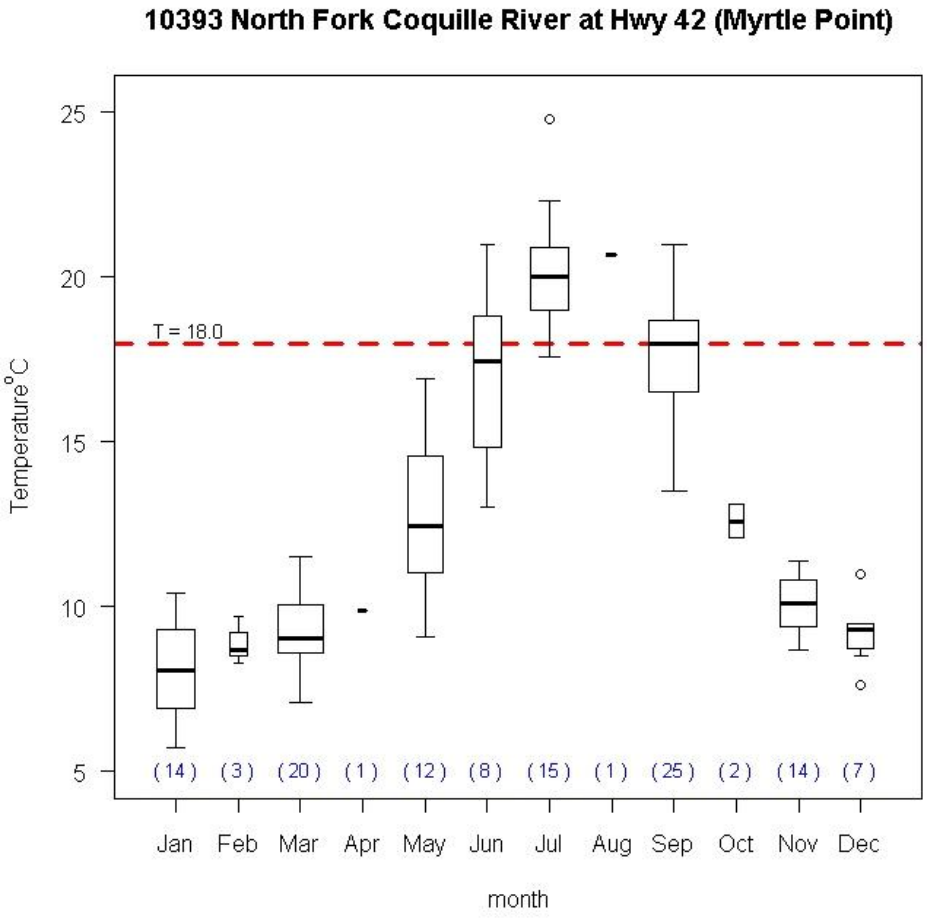


Figure 69 – North Fork Coquille River Temperature



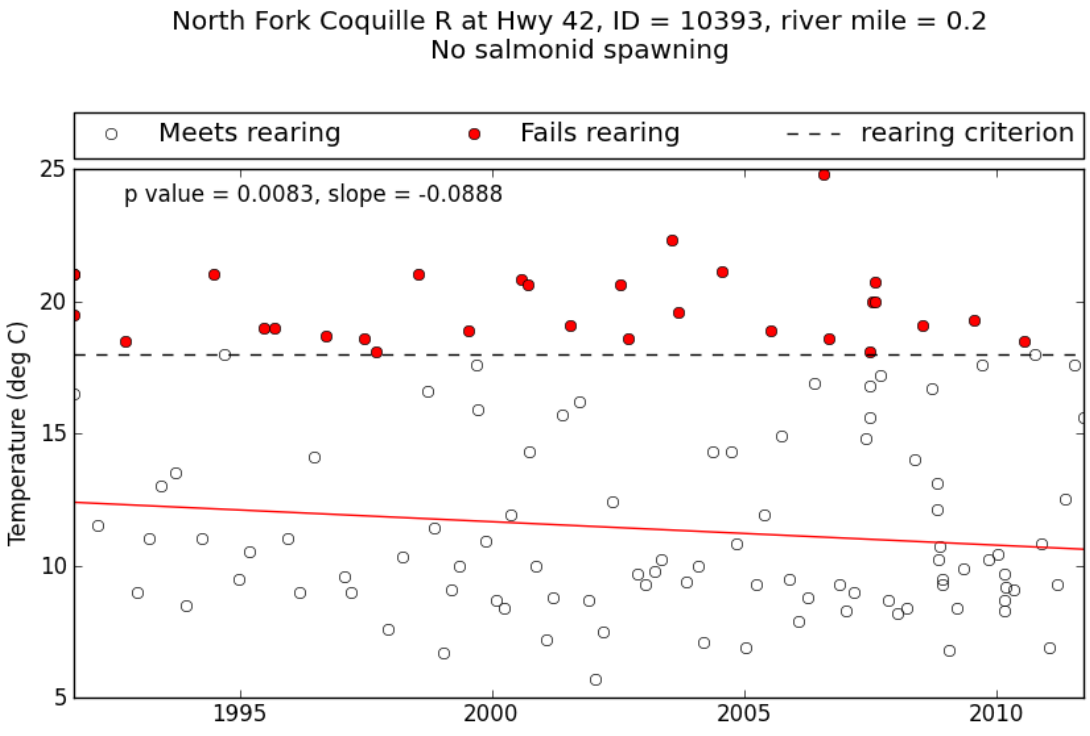
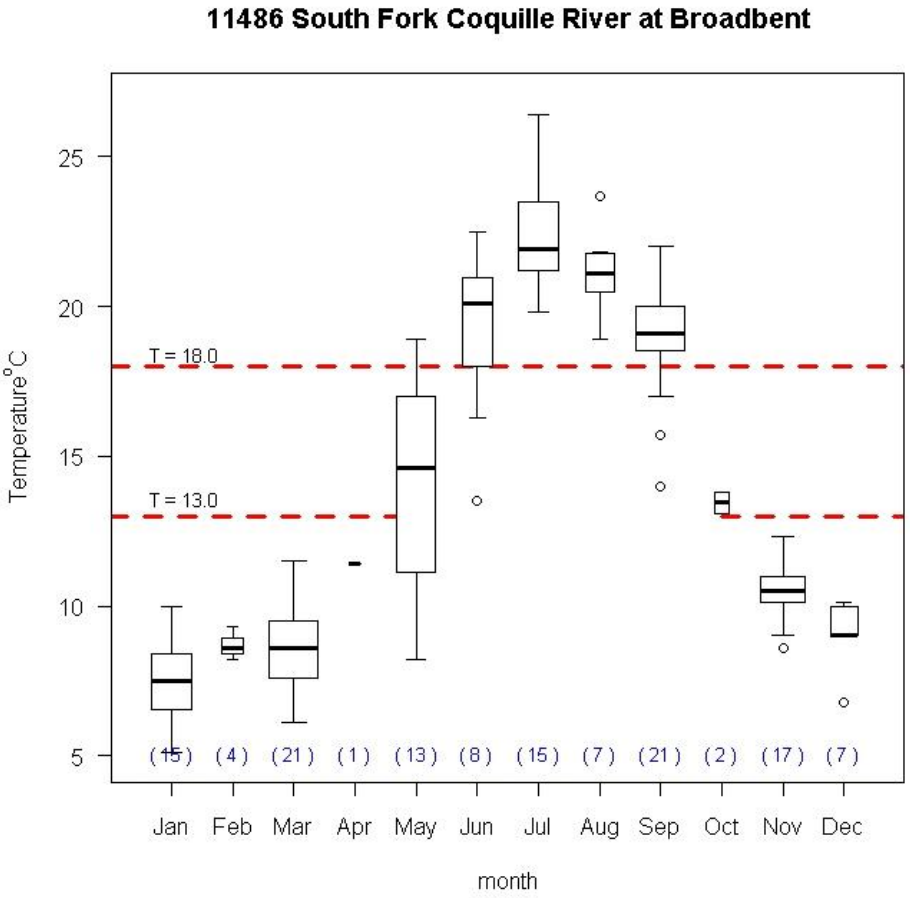


Figure 70 – South Fork Coquille River Temperature



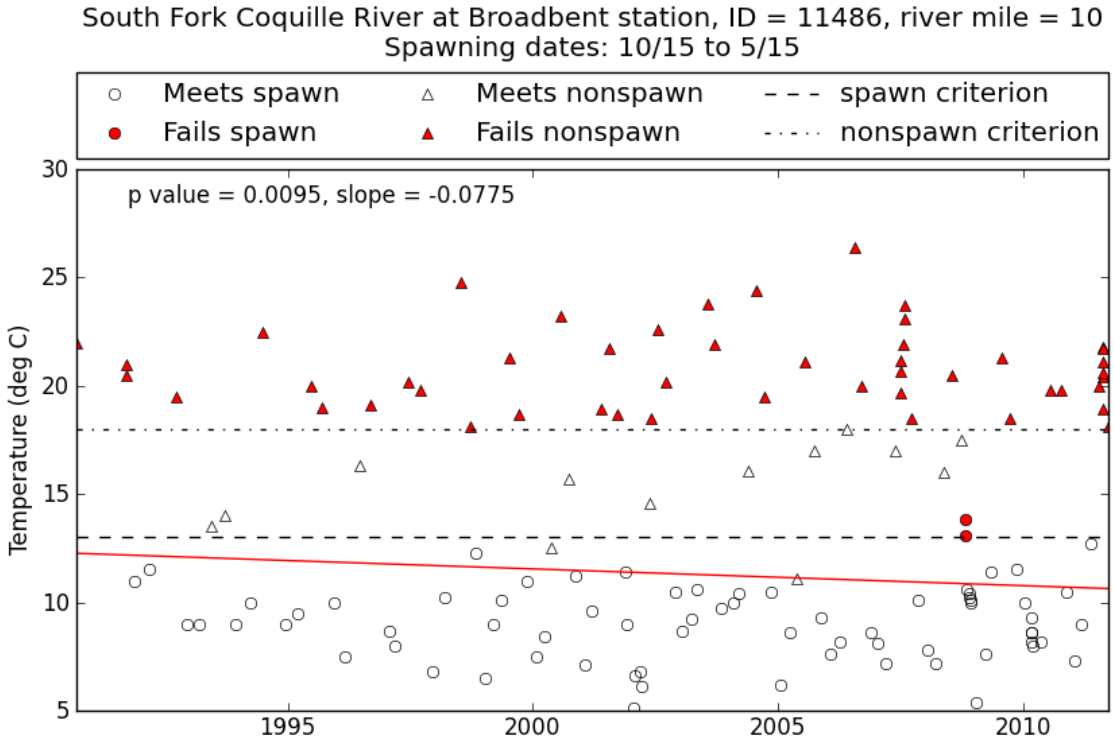
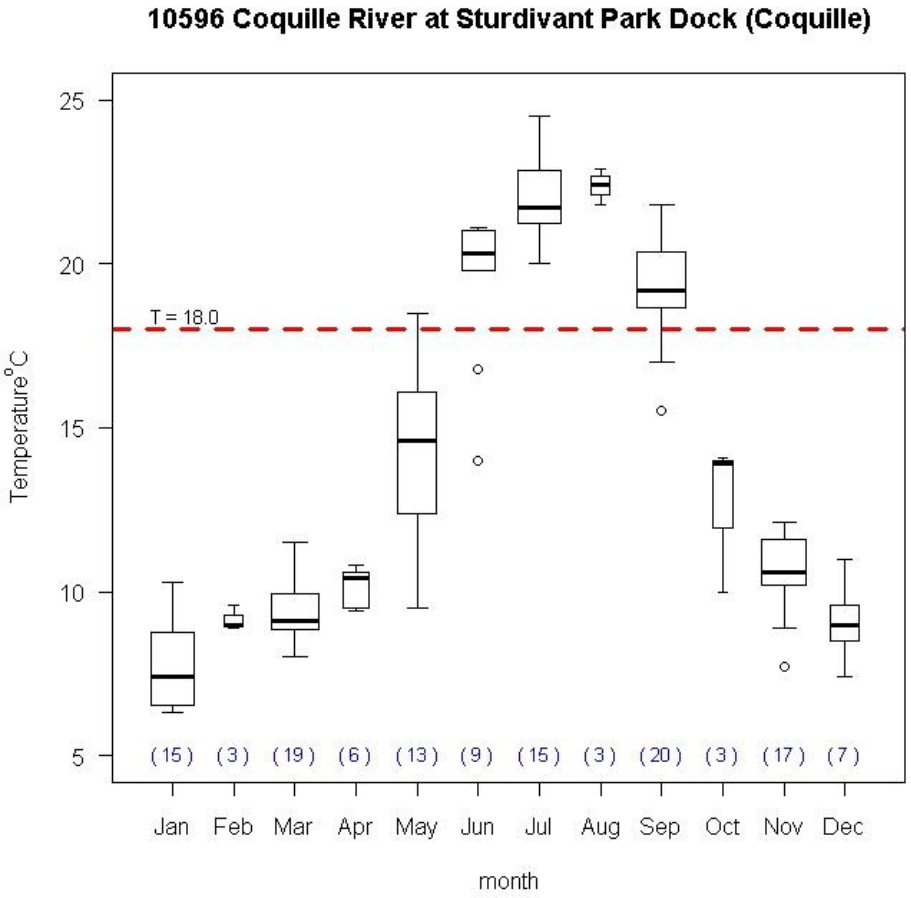


Figure 71 – Mainstem Coquille River Temperature



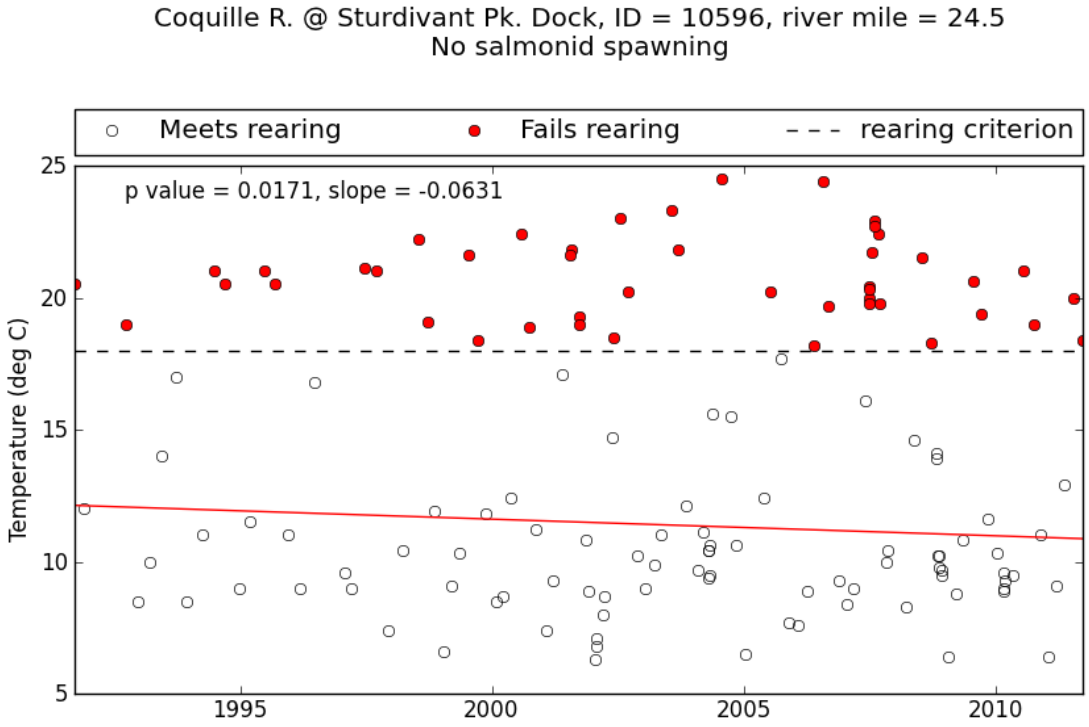
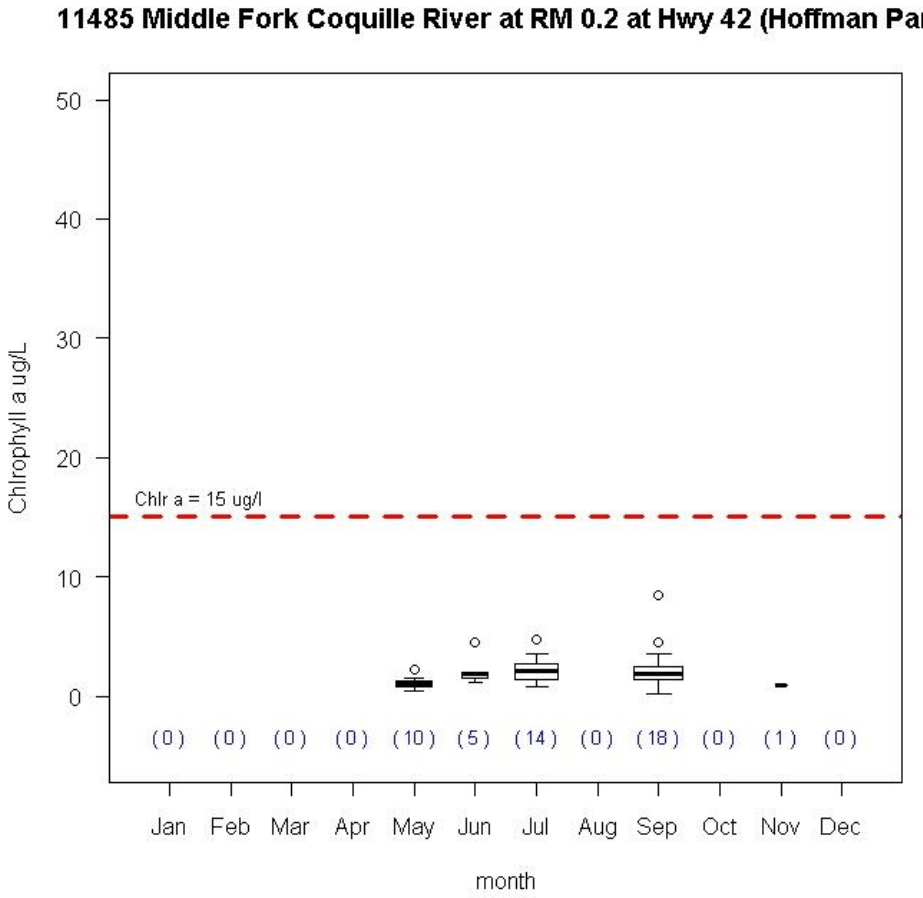


Figure 72 – Middle Fork Coquille River Chlorophyll a



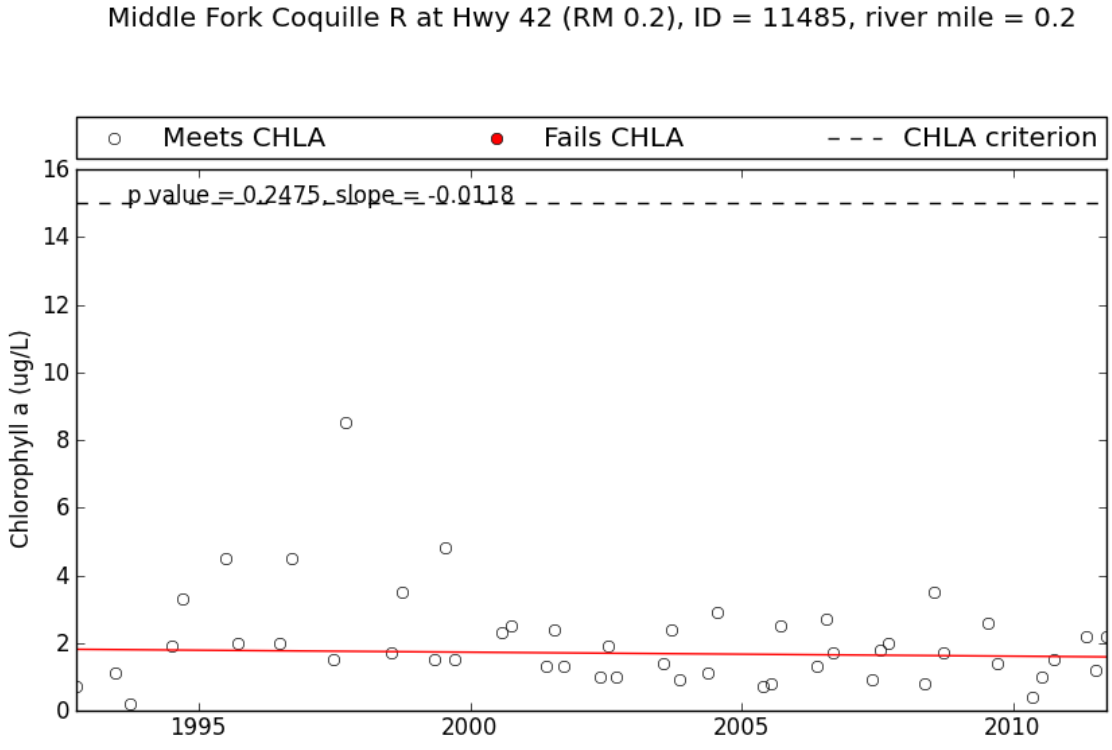
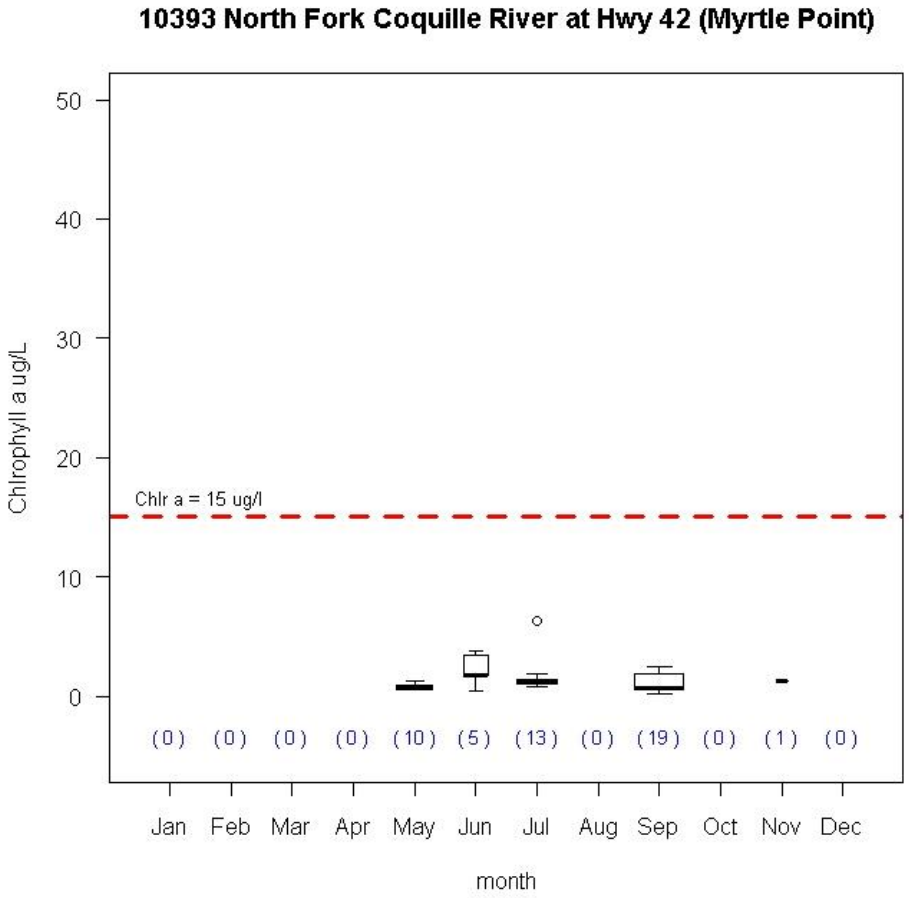


Figure 73 – North Fork Coquille River Chlorophyll a



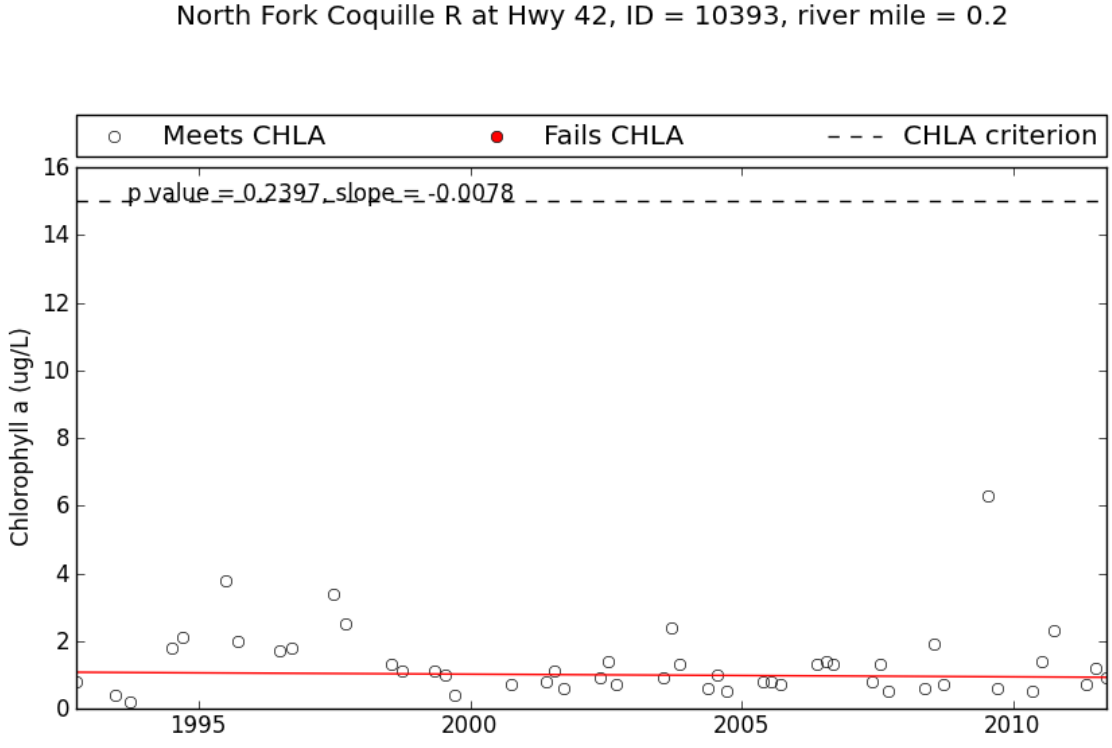
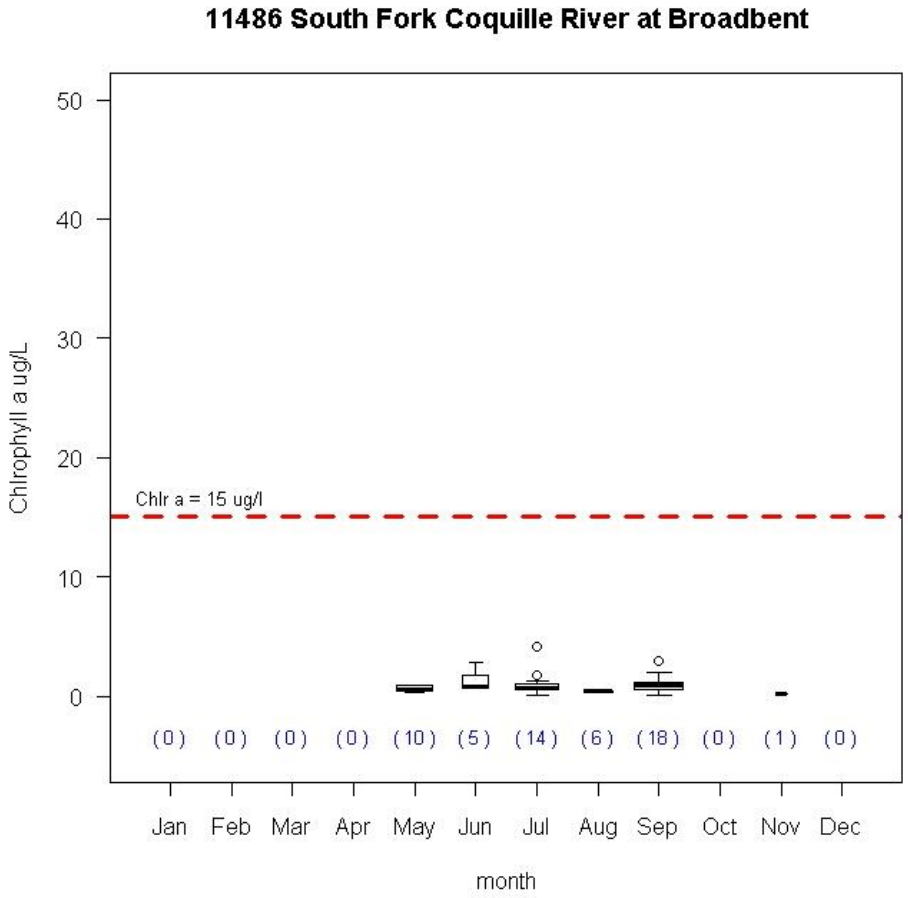


Figure 74 – South Fork Coquille River Chlorophyll a



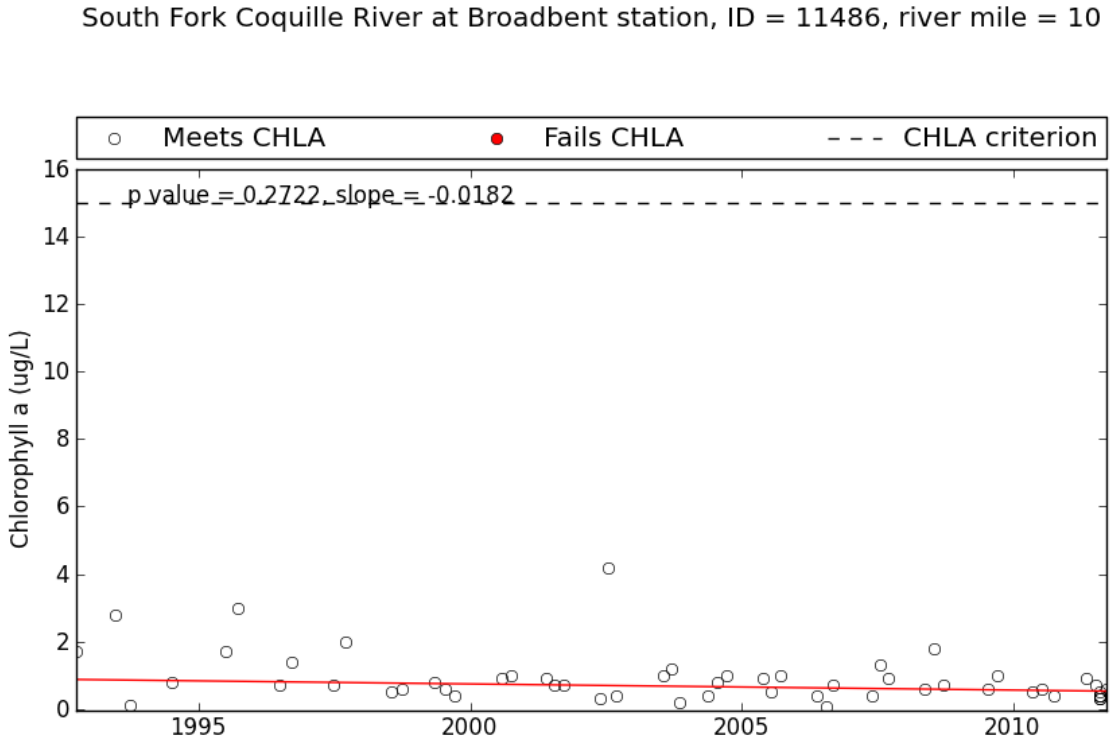
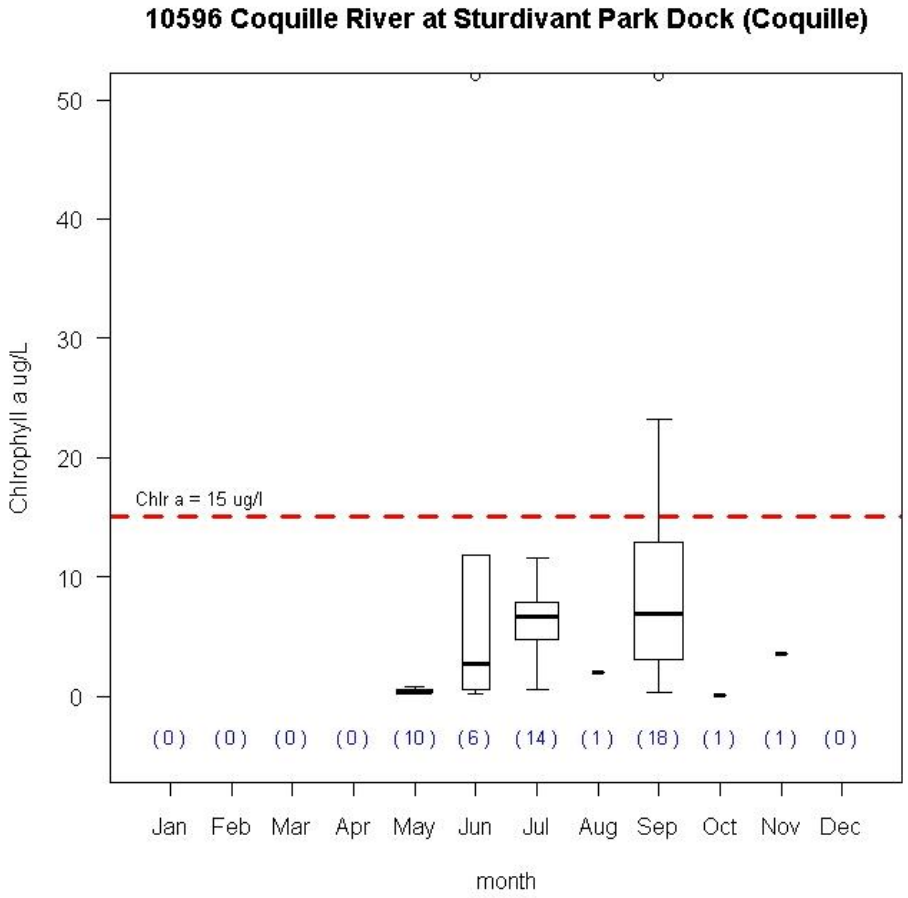
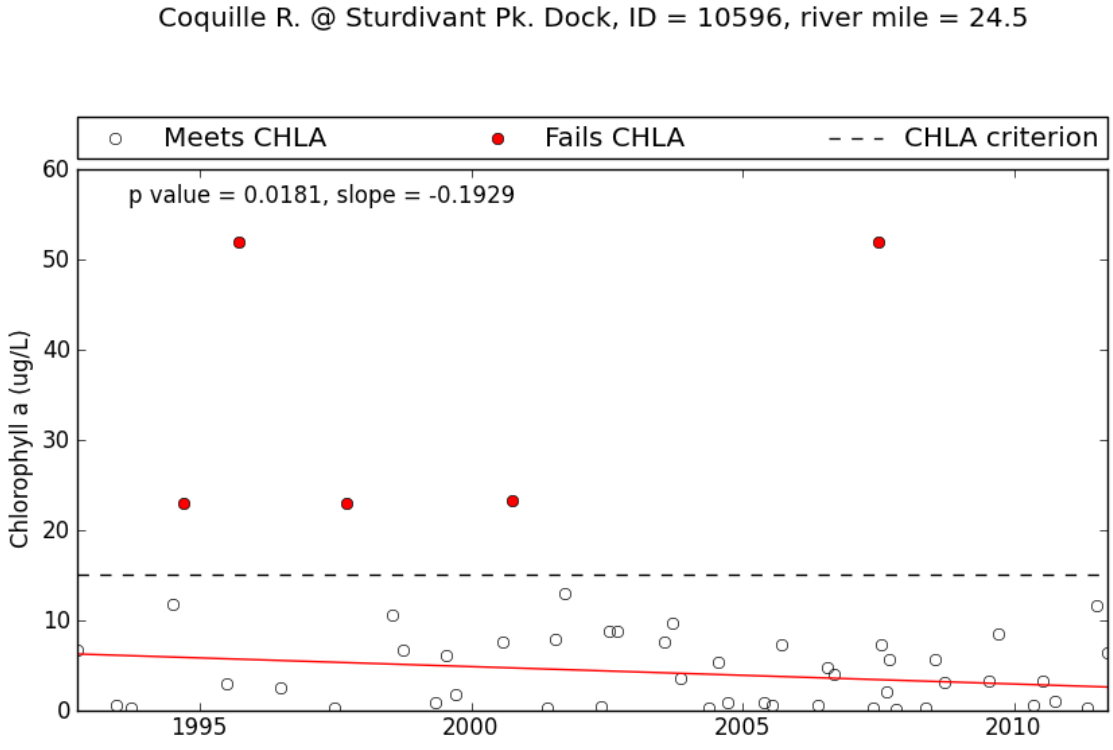


Figure 75 – Mainstem Coquille River Chlorophyll a



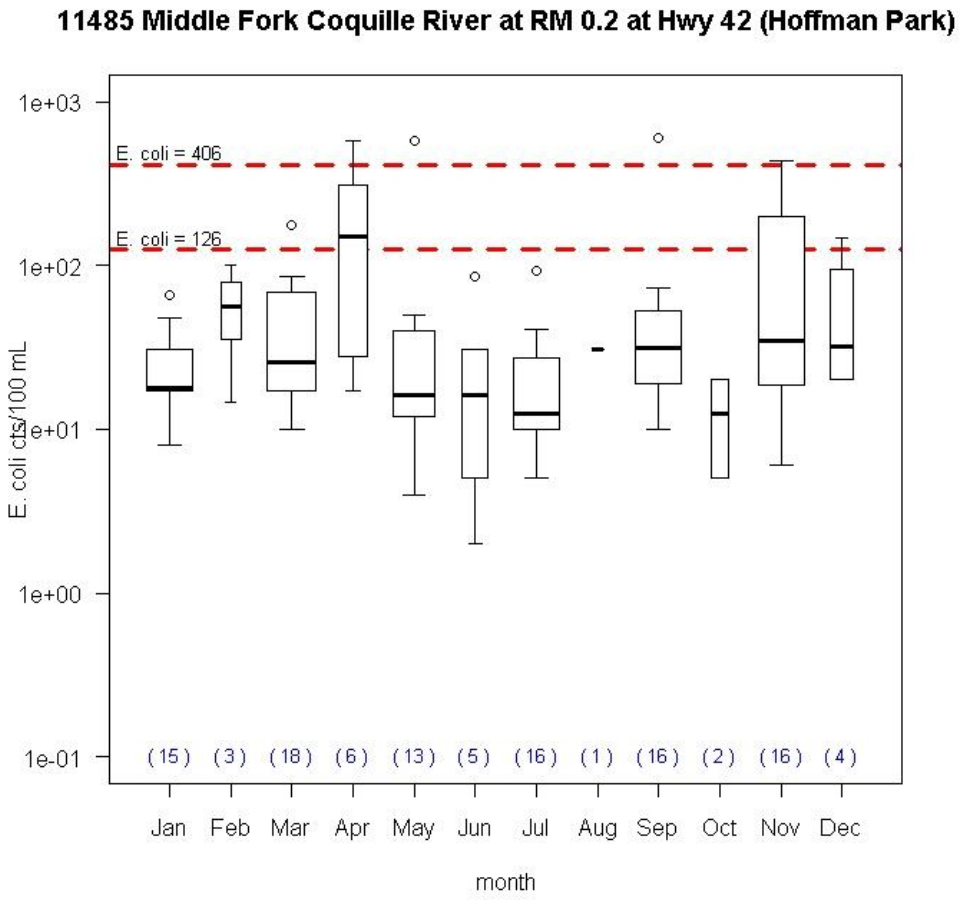


Coquille River Dissolved Oxygen and pH Intensive – Pending Addition

Coquille River Nutrients Pending Addition

Coquille River Ambient Bacteria

Figure 76 – Middle Fork Coquille River Bacteria


11485 Middle Fork Coquille River at RM 0.2 at Hwy 42 (Hoffman Park)
1e+03
1e+02
1e+01
1e+00
1e-01
E. coli = 406
E. coli = 126
E. coli cts/100 mL
(15) (3) (18) (6) (13) (5) (16) (1) (16) (2) (16) (4)
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
month

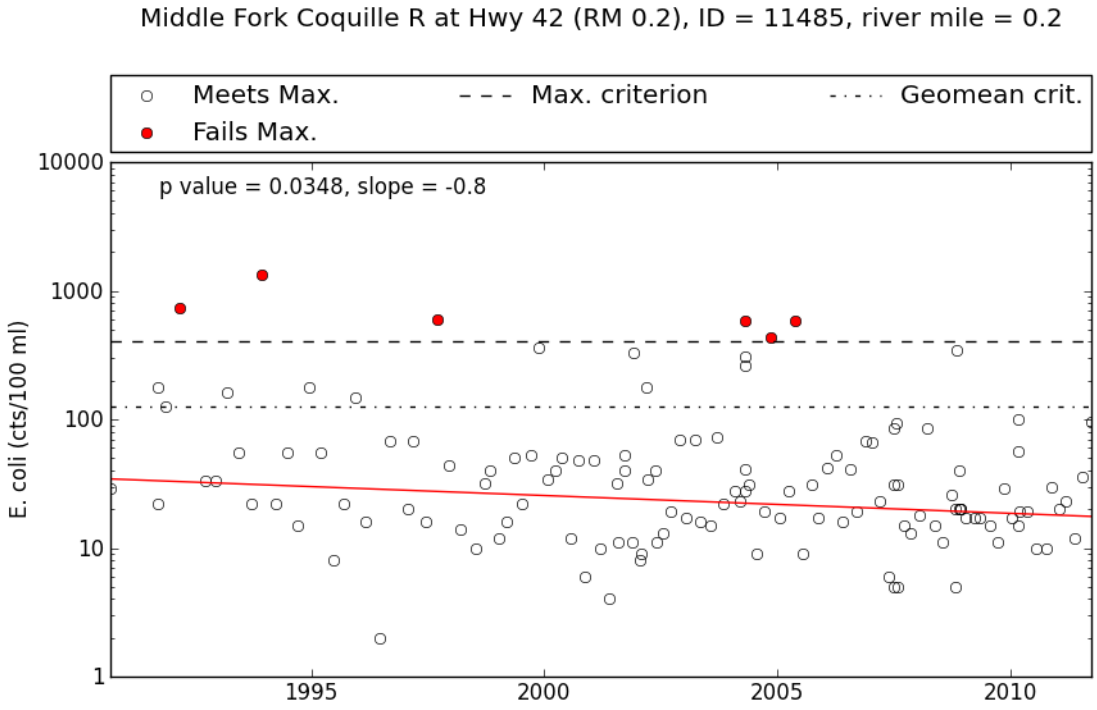
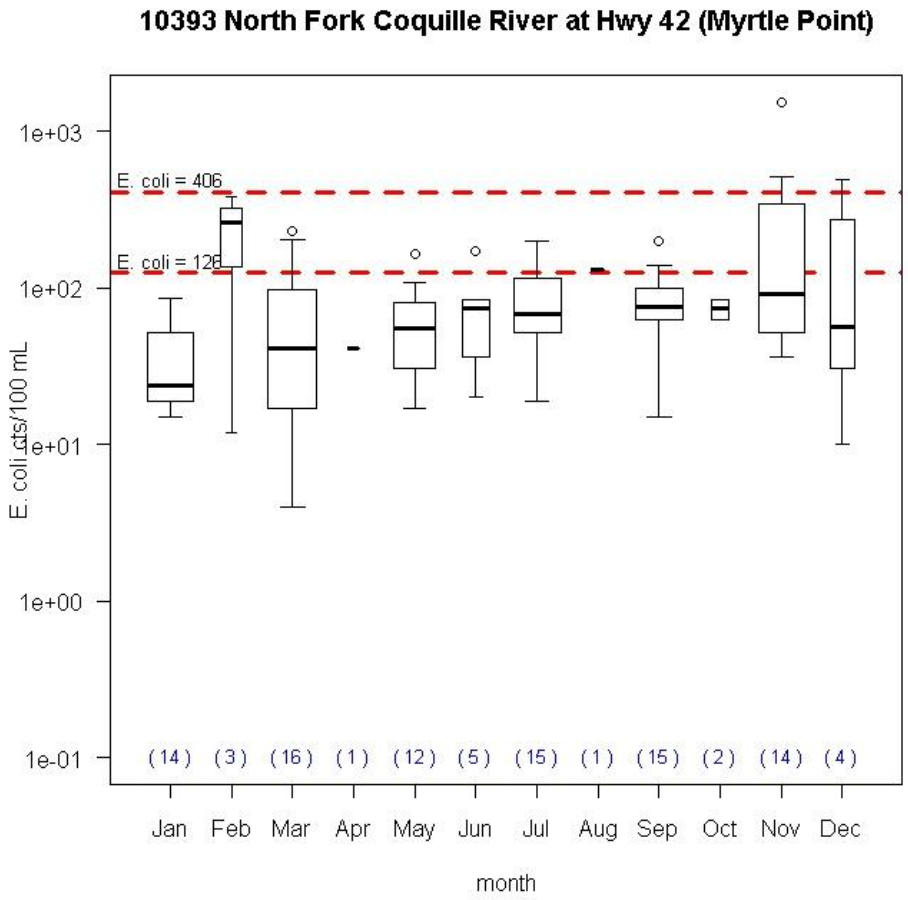

Middle Fork Coquille R at Hwy 42 (RM 0.2), ID = 11485, river mile = 0.2
Meets Max.
Fails Max.
Max. criterion
Geomean crit.
p value = 0.0348, slope = -0.8
E. coli (cts/100 ml)
10000
1000
100
10
1
1995
2000
2005
2010

Figure 77 – North Fork Coquille River Bacteria



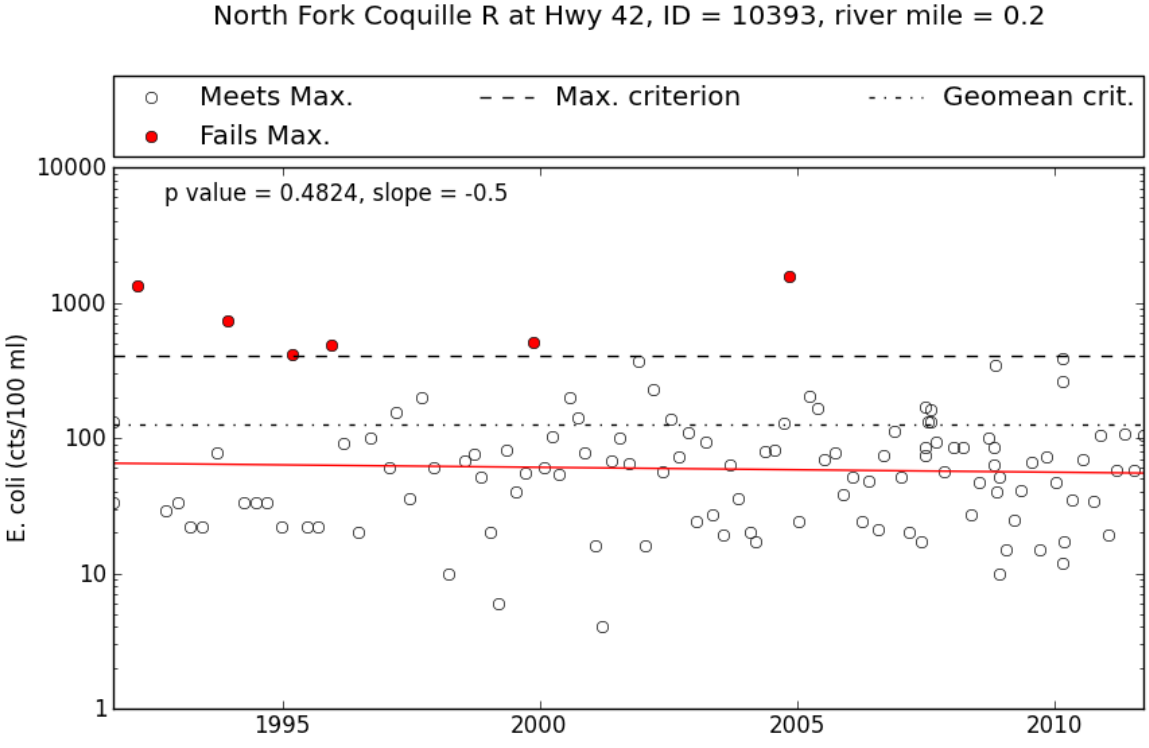
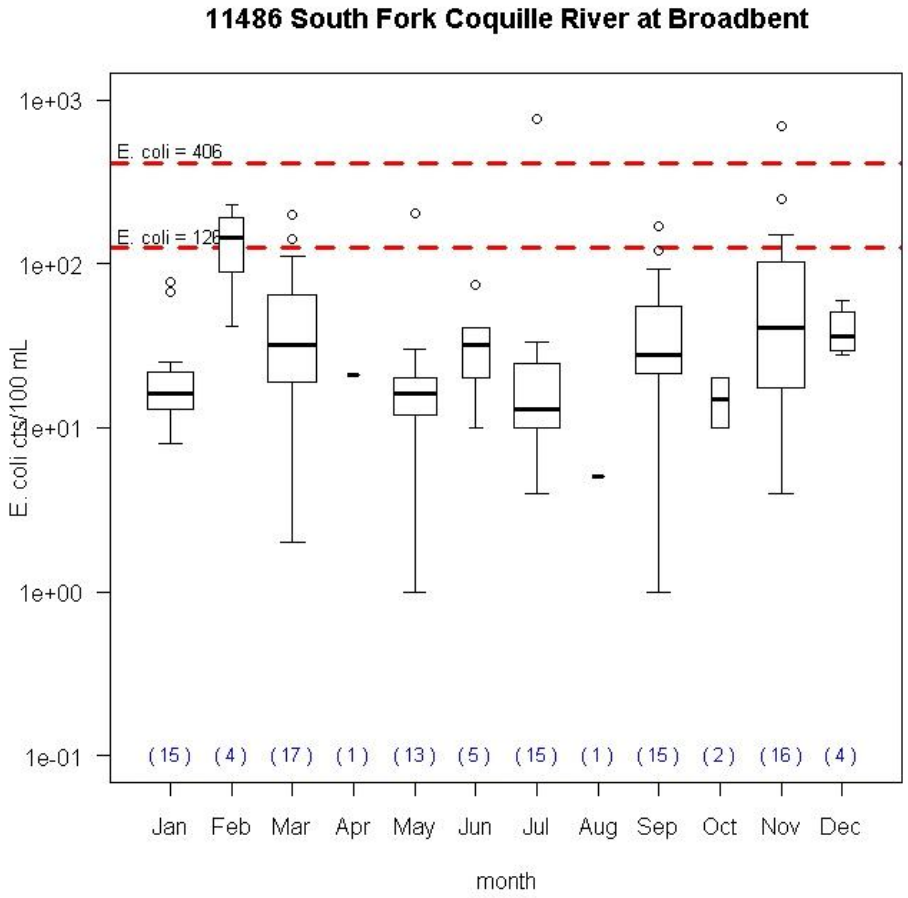


Figure 78 – South Fork Coquille River Bacteria



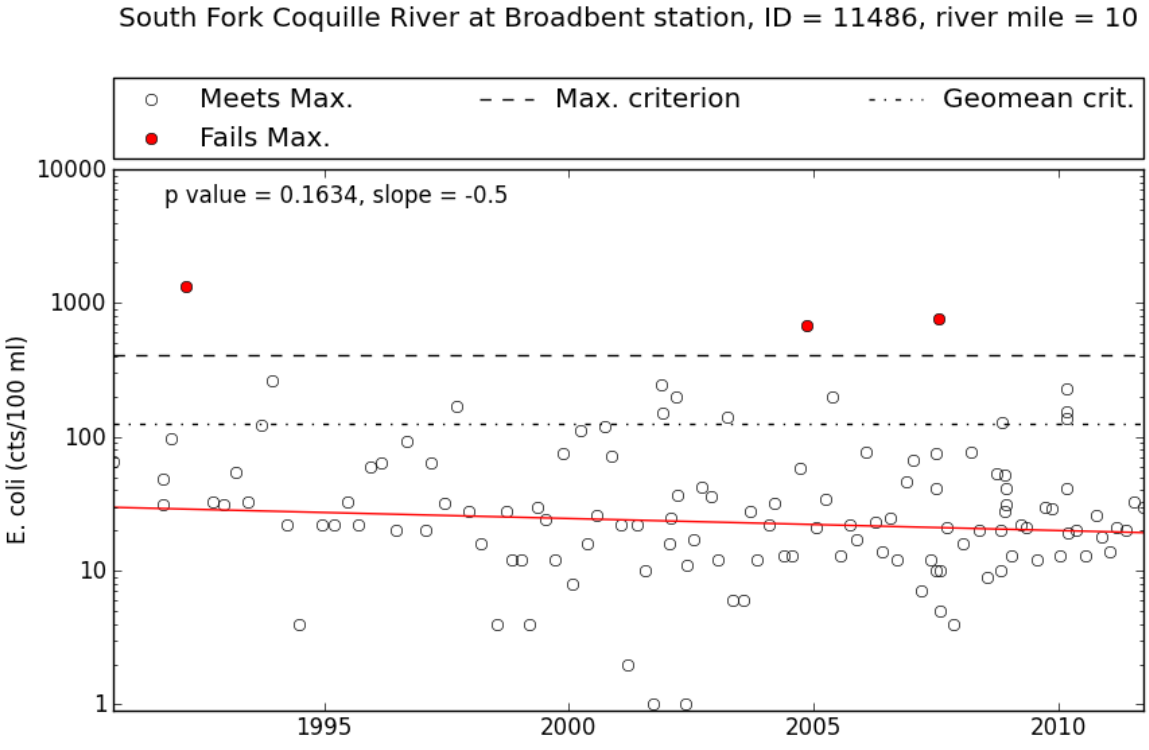
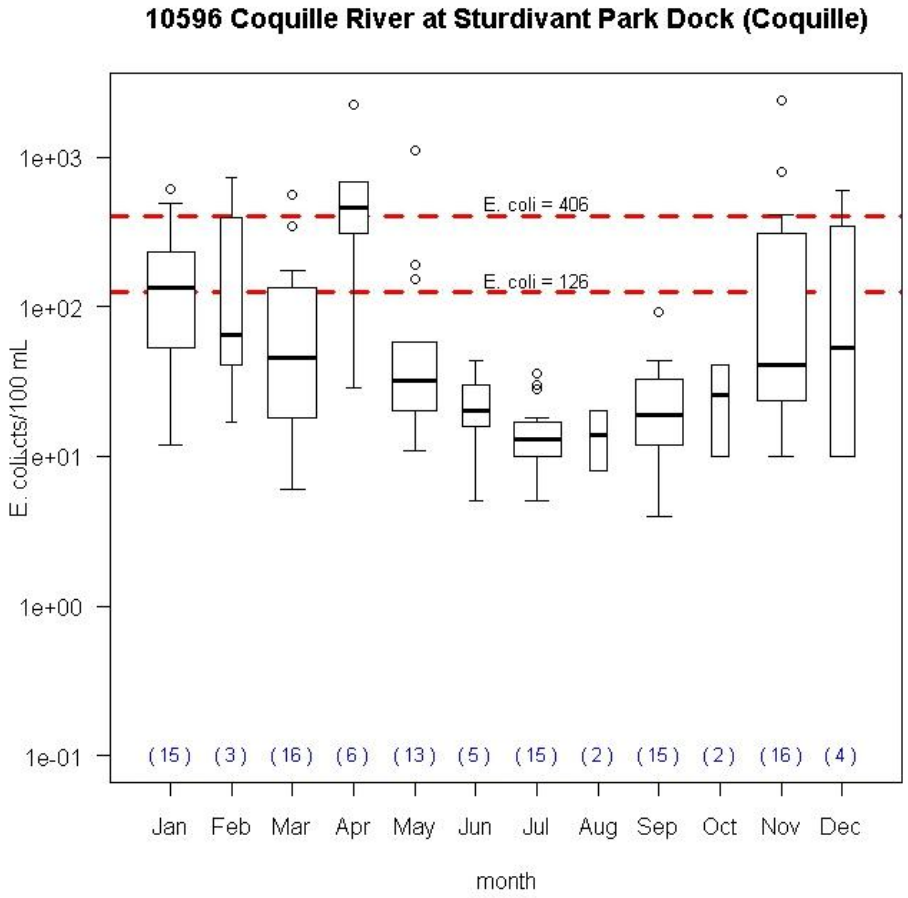
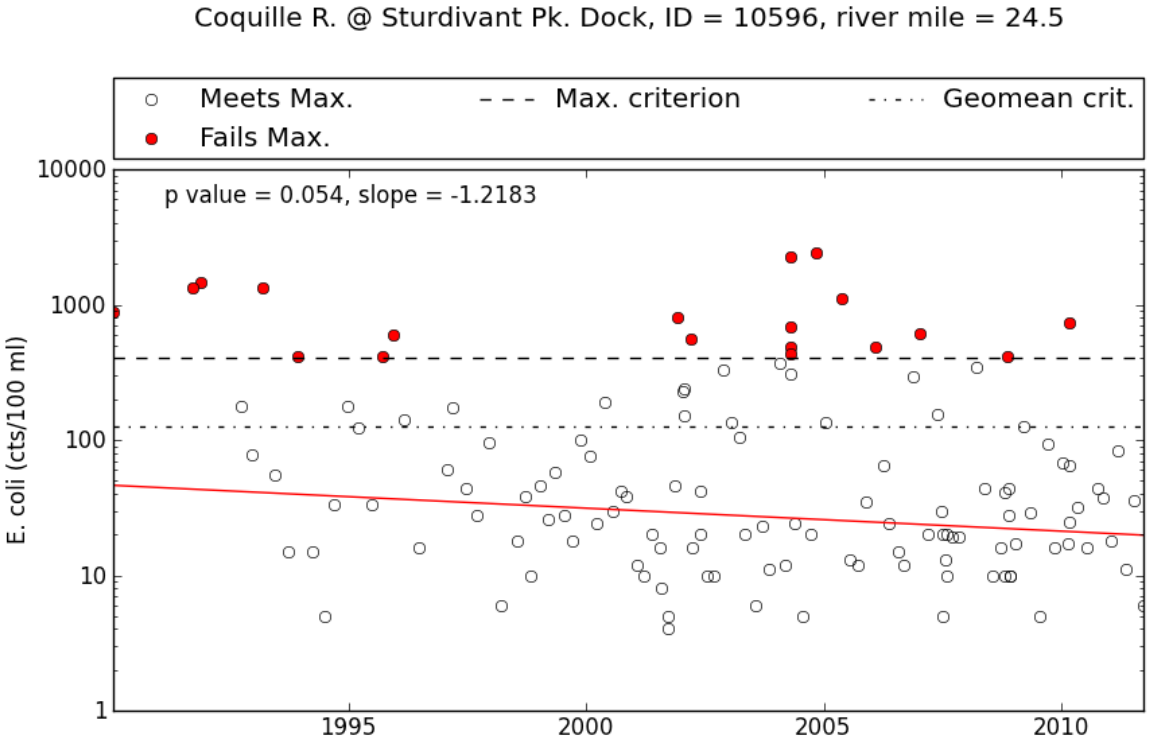


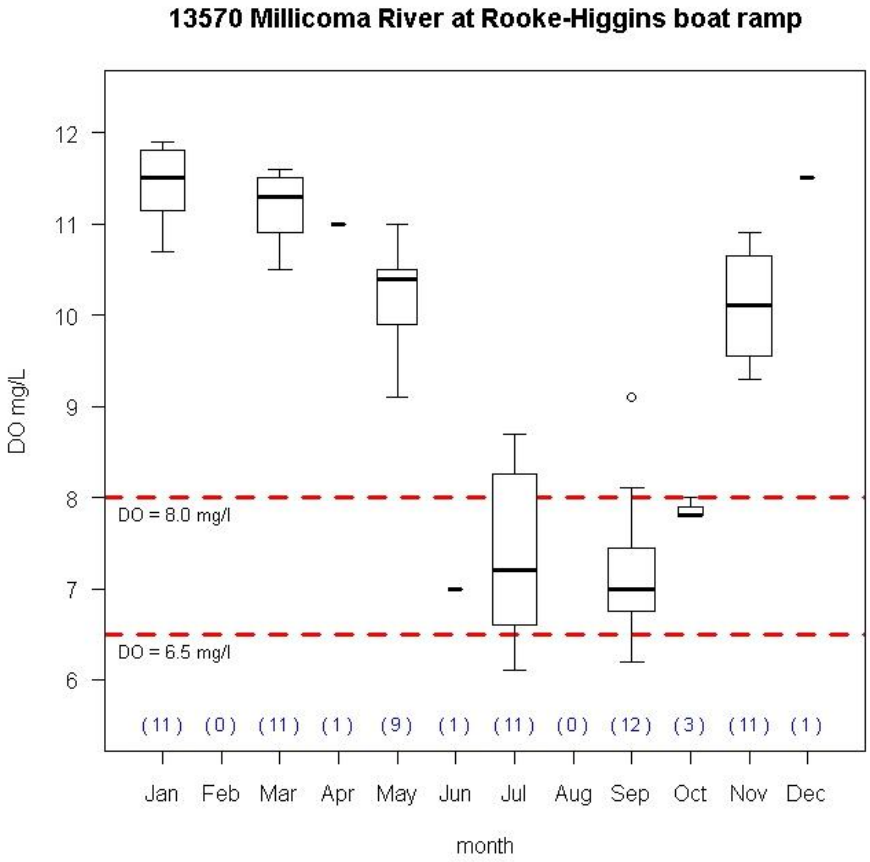
Figure 79 – Mainstem Coquille River Bacteria





Coos River Ambient Monitoring

Figure 80 – Millicoma River Dissolved Oxygen



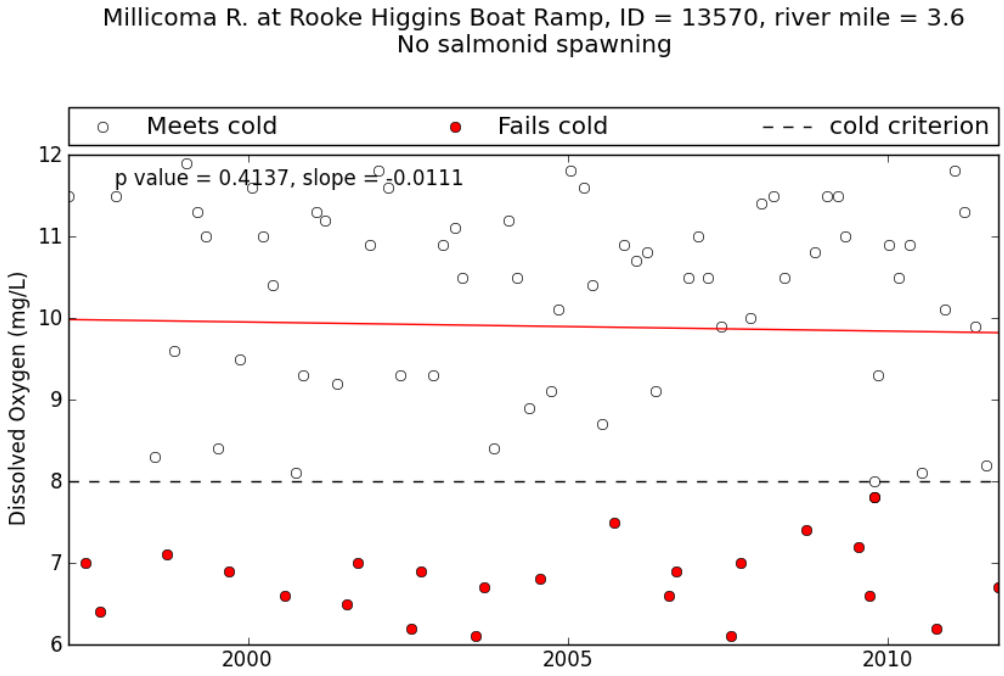
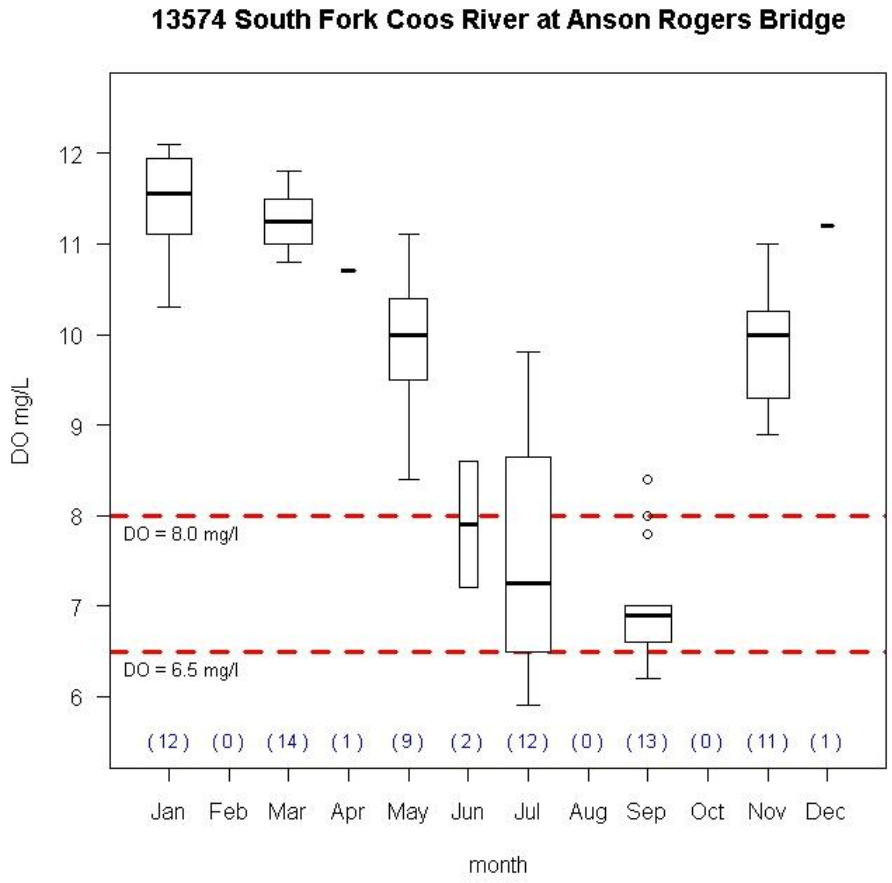


Figure 81 – South Fork Coos River Dissolved Oxygen



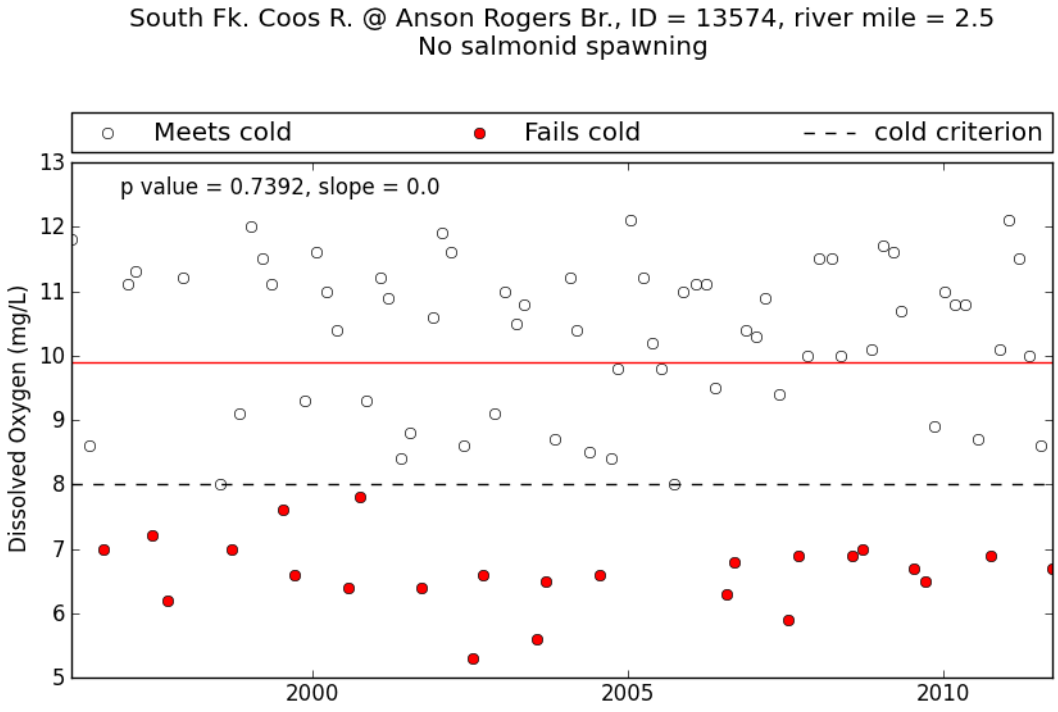
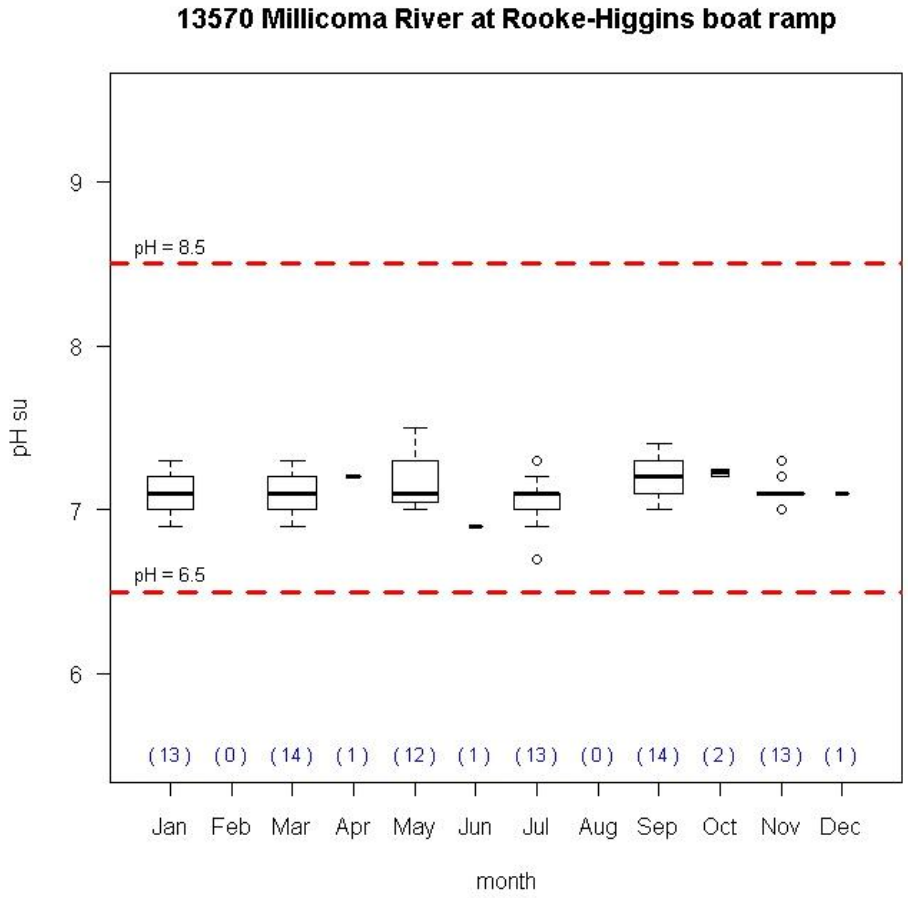


Figure 82 – Millicoma River pH



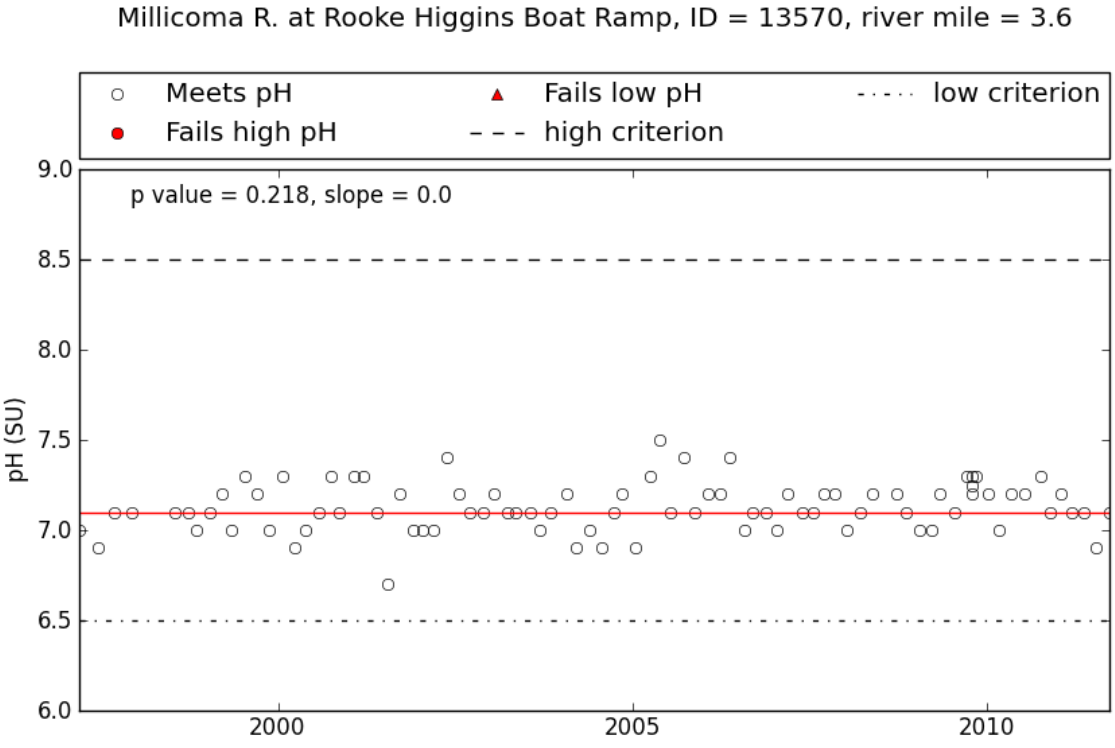
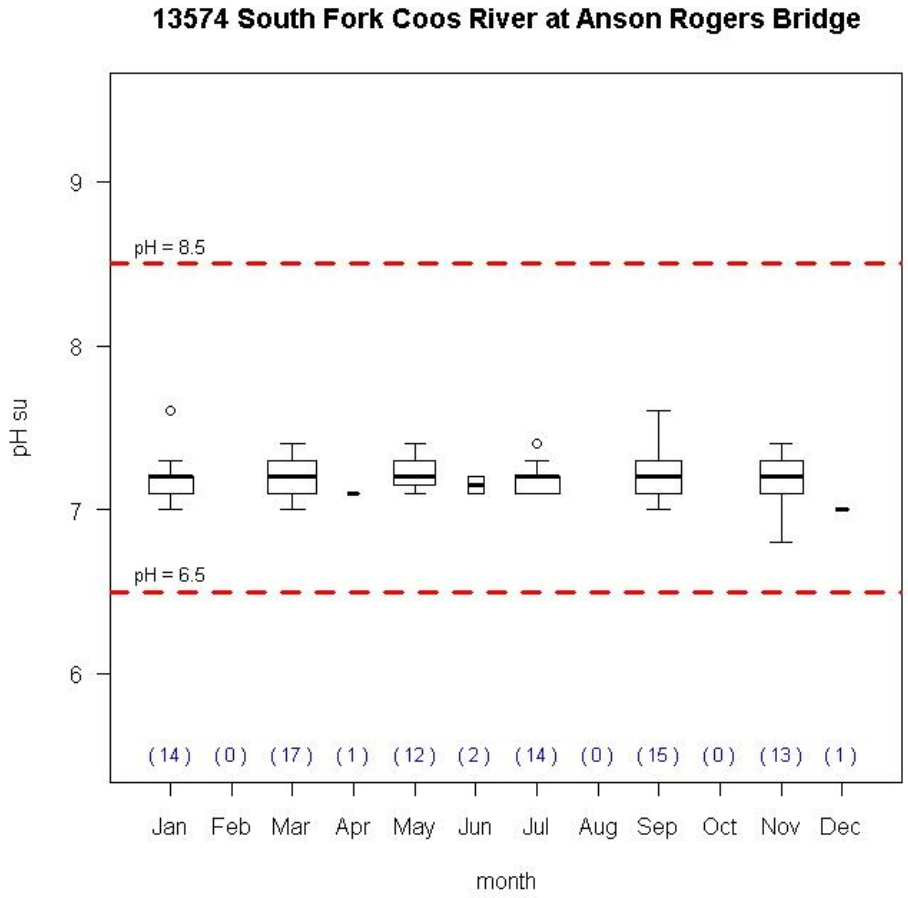


Figure 83 – South Fork Coos River Dissolved Oxygen



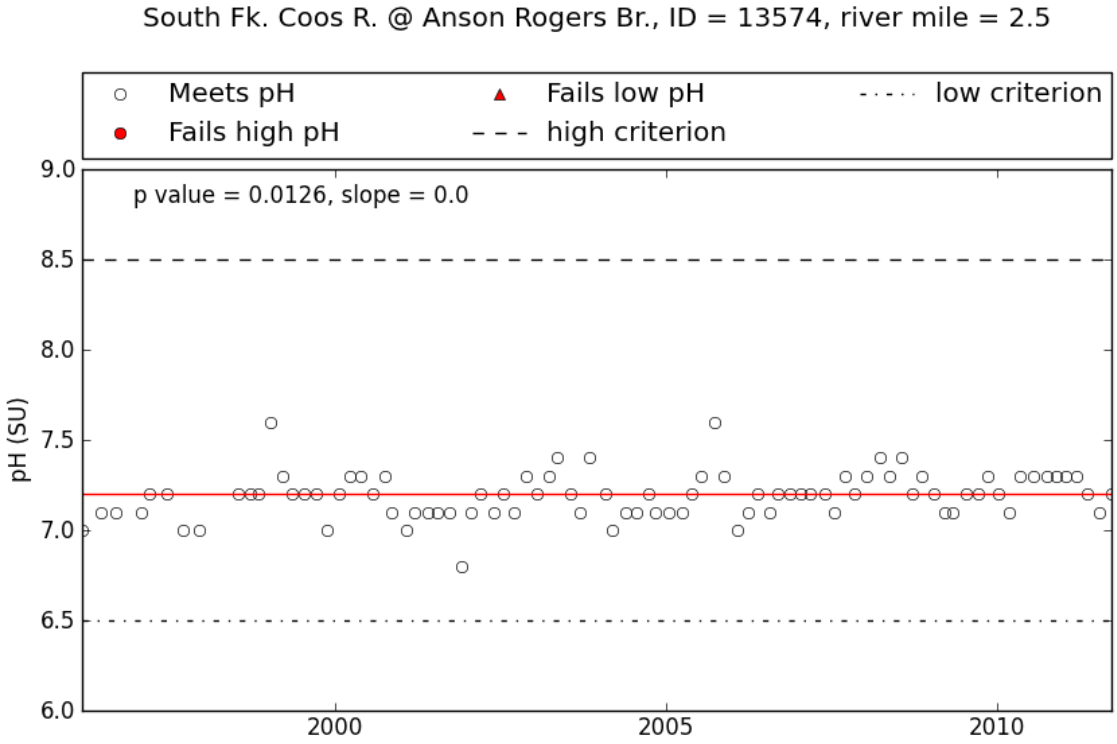
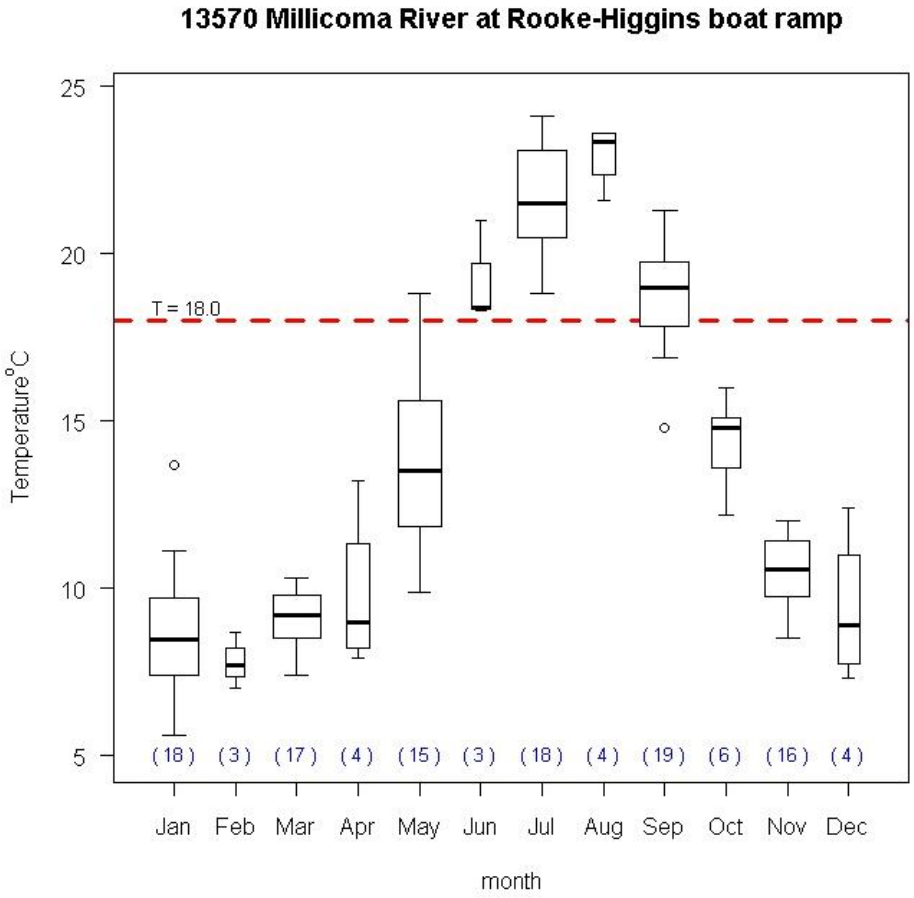


Figure 84 – Millicoma River Temperature



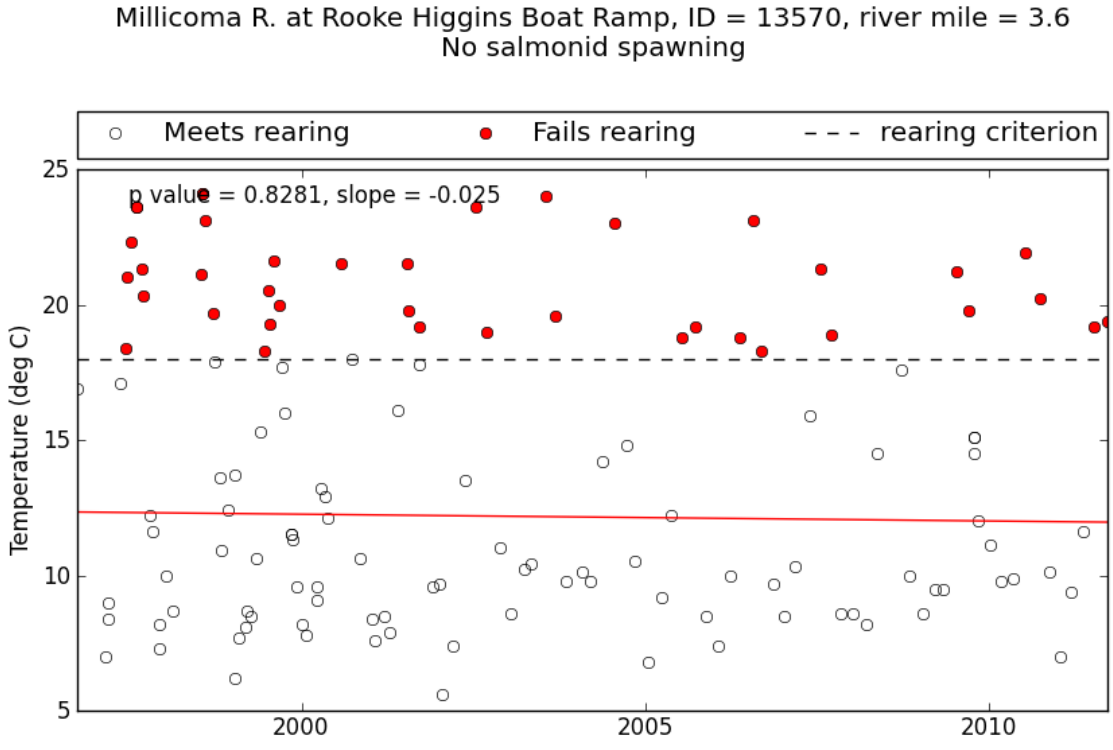
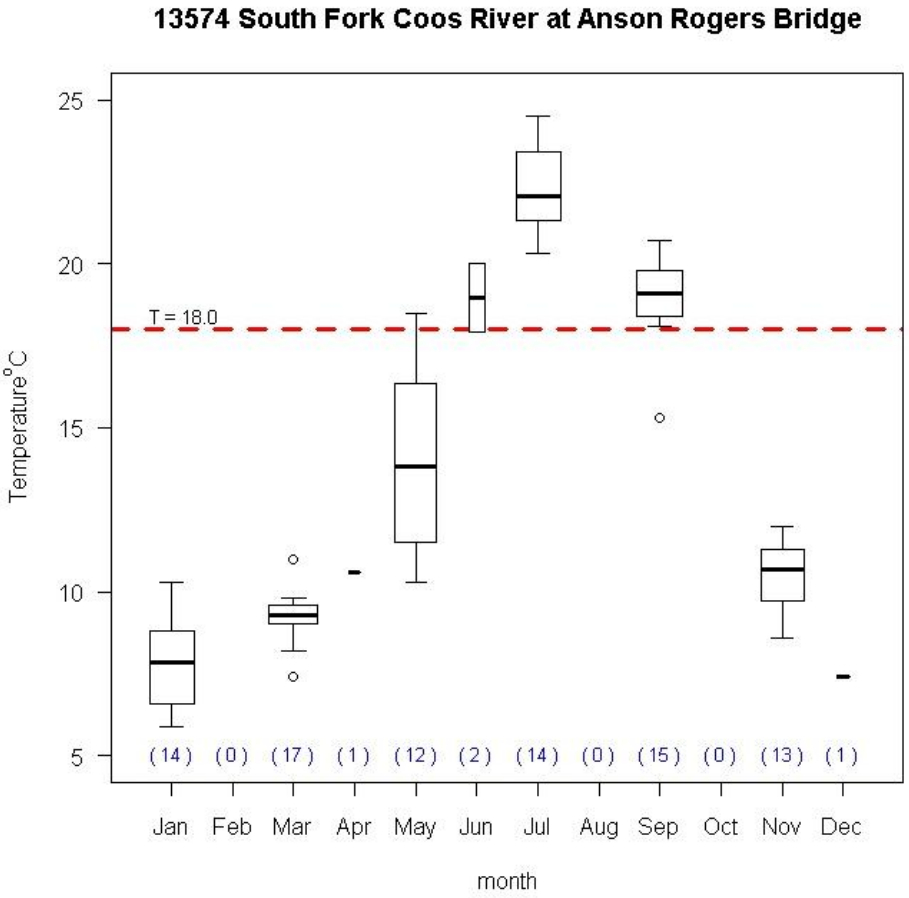


Figure 85 – South Fork Coos River Temperature



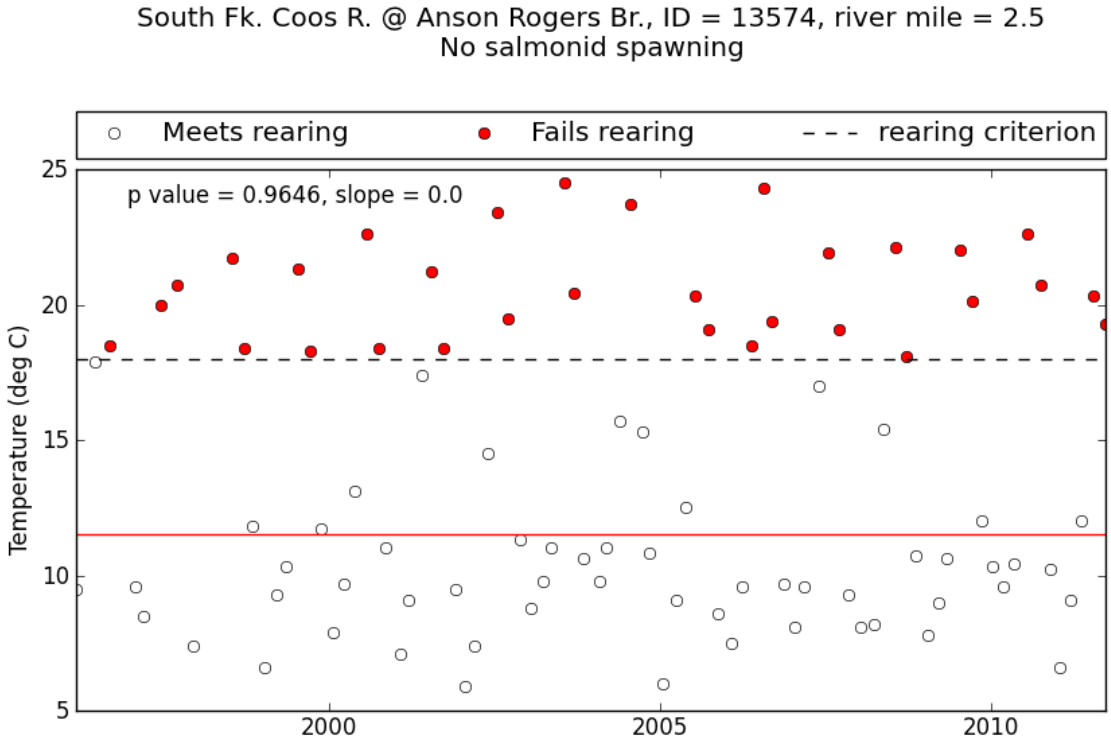
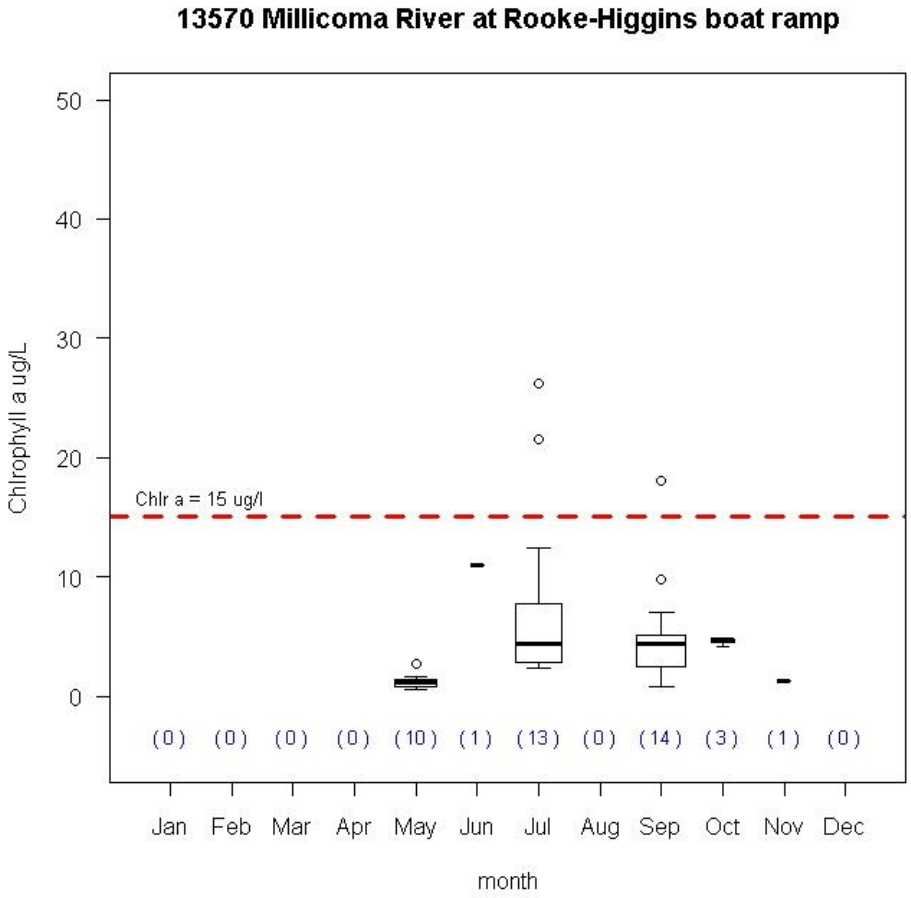


Figure 86 – Millicoma River Chlorophyll a



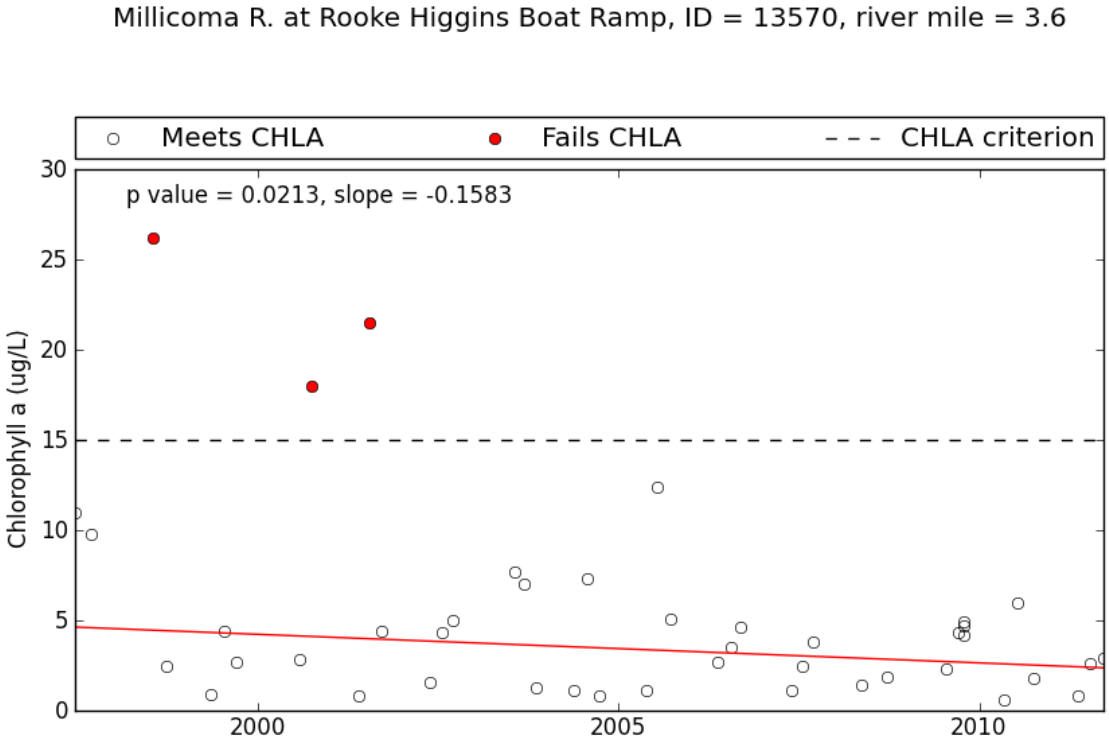
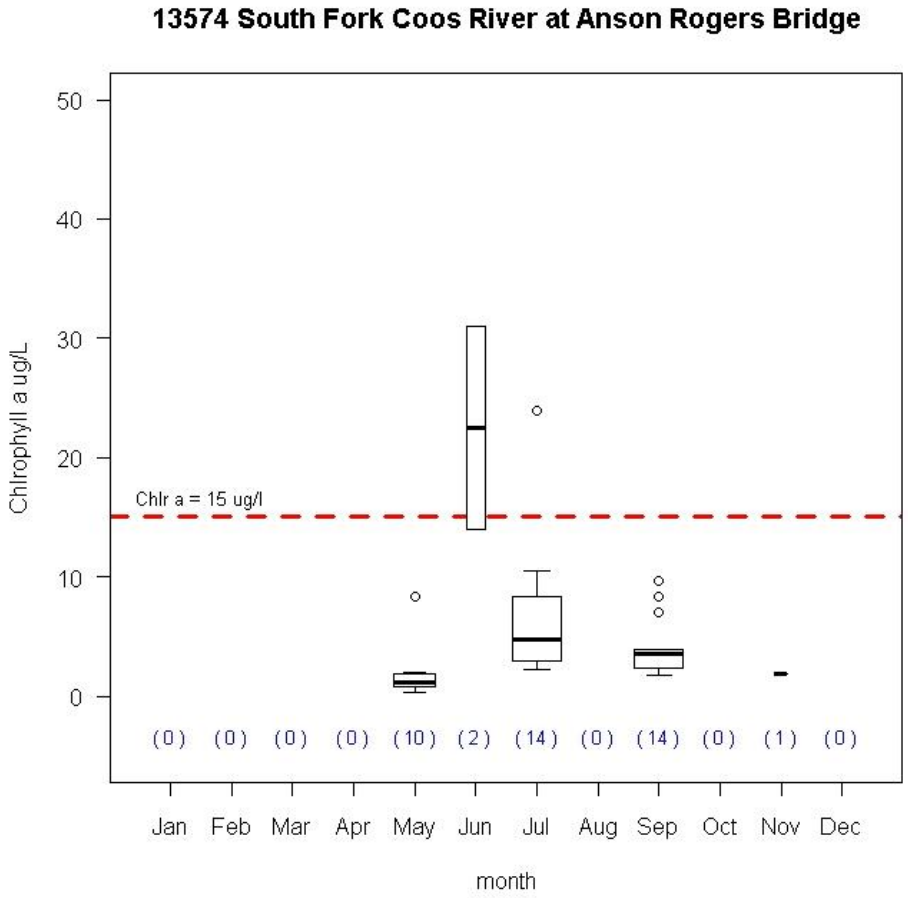
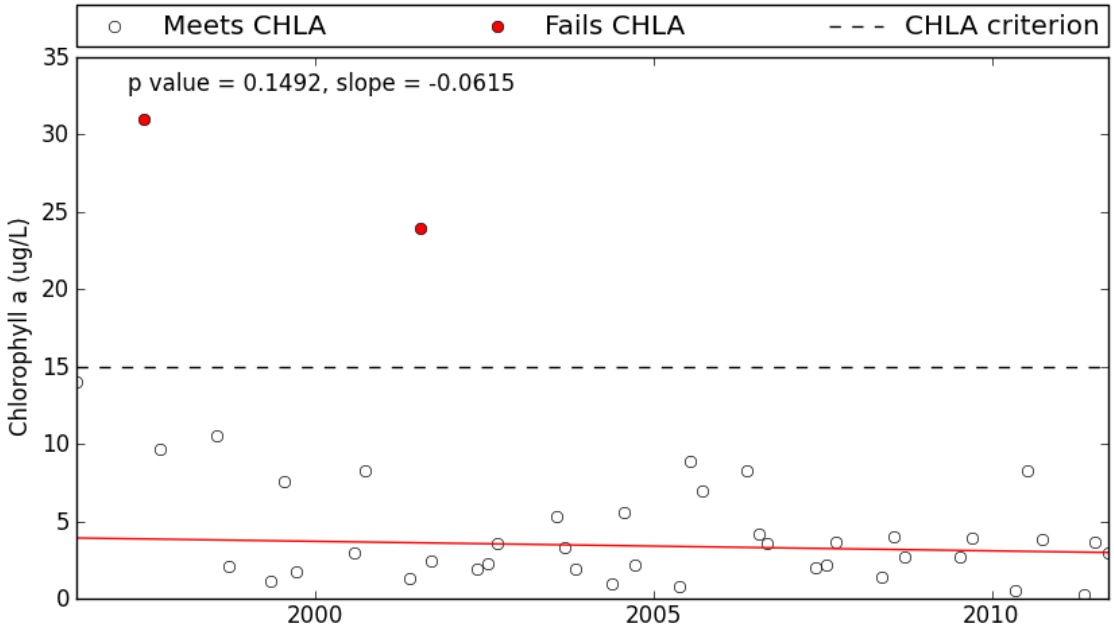


Figure 87 – South Fork Coos River Chlorophyll a



South Fk. Coos R. @ Anson Rogers Br., ID = 13574, river mile = 2.5



Coos River Dissolved Oxygen and pH TMDL Intensives

The “downstream” site, SF Coos D/S Daniels Creek, represented estuarine conditions during the study period. Dissolved Oxygen values below the 6.5 mg/L criteria were recorded during outgoing tidal cycles with a minimum recorded value of 5.75 mg/L.

The “middle” site located at river mile 10 represented primarily estuarine conditions although during low slack tide conductivities fell below the 200 µmhos/cm @ 25° C estuarine threshold. During high tides, periods with prevailing estuarine conditions, dissolved oxygen levels fall below the estuarine dissolved oxygen criteria of 6.5 mg/L.

The “uppermost” site at River Mile 13 represents tidally influenced fresh water conditions. Specific conductivities slightly exceeded the 200 µmhos estuarine threshold during the peak daily high tide. Dissolved oxygen levels sag during the high tide periods.

Table 26 – Coos River Dissolved Oxygen-Deficit

LASAR	Period of Record 2006	Site Name All Tidally Influenced	Average DO (mg/L)	Average DO Sat (mg/L)	Average DO Deficit (mg/L)
34882	8/7-10	SF Coos River d/s Daniels Ck (Estuarine)	6.6	8.46	-1.86
33077	8/7-10	SF Coos River Near RM 10 (Estuarine w/ Periods of Freshwater)	6.8	8.95	-2.15
33076	8/7-10	SF Coos River Near RM 13 (Freshwater)	7.9	8.88	-0.98

Oxygen demand is highest in areas with estuarine influences and does not appear to be the result of photosynthetic processes such as algal activity.

Figure 88 – South Fork Coos River - Dissolved Oxygen Deficit (mg/L)

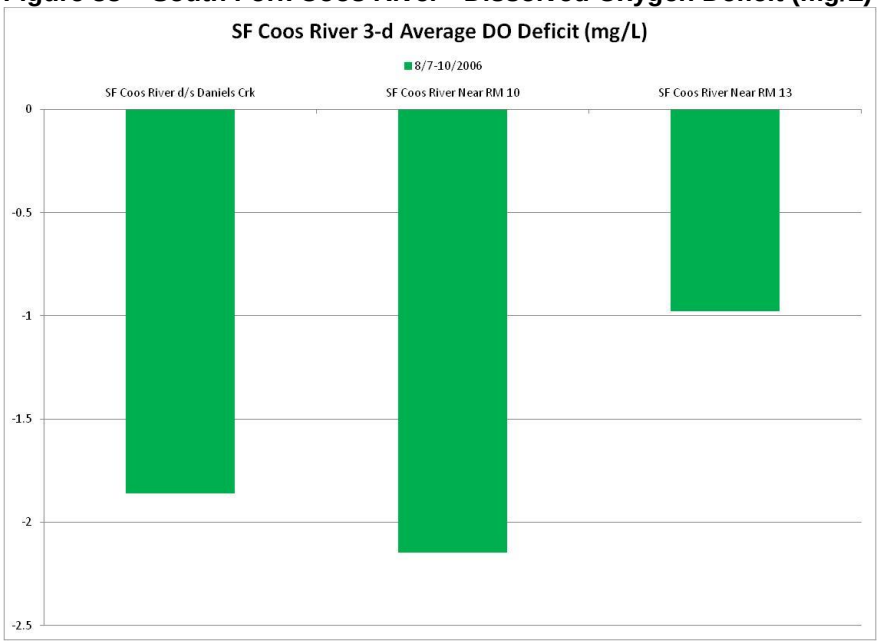
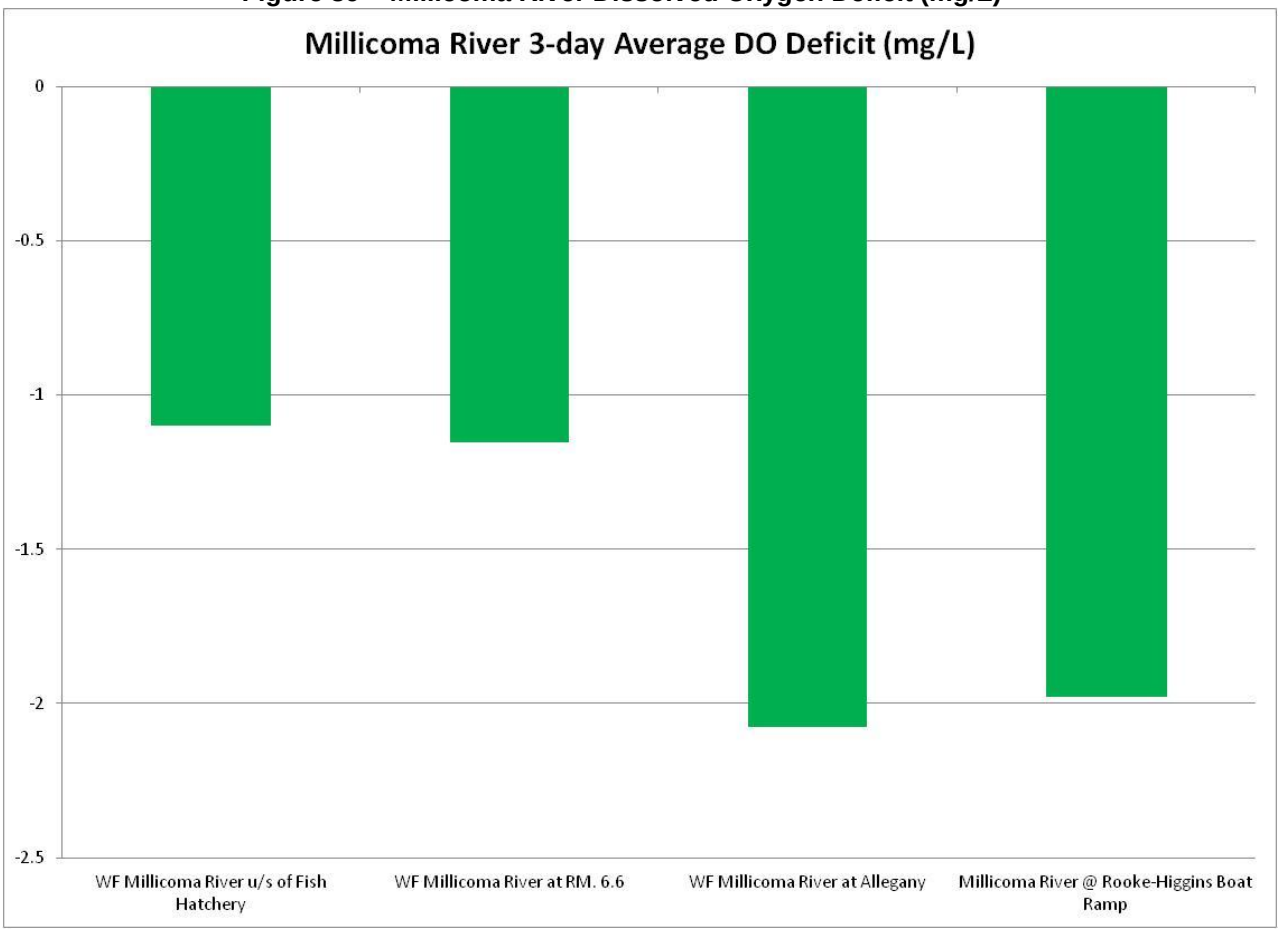


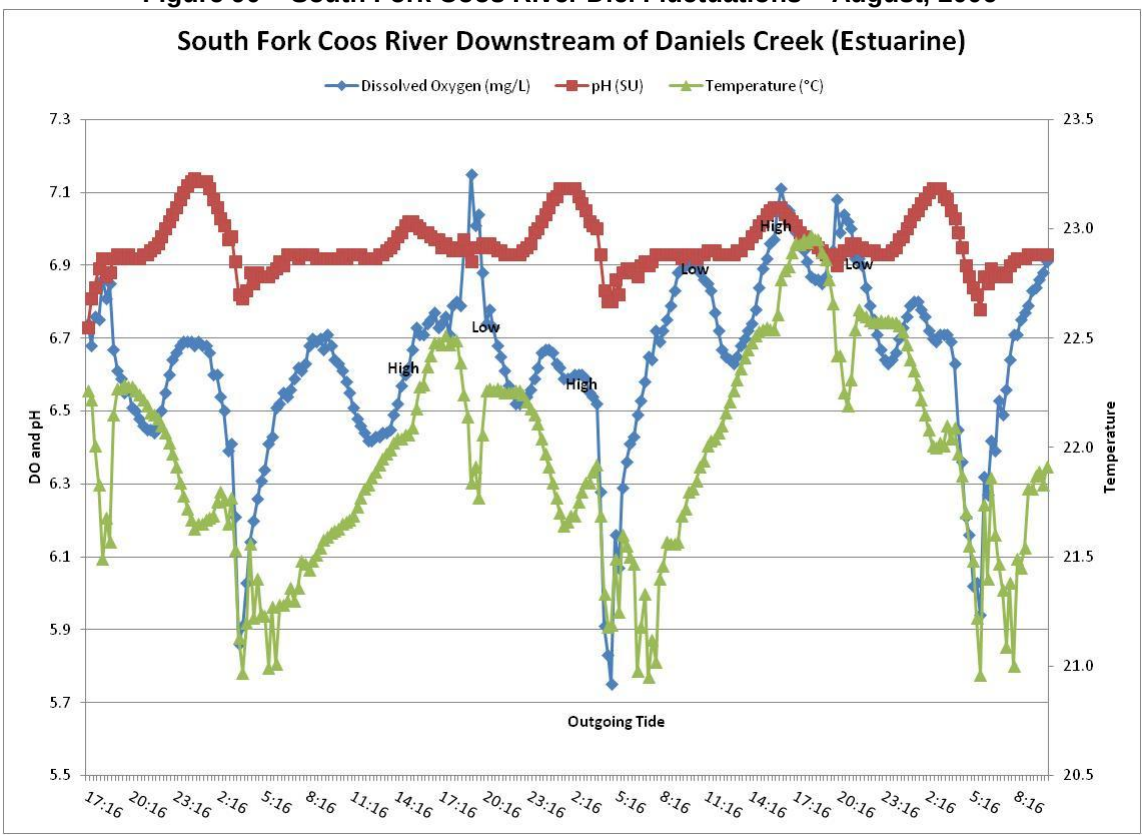
Table 27 – West Fork Millicoma River Dissolved Oxygen Deficit					
LASAR	**Period of Record 2009**	**Site Name**	**Average DO (mg/L)**	**Average DO Sat (mg/L)**	**Average DO Deficit (mg/L)**
13216	10/12-15	WF Millicoma River u/s of Fish Hatchery	9.9	11.00	-1.10
36053	10/12-15	WF Millicoma River at RM. 6.6	10.4	11.56	-1.16
13569	10/12-15	WF Millicoma River at Allegany (Tidal Backwater)	8.3	10.38	-2.08
13570	10/12-15	Millicoma River @ Rooke-Higgins Boat Ramp (Estuarine)	7.9	9.88	-1.98

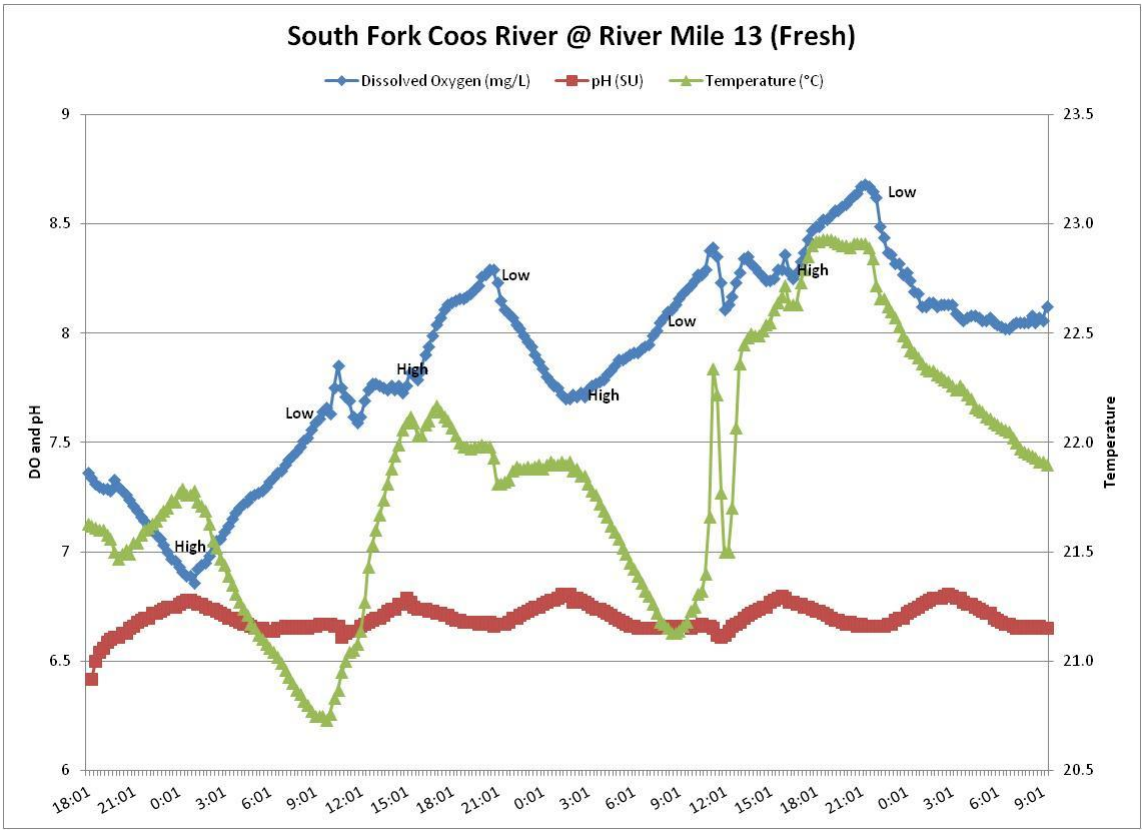
Figure 89 – Millicoma River Dissolved Oxygen Deficit (mg/L)



Coos River Diel Fluctuations - August 2006

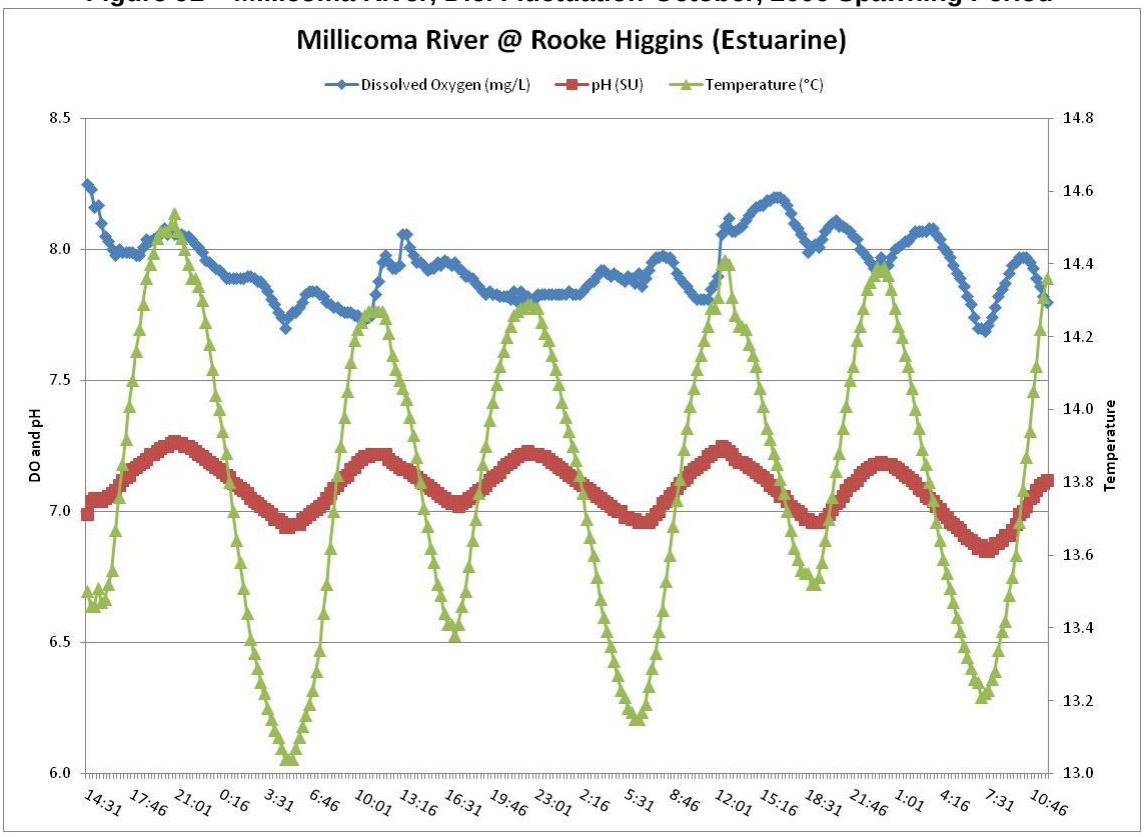
Figure 90 – South Fork Coos River Diel Fluctuations – August, 2006

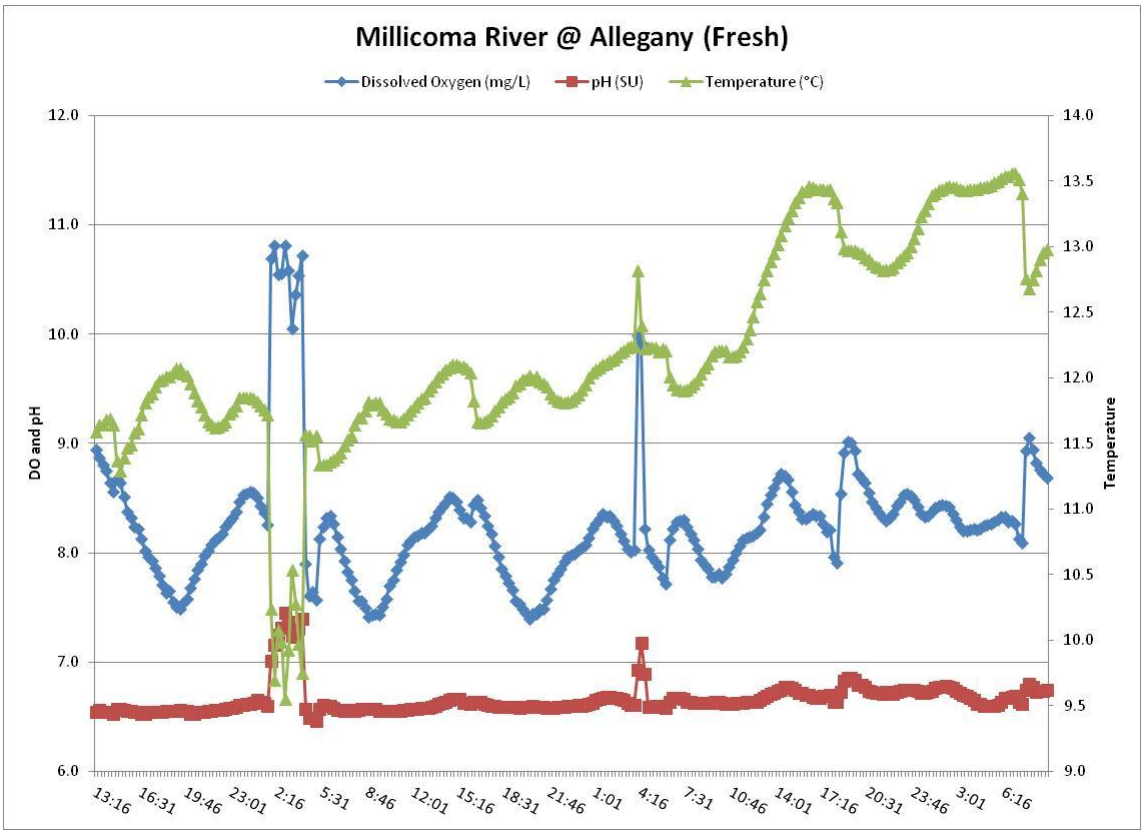


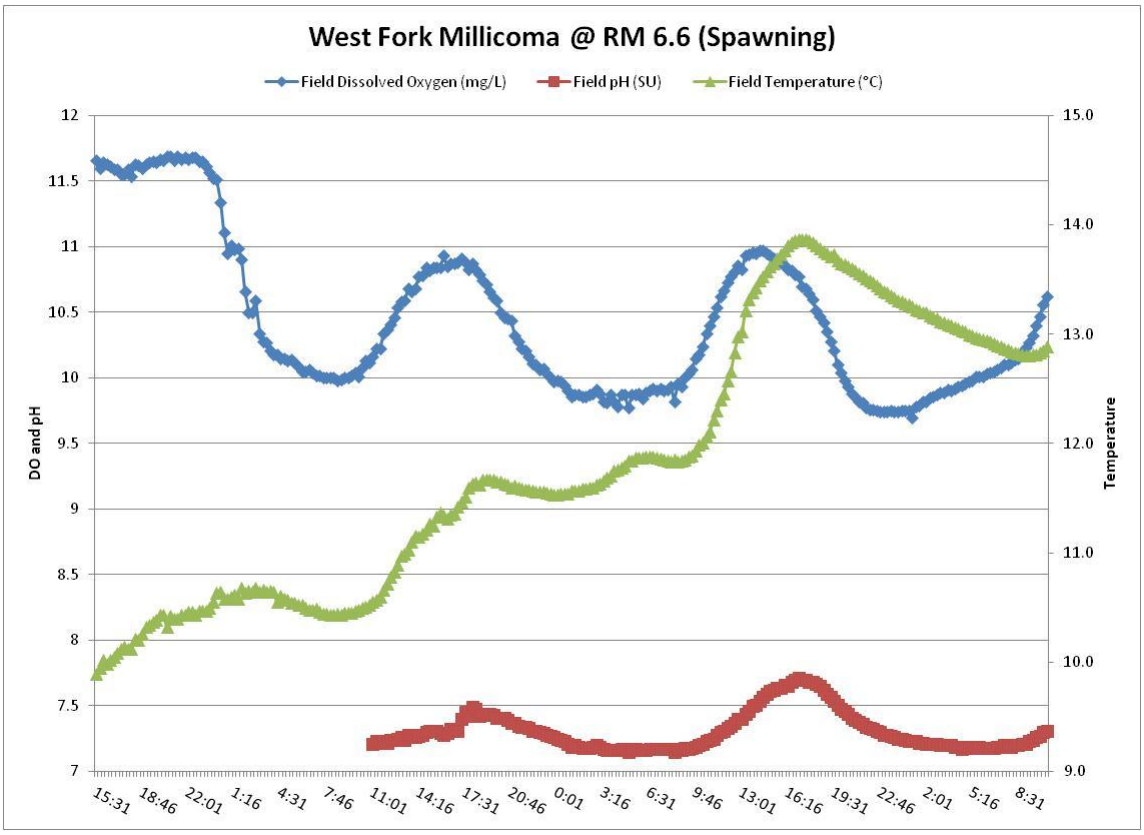


Coos River Diel Fluctuations - October 2006 Spawning Period

Figure 91 – Millicoma River, Diel Fluctuation-October, 2006 Spawning Period



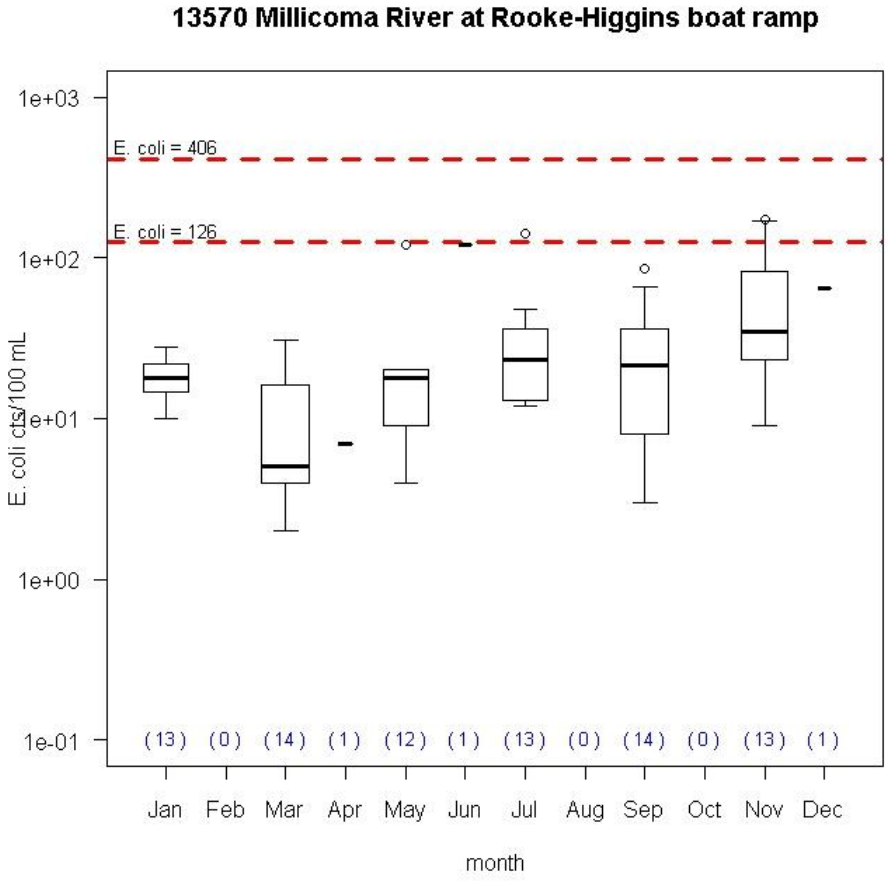




Coos Ambient Nutrient - Pending Addition

Coos River Ambient Bacteria

Figure 92 – Millicoma River - Bacteria



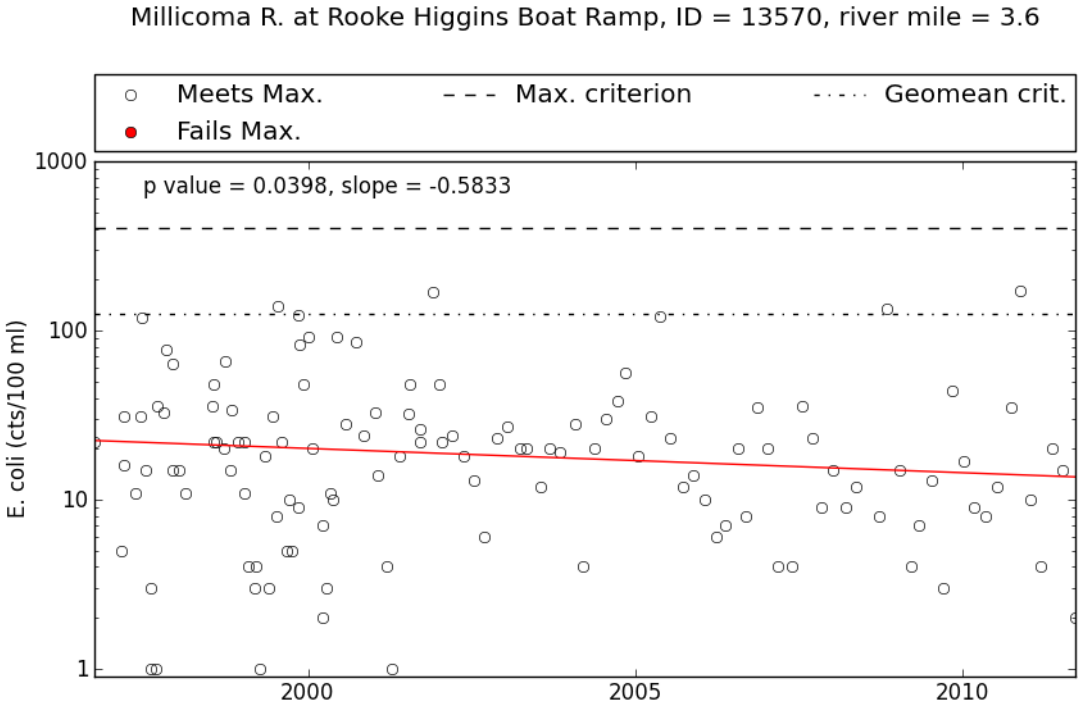
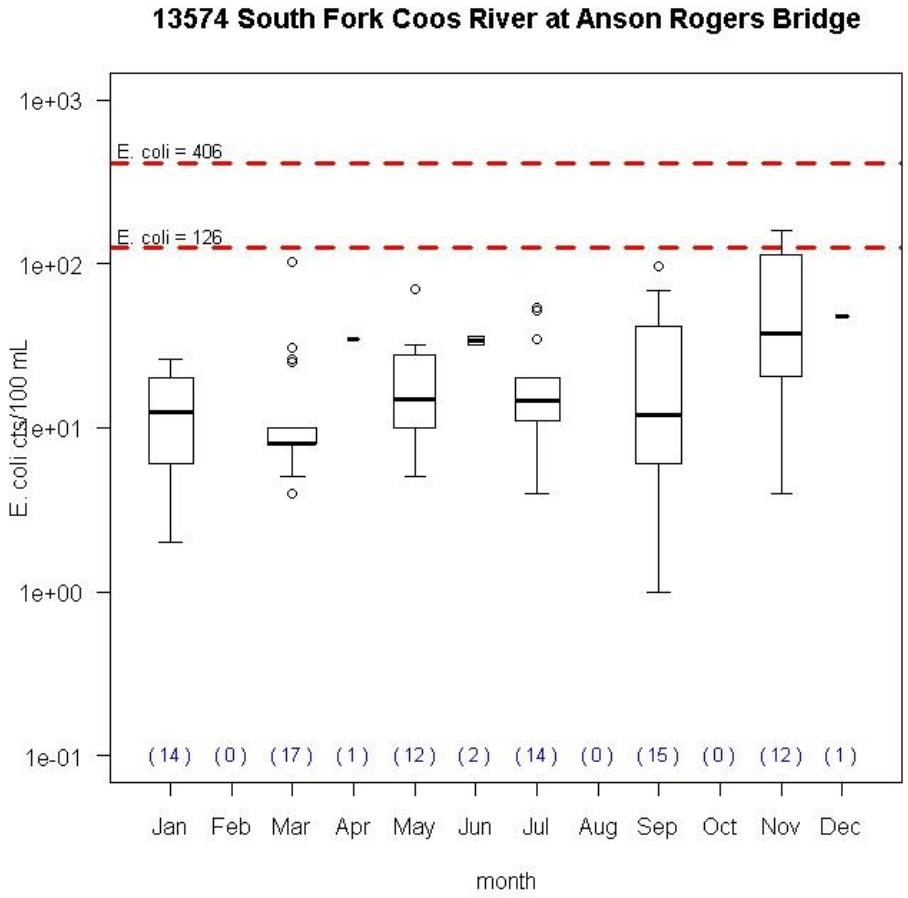
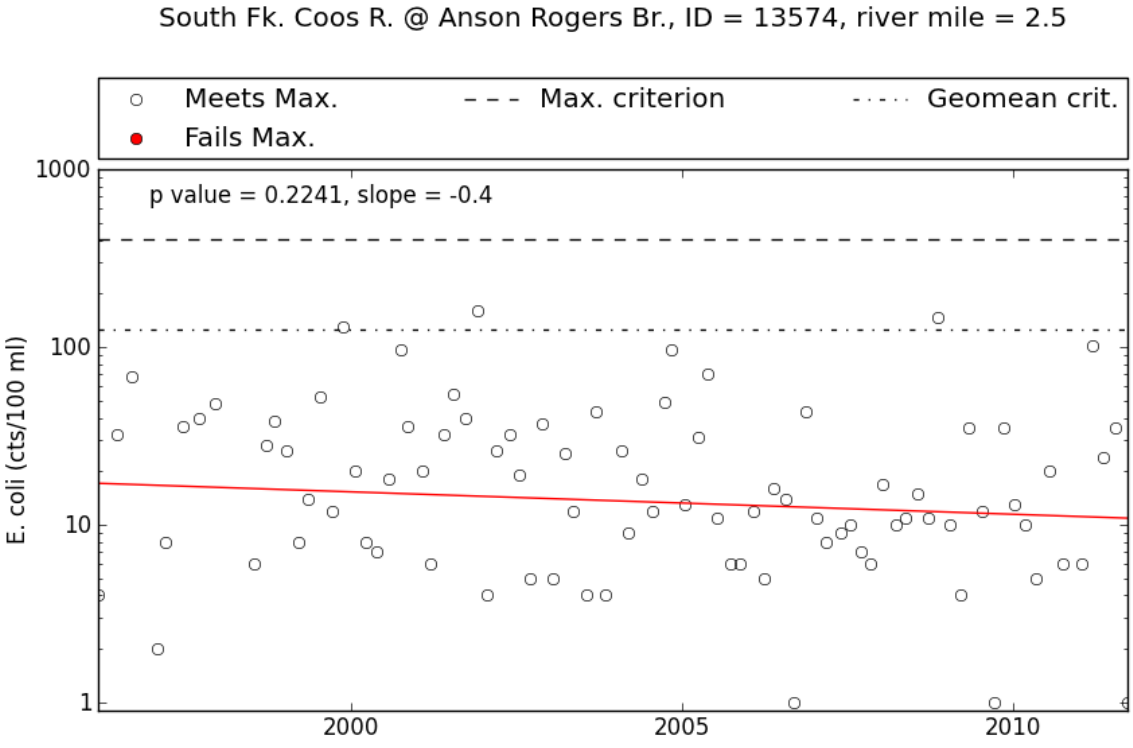


Figure 93 – South fork Coos River - Bacteria





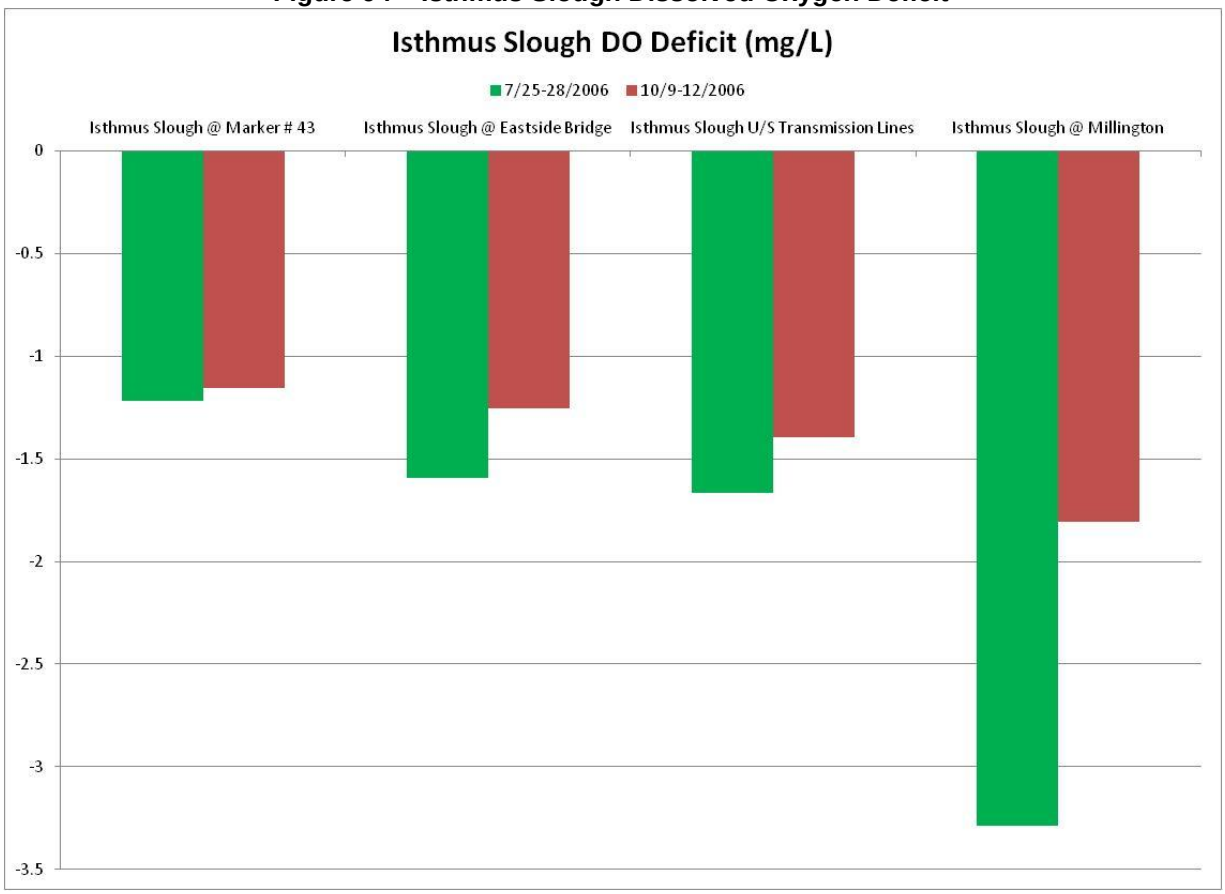
Coos River Bacterial Intensives - Pending Addition

Isthmus Slough Dissolved Oxygen and pH Intensives

Table 28 – Isthmus Slough Dissolved Oxygen Deficit					
LASAR	**Period of Record 2006**	**Site Name**	**Average DO (mg/L)**	**Average DO Sat (mg/L)**	**Average DO Deficit (mg/L)**
33075	8/21/2002 9.5 hours	Lower Isthmus Slough	5.5	7.78	-2.26
13540	8/21/2002 7 hours+	Upper Isthmus Slough	5.2	7.66	-2.46
13386	7/25-28	Isthmus Slough @ Marker # 43	6.4	7.62	-1.22
	10/9-12		7.1	8.26	-1.16
13388	7/25-28	Isthmus Slough @ Eastside Bridge	6	7.59	-1.59
	10/9-12		7.1	8.35	-1.25
33075	7/25-28	Isthmus Slough U/S Transmission Lines	5.9	7.56	-1.66
	10/9-12		6.8	8.19	-1.39
13540	7/25-28	Isthmus Slough @ Millington	5.6	8.89	**-3.29**
	10/9-12		6.4	8.21	-1.81

Dissolved oxygen deficit increases at the upper most stations in Isthmus Slough. The condition is indicative of increased biochemical oxygen demand in the upstream reaches of the slough. The Millington area of Isthmus Slough has the highest recorded dissolved oxygen deficit in the South Coast Basin.

Figure 94 – Isthmus Slough Dissolved Oxygen Deficit



Isthmus Slough Diel Fluctuations – Fall and Summer

Daily fluctuations in pH, dissolved oxygen, and temperature appear to align with tidal cycles. During low tides, dissolved oxygen and pH values drop while temperatures increase even during after dark low tide cycles. These fluctuations do not appear to be the result of algal photosynthetic processes. Dissolved oxygen sags well below the water quality criteria of 6.5 mg/L in estuarine waters.

Figure 95 – Isthmus Slough at Eastside Bridge Diel Fluctuations Summer

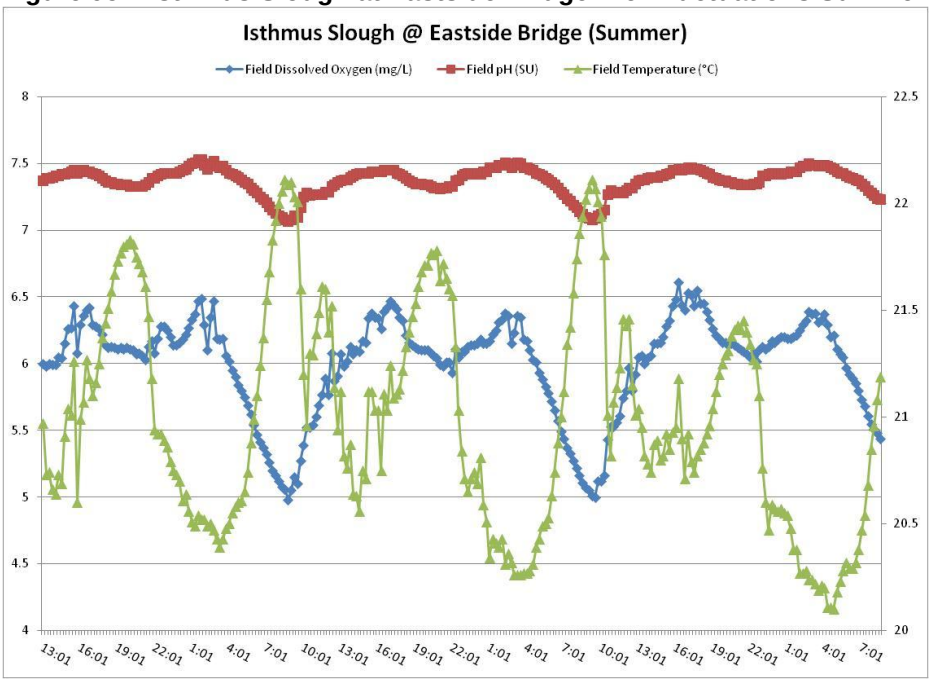


Figure 96 – Isthmus Slough at Eastside Bridge Diel Fluctuations Fall

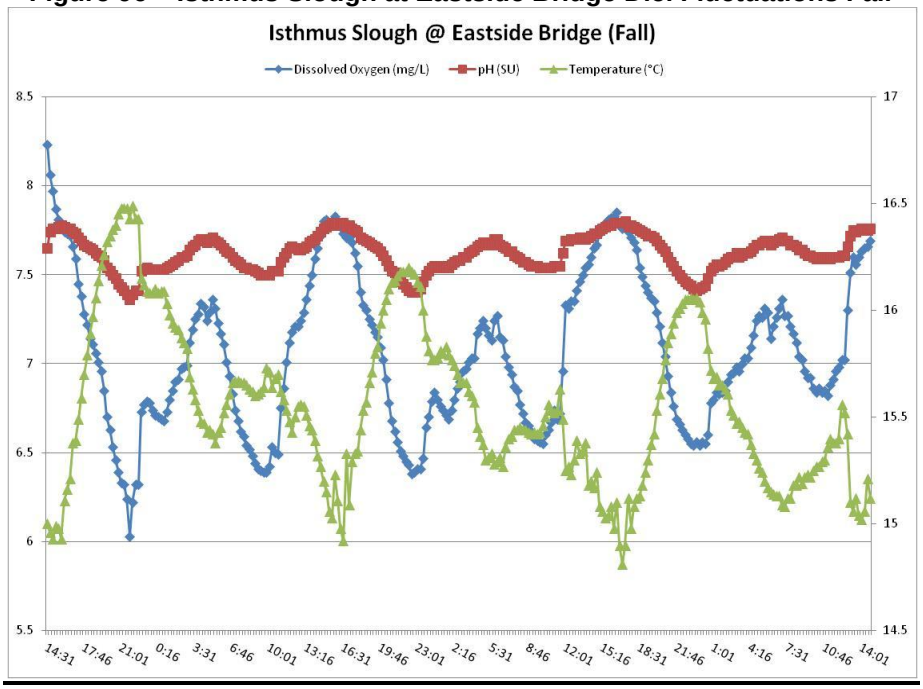


Figure 97 – Isthmus Slough at Millington Diel Fluctuations Summer

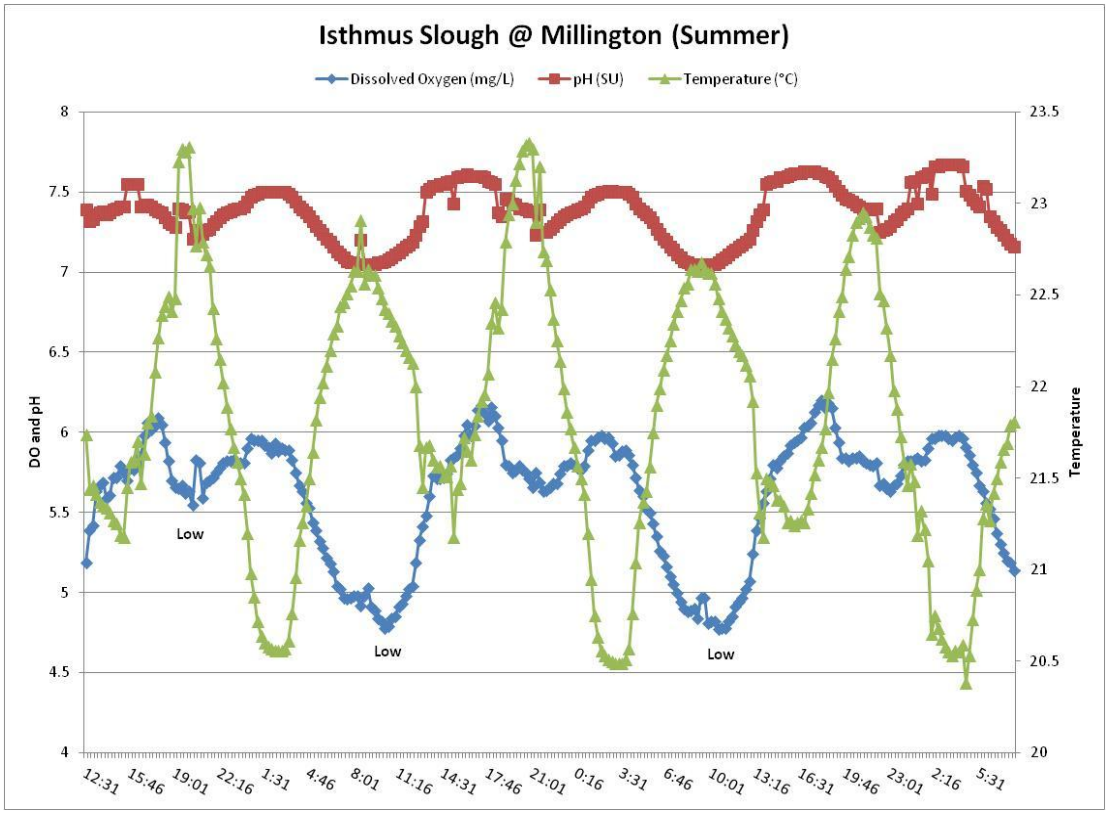
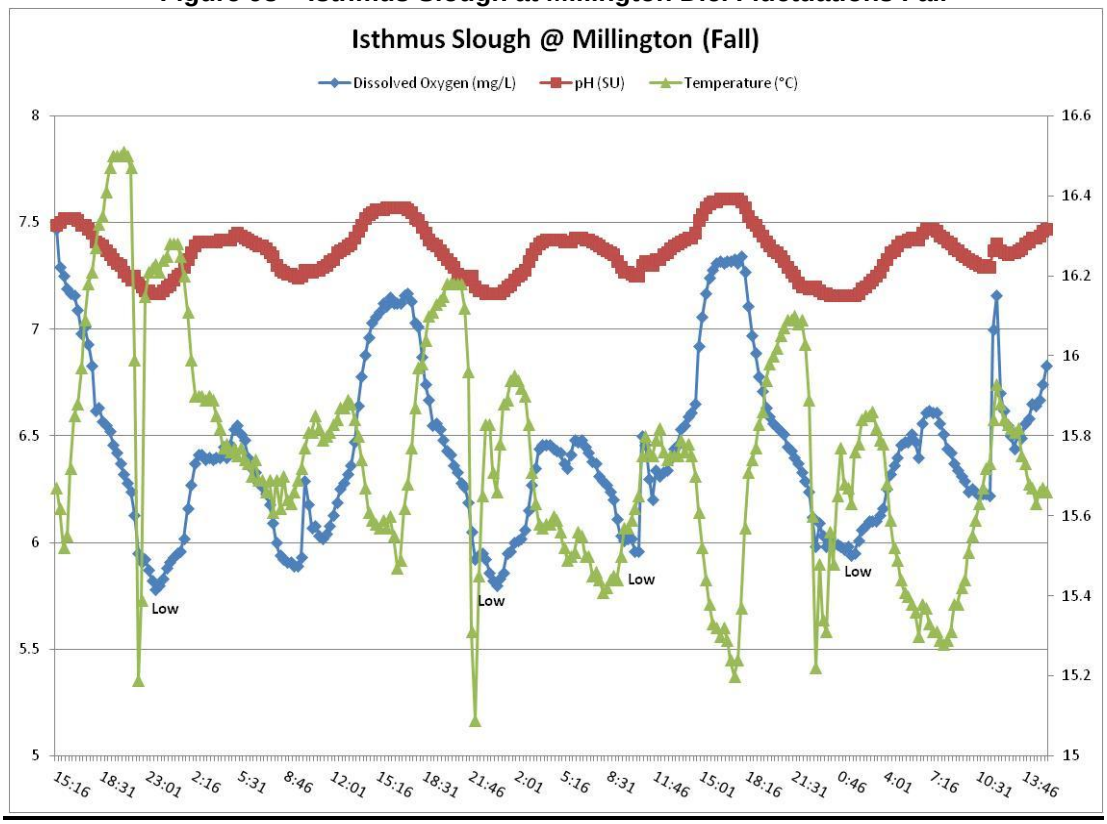


Figure 98 – Isthmus Slough at Millington Diel Fluctuations Fall



Appendix H: Tenmile Lakes HABs Summary

Tenmile Lakes - Coast Range Ecoregion

Setting and Lake Uses (Johnson et al, 1985)

The drainage basin of the Tenmile Lakes is quite large and includes both North and South Tenmile Lakes within it. The following text will use “Tenmile Lake” but will be referring to both lakes unless otherwise noted. Other major tributaries entering the various arms include Shutter Creek, Adams Creek, Johnson Creek and Benson Creek. The Tenmile Lakes are quite shallow and have filled in with rich organic matter which washes in from the drainage basin; narrow marshes border the lakes in several areas. The bottom material is sand, muck and peat. In some places around Tenmile Lake the surface topography is very steep and there is frequent slumping of overlying sedimentary material into the water, thereby gradually reducing lake depth. The upland area of the drainage basin is primarily covered by forest and is almost totally in private ownership, as is the shoreline of the lake.

Tenmile Lake has long been popular with recreationists from the local area as well as with large numbers of users from the interior valleys. In fact, Tenmile Lake receives more use by boaters (over 40,000 boater use days per year) than any other lake in Oregon. Tenmile has good rainbow trout fishing but it is the success with bass and panfish that attracts most anglers. Tenmile Lake is currently an important site for bass fishing tournaments in Oregon

In spite of the excellent fishing now found in Tenmile Lake, the history of the fishery is an unfortunate one. Earlier this century large populations of cutthroat trout, silver salmon and steelhead passed through the Tenmile Lakes system to spawn in the tributary streams. The rich, productive lakes provided an ideal habitat for fish growth. In an attempt to create more variety and to develop a warm water fishery, yellow perch and brown bullhead were introduced, probably in the 1920s. These new species prospered, but at the expense of the salmon and trout. In time the quality of the salmon and trout fishery declined drastically as the increased numbers of warm water fish

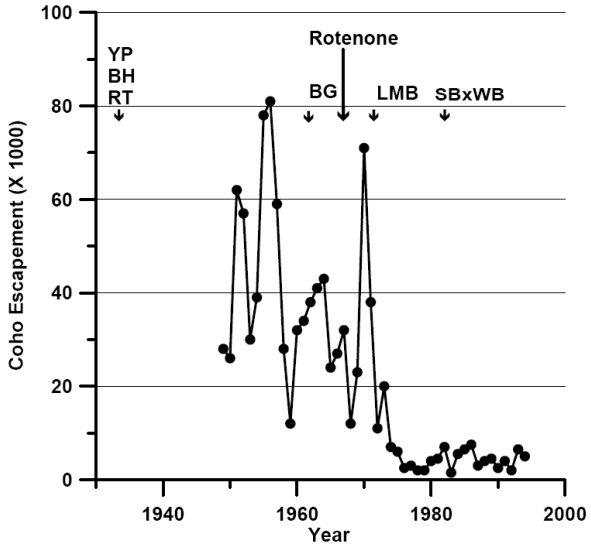


Figure 4. Coho escapement (return) to Tenmile Lake over the last 50 years (after Abrams et al. [1991]), where YP=yellow perch, BH=brown bullhead, RT=rainbow trout, BG=bluegill, LMB=largemouth bass, and SMxWB=smallmouth bass x white bass hybrid.

decreased the food supply. Studies of the problem were begun by the State Game Commission about 1938 and in 1953 an intensive study program was started with the goal of eliminating undesirable species and rebuilding the salmon and trout runs. These runs had also been adversely affected over the years by the deterioration of spawning grounds. Logging operations made some tributaries unsuitable for spawning salmon, while on others siltation reduced productivity. Much loss has also resulted from rechanneling of streams by landowners to obtain better drainage and more farming areas, usually in the flatter areas around the mouths of tributaries that make good pasture.

The first major effort at rehabilitation involved the removal of tons of fish by poisoning. Success was not achieved. Finally, after years of controversy, a more drastic method was employed - a complete eradication of the entire population of fish. In 1968 the Tenmile Lakes and adjacent waters (including Eel Lake) were treated with the rotenone; only the brown bullhead survived. The lake had been subsequently restocked and there was a tremendous overabundance of bluegill. In 1971, largemouth bass were introduced to prey on the bluegill. Following the introduction of largemouth bass, coho return into the Tenmile Lakes has remained below 10,000 adults and jacks. (Johnson et al, 1985;Eilers et al, 2002) Harmful Algal Bloom Strategy - Appendix C Oregon Department of Environmental Quality C-64

Tenmile Lake Characteristics (from Johnson et al, 1985) **Setting:**		
Type: natural lake	**Use:** recreation	**Elevation: Elevation:** 9 ft (2.7 m)
Location: 8 miles south of Reedsport, 0.5 miles east of US Hw y 101		
Drainage Basin Characteristics:		
Area: 69.7 sq mi (180.5 sq km)	**Relief:** moderate	**Precipitation:** 67-100 in (170-254 cm)
Land Use: Forest-93%; Water-5%; Urban-2%;		
Lake Morphometry – South Tenmile Lake:		
Area: 1,627 acres (658.4 hect)	**Depth:** Maximum - 22 ft (6.7 m); Average - 10ft (3.0 m)	
Ave/Max Depth Ratio: 0.450	**Volume:** 16,212 acre ft (20.03 cu hm)	
Shoal area: 42%	**Volume factor:** 1.36	**Shape factor:** 4.05
Length of Shoreline: 22.9 mi (36.9 km)	**Retention time:** 1 mo.	
Lake Morphometry – North Tenmile Lake:		
Area: 1,098 acres (444.4 hect)	**Depth:** Maximum - 23 f t (7.0 m); Average - 11f t (3.4 m)	
Ave/Max Depth Ratio: 0.480	**Volume:** 12,142 acre f t (15.00 cu hm)	
Shoal area: 41%	**Volume factor:** 1.66	**Shape factor:** 4.16
Length of Shoreline: 19.3 mi (31.1 km)	**Retention time:** 2 mo.	

Water Quality: Studies were conducted in Tenmile Lake in 1998 and 1999 for TMDL development (Eilers et al, 2002). Water quality was generally the most favorable in winter, although the lake was visibly impacted by high inputs of suspended solids and nitrate. In spring, the lake experienced a major diatom bloom and produced chlorophyll a concentrations exceeding 60 ug/l. A second major bloom occurred in late summer dominated by cyanobacteria. Despite being relatively shallow, significant oxygen depletion occurred below 4 meters with bottom waters occasionally being anoxic. Secchi disk transparency varied from a high of 4.9 m in November to a low of 0.6 m following a storm. Total Phosphorus averaged 25 ug/l.

The analysis of the lake sediments showed that the sediment accumulation rate (SAR) has increased substantially (2 – 4 times) over pre-development conditions with the greatest increase occurring in the Coleman Arm near Big Creek. Sediment chemistry showed an increase in nitrogen with nitrogen ratios suggesting a change in the source of nitrogen. This was consistent

with akinete data indicating an increase in the biomass of cyanobacteria in the latter half of the 20th century. The diatom community composition changed significantly over time toward taxa found in highly productive lakes.

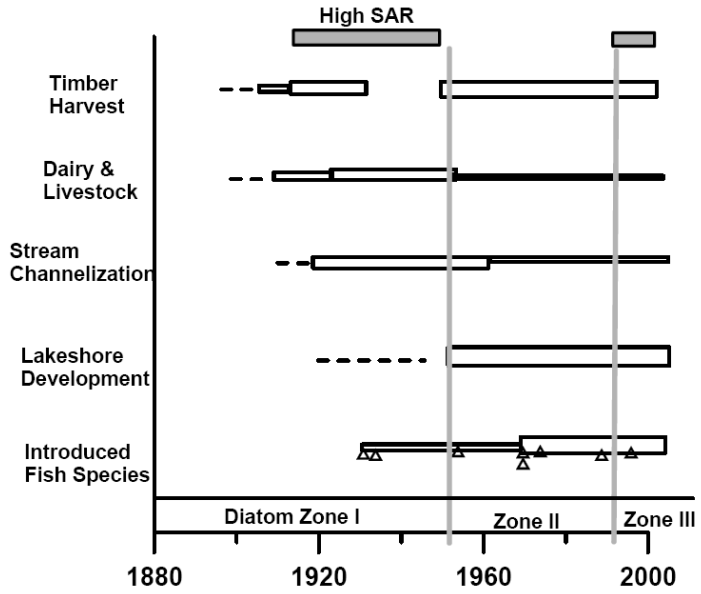
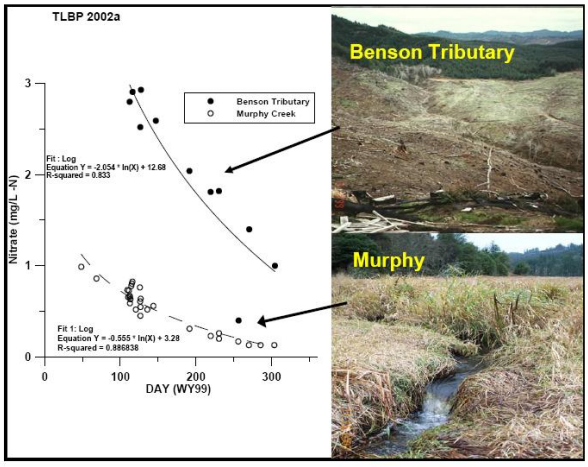


Figure 49. Zonation of the sediment diatoms (from Figure 47) compared to approximate timing of major watershed and in-lake changes. The width of the bars reflects perceived changes in the status of anthropogenic activities.

SWAT modeling indicated that loads of sediment and nutrients have increased throughout the watershed that were associated with land use disturbances that are persistent and close to the lake or streams. These include residential development, livestock grazing, stream channelization/loss of wetlands and timber harvesting. Septic inputs represented about 20% of the watershed loading however, during the summer when tributary loads are small, the relative contribution of septic inputs increases to about 50% and constitute an important component of the load. (Eilers et al, 2002)

Other in-lake factors that were not addressed in the study but are likely to influence the water quality and algal blooms include the presence and abundance of macrophytes, particularly Egeria densa, and the fishery dominated by highly planktivorous fish (e.g. bluegill and yellow perch). Macrophytes can extract nutrients from the sediments and, upon senescing in the fall, their nutrients are made available through mineralization and the decaying macrophytes exert a biochemical oxygen demand – both of which release nutrients for algal growth. Planktivorous fish are efficient at consuming larger zooplankton species which in turn, reduces grazing pressure on the phytoplankton which allows the algal biomass to increase. Harmful Algal Bloom Strategy - Appendix C Oregon Department of Environmental Quality C-65

Figure 31- Nitrate (NO_3-N, mg/L) Concentrations
1999 Water year (October 1, 1998 to September 30, 1999



The TMDL established a target of no measureable increase in annual sediment and phosphorus loading rates beyond that of reference streams. A reference sediment load for tributary streams and drainages was set at 0.07 tones/ha/yr. A target of attaining a 50% reduction in annual sediment loads within the next 25 years was incorporated. A phosphorus target to work towards for lake water of 7.1 ug/l was proposed as an all season average (values collected from 1998 – 2002 ranged from 23 – 38 ug/l, depending on the site).

Hazardous Algal Bloom Health Advisories: Numerous Public Health Advisories have been issued by the Oregon Health Authority for Tenmile Lakes. Likely or Suspected Cause of Blooms

include increased nutrients loads, both phosphorus and nitrogen, due to activities that create or transport nutrients and sediment in the watershed and internal loading of nutrients due to exotic fish species and macrophytes.

303(d) List Status: The 2004/2006 Integrated Report identifies Tenmile Lakes as being water quality limited (Category 5 – Section 303(d) list – a TMDL is needed) for Aquatic Weeds or Algae. A TMDL has been completed and is being implemented. The lakes are proposed to be listed as Category 4A (TMDL Approved) in the 2010 Integrated Report.
Summary of Public Health Advisories in Tenmile Lakes

Summary of Public Health Advisories in Tenmile Lakes						
Year	**Start Date**	**End Date**	**Duration**	**Dominant Cyanobacteria Species and Maximum Cell Count**	**Max Comb. Cell Count[27]**	**Maximum Toxin Measured (ug/l)**
1997	10/3	12/1	60	*Microcystis aeruginosa*		Microcystin – 1.65
2000						Microcystin – 2.3
2001	8/31					
2002	7/6			*Microcystis aeruginosa*		
2003	9/22	3/11		*Microcystis aeruginosa*		
2004	March?			*Microcystis aeruginosa*		
2009	9/18	11/30	73	*Microcystis aeruginosa* (4,664,468) *Aphanizomenon flos-aquae* (730,620) *Anabaena planctonica* (145,222)	4,664,468	Microcystin – 20.1
2010	9/23	1/13/11	112	*Microcystis aeruginosa* (5,939,379) *Anabaena planctonica* (2,301,942) *Aphanizomenon flos-aquae* (1,143,380)	5,939,379	Microcystin – 149 - 705 Anatoxin 0.2

References

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Johnson, Daniel, R. Petersen, D. Lycan, J. Sweet, M. Newhaus and A. Schaedel. 1985. Atlas of Oregon Lakes. OSU Press, 319 pp

Kann, Jacob and D. Gilroy. 1997. Ten Mile Lakes Toxic Microcystis Bloom. Oregon Health Division. Portland, OR. 7 pp.

Kann, Jacob and D. Stone. 11/8/2005. Overview of Oregon Cyanobacterial Experience.
Oregon Health Authority - Public Health Advisories:
http://public.health.oregon.gov/HealthyEnvironments/Recreation/HarmfulAlgaeBlooms/Pages/Blue-GreenAlgaeAdvisories.aspx

[27] DHS currently issues a Public Health Advisory for recreational uses when the combined cell count of all toxigenic species > 100,000 cells/ml or Microcystin > 8 ug/l or anatoxin-a is detected

Appendix I: South Coast Basin Surface and Groundwater Public Water Systems

Table 29 – Surface Water Public Water Systems (PWS)							
Sub-Basin	**Watershed**	**County**	**PWS ID**	**PWS Name**	**Drinking Water Source**	**Population**	**System Type**
Coos	Coos Bay Frontal	Coos	00205	Coos Bay North Bend Water Board	Pony Creek/Merritt Lake	38,000	C
	Lakeside Frontal		00463	Lakeside Water District	Eel Lake	1,700	C
Coquille	Lower Coquille River	Coos	00074	City of Bandon	Ferry Creek	2,990	C
			00074	City of Bandon	Geiger Creek	2,990	C
			00213	City of Coquille	Rink Creek	4,939	C
			00213	City of Coquille	Coquille River	4,939	C
			00214	Garden Valley Water Association	China Creek	80	C
			05581	Weiss Estates Water System	Fahy's Lake	27	C
	North Fork Coquille River		00551	City of Myrtle Point	North Fork Coquille River	2,451	C
	South Fork Coquille River		00672	City of Powers	Bingham Creek	750	C
			00672	City of Powers	South Fork (Coquille River)	750	C
Chetco	Cape Ferrelo Frontal	Curry	01062	Rainbow Rock Village MHP	Taylor Creek Wells - Well #2 (classified as GW under the influence of surface water)	200	C
			01062	Rainbow Rock Village MHP	Taylor Creek Wells - Well #1 (classified as GW under the influence of surface water)	200	C
			01361	Rainbow Rock Condominiums	Unnamed Creek	80	C
Sixes	Humbug Mountain-Nesika Beach Frontal		00670	City of Port Orford	Garrison Lake (Emergency)	1,190	C
			00670	City of Port Orford	Hubbard Creek	1,190	C
	New River Frontal		00466	Langlois Water District	Floras Creek	600	C
(Unmapped)		Coos	05592	Belloni Boys Ranch	Davis Creek	38	NTNC
			90861	Camp Myrtlewood	Unnamed Spring on Vista Mt and Myrtle Creek (seasonal)	75	NC

Table 29 – Surface Water Public Water Systems (PWS)							
Sub-Basin	**Watershed**	**County**	**PWS ID**	**PWS Name**	**Drinking Water Source**	**Population**	**System Type**
			94283	Sleepy Hollow RV Park	Middle Fork Coquille River	25	NC
			94557	Coos Co Parks – Laverne	North Fork Coquille River	250	NC
			94558	Coos Co Parks - West Laverne	North Fork Coquille River	35	NC
			95332	Myrtle Tree RV Park	Coquille River	30	NC
			00209	Sumner Water Co-op	Spring (SW)	24	NP
			01340	Upper Coos River Wtr Assoc	Unnamed Creek	24	NP
			05302	Watsonville Water System	Unnamed Creek	18	NP
			05523	Camp Millicoma	Unnamed Spring Fed Creek	15	NP
			05643	Bear Creek Apartments	Springs (SW)	14	NP

Note: Table does not include public water systems which purchase drinking water from these water systems.
System Types: Abbreviations and Definitions
C - "Community Water System" means a public water system that has 15 or more service connections used by year-round residents, or that regularly serves 25 or more year-round residents.
NTNC - "Non-Transient Non-Community Water System" means a public water system that is not a Community Water System and that regularly serves at least 25 of the same persons over 6 months per year.
NC - "Transient Non-Community Water System" means a public water system that serves a transient population of 25 or more persons.
NP - "State Regulated Water System" means a public water system, which serves 4 to 14 service connections or serves 10 to 24 people. Monitoring requirements for these systems are the same as those for Transient Non-Community water systems.

Table 30 – Groundwater Public Water Systems (PWS)						
Sub-basin	**Watershed**	**County**	**PWS ID**	**PWS name**	**Pop**	**System Type** *See preceding Table notes for description of System Types.*
Chetco	Cape Ferrelo Frontal	Curry	94489	Whaleshead Beach RV Park	200	NC
			94824	Cape Ferrelo SDA School	9	NP
	Chetco River		91019	OPRD Loeb State Park	278	NC
			92694	USFS Little Redwood CG	48	NC
			91213	Upper Chetco Elem SD 23	46	NTNC

Table 30 – Groundwater Public Water Systems (PWS)						
Sub-basin	**Watershed**	**County**	**PWS ID**	**PWS name**	**Pop**	**System Type** *See preceding Table notes for description of System Types.*
			149	City of Brookings	7,120	C
			150	Harbor Water PUD	3,190	C
			1408	At Rivers Edge RV Resort	220	NC
			95127	Salmon Run Golf Course	100	NC
	Winchuck River		92693	USFS Winchuck Campground	30	NC
			95158	USFS Ludlum Campground	30	NC
Coos	Coos Bay	Coos	94041	The Riverside Pub	50	NC
	Coos Bay Frontal		5286	Coos Bay International Speedway	150	NC
			5364	Mt View Terrace Home Park	45	C
			90859	Watson Ranch Golf	30	NC
			569	Ocean Pines RV Park	100	NC
			573	Sandwood Mobile Villa	70	C
			574	Wildwood Estates	90	C
			91011	OPRD Seven Devils Wayside	30	NC
			95028	Hauser Store	50	NC
			575	North Bayside Estates - North	65	C
			1463	North Bayside Estates-South	40	C
			90858	Kentuck Golf Course	200	NC
	Lakeside Frontal		94594	Hollywood Tavern	75	NC
			94595	Hauser Bar & Grill	50	NC
		Douglas	94884	USFS Umpqua Beach	100	NC
Coquille	Lower Coquille River	Coos	91014	OPRD Bullards Beach State Park	1,450	NC
		Coos	95063	Bandon Coastal Dunes	350	NTNC
	Middle Fork Coquille River	Douglas	90541	Camas Valley School	180	NTNC
			93946	Camas Mountain Chalet	150	NC
			94779	Market Plus	100	NC
	North Fork Coquille River	Coos	94574	Rick and Barbs Homestead Bar and Grill	25	NC
	South Fork Coquille River		92706	USFS Daphne Grove CG	48	NC
Sixes	Elk River	Curry	94398	Elk River Campground	52	NC
	Humbug Mountain-Nesika Beach Frontal		91017	OPRD Cape Blanco State Park	260	NC
			91018	OPRD Humbug Mtn Camp - Overnight	200	NC
			91201	Humbug Mtn Restaurant/Lodge	25	NC
			94092	OPRD Humbug Mtn State Park - Day Use	150	NC

Table 30 – Groundwater Public Water Systems (PWS)						
Sub-basin	**Watershed**	**County**	**PWS ID**	**PWS name**	**Pop**	**System Type** *See preceding Table notes for description of System Types.*
			94934	Sea Crest Motel	38	NC
			91194	OPRD Arizona Beach State Park - Day Use	133	NC
			95191	Arizona Beach Lodge & RV Park	26	NC
			91196	Cedar Bend Golf Association	100	NC
	New River Frontal		5860	Old Sheep Ranch Water Assoc	56	C
			465	Bandon/Port Orford KOA	146	NC
			94742	Curry Co Parks - Boice Cope Park	36	NC
		Coos	94556	Lake Bradley Christian Camp	100	NC
			94632	Oregon Overseas Timber Company	35	NTNC
			94636	Pacific Community Church/School	100	NTNC
	Sixes River	Curry	95114	BLM Sixes River CG	40	NC
			95115	BLM Edson Creek CG	60	NC
			91211	Pacific High School SD 2J	150	NTNC

Water systems classified as “GWUDI – groundwater under the influence of surface water” are included in the following Table.