Table of Contents

APPENDIX A. SELECTED *YARDSCAPING* EDUCATION AND OUTREACH MATERIALS

(Courtesy CCSWCD)

- ***Water Wisely*** **Fact Sheet**
- ***Mow Better*** **Fact Sheet**
- **In-store YardScaping Poster**

think blue
clean water starts with you!

Water Wisely

A healthy lawn needs water. How much you water and when you water can have an effect (positive or negative) on your lawn.

Water is essential!

- Without water, grass can't grow.
- Most perennial grasses will go dormant (turn brown) during dry spells. Brown grass is still very much alive and can survive for weeks until moisture returns.
- However, allowing grass to brown will provide an opportunity for weeds to take root.

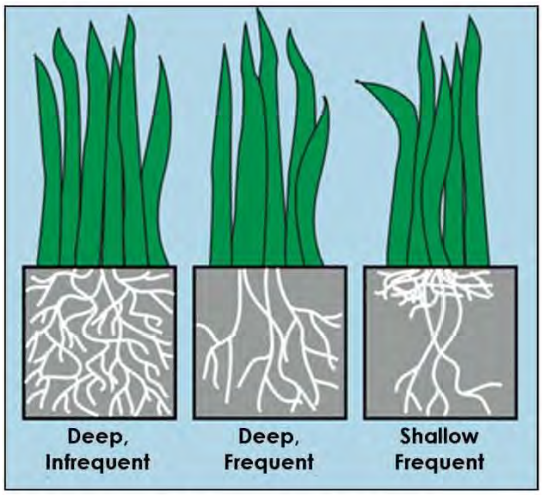
How much water do I need?

- Lawns need 1 to 1.5 inches of water per week during the growing season (May to October).
- Buy a rain gauge - they are inexpensive and are available at local hardware stores.
- Monitor rainfall and only apply what is needed to equal 1 to 1.5 inches of water.
- Watering too much wastes time and money and creates an insufficient root structure.

Determine your sprinkler output by placing jars on the lawn and timing how long it takes for them to fill with an inch of water.

How often should I water?

- Only once or twice a week (depending on the rain).
- If you water twice a week, be sure to only apply half of the lawn's weekly needs (0.5 to 0.75 inches at each watering).



Water deeply, not quickly.

- If you've been mowing high, then your lawn's root system has grown deep and strong.
- Allowing water to seep into the ground will help the grass stay healthy.

When should I water?

- Between 6:00 and 10:00 a.m. is ideal.
- The afternoon is too hot and sunny, most of the water will evaporate.
- Watering at night increases the risk of fungal diseases.

MAINE YARDSCAPING

for a healthy maine

www.cumberlandswcd.org Cumberland County Soil & Water Conservation District (207) 892-4700

think blue

clean water starts with you!

Mow Better

Taller grass has deeper, healthier roots, giving you a stronger plant.
If you want grass resistant to disease, weeds and drought,
three inches is the rule.

Mow High

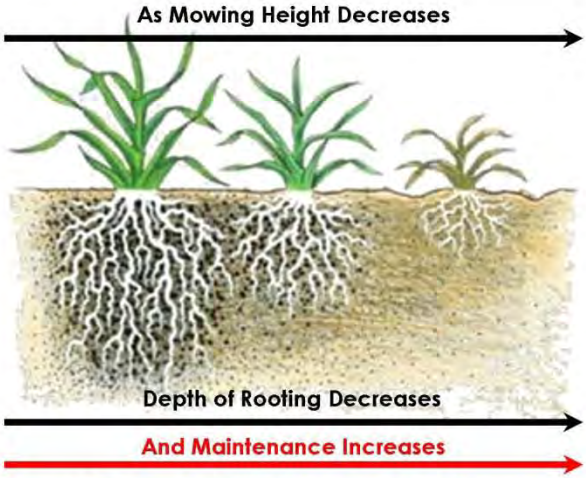
- Results in healthier grass roots.
- Quickly leads to thicker grass.
- Increases drought resistance.
- Taller grass shades out weeds.

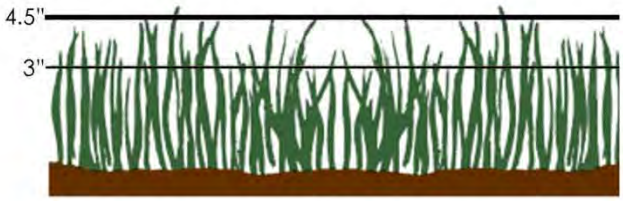
Use Sharp Blades

- Dull mower blades rip and tear grass, leaving the plants at risk of disease.
- Sharp blades make clean cuts, and clean cuts heal faster.

Leave the Clippings

- They do not cause thatch.
- Clippings are a free source of fertilizer; leaving them in place saves time and money!





Cut only 1/3 of grass blade.

Grass blades make food for the plant through photosynthesis. When you cut off most of the grass blade, you cut off the plant's food supply and force the blades of grass to grow faster. This forced growth spurt uses up the plants' stored food, hurting the roots and leaving the plants weaker overall.

More Tips!

- **Mow the right way at the right time of day.**
  Mow in early evening, after the heat of the day, and before the dew settles. Lawns should be cut down to 2 inches twice a year – in the fall to prevent snow mold and in early spring to help stimulate growth and green up.
- **Vary the mowing pattern.**
  Varying the mowing pattern every time you mow prevents soil compaction. This will keep your soil and grass healthier.
- **Tune up your lawnmower.**
  Did you know that one gas powered mower puts out the same emissions as 40 new cars? Save gas and have your mower run more efficiently by changing your spark-plugs, air-filter and oil every year.

MAINE YARDSCAPING

For a healthy maine

www.cumberlandswcd.org Cumberland County Soil & Water Conservation District (207) 892-4700

Healthy lawn care products sold here!

Do you want a lush, green lawn safe for kids & pets?

think blue

clean water starts with you!

Look for ducky approved items.

APPENDIX B. AGRICULTURAL IMPROVEMENTS PHOTO HIGHLIGHTS

(Courtesy CCSWCD)

- **Walnut Crest Farm**
- **Hartwell Farm**
- **Vienna Farm**
- **Breezy Knoll Farm**
- **Clark Farm**

Walnut Crest Farm, Gorham

Machine planting of 3500 trees over a four acre parcel along the Presumpscot River

Close up of machine planter

630 feet of fence installed for livestock exclusion

Walnut Crest Farm, Gorham

River Bank planting 200 hardwood trees and shrubs

Watering system able to accommodate up to 50 head of cattle.

Hartwell Farm, Gorham

Vienna Farm

700 feet of fencing installed for livestock exclusion. 90+ trees planted to enhance buffer

Douglass Brook

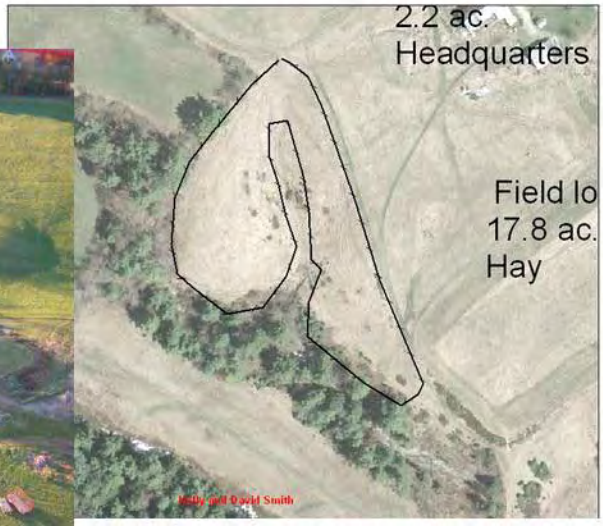
Breezy Knoll Farm, Gorham

Fence gates

Concrete Pad for heavy use area

Insulated watering system

Clark Farm, Gorham



APPENDIX C. STREAM CROSSING BMP PHOTO HIGHLIGHTS

(Courtesy CCSWCD)

- **Thayer Brook/Totten Road**
- **Skunk Knoll Brook/Route 114**
- **Pleasant River (tributary)/Laskey Road**
- **Mill Brook/Duck Pond Road**
- **Presumpscot River/Route 35**
- **Presumpscot River/Riverton Trolley Park**
- **Pleasant River/Route 302**
- **Baker Brook/Falmouth Road**
- **Johnson Brook/Route 114**
- **Presumpscot River/Covered Bridge Road**

Totten Road/Thayer Brook
Open Bottom Arch Culvert

Assembly of culvert, de-watering and sand bagging and existing culvert removal.

Totten Road/Thayer Brook
Open Bottom Arch Culvert

Turbidity Barrier Curtain
Constructed and installed by
Gunderboom, Inc.

Removal of old culvert

Totten Road/Thayer Brook
Open Bottom Arch Culvert

Pre-cast concrete footings, set in dry stream channel

Totten Road/Thayer Brook
Open Bottom Arch Culvert

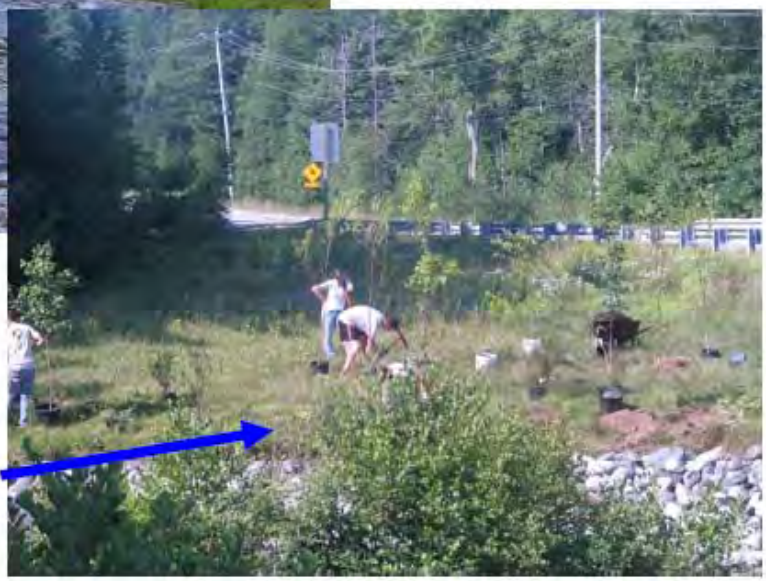
Totten Road/Thayer Brook
Open Bottom Arch Culvert

Skunk Knoll Brook/Route 114
Gorham, Maine

Laskey Road, Windham, Pleasant
River Tributary

Duck Pond Road/Mill Brook
Westbrook

Route 35/Presumpscot River
Windham/Standish



Riverton Trolley Park
Presumpscot River
Portland, Maine

Route 302 & Pleasant River

Baker Brook/Falmouth Road
Windham

Johnson Brook & Route 114
Gorham

Covered Bridge Road &
Presumpscot River,
Windham

APPENDIX D. PRESUMPSCOT RIVER YOUTH CONSERVATION CORPS FINAL REPORTS

- **PRYCC Fact Sheet**
- **2006 PRYCC Summary Report**
- **2007 PRYCC Summary Report**
- **2008 PRYCC Summary Report**

PRESUMPSCOT RIVER YOUTH CONSERVATION CORPS

Background and Vision

In 2006, the Presumpscot River Watershed Coalition and the Casco Bay Estuary Partnership received EPA funding to implement the Presumpscot Watershed Initiative, a comprehensive project aimed at addressing existing sources of water quality degradation and fostering land stewardship within the Presumpscot River watershed.

The Presumpscot River Youth Conservation Corps was formed as part of this initiative to establish a team of area youth stewards dedicated to water quality improvement projects along the Presumpscot River and its tributaries.

Participating communities which lie partially within the watershed include Buxton, Cumberland, Falmouth, Gorham, Gray, North Yarmouth, Portland, Standish, Westbrook, Windham, and Yarmouth.

What is a Youth Conservation Corps or YCC?

The YCC model has been successfully adopted to protect and improve water quality in several watersheds throughout Maine. YCC staff provide free technical assistance, labor and education to help address a wide range of pollution sources.

A Technical Director oversees all aspects of the program including permitting, publicity, hiring and working with landowners to plan projects. Crew leaders supervise 5-person teams and make sure that projects are installed properly and safely. Local high school students are hired as crew members and work through the summer to plant vegetation, clean out culverts and ditches, and install other conservation practices.

During the pilot phase of the PRYCC in 2006 and 2007, some construction materials and plantings may be paid for through the Presumpscot Watershed Initiative. In 2008 and beyond, labor will remain free while landowners will be asked to share the cost of materials and supplies.

Why start up a YCC in the Presumpscot River Watershed?

- Despite recent improvements, water quality in the river remains degraded. As the river is cleaned up, development along the shoreline is resulting in a loss of vegetated buffers alongside rivers and streams. Increased runoff and erosion has altered stream channels continues to degrade fisheries habitat. The PRYCC will work to reverse these impacts.
- An active coalition of partners is in place to guide watershed improvement projects. The Presumpscot River Watershed Coalition is made up of more than a dozen government and private organizations concerned with improving fisheries, mitigating impacts from watershed development, and preserving natural areas along the river. Several studies have identified specific problem areas for improvement. Referring to the *Presumpscot Plan*, the PRWC will guide the YCC toward high priority improvement efforts.

PRYCC Organizing Committee:
Presumpscot River Watershed Coalition
Casco Bay Estuary Partnership
Cumberland County Soil and Water Conservation District
Presumpscot River Watch
Maine DEP

- YCC's promote stewardship among community members. YCC projects yield tangible water quality benefits. Organizers also rave that YCC's are an effective way to raise awareness, energize communities and inspire local youth to become environmental leaders.

What can you do to help?

- Invite the Technical Director to assess erosion issues or buffer opportunities on your property and suggest solutions.
- Provide in-kind services by volunteering or donating needed equipment. Your support will be recognized in press releases and outreach. Some of our specific needs include:
  - Tools and equipment, particularly heavy duty wheelbarrows, metal rakes, trowels, and a trailer.
  - Native trees and shrubs such as blueberry, white pine, oaks and maples for planting riparian buffers.
  - Erosion control materials such as conservation seed mix, hay bales, and mulch.
  - 4-6 inch rip rap, crushed stone, and loam.

For more information contact Matt Craig, CBEP: 207-228-8359; mcraig@usm.maine.edu.

Presumpscot River Youth Conservation Corps

2006 Summary Report

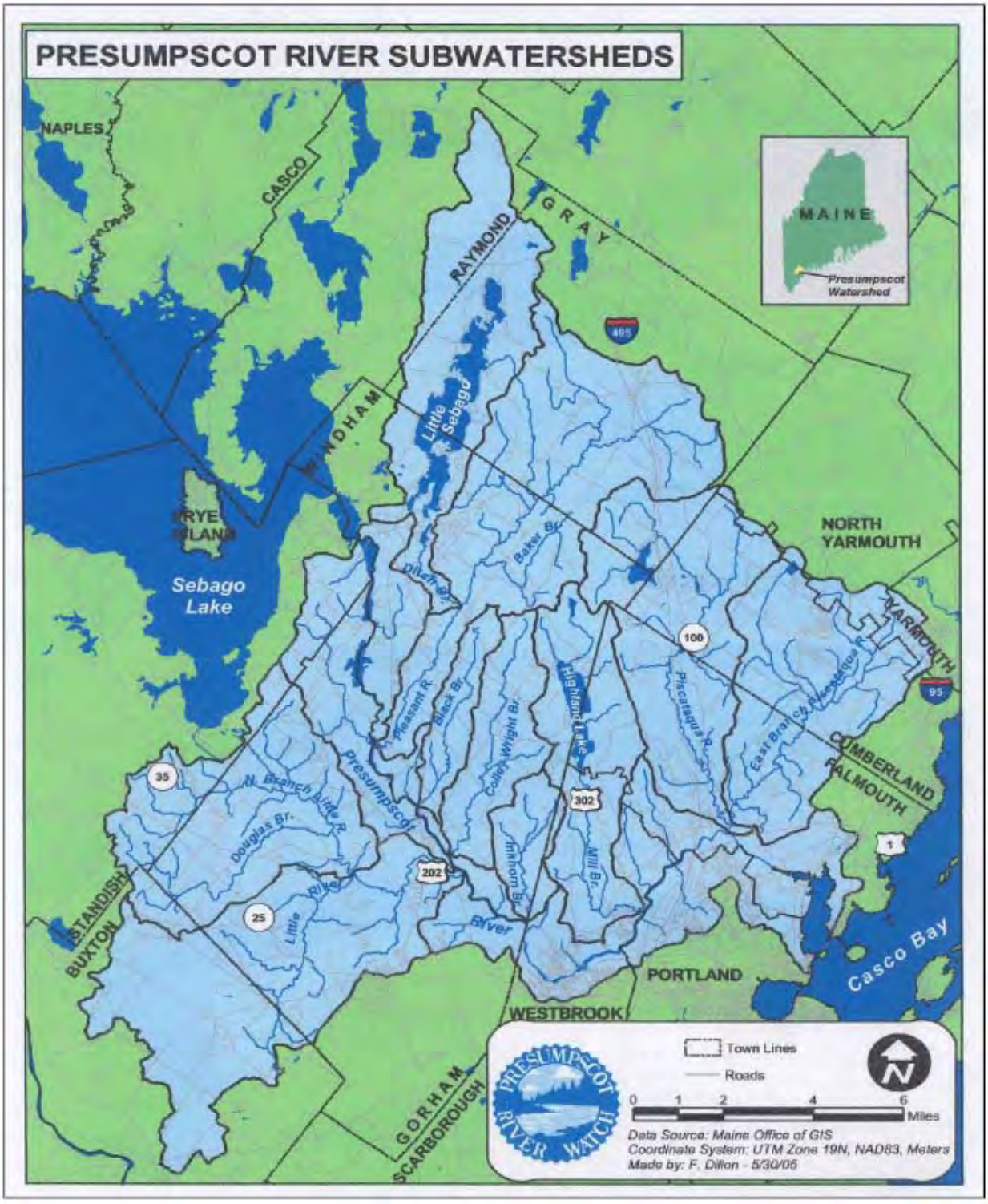
A COOPERATIVE PROJECT OF

PRWC
Presumpscot River Watershed Coalition

Casco Bay Estuary Partnership

Cumberland County Soil & Water Conservation District

Presumpscot River Watershed Map



Background Information

What is a Youth Conservation Corps?

A Youth Conservation Corps (YCC) is a crew of area high school students dedicated to installing environmental improvement projects adjacent to rivers, streams, and lakes. They are directed by a crew leader who is in college or a recent college graduate. They work on a variety of projects that include vegetative shoreline buffer plantings, trail maintenance and construction, river clean-ups, and many other best management practices. They work with local towns and governments as well as private landowners. One unique feature of a YCC is that all labor is carried out by hand; there are no power tools involved in their work. A field season typically lasts between 5-8 weeks during the summer months. YCC's continue to show success throughout the state of Maine.

Why a Presumpscot River YCC?

* Despite recent improvements, water quality in the Presumpscot River remains degraded. As the river is cleaned up, development along the shoreline is resulting in a loss of vegetated buffers alongside rivers and streams. Increased runoff and erosion has altered stream channels and continues to degrade fisheries habitat. The Presumpscot River Youth Conservation Corps (PRYCC) works to reverse these impacts.

* An active coalition of partners is in place to guide watershed improvement projects. The Presumpscot River Watershed Coalition (PRWC) is made up of more than a dozen government and private organizations concerned with improving fisheries, mitigating impacts from watershed development, and preserving natural areas along the river. Several studies have identified specific problem areas for improvement. Referring to the *Presumpscot Plan*, the PRWC will guide the PRYCC toward high priority improvement efforts.

* YCC's promote stewardship among community members and projects yield tangible water quality benefits. Organizers also rave that YCC's are an effective way to raise awareness, energize communities and inspire local youth to become environmental leaders.

Falmouth

Smelt Hill, Maine Department of Marine Resources and Private Landowner

As part of a larger project for the Casco Bay Estuary Partnership, the PRYCC assisted with two projects at the site of the former Smelt Hill Dam. For the first project, they helped lay rip-rap, plant 350 plant plugs, and lay mulch all in an effort to mimic a natural streambed. This will allow water to flow to the Presumpscot without eroding the land as well as filter pollutants out that could otherwise lower the river's water quality. The second project entailed stabilizing an eroded storm water drainage ditch on adjacent property. The crew installed 2 yards of riprap to stabilize the bank and prevent further erosion. They also created plunge pools to collect runoff and prevent soil and other pollutants from entering the Presumpscot River.

Westbrook

East Bridge Street Trail, Portland Trails

This new trail, located directly on the Presumpscot River, was heavily eroded by ATV use. The PRYCC helped stabilize the trail by filling eroded gullies with crushed stone to prevent further erosion. They also partnered with the Maine Conservation Corps to build bridges and level out the trail to prevent soil from running into the river.

Bicentennial Park, City of Westbrook

As part of a Project Canopy grant that was awarded to the Cumberland County Soil and Water Conservation District, the PRYCC planted 52 mature trees in this park. The park is located directly adjacent to a stormwater tributary that flows into the Presumpscot River.

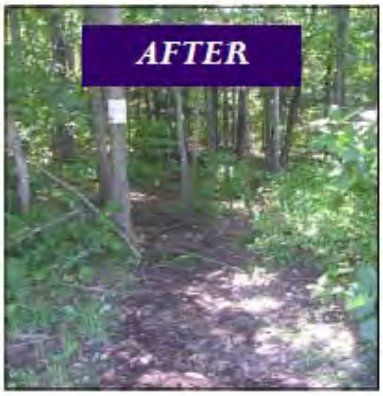
Riverbank Park, City of Westbrook

Riverbank Park is located directly on the Presumpscot River, in downtown Westbrook. This park experiences heavy use which has caused severe erosion along the riverbank. The PRYCC installed three sets of infiltration steps, planted 25 trees and shrubs, mulched, seeded, and laid curlex. All of these practices will help reduce runoff into the river and allow plants to grow to help stabilize the shoreline as well as filter runoff. As a result, the park has easier and safer access to the river, all while helping to protect the water quality.

Windham

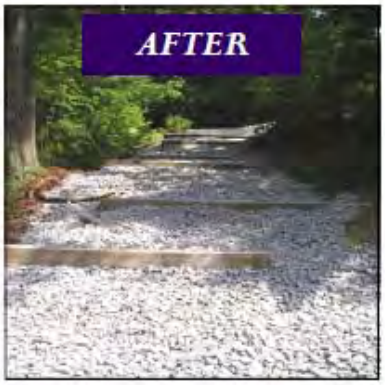
Route 35, SAPPI and Maine Department of Transportation

This site where Route 35 crosses the river is a popular fishing spot where several trails leading to the river were eroding. By partnering with SAPPI and the Maine Department of Transportation, the PRYCC was able to plant 35 trees and shrubs. They also defined a commonly used trail and added mulch to cover exposed tree roots.



Covered Bridge, Town of Windham

This site is owned by a private landowner but is heavily used by the public as a recreational area. Due to this use, the bank was severely eroded, the soil was compacted, and many tree roots were exposed, causing both a safety and environmental hazard. The PRYCC installed (6) infiltration steps and planted 29 trees and shrubs to stabilize the bank.

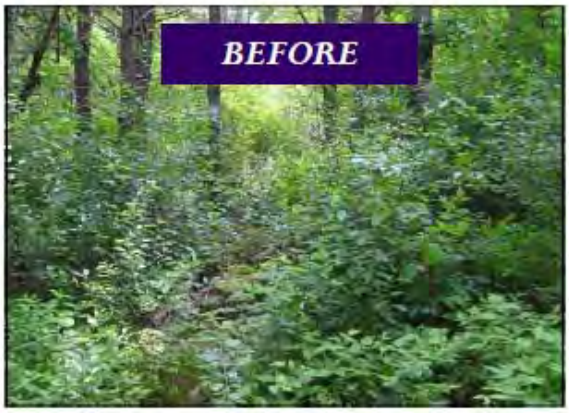


Storm Drain Stenciling

Storm drain stenciling is an educational and public awareness component of the PRYCC. It informs people that these drains flow directly to a waterbody. That means pollutants such as fertilizers, waste, and cigarette butts to name a few, will also end up in our waterways without being treated. The PRYCC stenciled drains throughout Windham as well as Westbrook.

Gorham

Tannery Brook Park, Town of Gorham



The Gorham Parks and Conservation Commission is working to open the Tannery Brook Park in 2007. The PRYCC helped to construct and define trails for the proposed 16-mile trail network by sidehilling or leveling out areas to help prevent erosion as well as lopping, pruning, and laying wood chips along the new trails.

Portland

Cleveland Street, Myatt Property

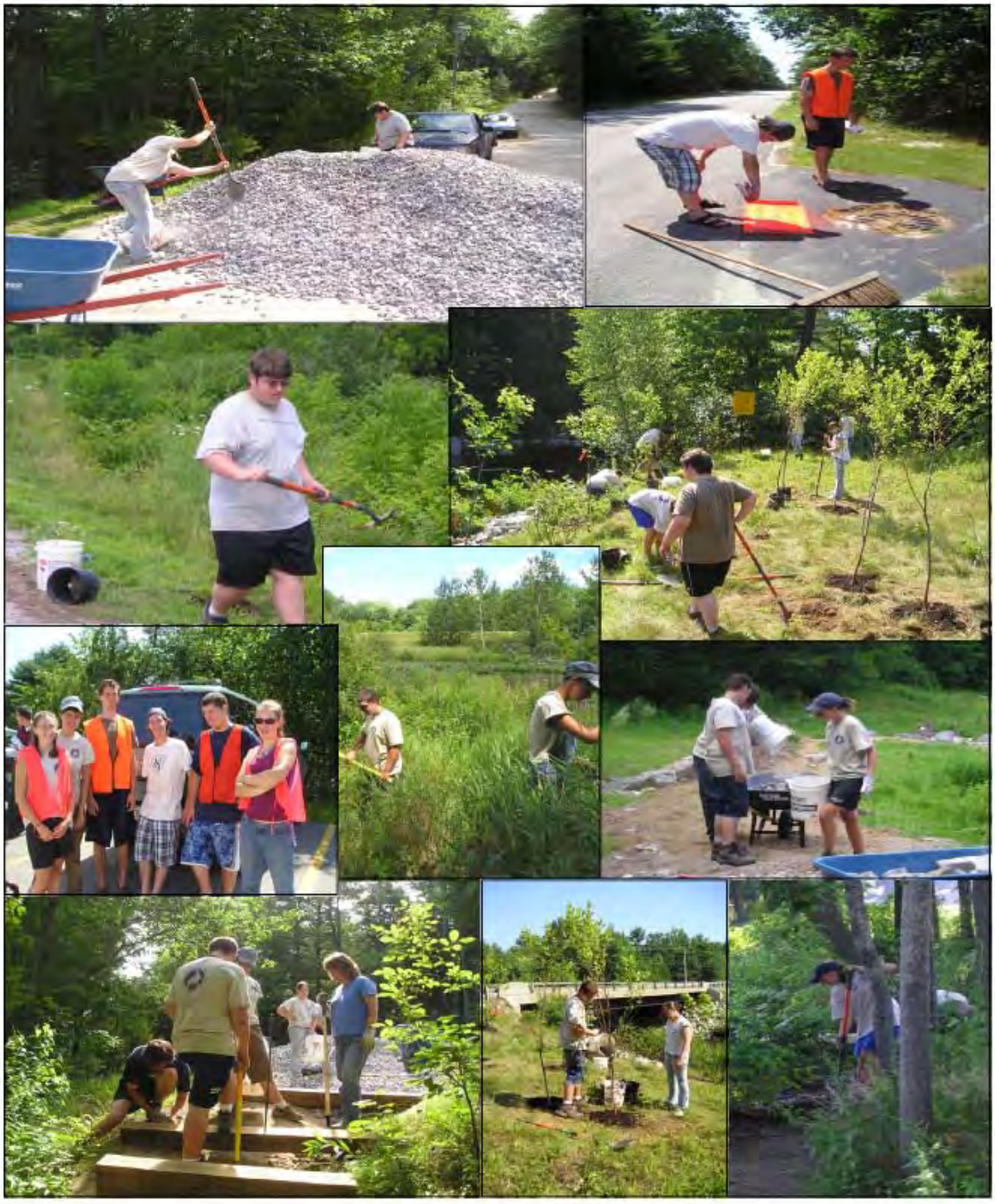
This site is located on the Presumpscot Estuary, where the Presumpscot River meets Casco Bay. The site posed a great challenge due to tidal influences, brackish water, and extremely difficult soil conditions. The bank had eroded approximately 12 feet over the course of several years. The PRYCC laid curlex to stabilize the shoreline, planted 20 shrubs as well as native salt marsh grass. Infiltration steps were modified to accommodate the landscape.

Accomplishments

Conservation Practice	*Total*
Erosion Control Mulch	26.5 yards
Stabilization Rock	33.5 yards
Infiltration Steps	17 steps
Rubber Razor Blades	3 razor blades
Riparian Buffer Plantings	268 trees/shrubs/groundcover
Trail Stabilization	~4 miles
Storm Drain Stenciling	250 drains
Trash Clean-up	> 100 lbs.
Sediment Clean-up	5 tons

16 projects in total over the course of 5 weeks!

The PRYCC at Work!



Articles about the PRYCC

The PRYCC was highlighted in several newspapers around the watershed including: Gorham-Westbrook Gazette, Windham Independent, Lakes Region Weekly, and American Journal.

High school students providing free river-friendly landscaping

Landowners in Gorham, Westbrook can receive assistance

[illegible]

Westbrook trail part of PRYCC inaugural project

The Presumpscot River Youth Conservation Corps (PRYCC) kicked off its inaugural season on July 8 by partnering with Portland Trails to help establish a new recreational trail in Westbrook.

The PRYCC is a group of local high school students under the direction of a crew leader that live throughout the watershed and work on environmental improvement projects specifically focused on improving the water quality.

The East Bridge Street trail project will help address the water quality improvement goals of the PRYCC by addressing erosion issues along the trail through runoff diversion construction, needed trail repair and litter and debris clean up.

Portland Trails, a nonprofit land trust, has recently acquired the parcel on East Bridge Street through a unique partnership with the Maine Department of Environmental Protection and Kimberly-Clark.

The acquisition helps to further Portland Trails' long-term goal of providing public access trails along the length of the Presumpscot River.

This is the first project of many for the PRYCC that are located around the 150-square mile watershed which includes the towns of Westbrook and Gorham as well as Buxton, Cumberland, Falmouth, Gray, North Yarmouth, Portland, Standish, Windham and Yarmouth.

If you live in this watershed and have erosion issues on your property, you are eligible to receive free assistance from the Presumpscot River Youth Conservation Corps.

The PRYCC was established as part of the Presumpscot Watershed Initiative, a two-year effort by the Casco Bay Estuary Partnership, the Presumpscot River Watershed Coalition, Cumberland County Soil and Water Conservation District, Presumpscot River Watch, and Friends of Casco Bay to implement recommendations from the Presumpscot River Management Plan.

The plan was developed over three years by over a dozen representatives from federal, state, and local government agencies, businesses, and area conservation groups concerned with improving fisheries, mitigating impacts from development, and preserving open space within the Presumpscot River watershed.

For more information, please contact Lisa Vickers, PRYCC technical director at (207) 615-8887 or e-mail at [illegible].

Presumpscot River on its way back

[illegible]

Gorham youth spending her summer improving the landscape

Presumpscot River Youth Conservation Corps offers environmental help to area towns

[illegible]

PRYCC Staff

Technical Director:	Lisa Vickers
Technical Assistance:	Betty Williams
Crew Leader:	Evelyn Lane
Crew:	Michael Coty (Windham)
	Jessica Curlew (Windham)
	Emma Deans (Gorham)
	Emily Myshall (Windham)
	Jeremy Lowell (Windham)
	Warren Taylor (Falmouth)
	Sam Tureff (Yarmouth)

Program Funding and Project Partners

U. S. Environmental Protection Agency
Casco Bay Estuary Partnership
Presumpscot River Watershed Coalition
Cumberland County Soil & Water Conservation District
Friends of the Presumpscot River
Friends of Casco Bay
Presumpscot River Watch
Maine Department of Environmental Protection
Town of Westbrook
Westbrook Public Works
Town of Windham
Town of Gorham
Gorham Lands & Conservation Commission
Portland Trails
Portland Water District
Maine Department of Transportation
SAPPI
Maine Department of Marine Resources

Thank you to all that participated in the 2006 Presumpscot River YCC!

"The song of the river ends not at her banks, but in the hearts of those who have loved her."
--Buffalo Joe

For more information or to inquire about a site for 2007, contact:

Presumpscot River Youth Conservation Corps

35 Main Street, Suite 3
Windham, ME 04062
Betty-Williams@cumberlandswcd.org
207.892.4700
mcraig@usm.maine.edu
207-228-8359

2007 Summary Report

Presumpscot River

Youth Conservation Corps

A COOPERATIVE PROJECT OF

Cumberland County Soil & Water Conservation District

Casco Bay Estuary Partnership

Presumpscot River Watch

Presumpscot River Watershed Coalition

Thanks to everyone who helped to make the Presumpscot River YCC a huge success!

Program Funding & Support

U.S. Environmental Protection Agency
Casco Bay Estuary Partnership
Presumpscot River Watershed Coalition
Cumberland County Soil & Water Conservation District
Friends of the Presumpscot River
Presumpscot River Watch
Portland Trails
Maine DEP
Maine DOT
City of Portland
Portland Parks and Rec.
Town of Windham
Windham Public Works
City of Westbrook
Westbrook Public Works
Town of Gorham
Shaw Bros.
Falmouth Land Trust

YCC Staff

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Becky McKinnon, Crew Leader
Emma Deans (Gorham)
Ben Goodness (Windham)
Joe Ferrian (Windham)
Nora Theodore (Portland)
Chelsea Smith (Portland)

YCC Steering Committee

Will Plumley, Friends of the Presumpscot River
Forrest Bell, Presumpscot River Watch
Karen Young, Casco Bay Estuary Partnership
Diane Gould, U.S. Environmental Protection Agency
Betty Williams, Cumberland County SWCD
Matt Craig, Casco Bay Estuary Partnership

Background Information

The Presumpscot River Youth Conservation Corps (YCC) completed its second season in August, 2007. This report showcases the variety of conservation projects that the crew completed throughout the 8 week season. This program was highly successful, and project staff are working on securing funding for an additional season in 2008.

What is a Youth Conservation Corps?

The YCC models has been successfully adopted to protect and improve water quality in several other watersheds in Maine. YCC staff provide free technical assistance, labor and education to help address a wide range of pollution sources throughout the watershed.

A Technical Director oversees all aspects of the program including publicity, hiring and working with landowners to plan projects. Crew leaders supervise 5-person teams and make sure that projects are installed properly and safely. Local high school students are hired as crew members and work through the summer to plant vegetation, stabilize eroding soil and install a variety of conservation practices.

Why do we need a Presumpscot River YCC?

* Despite recent improvements, water quality in the river remains degraded. As the river is cleaned up, development along the shoreline is resulting in significant soil erosion and a loss of vegetated buffers alongside rivers and streams. Increased runoff and erosion has also altered stream channels and continues to degrade the river's once thriving fishery. The Presumpscot River Youth Conservation Corps (PRYCC) is working to reverse these impacts on both private and public lands through the implementation of recognized BMPs (Best Management Practices).

* An active coalition of partners is in place to guide the PRYCC and other watershed improvement projects. The Presumpscot River Watershed Coalition (PRWC) is made up of more than a dozen government and private organizations concerned with improving fisheries, mitigating impacts from watershed development, and preserving natural areas along the river. Several studies have identified specific problem areas for improvement. Referring to the *Presumpscot River Management Plan*, the PRWC will guide the PRYCC toward high priority improvement efforts.

* YCC's promote stewardship among community members and projects yield tangible water quality benefits. Organizers also rave that YCC's are an effective way to raise awareness, energize communities and inspire local youth to become environmental leaders.

Accomplishments

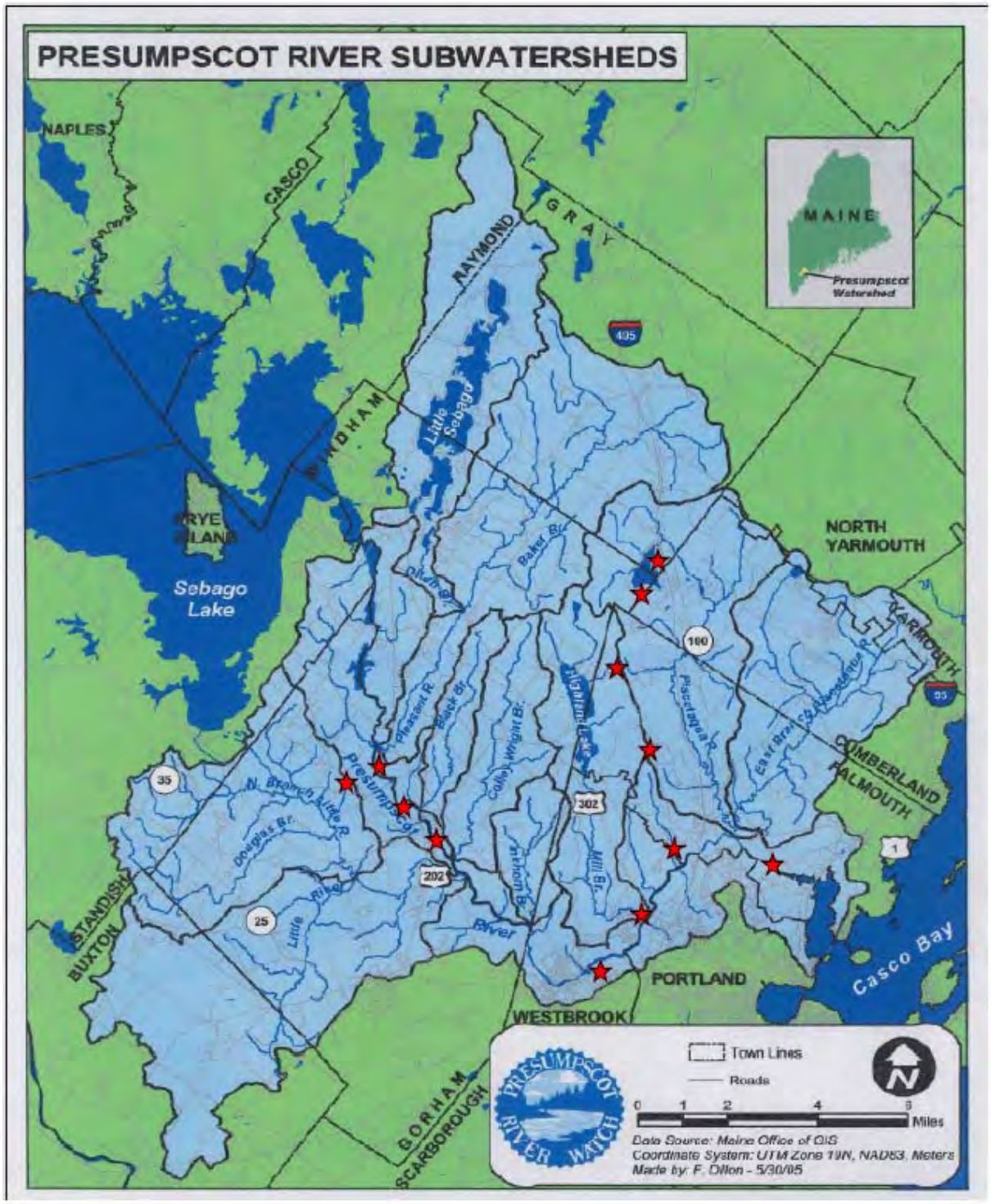
In just eight weeks, a team of five high school students, led by a crew leader and program director, successfully completed over 14 erosion control projects in the Presumpscot River Watershed. By the end of the summer they had:

* Planted 763 trees, shrubs, groundcovers, and perennials.
* Spread 52 cubic yards of mulch.
* Hand-placed 57 cubic yards of stone.
* Installed 8 water bars to divert runoff to stable areas for infiltration.
* Built and repaired 17 infiltration steps and landings.
* Stenciled 42 storm drains.

Summary of Conservation Practices Installed

Type of Conservation Practice	Number Completed
Shoreline Vegetation	8
Infiltration Landings	1
Grass Cultivation	2
Erosion Control Mulch	7
Culvert Stabilization	2
Trail Stabilization	9
Runoff Diverters	8
Roof Dripline Trench	5
Storm Drain Stenciling	42
Slope Stabilization	7
Infiltration Steps	17
TOTAL	**108**

Presumpscot River YCC 2007 Project Sites



Infiltration Steps & Vegetative Buffer Strips

Infiltration steps and landings use crushed stone to slow down and infiltrate runoff before it reaches the water. We used pressure treated timbers and rebar to secure the rock in place and provide a contained area for the water to collect. Infiltration steps are ideal for shorefront property where access is necessary and foot traffic can often be high.

Vegetated buffers provide a filter and percolation area for the runoff that comes from our home and play areas. The vegetation in the buffer uses the nutrients carried in the stormwater as fertilizer.

Riverbank Park, Westbrook

One of three sets of infiltration steps that were retrofitted at Riverbank Park by increasing the depth of the steps, filling with larger (1 1/2") crushed stone and reinforcing the edges with sidebars and riprap. Westbrook Public Works provided assistance and all the necessary materials for the work completed at Riverbank Park.

Riverton Trolley Park, Portland

The crew planted 300 plants, trees and shrubs to help restore this buffer so that the nutrients from runoff do not reach the Presumpscot River, where they can cause algae blooms and a host of other problems. Portland Parks and Rec. provided invaluable assistance and materials for work completed at Riverton Trolley Park.

Runoff Diverters and Soil Stabilizers

Runoff Diverters are structures used to divert stormwater runoff to stable areas for infiltration. Diverters can be as simple as raised "speed bumps" such as timbers sunken into a slope. The crew also used a new product called Geoweb that is specially designed to stabilize heavily used areas by preventing lateral movement of soil through confinement.

Blackstrap Preserve, Falmouth

Trail runoff was causing severe erosion on this steep trail section in Blackstrap Preserve. The crew measured and cut timbers that were on site and installed the waterbars to divert runoff to small plunge pools and vegetated areas. The crew also leveled out the soil and reinforced the timbers with rocks to help slow the runoff further and allow infiltration.

Shaw Park, Gorham

The park was planning to use this site which was experiencing severe soil erosion to rent canoes and kayaks this summer which would increase foot traffic and soil disturbance. The YCC installed 328 sq. ft. of Geoweb, providing a load distribution system that would stabilize the surface and prevent further loss of soil. Shaw Bros. Construction and Gorham Parks and Rec. Parks and Rec. provided all the necessary materials.

Path Stabilization

It is important to provide stable walking areas to maintain access to the lake while reducing soil erosion. Steep slopes can be stabilized with infiltration steps, landscaping timbers and mulch, or vegetation. For flatter areas, paths should be covered with mulch or crushed stone to protect the soil below.

Sloped areas where there is limited to no foot traffic should also be properly stabilized. These areas can be closed off with vegetation or stone to prohibit traffic and to hold soil in place.

Dundee Park, Windham

This path leading from the parking lot to the beach was washing out every year due to stormwater runoff. The crew spread 14 yards of erosion control mulch and installed waterbars at the top of each path to slow down and infiltrate the runoff. Windham Parks and Rec. supplied all the materials for completion of this project.

Earley Property, Windham

This path from the landowner's backyard to the lake was eroding due to foot traffic and stormwater runoff. The YCC installed an infiltration landing, planted a variety of shrubs and groundcovers and secured landscape timbers across the path to divert runoff into a vegetated area for infiltration. The area was also covered with erosion control mulch to protect the soil.

Ditch Stabilization and Roof Runoff

Ditches and stream crossings on paved and gravel roads need to be property maintained to ensure they function property and do not pollute water resources. They should be stabilized with grass and hay or stone riprap to prevent them from eroding.

Managing roof runoff is an important factor in reducing potential soil erosion and protecting the foundation from backsplash. The dripline trench collects and infiltrates stormwater until it soaks into the soil, minimizing soil erosion and wear on homes resulting from backsplash.

Blackstrap Road, Falmouth

The YCC stabilized two stream crossings with geo-textile fabric and riprap on Blackstrap Road that were experiencing severe soil erosion. Maine DOT provided all the necessary materials for work completed on Blackstrap Road.

Shaw Park, Gorham

The YCC created a dripline trench to protect this structure from the damaging effects of stormwater runoff. The trench now collects runoff coming from the roof and the adjacent hillside so it can soak into the soil and not end up in the nearby Presumpscot River.

Storm Drain Stenciling

Storm drains collect stormwater runoff that contains soil, fertilizers, pesticides, manure, and other toxic substances and debris. The water flows untreated into our rivers, streams, and eventually the ocean. Stenciling storm drains with a clean-water message is an effective way to discourage dumping, increase community awareness, and educate the public about the direct connection between polluted runoff, storm drains, and water quality.

Route 202 & Route 115, Windham

The YCC crew spent a day in Windham stenciling 42 storm drains. Special water-based latex spray paint was used to stencil the message "DON'T DUMP" in bright orange letters next to storm drains.

For more information, contact:

Presumpscot River Youth Conservation Corps
Cumberland County Soil & Water Conservation District
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Presumpscot River Youth Conservation Corps

2008 Summary Report

Presumpscot River

Youth Conservation Corps

Presumpscot River Youth Conservation Corps

A COOPERATIVE PROJECT OF

Cumberland County Soil & Water Conservation District

Presumpscot River Watch

Casco Bay Estuary Partnership

Casco Bay Youth Conservation Corps

Working to Protect Casco Bay

Presumpscot River Watershed Coalition

Thanks to everyone who helped to make the Presumpscot River YCC a huge success!

Program Funding & Support

U.S. Environmental Protection Agency
Casco Bay Estuary Partnership
Presumpscot River Watershed Coalition
Cumberland County Soil & Water Conservation District
Friends of the Presumpscot River
Presumpscot River Watch
Portland Trails
Maine DEP
Maine DOT
City of Portland
Portland Parks and Rec.
Town of Windham
Windham Public Works
City of Westbrook
Westbrook Public Works
Town of Gorham
Gorham Recreation Department
Shaw Bros.
Falmouth Land Trust

YCC Staff

Christopher Dunn, Technical Director
Betty Williams, Technical Support
Becky McKinnon, Crew Leader
Chad Brown, Alternate Crew Leader
Ben Goodness (Windham)
Joe Ferrian (Windham)
Julien Morton (Windham)
Myles Crawford (Cumberland)
Joe Kirkbride (Windham)

YCC Steering Committee

Diane Gould, Environmental Protection Agency
Betty Williams, Cumberland County SWCD
Matt Craig, Casco Bay Estuary Partnership
Christopher Dunn, Technical Director

Background Information

The Presumpscot River Youth Conservation Corps (YCC) completed its third season in August, 2008. This report showcases the variety of conservation projects that the crew completed throughout the 7 week season. This program was highly successful, and project staff are working on securing funding for an additional season in 2009.

What is a Youth Conservation Corps?

The YCC model has been successfully adopted to protect and improve water quality in several watersheds in Maine and across the country. YCC staff provide free technical assistance, labor and education to help address a wide range of pollution sources throughout the watershed.

A Technical Director oversees all aspects of the program including publicity, hiring and working with landowners to plan projects. Crew leaders supervise 4-5 person teams and make sure that projects are installed properly and safely. Local high school students are hired as crew members and work through the summer to plant vegetation, stabilize eroding soil and install a variety of conservation practices.

Why do we need a Presumpscot River YCC?

* Despite recent improvements, water quality in the river remains degraded. As the river is cleaned up, development along the shoreline is resulting in significant soil erosion and a loss of vegetated buffers alongside rivers and streams. Increased runoff and erosion has also altered stream channels and continues to degrade the river's once thriving fishery. The Presumpscot River Youth Conservation Corps (PRYCC) is working to reverse these impacts on both private and public lands through the implementation of recognized BMPs (Best Management Practices).

* An active coalition of partners is in place to guide the PRYCC and other watershed improvement projects. The Presumpscot River Watershed Coalition (PRWC) is made up of more than a dozen government and private organizations concerned with improving fisheries, mitigating impacts from watershed development, and preserving natural areas along the river. Several studies have identified specific problem areas for improvement. Referring to the *Presumpscot River Management Plan*, the PRWC will guide the PRYCC toward high priority improvement efforts.

* YCC's promote stewardship among community members and projects yield tangible water quality benefits. Organizers also rave that YCC's are an excellent (and cost-effective) way to raise awareness, energize communities and inspire local youth to become environmental leaders.

Accomplishments

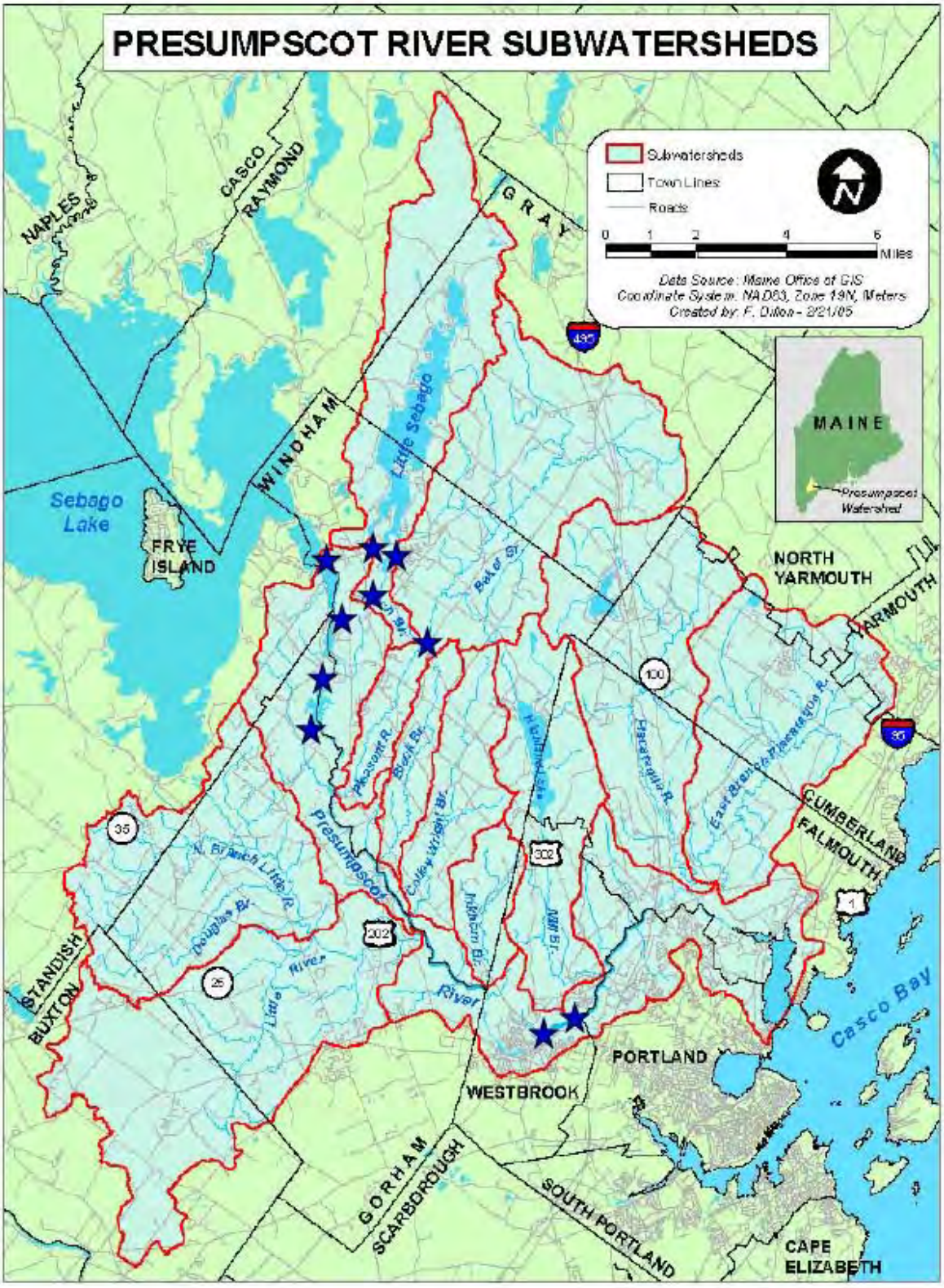
In just eight weeks, a team of four high school students (with one alternate), led by a crew leader and program director, successfully completed 20 erosion control projects in the Presumpscot River Watershed. By the end of the summer they had:

* Planted 350 trees, shrubs, groundcovers, and perennials.
* Spread 20 cubic yards of erosion control mulch.
* Hand-placed 30 cubic yards of stone.
* Removed over 400 pounds of invasive Purple Loosestrife.
* Built and repaired 40 infiltration steps and landings.
* Stenciled 150 storm drains.

Summary of Conservation Practices Installed

Type of Conservation Practice	Number Completed
Shoreline Vegetation	11
Infiltration Landings	8
Grass Cultivation	5
Erosion Control Mulch	6
Culvert Stabilization	15
Trail Stabilization	5
Runoff Diverters	1
Roof Dripline Trench	1
Storm Drain Stenciling	150
Slope Stabilization	8
Infiltration Steps	40
TOTAL	**250**

Presumpscot River YCC 2008 Project Sites



Infiltration Steps

Infiltration steps and landings use crushed stone to slow down and infiltrate runoff before it reaches the water. We used pressure treated timbers and rebar to secure the rock in place and provide a contained area for the water to collect. Infiltration steps are ideal for shorefront property where access is necessary and foot traffic can often be high.

In public areas with high foot traffic retrofitting is often needed as stones will have either washed out or been thrown into the water as recreation.

Chisholm Property, Windham

The retaining wall had collapsed most likely due to runoff from the brick path and rotting the wood. Five infiltration steps were installed to both slow down the runoff and prevent the exposed soil from washing into the water.

Riverbank Park, Westbrook

The infiltration steps installed at Riverbank Park by the 2007 PRYCC crew had been almost completely emptied of crushed rock. The crew re-filled the three sets of steps and added a new step to this set to reduce the steepness and allow more water to infiltrate. Westbrook Public Works was very cooperative and provided the necessary materials.

Trail Building and Shoreline Stabilization

The 2008 season marks the second year the YCC has worked with Portland Trails to improve trail quality and install BMPs. One of the goals of the YCC is education, outreach and promoting environmental stewardship, and the services Portland Trails provide fit in very well with that goal.

Severe shoreline undercutting (when the movement and fluctuation of the water body itself erodes the underside of the banking) can cause a great deal of damage, kill shoreline vegetation and lead to additional erosion and nutrient loading.

East Bridge St. Trail, Westbrook

The crew worked on a 2-mile stretch of trail clearing invasive knotweed, placing rip-rap, building steps and bridges and repairing rills that were developing in some areas.

Forest Lake Dam, Gray

To prevent the undercutting from getting worse, "coconut roll" was installed in the eroded area. It is a mesh tube secured in place using wooden stakes. The tube will expand to fill the eroded area and keep the water from causing more damage.

Slope and Path Stabilization

It is important to provide stable walking areas to maintain access to the lake while reducing soil erosion. Steep slopes can be stabilized with infiltration steps, landscaping timbers and mulch, or vegetation. For flatter areas, paths should be covered with mulch or crushed stone to protect the soil below.

Sloped areas where there is limited to no foot traffic should also be properly stabilized. These areas can be closed off with vegetation or stone to prohibit traffic and to hold soil in place.

Route 302 Pleasant River Crossing, Windham

This area around two large culverts is commonly used as a fishing spot, but the culvert and surrounding soil was completely exposed (directly above this spot is a very busy section of Route 302). A 200' path leading to the spot was completely mulched and the exposed culvert and soil was armored with 6-8" rip-rap provided by Windham Public Works.

Gromble Way, Windham

This site involved a paved turnout causing a gully to develop over a 50' slope, ending in a drop-off into a larger gully. The crew began with 20' of erosion control matting and then covered the remaining 30' with 8" rip-rap, interspersed with small check dams. At the drop-off a dam was created and a small settling basin was dug into the bottom of the larger gully.

Buffer Planting

One of the most effective ways to protect water quality and prevent erosion is to use native plants as buffers. Areas near the water are planted and then left undisturbed and allowed to naturalize over a period of years.

An adequate buffer will have an extensive root system which will hold the soil in place while the plants themselves will take up any nutrients that may be transported by stormwater, effectively filtering runoff before it reaches the water body and causes problems like algae blooms.

Shaw Park, Gorham

A vegetated berm was built at Shaw Park during the 2007 season, however the plants did not all survive and were replaced with hardier varieties. The new plants are also attractive to butterflies so the area will hopefully work as a butterfly garden next year.

Martin Property, Gorham

This residential site suffered heavy damage during the Patriot's Day storm of 2007 and the homeowner spent a great deal of money fixing their driveway and filling in the slope with good topsoil. They wanted to "make sure it didn't wash into the river". In order to keep that from happening the crew planted about 70 plants including several large shrubs with extensive roots systems.

Storm Drain Stenciling

Storm drains collect stormwater runoff that contains soil, fertilizers, pesticides, manure, and other toxic substances and debris. The water flows untreated into our rivers, streams, and eventually the ocean. Stenciling storm drains with a clean-water message is an effective way to discourage dumping, increase community awareness, and educate the public about the direct connection between polluted runoff, storm drains, and water quality.

Route 202 & Route 115, Windham

The YCC crew spent 2 days in Windham, Westbrook and Gorham stenciling 150 storm drains. Special water-based latex spray paint was used to stencil the message "DON'T DUMP" in bright orange letters next to storm drains.

To help increase community awareness, the crew also passed out information about the holistic, pesticide-free lawn care program, Yardscaping, while they were stenciling.

For more information, contact:

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Cumberland County Soil & Water Conservation District
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Windham, ME 04062
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betty-williams@cumberlandswcd.org

Presumpscot River Youth Conservation Corps

APPENDIX E. MAPS FOR SCHOOLS DOCUMENTS

- **Resource Guide**
- **Resource Guide - CD**

APPENDIX F. 2008 PRESUMPSCOT RIVERFEST DOCUMENTS

- **2008 Presumpscot RiverFest Report (Courtesy L. Carleton, 2008 PRWC Intern)**

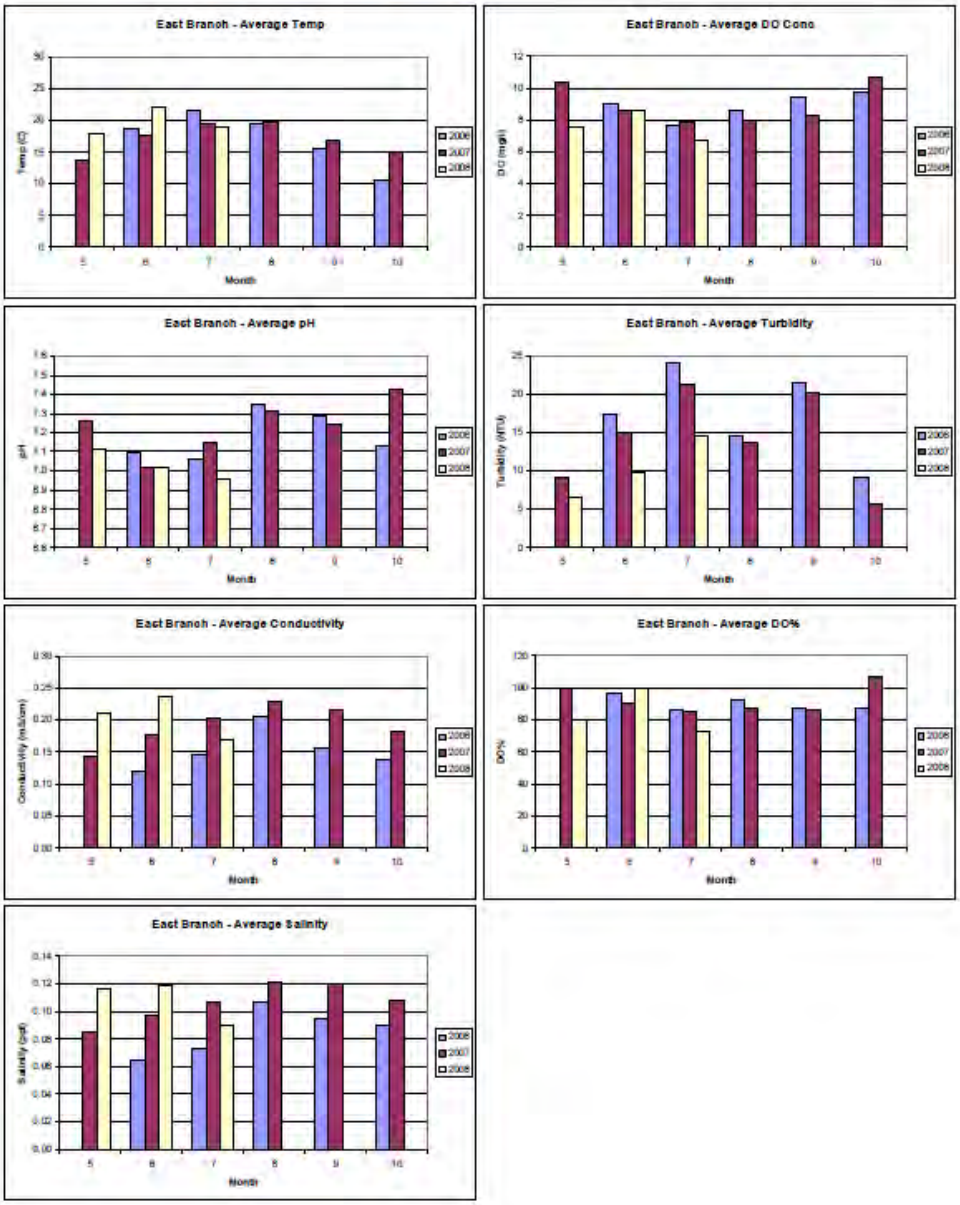
APPENDIX G. WATER QUALITY MONITORING DATA SUMMARIES

Summary of Continuous Instream Water Quality Monitoring Data (Courtesy PRW, Orbis):

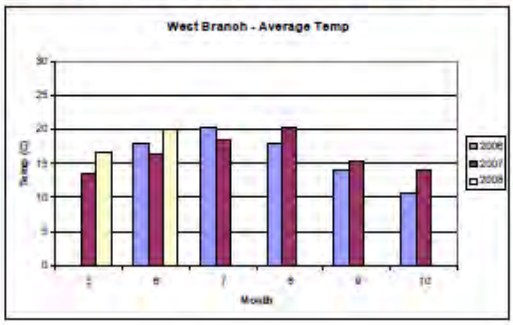
- **Monthly parameter averages by location**
- **Monthly average of parameters by location**
- **Dissolved oxygen concentration plots by location**
- **Daily parameters by year**

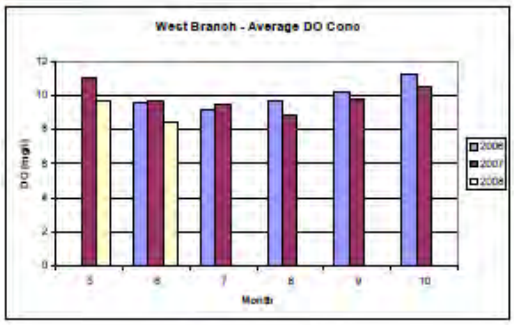
Monthly Parameter Averages by Location

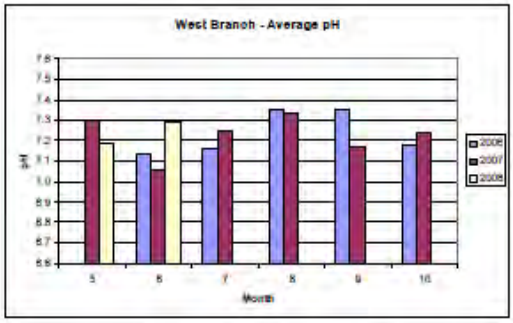
East Branch Piscataqua River – Monthly Averages

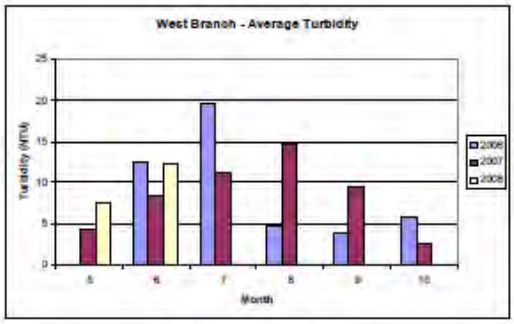


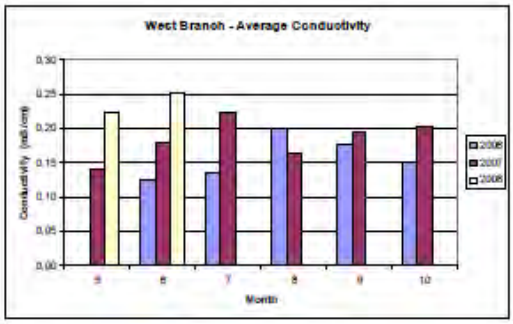
West Branch Piscataqua River – Monthly Averages

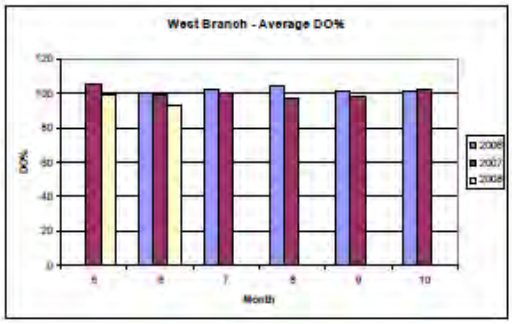


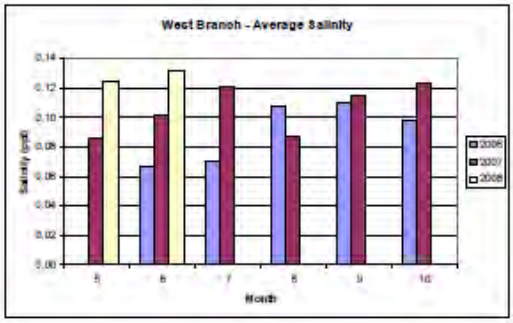




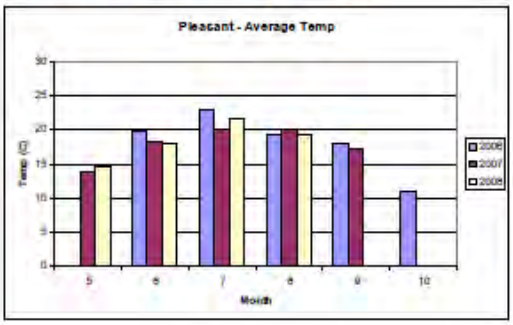


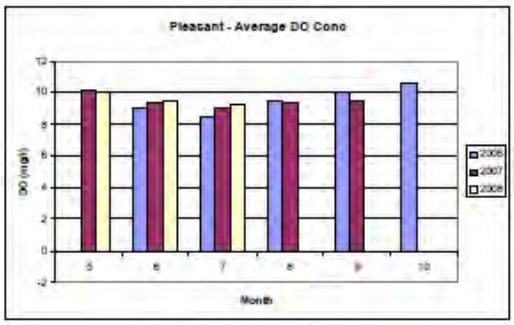


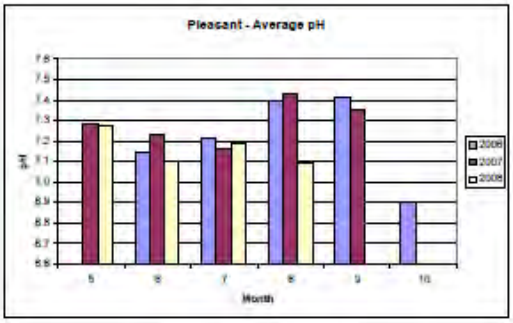


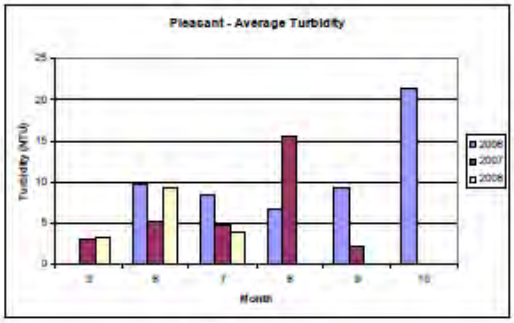


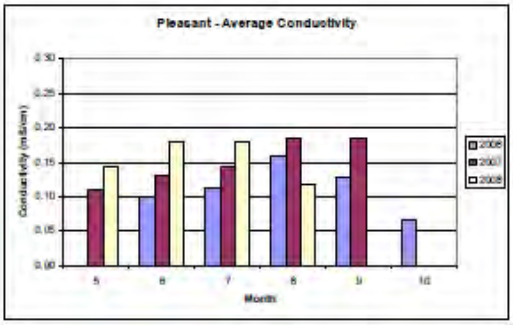
Pleasant River – Monthly Averages

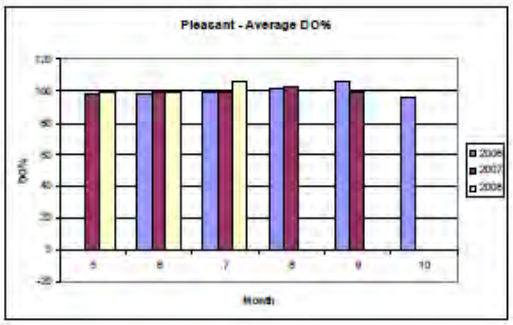


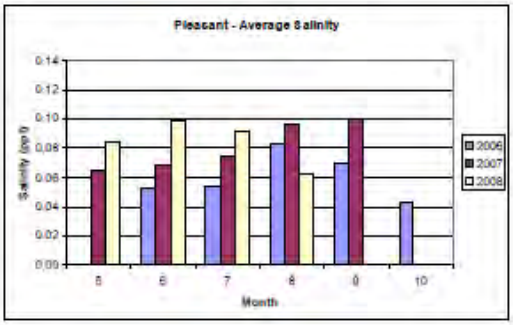




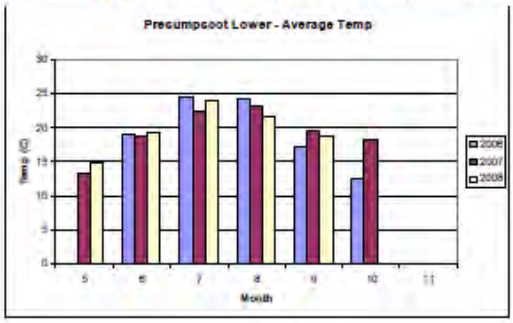


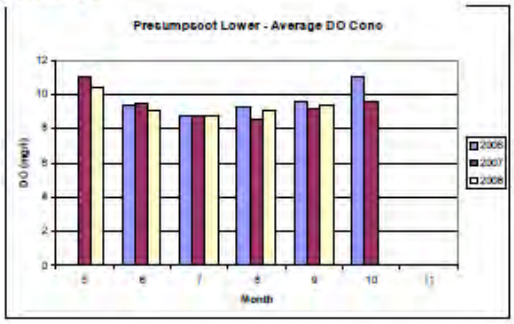


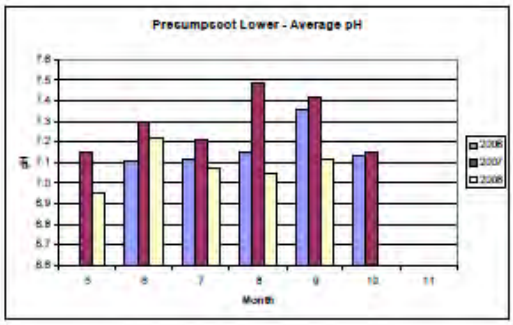


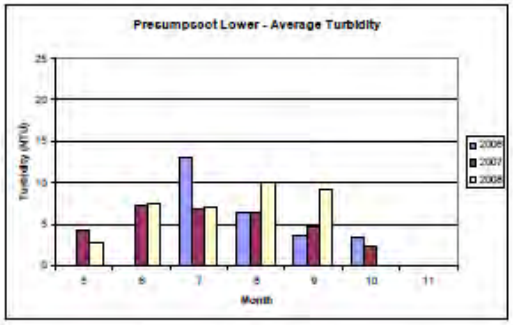


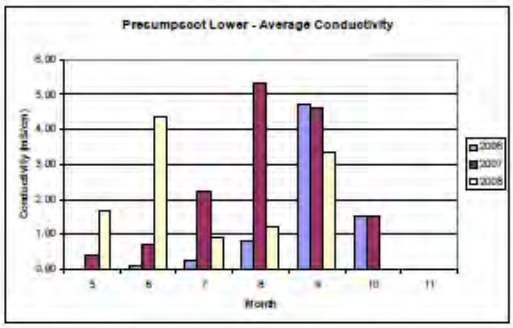
Presumpscot Main Stem (Head of Tide) – Monthly Averages

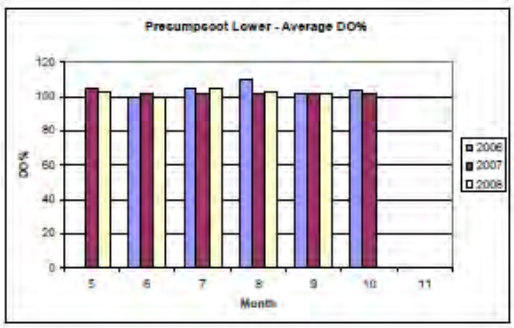


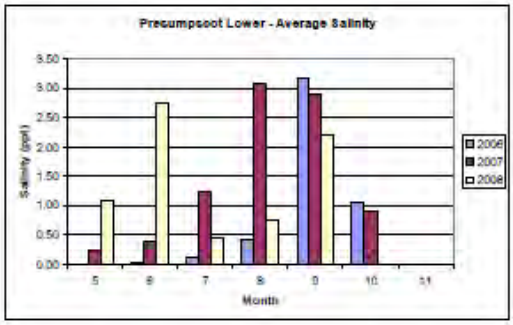




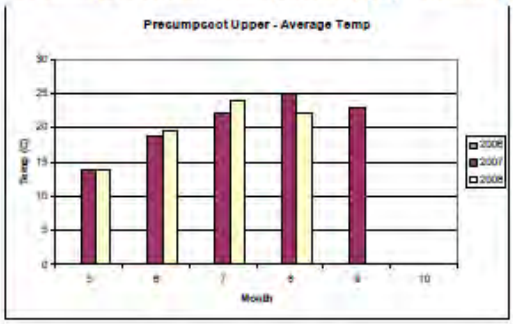


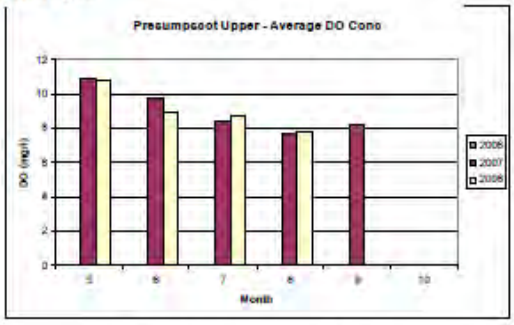


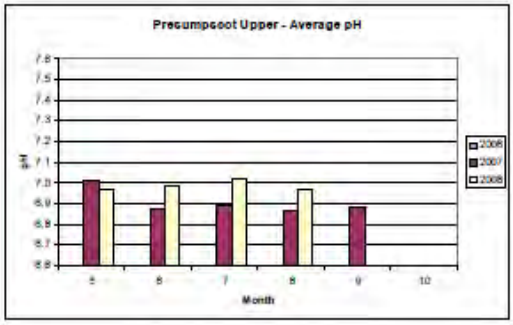


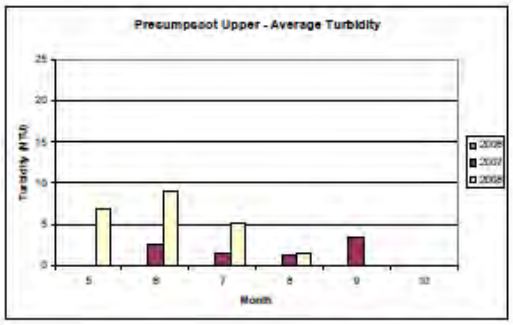


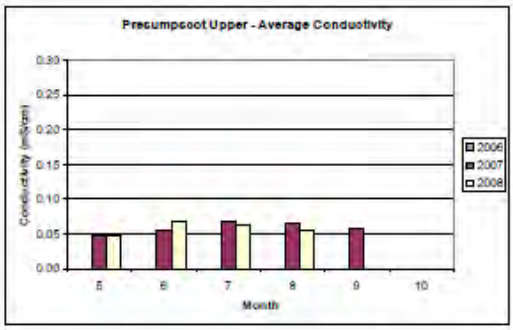
Presumpscot Main Stem (Saccarappa) – Monthly Averages

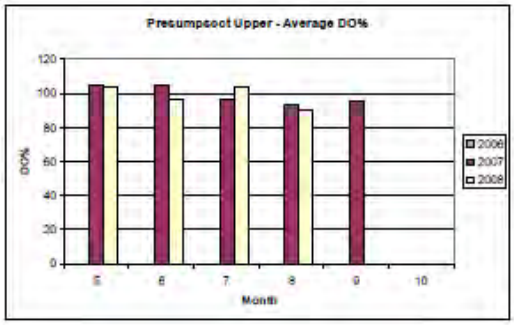


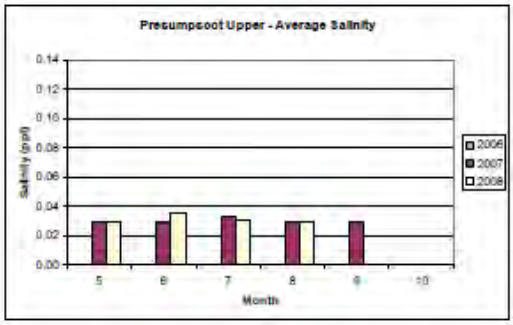






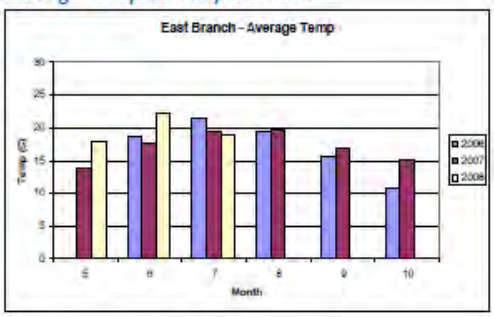


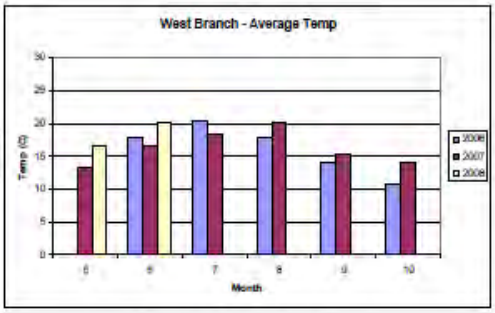


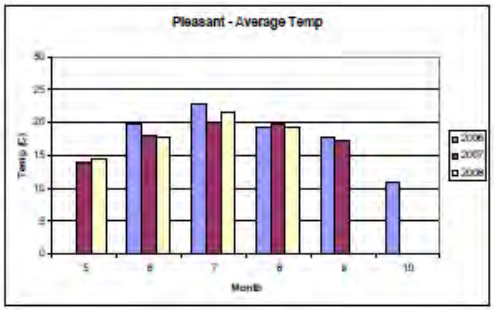


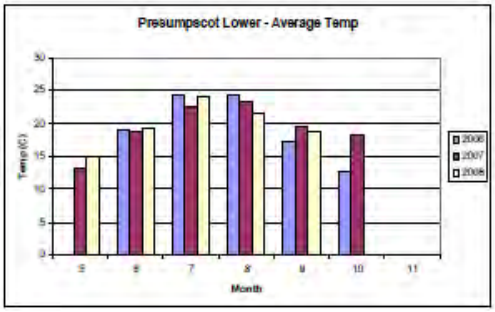
Monthly Average of Parameters by Location

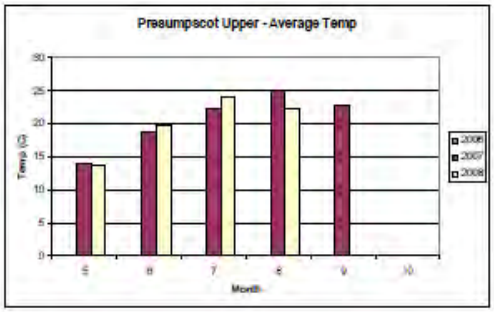
Average Temperate by Location



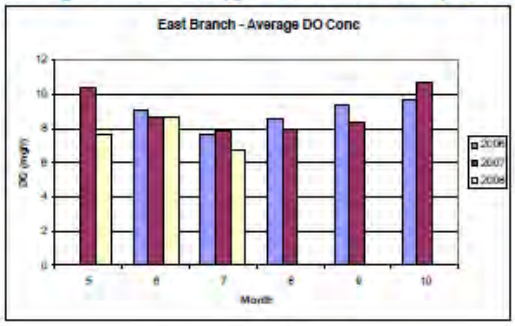


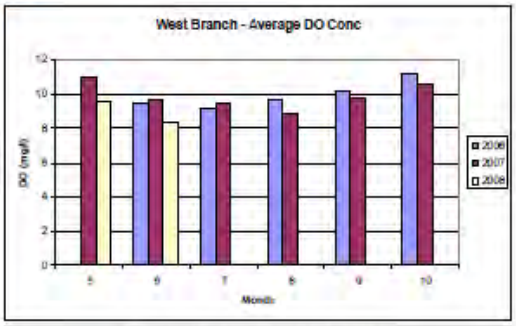


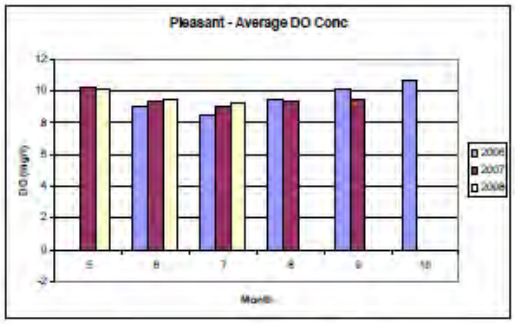


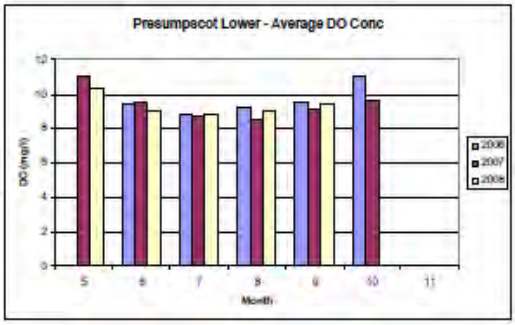


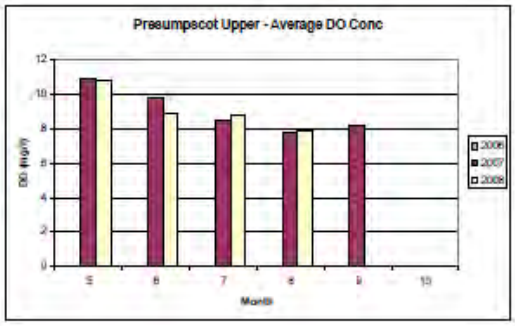
Average Dissolved Oxygen Concentration by Location



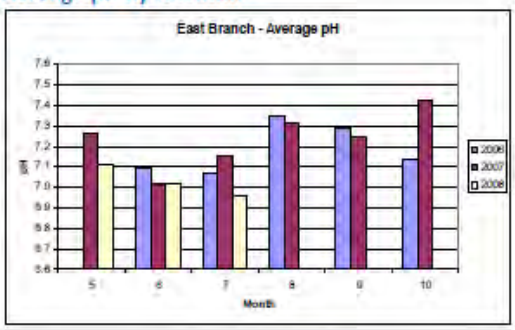


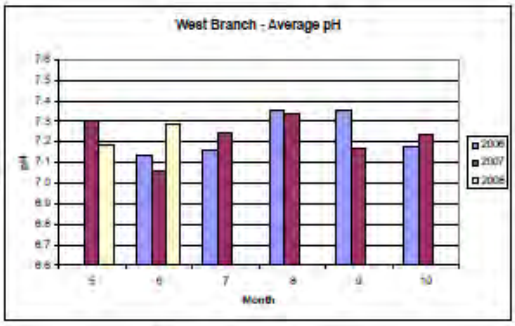


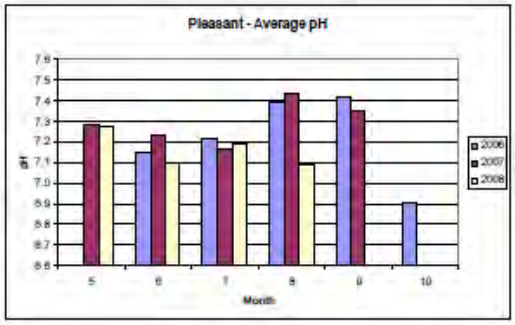


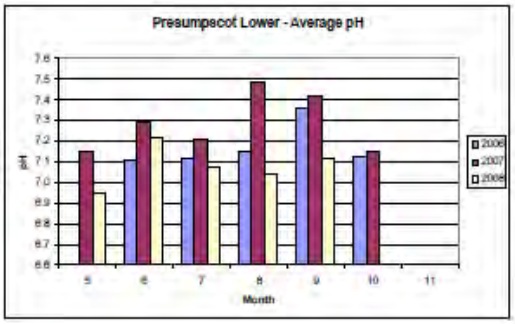


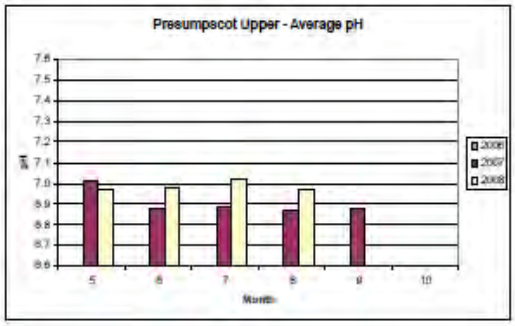
Average pH by Location



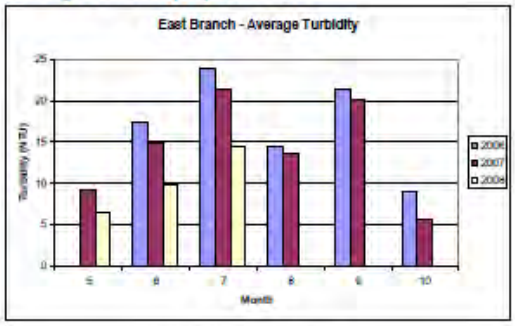


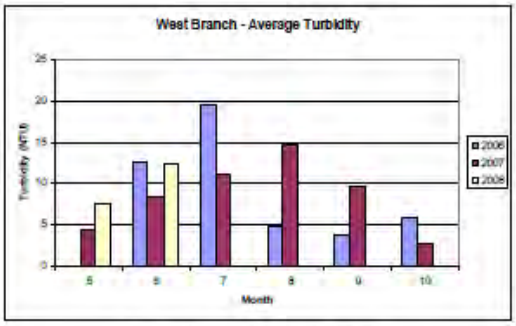


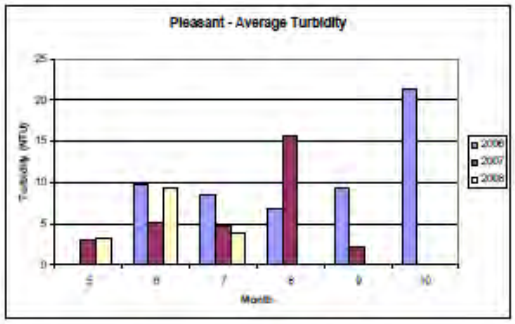


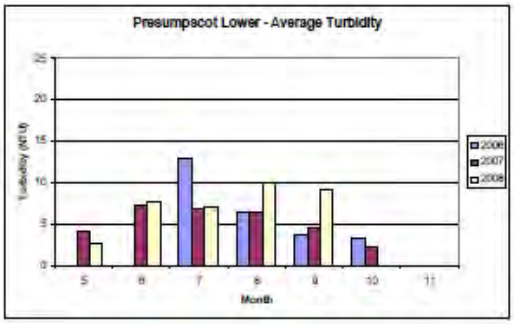


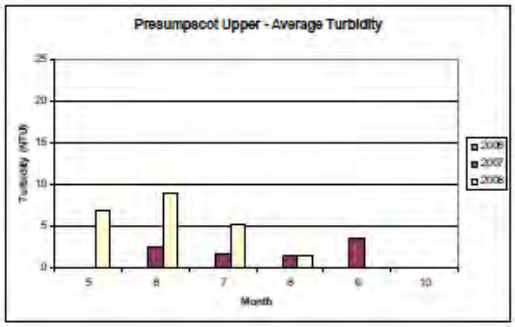
Average Turbidity by Location



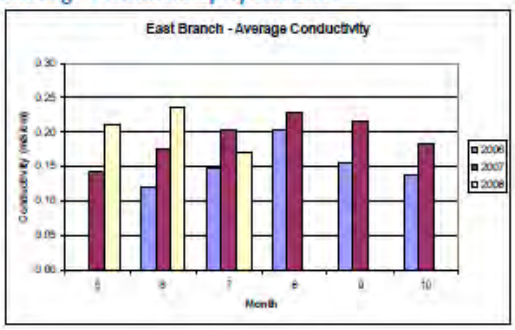


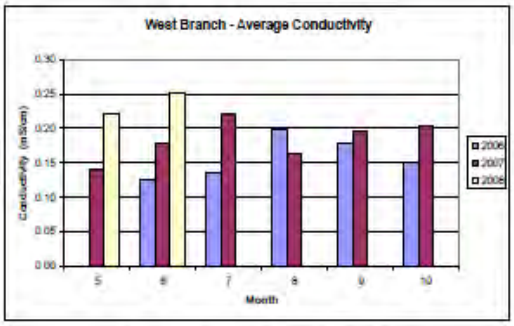


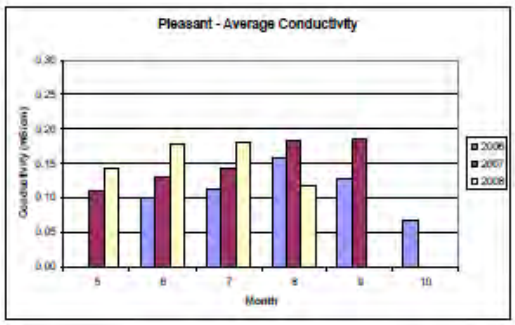


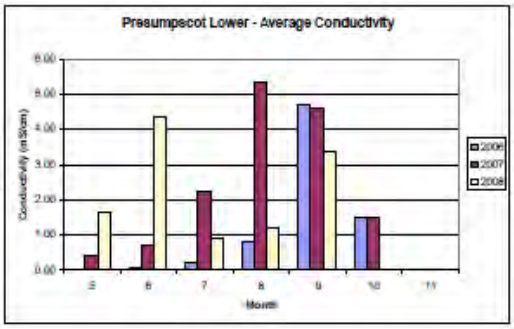


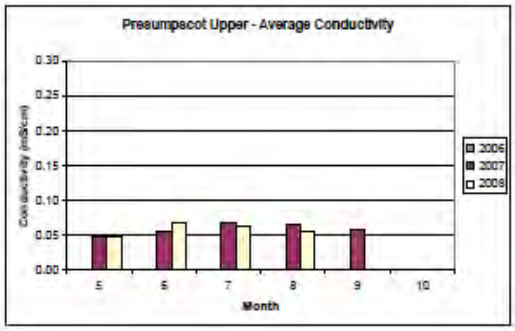
Average Conductivity by Location



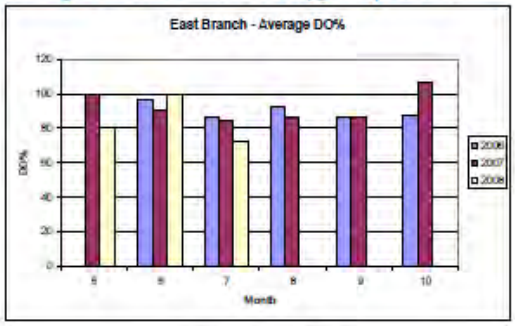


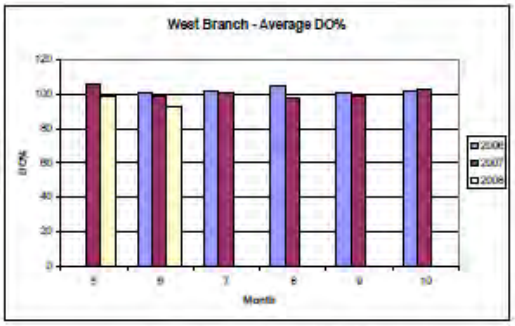


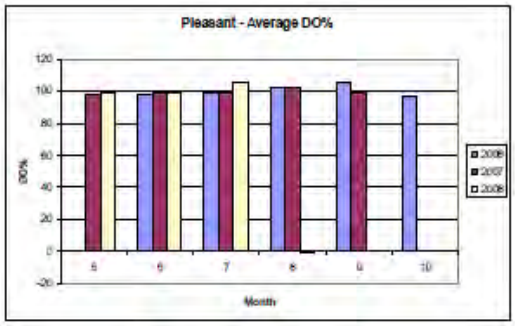


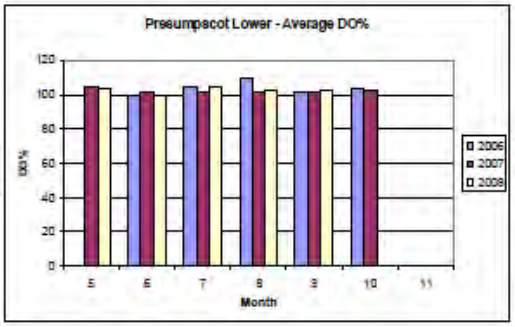


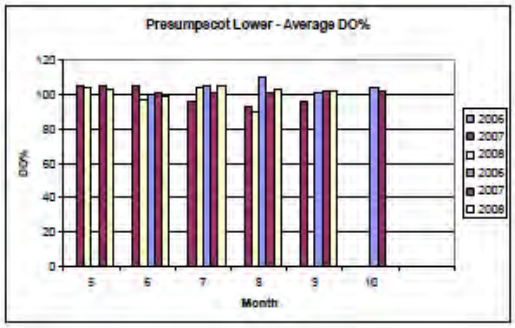
Average Percent Dissolved Oxygen by Location



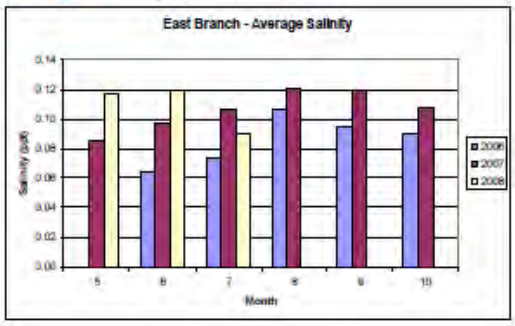


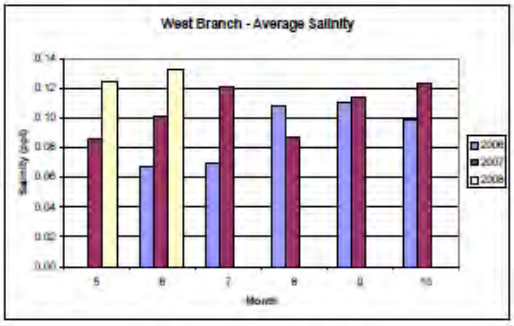


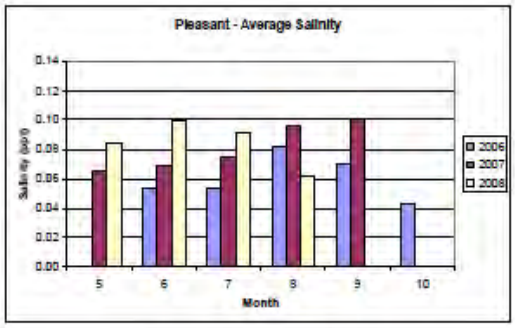


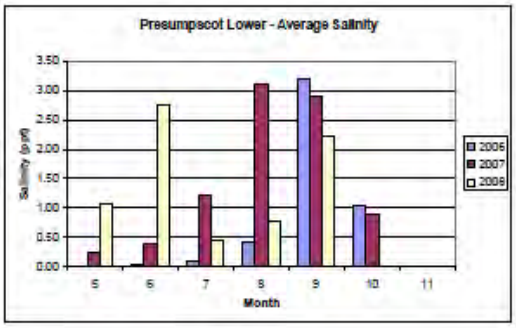


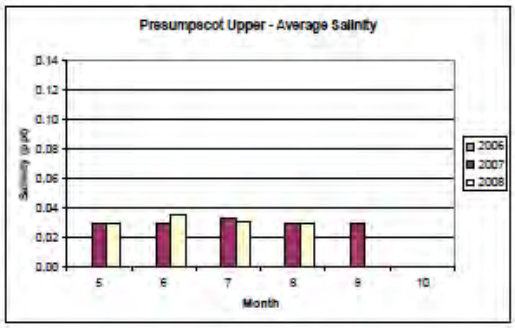
Average Salinity by Location





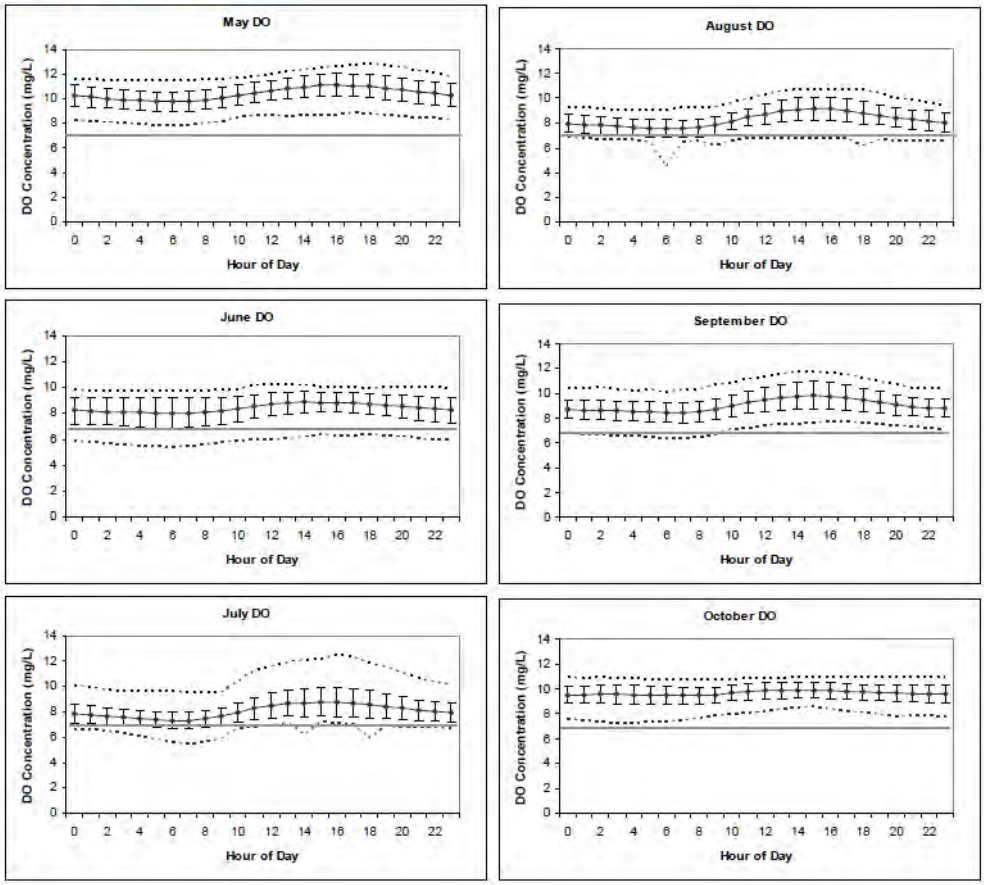




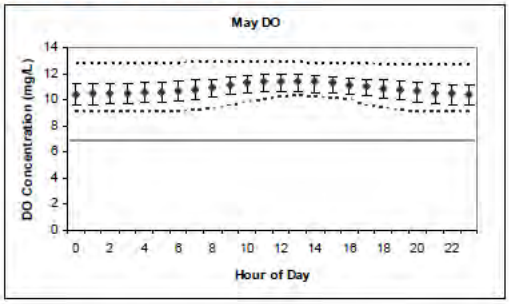


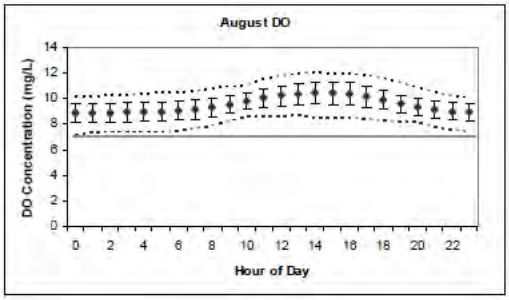
Dissolved Oxygen Concentration Plots by Location

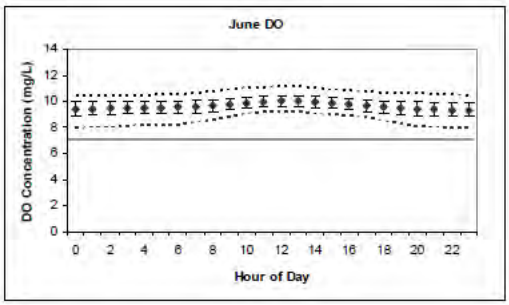
East Branch Piscataqua River

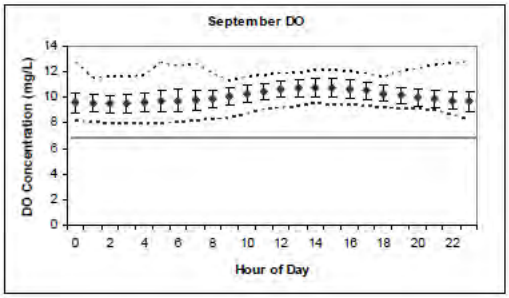


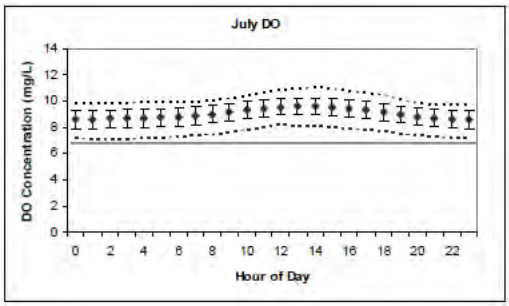
West Branch Piscataqua River

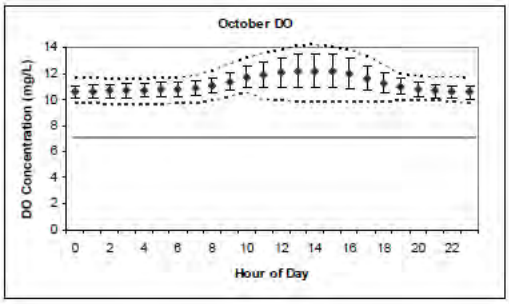




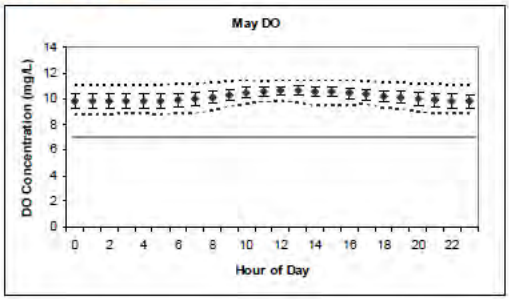


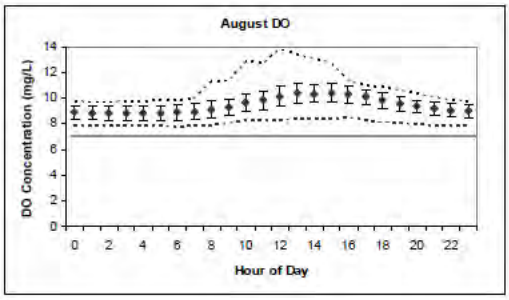


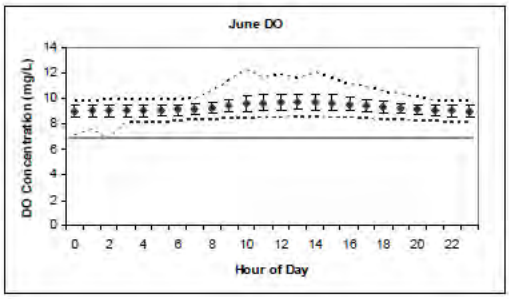


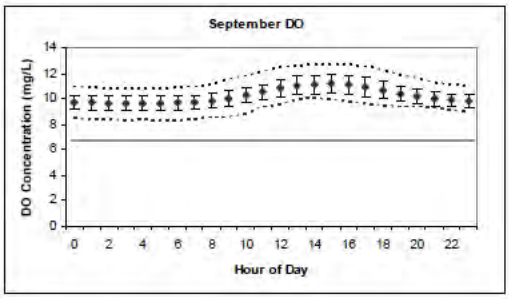


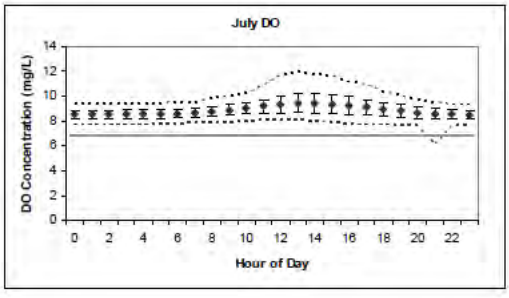
Pleasant River

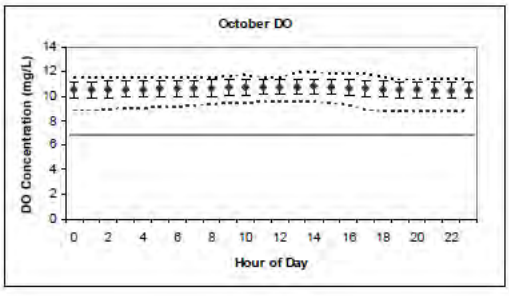




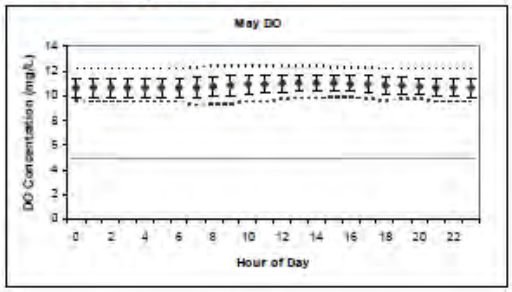


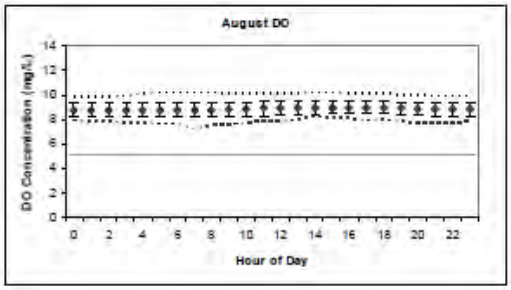


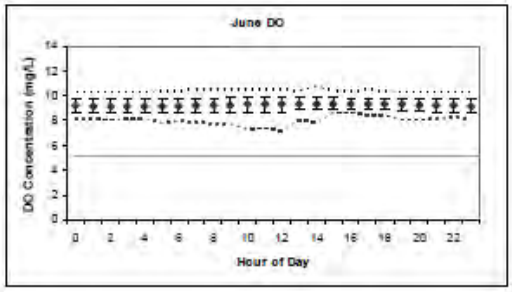


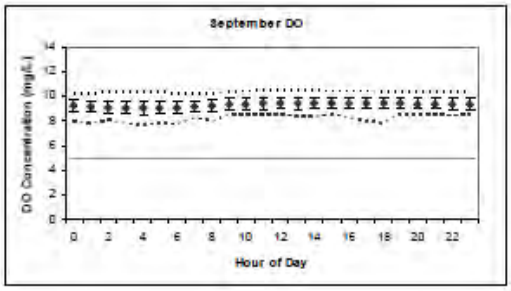


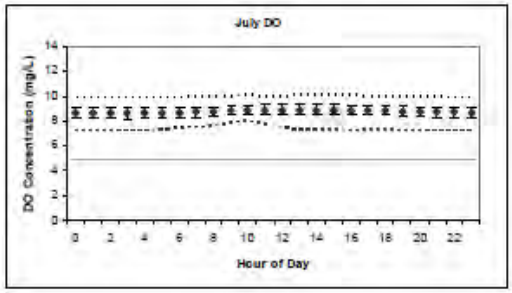
Lower Presumpscot River

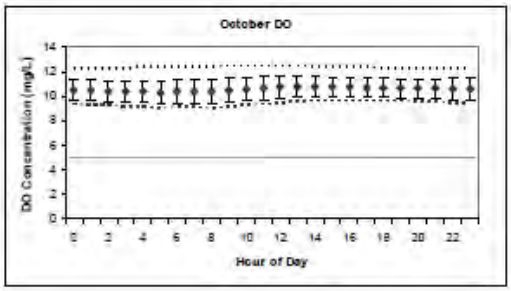


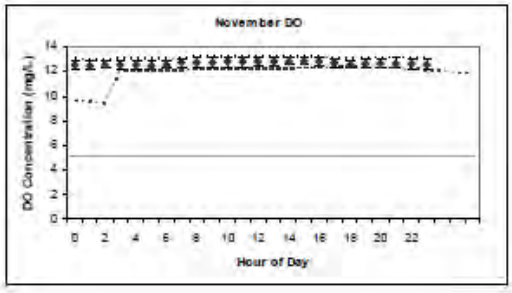




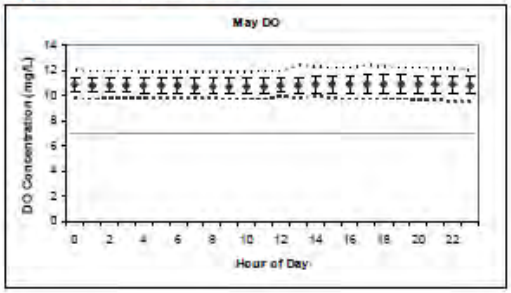


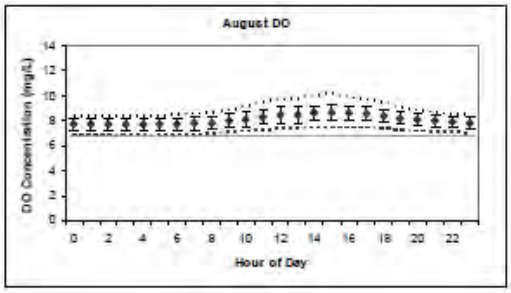


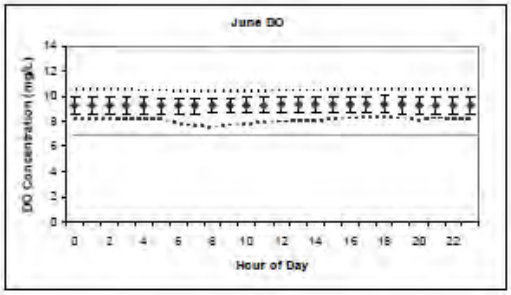


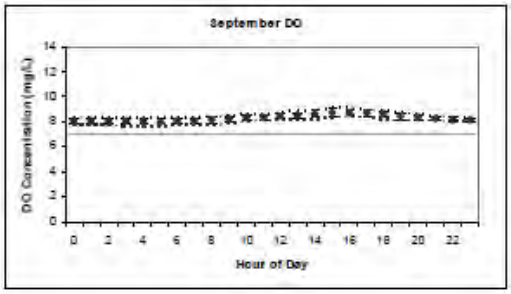


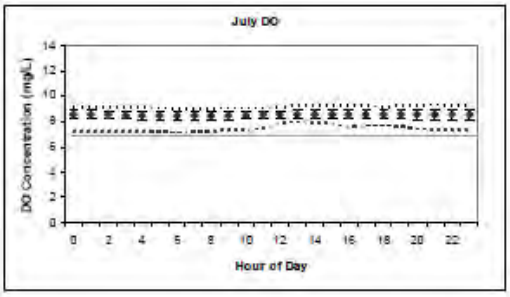
Upper Presumpscot River



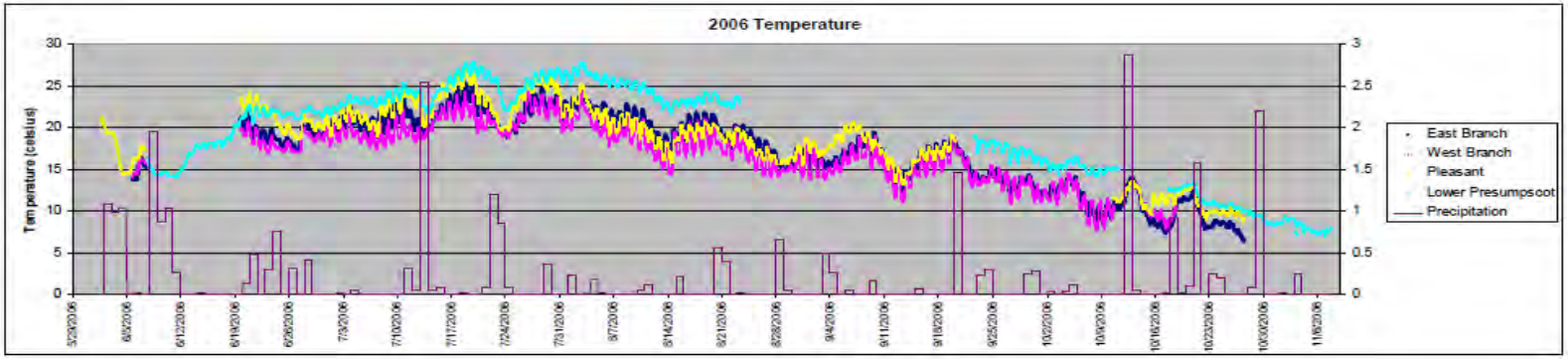


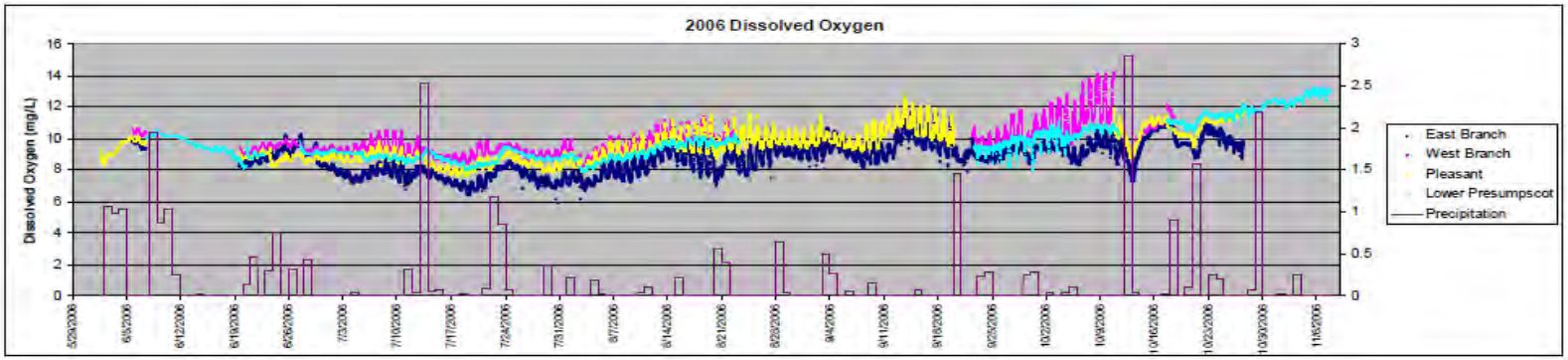


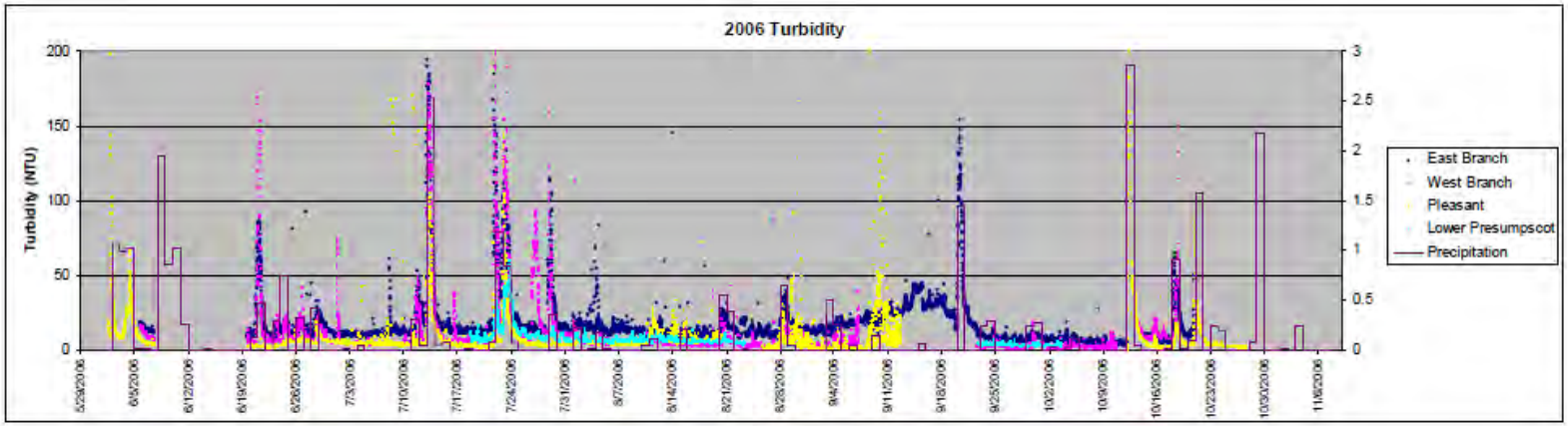


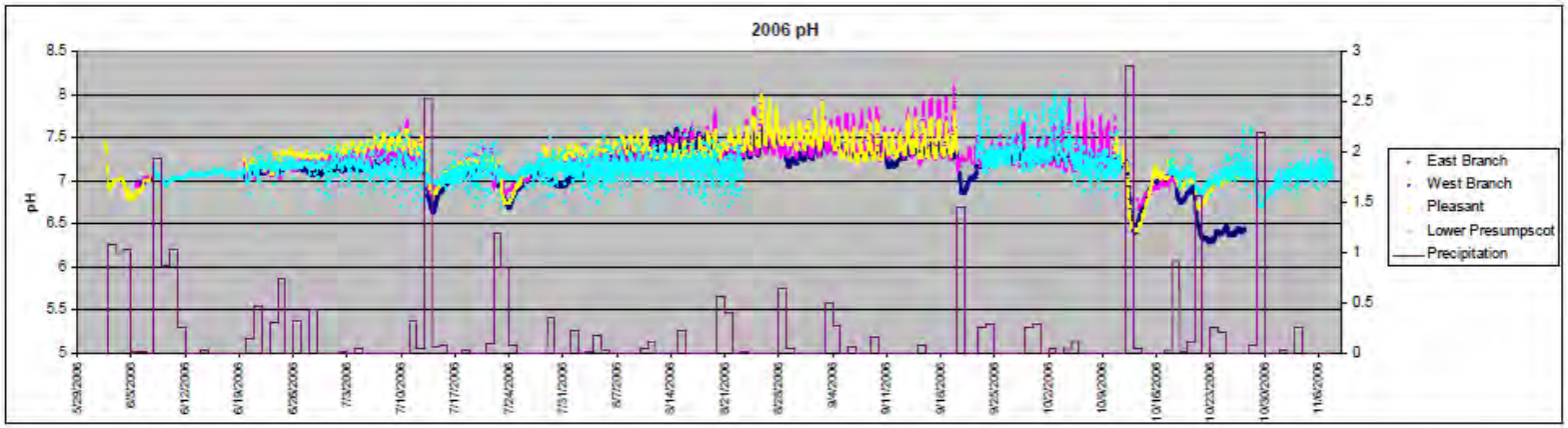


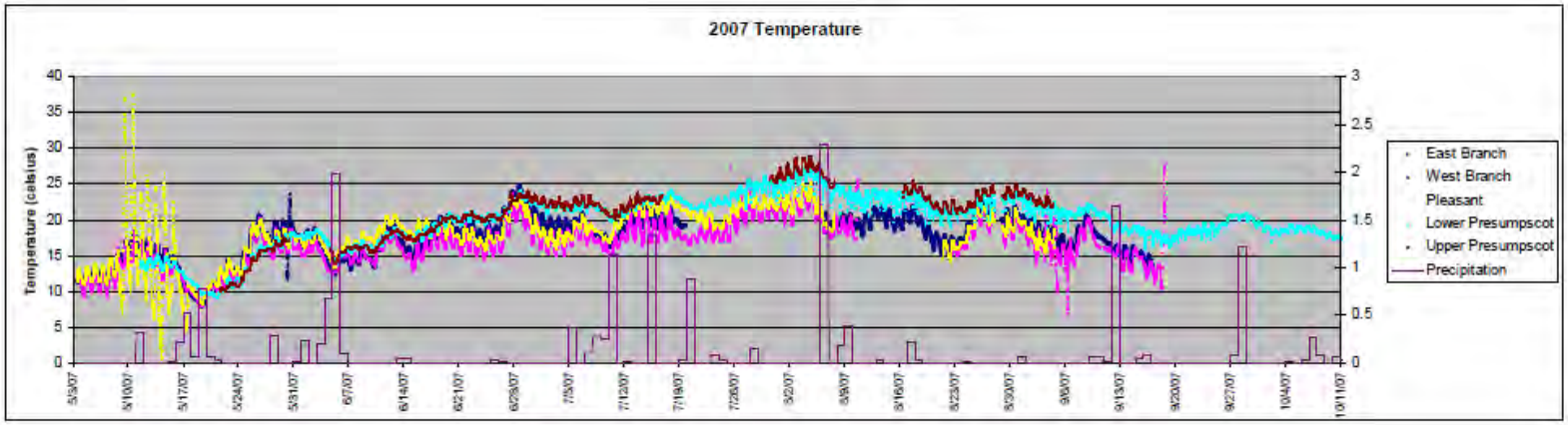
Daily Parameters by Year

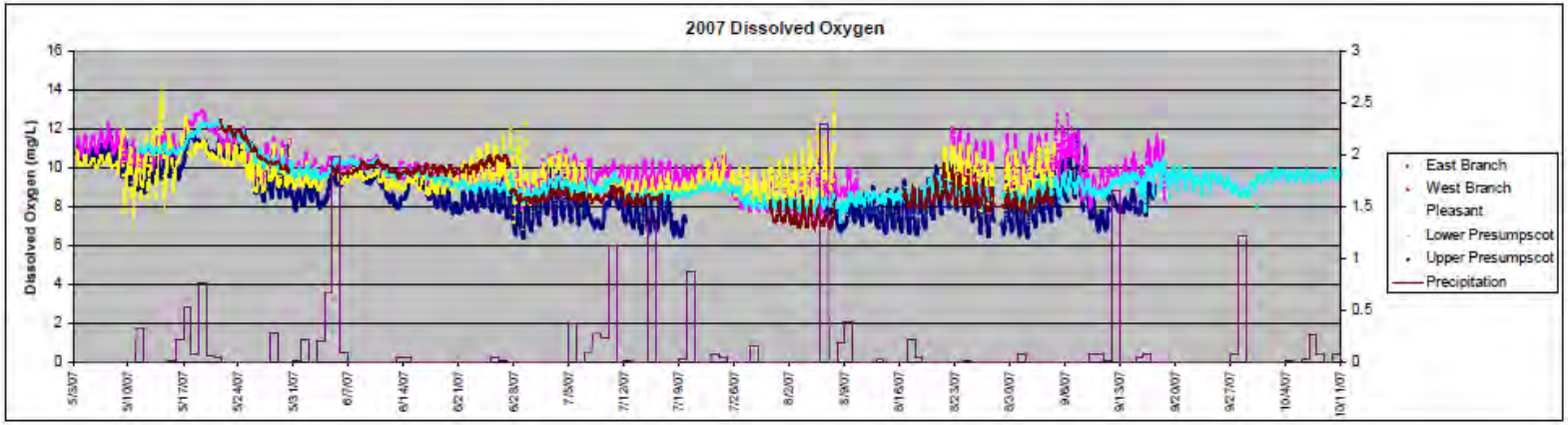


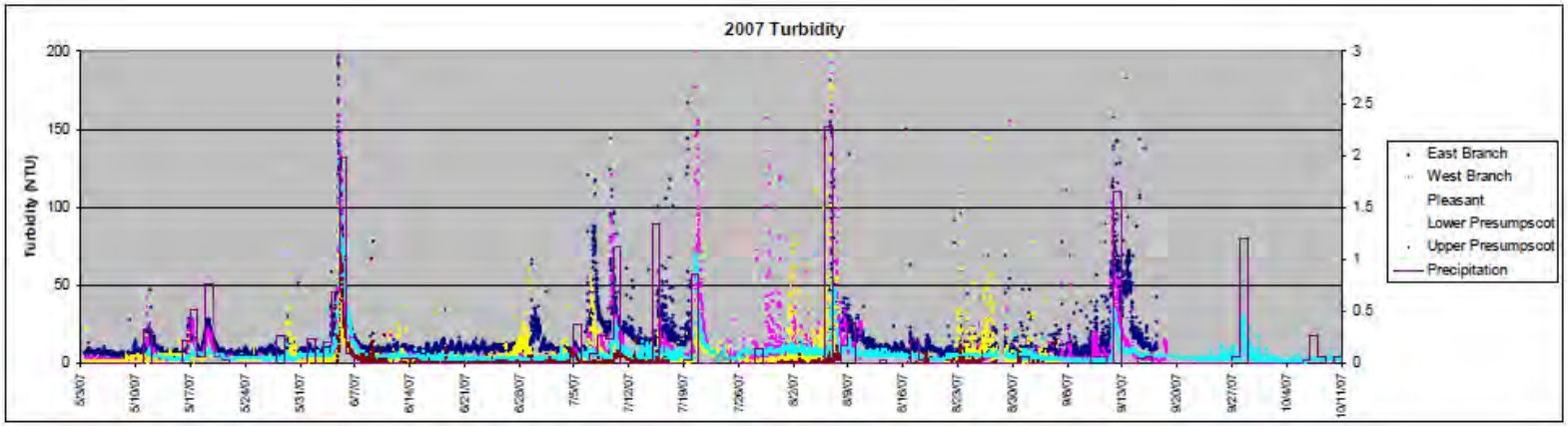


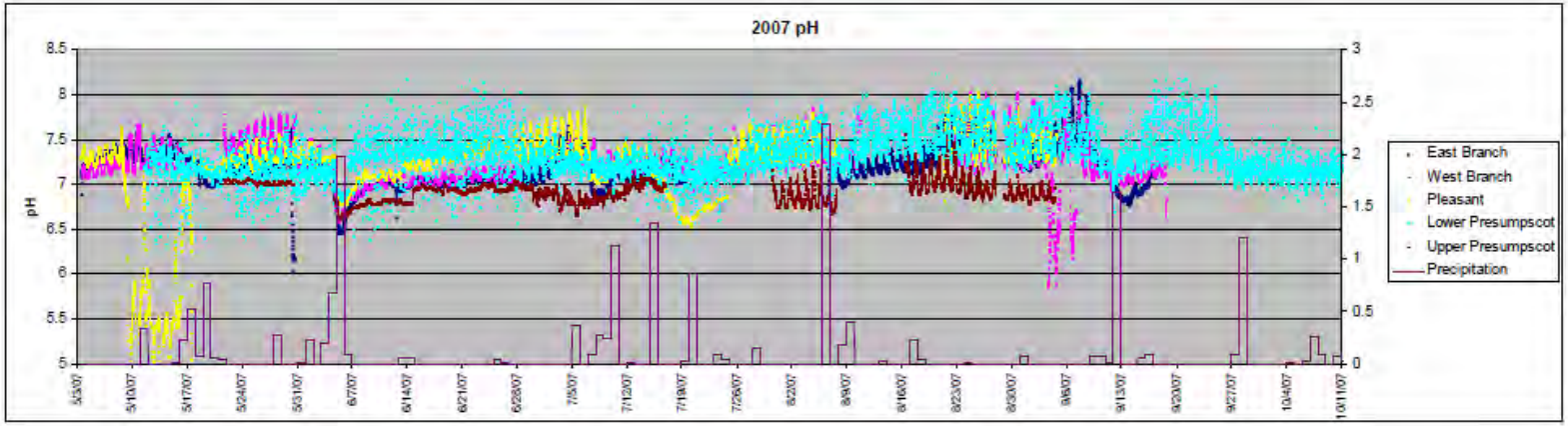

2006 Turbidity
Turbidity (NTU)
200
150
100
50
0
3
2.5
2
1.5
1
0.5
0
East Branch
West Branch
Pleasant
Lower Presumpscot
Precipitation


2006 pH
pH
8.5
8
7.5
7
6.5
6
5.5
5
3
2.5
2
1.5
1
0.5
0
East Branch
West Branch
Pleasant
Lower Presumpscot
Precipitation


2007 Temperature
Temperature (celsius)
East Branch
West Branch
Pleasant
Lower Presumpscot
Upper Presumpscot
Precipitation


2007 Dissolved Oxygen
Dissolved Oxygen (mg/L)
East Branch
West Branch
Pleasant
Lower Presumpscot
Upper Presumpscot
Precipitation


2007 Turbidity
Turbidity (NTU)
200
150
100
50
0
3
2.5
2
1.5
1
0.5
0
East Branch
West Branch
Pleasant
Lower Presumpscot
Upper Presumpscot
Precipitation
5/3/07
5/10/07
5/17/07
5/24/07
5/31/07
6/7/07
6/14/07
6/21/07
6/28/07
7/5/07
7/12/07
7/19/07
7/26/07
8/2/07
8/9/07
8/16/07
8/23/07
8/30/07
9/6/07
9/13/07
9/20/07
9/27/07
10/4/07
10/11/07


2007 pH
pH
8.5
8
7.5
7
6.5
6
5.5
5
3
2.5
2
1.5
1
0.5
0
East Branch
West Branch
Pleasant
Lower Presumpscot
Upper Presumpscot
Precipitation
5/3/07
5/10/07
5/17/07
5/24/07
5/31/07
6/7/07
6/14/07
6/21/07
6/28/07
7/5/07
7/12/07
7/19/07
7/26/07
8/2/07
8/9/07
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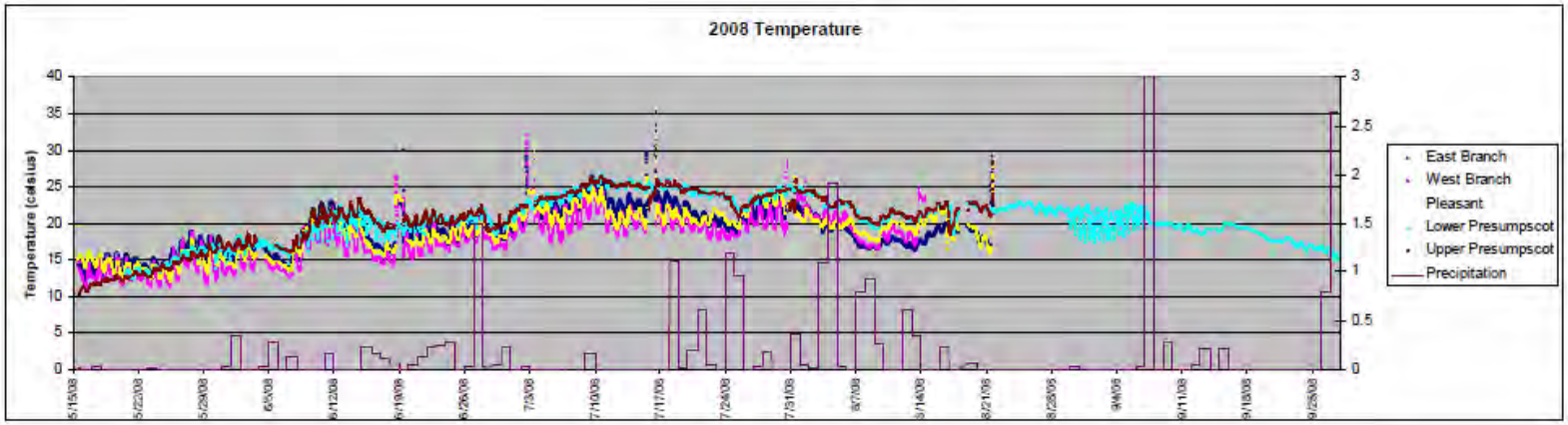
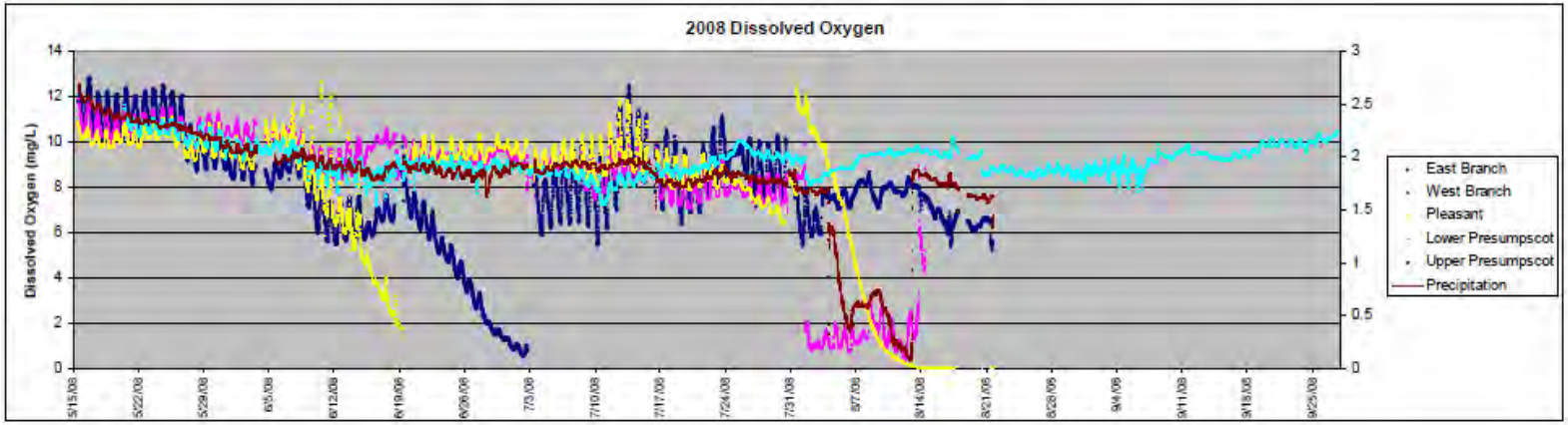
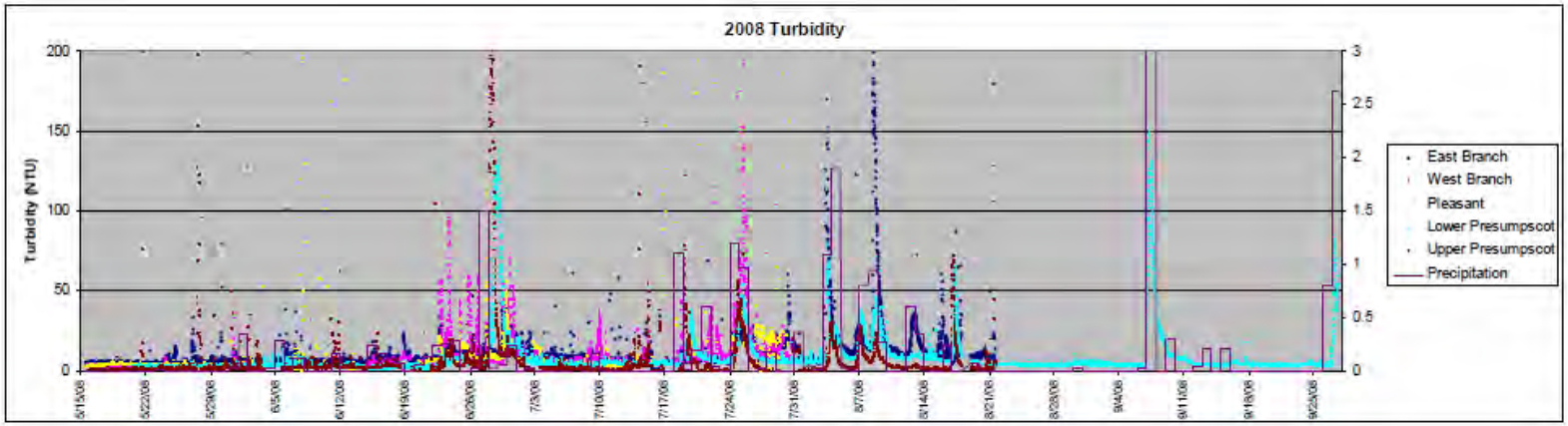
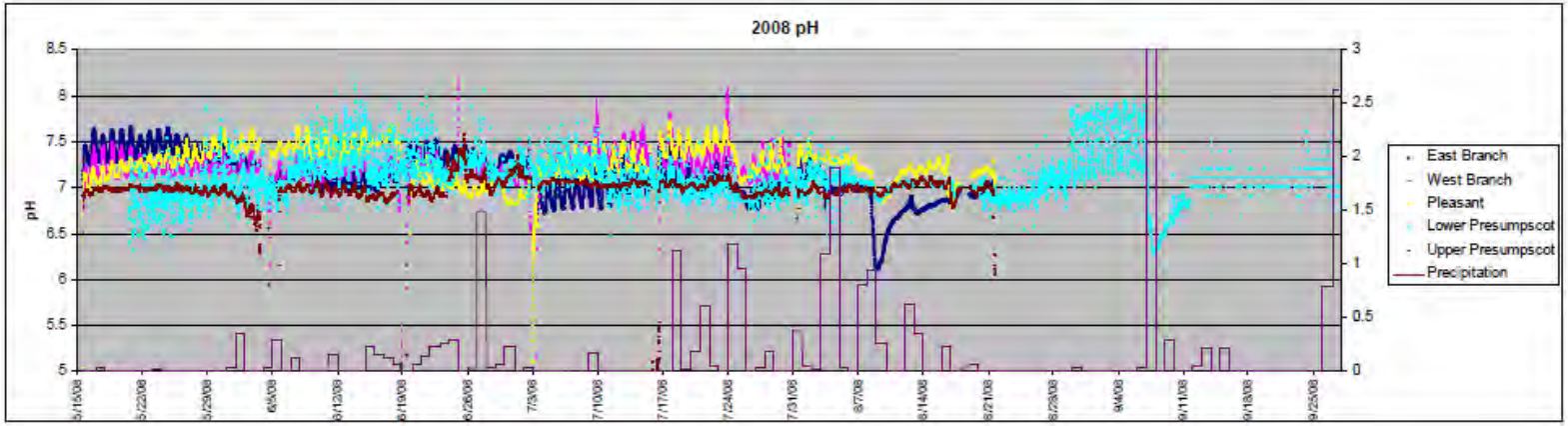
10/4/07
10/11/07


2008 Temperature
Temperature (celsius)
East Branch
West Branch
Pleasant
Lower Presumpscot
Upper Presumpscot
Precipitation


2008 Dissolved Oxygen
Dissolved Oxygen (mg/L)
East Branch
West Branch
Pleasant
Lower Presumpscot
Upper Presumpscot
Precipitation


2008 Turbidity
Turbidity (NTU)
200
150
100
50
0
3
2.5
2
1.5
1
0.5
0
East Branch
West Branch
Pleasant
Lower Presumpscot
Upper Presumpscot
Precipitation


2008 pH
pH
8.5
8
7.5
7
6.5
6
5.5
5
3
2.5
2
1.5
1
0.5
0
East Branch
West Branch
Pleasant
Lower Presumpscot
Upper Presumpscot
Precipitation

APPENDIX H. PWI MEDIA COVERAGE HIGHLIGHTS

- *American Journal*, 10/12/2005. "River Renewal: The Presumpscot River is improving after decades of industry have relied on it." Page 1.
- *Portland Forecaster*, 11/16/2005. "Presumpscot watershed plan gets boost from feds." Page 4.
- *Gorham-Westbrook Gazette*, 11/18/2005. "EPA grant to fund river upgrades." Vol. 1, No. 22. Page 1.
- *Gorham-Westbrook Gazette*, 6/9/2006. "High school students providing free river-friendly landscaping." Page 4.
- *Windham Independent*, 7/20/2006. "Keeping an eye on the river." Page 7.
- *American Journal*, summer 2006. "Youth conservation corps expands to take on river erosion." Page 1.
- *American Journal*, 8/3/2006. "Presumpscot River on its way back."
- *Gorham Westbrook Gazette*, 8/4/2006. "Gorham youth spending her summer improving the landscape." Page 4.
- *Windham Independent*, 8/17/2006. "Soil soldiers." Page 7.
- *Portland Press Herald*, 3/8/2007. "Do green lawns make green water?" Page B8.
- *Maine Sunday Telegram*, 3/10/2007. "The grass of home gets greener." Page B1.
- *American Journal*, 10/11/2007. "River Watch: Grant helps farmer keep cattle herd from polluting Presumpscot." Page 1.
- *Portland Press Herald*, 11/5/2007. "Riverside courts 'green'." Page A1.
- *Portland Forecaster*, 11/7/2007. "Area greens getting greener." Page 2.
- *Gulf of Maine Times*, Winter/Spring 2008. "The Presumpscot: A river in recovery." Volume 12, Number 1. Page 9.

APPENDIX I. PWI FACT SHEETS

- *Presumpscot Watershed Initiative* fact sheet (prepared by CBEP at onset of grant)
- *2005 Targeted Watershed Grants: Presumpscot River and Casco Bay* (prepared by EPA)

Presumpscot Watershed Initiative

"Implementing Water Quality Improvements to Support Vital Fisheries"

Project Fact Sheet *February, 2006*

Overview:

Building on significant improvements in the Presumpscot River over the last decade, the Presumpscot Watershed Initiative (PWI) will implement a suite of projects to improve water quality, enhance riparian habitat, reduce contaminant loading, and foster increased stewardship and awareness among watershed inhabitants. Demonstration projects will model land stewardship practices to watershed landowners and land users. Project partners will monitor bacteria, nutrients, and other water quality parameters to provide an indication of measurable progress. The project's educational outreach elements will serve to actively engage multiple watershed stakeholder groups.

Goal:

Lower overall loading of sediment, bacteria, nutrient, and toxics to the Presumpscot River and tributaries.

Tasks:

- Stabilize stream banks and improve culverts at 46 road crossings over streams to reduce erosion;
- Re-establish forested riparian buffers by planting 2,000 trees and shrubs along river and stream banks;
- Work with agricultural land owners through a cost-sharing program to install fencing and alternative watering systems to keep cows off riverbanks and out of streams;
- Support six watershed golf courses in seeking *Audubon International Cooperative Sanctuary Certification Program* certification as environmentally sustainable, including the installation of three equipment wash pads and other best management practices;
- Establish a Presumpscot River Youth Conservation Corps to engage area youth in direct stewardship of their watershed through hands-on implementation of projects;
- Conduct outreach to homeowners to reduce pesticide and fertilizer use through the *Yardscaping* program;
- Monitor water quality for critical water quality parameters including temperature and dissolved oxygen;
- Develop an interactive website with watershed maps and data from the project and initiate a "Maps for Schools" program.

Funding:

Casco Bay Estuary Partnership and Presumpscot River Watershed Coalition were awarded $739,942 through a successful grant application to the U.S. EPA Targeted Watershed Initiative grants program (www.epa.gov/owow/watershed/initiative) for the Presumpscot Watershed Initiative. The grant was the only one funded in New England and one of twelve funded nationwide out of seventy-four total proposals.

Grant Partners:

- Presumpscot River Watershed Coalition
- Casco Bay Estuary Partnership
- Presumpscot River Watch
- Cumberland County Soil and Water Conservation District
- Friends of Casco Bay
- Maine Department of Environmental Protection

Project Contact:

Matt Craig, PWI Project Manager
Casco Bay Estuary Partnership, USM Muskie School
P.O. Box 9300 Portland, ME 04104-9300
PHONE (207)228-8359, EMAIL: mcraig@usm.maine.edu

2005 Targeted Watersheds Grants: Presumpscot River and Casco Bay

Maine

WHY IS THIS WATERSHED SPECIAL?

The Presumpscot watershed encompasses 205 square miles, and the Presumpscot River flows 27 miles from Sebago Lake into Casco Bay and the Gulf of Maine. Although it is primarily forested and agricultural land, this region is rapidly being developed. The river has a history of extensive industrial use since the early 1700s. By the 1950s, the river was so polluted that fumes from the river peeled paint off nearby homes. Prior to industrialization, there were abundant, healthy salmon, alewive, shad and eel fisheries. These have since been decimated.

ENVIRONMENTAL CHALLENGES

In recent years the water quality has improved in the river as a result of the cessation of pulp mill discharges in the 1990s, and anadromous fish are returning with the removal of the Smelt Hill Dam in 2002. However, the improvements in the watershed have opened the doors to increased watershed and shoreline development pressures, which have caused increased amounts of impervious surface and non-point source pollution. The Targeted Watersheds Grant will focus on tackling high priority environmental problems:

- Excess sedimentation from roadways and livestock activities is causing deterioration of fish spawning areas.
- Excess nutrients and toxics are present in the river as a result of increased development.
- The loss of riparian vegetation is causing thermal impacts, which impair the water quality for cold water fisheries.

RESTORATION ACTIVITIES

Together with the Presumpscot River Watershed Coalition, the Casco Bay Estuary Partnership will use Targeted Watersheds Grant funds to improve water quality and land stewardship by:

- Stabilizing or replacing 46 eroding stream crossings to reduce soil erosion and sediment deposition in the watershed.
- Installing forested buffers along five sites to restore riparian areas.
- Establishing a Presumpscot River Youth Conservation Corps to engage area youth in direct stewardship through hands-on implementation of buffer enhancement and water quality improvement projects.
- Developing a cost-share program with agricultural landowners for streamside fencing and alternative watering systems to reduce livestock impacts on streams, including bacterial, sediment and nutrient contributions.
- Implementing a golf course environmental certification program to encourage improved management practices to reduce in-stream levels of nutrients, pesticides and herbicides.
- Introducing the "Yardscaping" program to local neighborhoods to reduce pesticide and fertilizer runoff.

Tim Bennett of Presumpscot River Watch prepares sampling equipment for deployment into the river. Credit: Matt Craig, Casco Bay Estuary Partnership.

Targeted Watersheds

A STRONG PARTNERSHIP FOR CHANGE

The Casco Bay Estuary Partnership is working with a diverse group of partners including:

- Presumpscot River Watershed Coalition
- Cumberland County Soil and Water Conservation District
- Presumpscot River Watch
- Friends of Casco Bay
- Maine Board of Pesticide Control
- Maine Department of Environmental Protection

EPA's Targeted Watersheds Grants

EPA's Targeted Watersheds Grants program is a competitive grant program designed to encourage collaborative, community-driven approaches to meet clean water goals.

Betty Williams of the Cumberland County Soil and Water Conservation District guides the Presumpscot River Youth Conservation Corps as they install infiltration steps on an eroded trail to the Presumpscot River. Credit: Lisa Vickers, Presumpscot River Youth Conservation Corps

For More Information Contact:

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207-228-8359

www.cascobay.usm.maine.edu/

Funding: $739,942