



North Carolina Department of Environment and Natural Resources
Division of Water Resources

Beverly Eaves Perdue
Governor

Thomas A. Reeder
Director

Dee Freeman
Secretary

ENO RIVER ANNUAL WATER USERS MEETING

August 26, 2010 10:00 A.M.
Hillsborough, NC

Meeting Minutes

Attendees:

Linwood Peele, Don Rayno, & Wayne Howard – Division of Water Resources (DWR);
Emily Hill – Division of Parks and Recreation (DPR);
Keith Nealson – Eno River State Park;
Kevin Lindley – Orange County;
Kenny Keel, Will Baker, Nathan Cates, & Julie Lindley – Town of Hillsborough;
Faye Metcalf & David Liner – Orange-Alamance;
John Tolar – Lake Orange, Inc.;
Steve Richardson, Buzz Koenig & Ken Terlep – Friends of Lake Orange.

- Linwood Peele convened the meeting at 10:05 a.m;
 - Thanked Hillsborough for hosting the meeting at their facility.
 - Welcomed all participants and attendees.
- Introductions.

Historical Operations:

Kevin Lindley provided a brief historical summary and overview of the Eno River Voluntary Capacity Use Agreement;

- Discussed how the drought of the 1980's prompted the Orange County capacity use investigation.
- The Environmental Management Commission (EMC) declared if the three major users (Hillsborough, Orange-Alamance, Piedmont Minerals) could voluntarily manage their Eno River withdrawals, capacity use area permitting could be avoided.
- Agreement dictates usage limitations based on the target flow at the Eno River gage.
- When Hillsborough's West Fork Eno Reservoir (WFER) was created, the agreement was updated to reflect the additional releases.
- Discussed the various stages, their enactment, and how releases are operated.

Gages and Weirs:

- Lake Orange Reservoir (LOR) is currently in Stage 1 restrictions.
- Hillsborough is currently releasing more than the 1.0 cfs to meet the minimum release requirement and supplement the flows in the Eno River.

Water Use & Stream Flow Report:

- Wayne Howard provided and discussed several graphs and tables;
 - **Graph 1:** Eno River Average Weekly Withdrawals (When Operating Average);
August 2009 – July 2010 with level of restrictions
 - **Graph 2:** Eno River Average Weekly Withdrawals (7-day Average);
August 2009 – July 2010 with level of restrictions
 - **Graphs 3 & 4:** Eno River @ Hillsborough Gage #02085000;
Flow vs. Date (flow less than 10 cfs for August 2009 – July 2010)
 - **Table 1:** Summary for 2009 Stages of Restriction. (August 2009 – July 2010)
Provided number of weeks at each level of restrictions.
Provided average and total use for the Eno River Users.

ENO RIVER ANNUAL SUMMARY REPORT
August 2009 – July 2010

Month	Restrictions	Dates
August 2009	Stage 1	August 1 – 31
September 2009	Stage 1	September 1 – 30
October 2009	Stage 1 Stage 2	October 1 – 12 October 13 – 31
November 2009	Stage 2 Stage 1	November 1 – 2 November 3 – 16
December 2009	NONE	*
January 2010	NONE	*
February 2010	NONE	*
March 2010	NONE	*
April 2010	NONE	*
May 2010	NONE	*
June 2010	Stage 1	June 25 – 30
July 2010	Stage 1	July 1 – 31

August - December 2009

Weeks of Restrictions

STAGE 1: 12 weeks, 3 days

STAGE 2: 3 weeks, 0 days

January - July 2010

Weeks of Restrictions

STAGE 1: 5 weeks, 2 days

Hillsborough:

Total use: 1.189 mgd
 Avg. Eno use: 1.189 mgd
 (when operating: 1.189 mgd)

Total use: 1.068 mgd
 Avg. Eno use: 1.068 mgd
 (when operating: 1.068 mgd)

Orange-Alamance:

Total use: 0.641 mgd
 Avg. Eno use: 0.169 mgd
 (when operating: 0.284 mgd)

Total use: 0.636 mgd
 Avg. Eno use: 0.108 mgd
 (when operating: 0.206 mgd)

Piedmont Minerals:⁺

Total use: 0.000 mgd
 Avg. Eno use: 0.000 mgd
 (when operating: 0.003 mgd)

Total use: 0.000 mgd
 Avg. Eno use: 0.000 mgd
 (when operating: 0.004 mgd)

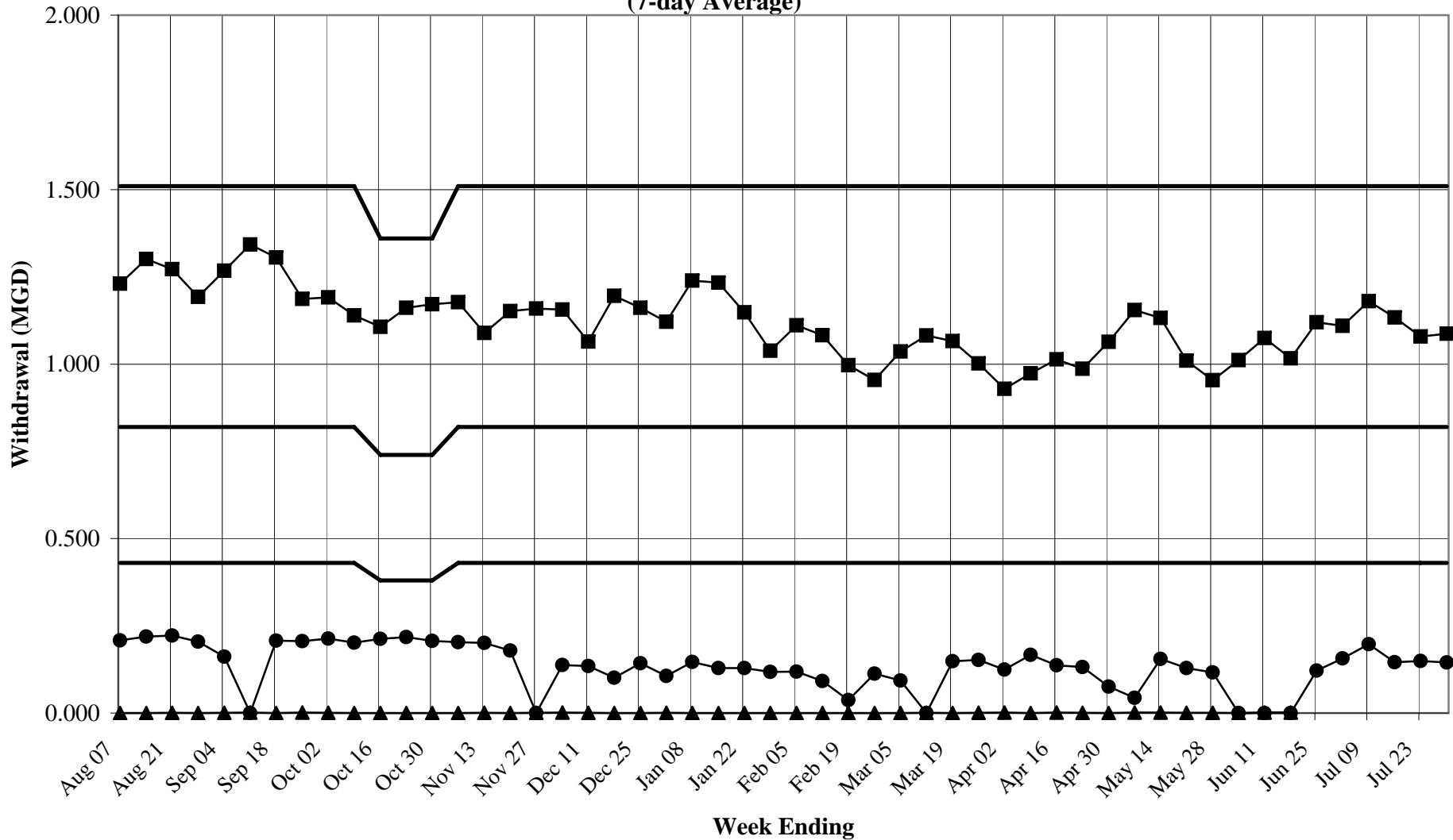
* Note: Streamflows exceeded 10 cfs for this period.

+ Note: At the time of this report, Piedmont Minerals had not submitted withdrawal information for June 19 – July 31, 2010.

ENO RIVER AVERAGE WEEKLY WITHDRAWALS

August 2009 - July 2010

(7-day Average)

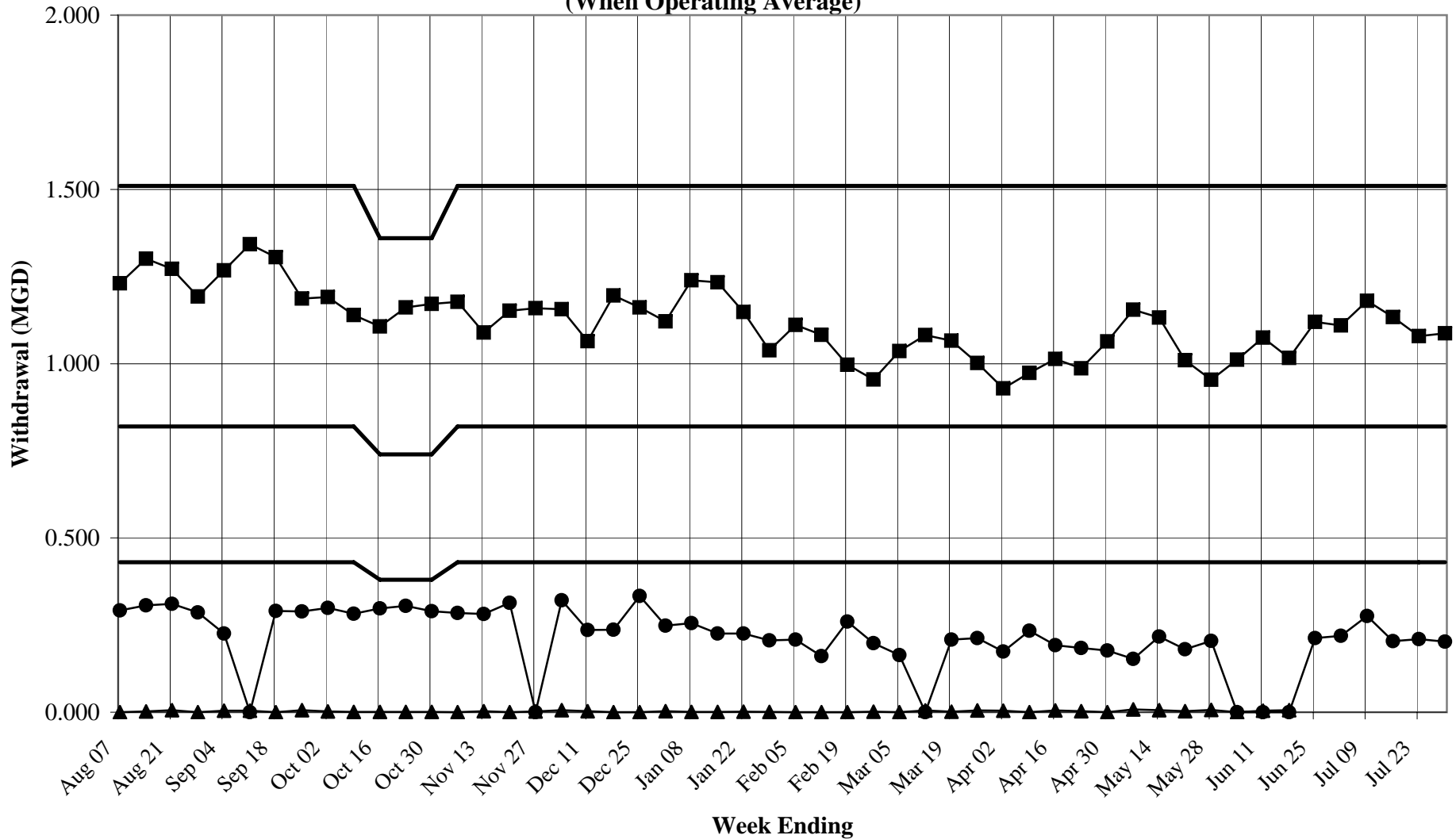


— Stage Withdrawal Limits ■ Hillsborough ● Orange-Alamance ▲ Piedmont Minerals



ENO RIVER AVERAGE WEEKLY WITHDRAWALS

August 2009 - July 2010
(When Operating Average)



— Stage Withdrawal Limits ■ Hillsborough ● Orange-Alamance ▲ Piedmont Minerals

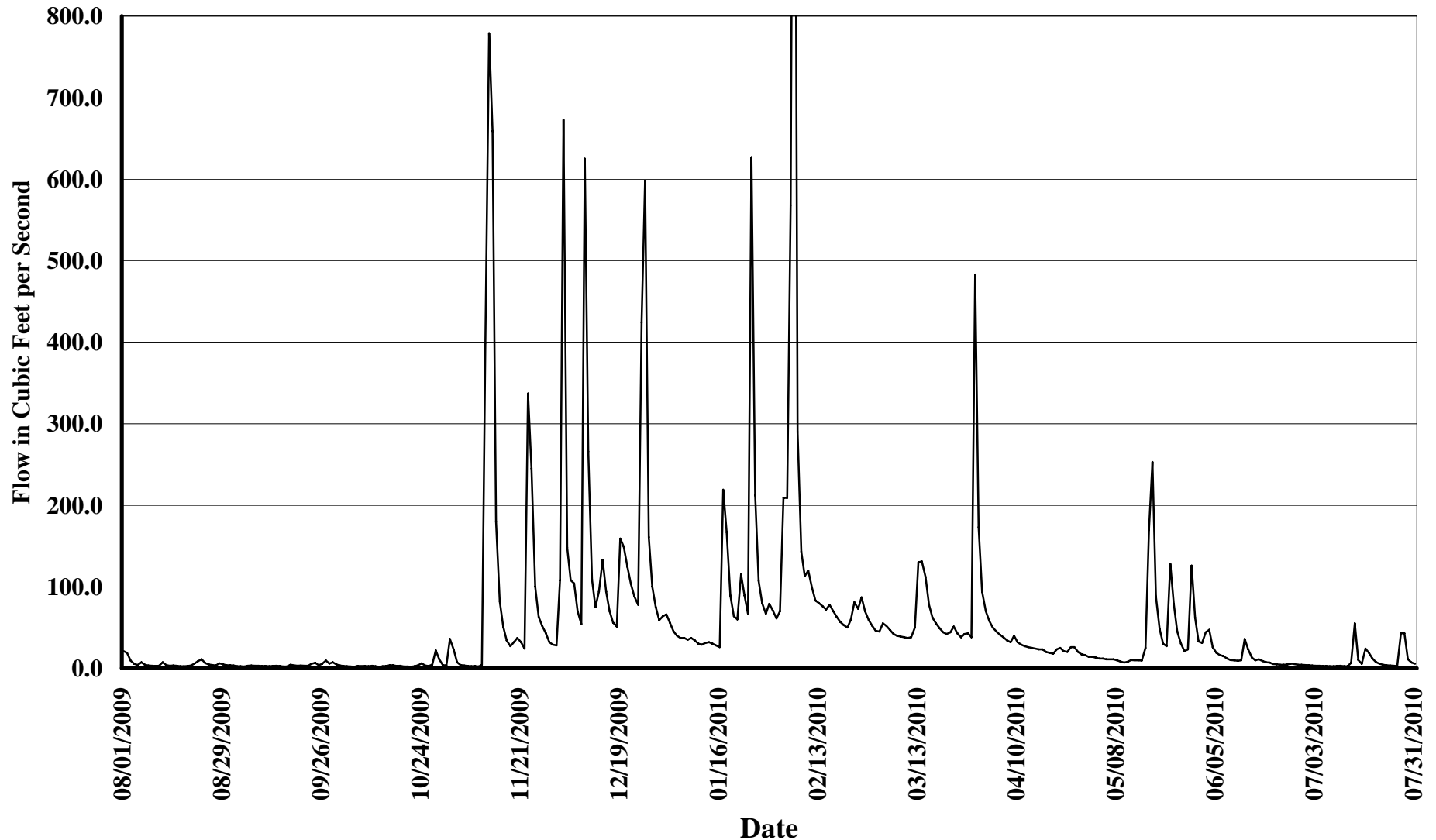
ENO RIVER @ HILLSBOROUGH, #02085000

August 1, 2009 - July 31, 2010

08/01/09-09/30/09: USGS data approved for publication.

10/01/09-07/31/10: USGS provisional data subject to revision.

02/06/10: Flow of 1490 cfs not shown on graph to preserve scale.

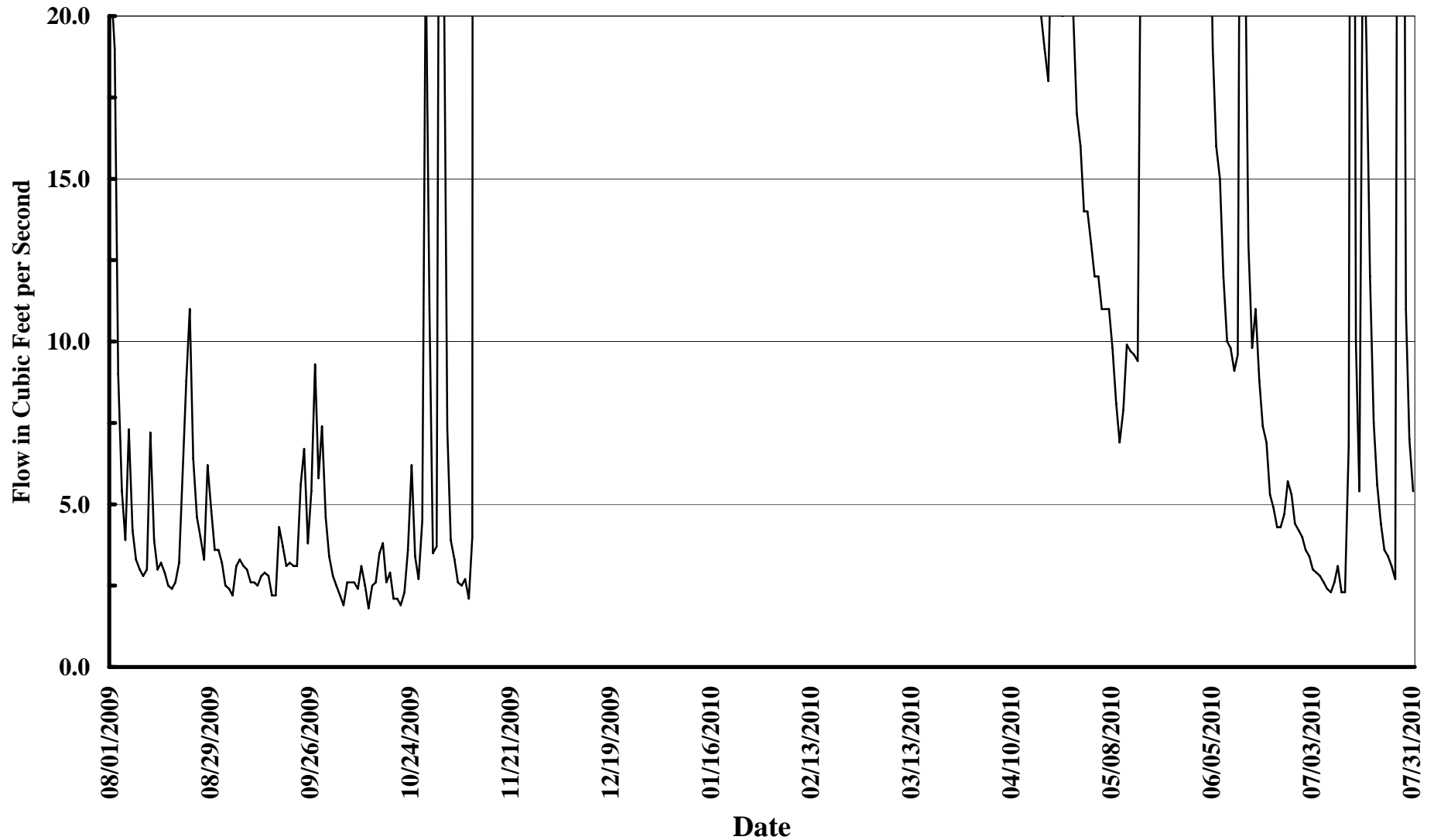


ENO RIVER @ HILLSBOROUGH, #02085000

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Status of Water Users:

Hillsborough

- Kenny Keel provided a brief history of Hillsborough's water use;
 - In 1990's, Hillsborough usage 1.7 mgd – 2.0 mgd.
 - Purchased water from Durham and OWASA.
 - Developed plans to build West Fork Eno Reservoir (WFER).
 - In the late 90's lost their largest customer, Flint Fabrics.
 - Some growth, but usage stayed consistent (~1.3 mgd).
 - Customer efficiency programs have proved beneficial.
- Kenny Keel provided the status of Hillsborough's WFER;
 - Water flowing fairly well.
 - Hillsborough's average usage is 1.08-1.10 mgd.
 - WFER's current level is 42.5 feet.
 - Releasing approximately 1.5 cfs (1.0 cfs minimum release).
- Customer usage;
 - Usage fluctuates when compared to past twelve months.
 - Overall usage is fairly consistent with past years.
 - The Town currently has no customer use restrictions.
 - UNC Hospitals to move into Hillsborough;
 - Construction to begin in 2011, open ~ 2015.
 - Expected demand 0.250 mgd – 0.300 mgd.
 - Expected to drive Hillsborough development.
- Hillsborough WWTP improvements;
 - Funds granted through Clean Water Management Trust Fund now available.
 - WWTP will undergo improvements/expansion;
 - Phase 1 of 2 at a cost of \$17 million.
 - Mid-1970's technology to be upgraded.
 - Current treatment capacity = 3.0 mgd, increase to 3.2 mgd.
 - Construction to begin August 2011, completion approximately 2013.
 - Phase 2 expected 5-6 years later; require sewer rate increase for population.

Orange-Alamance

- Faye Metcalf gave the status update for Orange-Alamance Water System, Inc.;;
 - No significant changes in usage over the past year.
 - Eno River withdrawals are approximately 200,000 – 300,000 gpd.
 - Treatment plant operates 5 days per week.
 - Purchase water from Haw River;
 - Under contract: minimum 0.300 mgd and maximum 0.800 mgd.
 - Contract term is 20 years.
 - Additional water withdrawn from two wells;
 - Approximately 0.200 mgd.
- If County allows more development, Orange-Alamance anticipates growth in customers;
 - Unsure if they will sell water to new Buckhorn Mall development.

Piedmont Minerals

- There was no representative for Piedmont Minerals present to provide an update.

Orange County

- Kevin Lindley provided the status of Lake Orange Reservoir;
 - Lake Orange Reservoir down by 5.5” by his last check;
 - Level has been as low as 12” recently.
 - To maintain minimum release of 2.8 cfs, he has opened the valve the last two Fridays.
 - Coordinates with Hillsborough to help maintain minimum release.
- This October, Orange County will install an automatic gate at Lake Orange Reservoir;
 - Existing gate to be replaced, new gate with electric actuator to be installed.
 - New gate will be controlled by processor at the reservoir;
 - Adjustments based on real-time flow.
 - Upgrade will be operationally better;
 - Save an hour of work time for every adjustment.
- When installation begins, all intakes will be closed;
 - There will be no releases from the reservoir during this time.
 - Hillsborough will maintain the 2.8 cfs minimum release during repairs.
 - Maintenance to spillway and dam will also be performed.
- Hillsborough helped to fund the gate replacement project.
- The project is the first on a list of repairs to be made over the next several years.

Eno River State Park

- Keith Nealson expressed concern over the low flows in the river;
 - Due to low flows, hydrilla has rooted.
 - Currently surveying the impact of hydrilla.
- Park attendance: approximately 450,000 people.
- Park strives to be a good neighbor to all.
- Would love to see increased water flow through the Park.

Division of Parks and Recreation

- Emily Hill noted a presence of hydrilla in Corporation Lake;
 - Recommended Orange-Alamance considers stocking the lake with grass carp.
 - Rob Emens, head of DWR’s Aquatic Weed Control Program, recommended as primary contact.
- Kenny Keel noted Hillsborough had acquired grass carp for WFER through DWR’s cost-share program;
 - Have not seen an increase in hydrilla since.
 - Substantial difference in hydrilla reduction may take 2 -3 years.
- Lake Orange Reservoir also stocked with grass carp years ago;
 - A recent assessment needed to evaluate presence of hydrilla and grass carp.

Follow-up Items:

- Buzz Koenig concerned over recent levels at Lake Orange Reservoir;
 - Ken Terlep noted current level of Lake Orange Reservoir down 12” – 13”.
- Kevin Lindley inquired as to what level, in his personal opinion, would be best?
 - Buzz Koenig felt 12” tolerable, 18” hurtful to their recreational privileges.
- Buzz Koenig noted in his research, the Lake Orange Reservoir project was initially developed as an emergency only water source to be a quasi private-public entity.
- Buzz Koenig asked in the short term there be some man to man logical changes to alleviate recreational impacts. There should be some long term practices discussed to mitigate the drops, possibly through a new dynamic with WFER.
- Linwood Peele reiterated from last year’s meeting that only the primary users of the Eno Agreement could request that the Environmental Management Commission (EMC) reopen the agreement;
 - Kenny Keel reminded everyone this option may prove unfavorable to all parties involved.
- John Tolar of Lake Orange, Inc. would prefer the current rules governing the reservoir not change;
 - Prefer to see County and the Town do what’s right, use common sense.
- Ken Terlep asked if Hydrologic Model was complete;
 - Linwood Peele thanked Ken for his assistance with the model’s validation.
 - Linwood Peele explained the new law requires model approval by the EMC. At this time, still receiving comments to be addressed.
 - In November, Tom Reeder will plan to present the model to the Water Allocation Committee.
 - Don Rayno added everyone was comfortable with the model;
 - Does a pretty good job modeling flow characteristics.
 - Model may not be approved due to timing and implementation of the law.
- Don Rayno also pointed out the Eno River will be used as a reference to develop a standard to integrate ecological flows into the modeling process.

- Linwood Peele adjourned the meeting at 11:40 a.m.