Technical Report No. 62

New York Agricultural Best Management Tracking

July 2011

Prepared by
Andrew Snell, Champlain Watershed Improvement Coalition of New York; Bob Brower, New York State Department of Agriculture and Markets

for
Lake Champlain Basin Program

PUBLICATION SERIES

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This technical report is the sixty-second in a series of reports prepared under the Lake Champlain Basin Program. Those in print are listed below.

Lake Champlain Basin Program Technical Reports

1. *A Research and Monitoring Agenda for Lake Champlain.* Proceedings of a Workshop, December 17-19, 1991, Burlington, VT. Lake Champlain Research Consortium. May, 1992.

2. *Design and Initial Implementation of a Comprehensive Agricultural Monitoring and Evaluation Network for the Lake Champlain Basin.* NY-VT Strategic Core Group. February, 1993.

3. (A) *GIS Management Plan for the Lake Champlain Basin Program.* Vermont Center for Geographic Information, Inc., and Associates in Rural Development. March, 1993.

   (B) *Handbook of GIS Standards and Procedures for the Lake Champlain Basin Program.* Vermont Center for Geographic Information, Inc. March, 1993.

   (C) *GIS Data Inventory for the Lake Champlain Basin Program.* Vermont Center for Geographic Information, Inc. March, 1993.

4. (A) *Lake Champlain Economic Database Project. Executive Summary.* Holmes & Associates. March 1993.

   (B) *Socio-Economic Profile, Database, and Description of the Tourism Economy for the Lake Champlain Basin.* Holmes & Associates. March 1993

   B) *Socio-Economic Profile, Database, and Description of the Tourism Economy for the Lake Champlain Basin. Appendices.* Holmes & Associates. March 1993

   (C) *Potential Applications of Economic Instruments for Environmental Protection in the Lake Champlain Basin.* Anthony Artuso. March 1993.

   (D) *Conceptual Framework for Evaluation of Pollution Control Strategies and Water Quality Standards for Lake Champlain.* Anthony Artuso. March 1993.

5. *Lake Champlain Sediment Toxics Assessment Program. An Assessment of Sediment - Associated Contaminants in Lake Champlain - Phase 1.* Alan McIntosh, Editor, UVM School of Natural Resources. February 1994.

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6. *(A) Lake Champlain Nonpoint Source Pollution Assessment.* Lenore Budd, Associates in Rural Development Inc. and Donald Meals, UVM School of Natural Resources. February 1994.

   (B) Lake Champlain Nonpoint Source Pollution Assessment. Appendices A-J. Lenore Budd, Associates in Rural Development Inc. and Donald Meals, UVM School of Natural Resources. February 1994.

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   (A) *Dynamic Mass Balance Model of Internal Phosphorus Loading in St. Albans Bay, Lake Champlain.* Eric Smeltzer, Neil Kamman, Karen Hyde and John C. Drake. March 1994.

   (B) *History of Phosphorus Loading to St. Albans Bay, 1850 - 1990.* Karen Hyde, Neil Kamman and Eric Smeltzer. March 1994.

   (C) *Assessment of Sediment Phosphorus Distribution and Long-Term Recycling in St. Albans Bay, Lake Champlain.* Scott Martin, Youngstown State University. March 1994.

8. *Lake Champlain Wetlands Acquisition Study.* Jon Binhammer, VT Nature Conservancy. June 1994.

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10. *Population Biology and Management of Lake Champlain Walleye.* Kathleen L. Newbrough, Donna L. Parrish, and Matthew G. Mitro, Fish & Wildlife Research Unit, University of Vermont. June 1994.

11. (A) *Report on Institutional Arrangements for Watershed Management of the Lake Champlain Basin. Executive Summary.* Yellow Wood Associates, Inc. January 1995.

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13. *Patterns of Harvest and Consumption of Lake Champlain Fish and Angler Awareness of Health Advisories.* Nancy A. Connelly and Barbara A. Knuth. September 1995.

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18. *Catalog of Digital Spatial Data for the Lake Champlain Basin .* Vermont Center for Geographic Information, Inc. September 1996.

19. *Hydrodynamic and Water Quality Modeling of Lake Champlain.* Applied Science Associates, Inc. July 1996.

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60. An Environmental Accounting System to Track Nonpoint Source Phosphorus Pollution in the Lake Champlain Basin, Second Year Report. Lula Ghebremichael and Mary Watzin, UVM Rubenstein School of Environment and Natural Resources. May 2010.

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New York Agricultural Best Management Tracking Project
FY 2010 Final Report

New York State Department of Agriculture and Markets & Lake Champlain Basin Program

Title: New York Agricultural BMP Tracking Project – FY 2010

Point of Contact: Andrew Snell, Champlain Watershed Improvement Coalition of NY
1 Lower Amherst Street
Lake George, NY 12845

NY Ag BMP Tracking Final Report FY 2010

TABLE OF CONTENTS **PAGE**

Attachments

Appendix

Executive Summary

Background: The New York Agricultural BMP Tracking Project is a continuation of the project, started in March of 2001.
The project's goals include:

- The tracking of the application of agricultural Best Management Practices (BMPs) that have been installed or contracted for since 1995, that contribute to estimated on-farm phosphorous retention in the five-county region of New York that comprise the Lake Champlain Basin.
- Tracking of farm location and update of animal units information to maintain BMP records.
- Gathering data including agricultural acreage for all entries in the database, along with acreages of all installed practices since the beginning of the project, total cost of the BMPs along with federal, state, landowner contributions and other dollars involved.
- To assist local efforts in securing additional funds for planning and implementation of phosphorous control projects.

Abstract: During the 2010 project time frame, agricultural BMPs were tracked to include the addition of new practices installed and the deletion of practices that had exceeded their USDA Natural Resource Conservation Service (NRCS) mandated life spans or that were no longer viable. Information on additional practices was requested from and provided by the NRCS area office in Ballston Spa and Albany, NY as well as the NRCS field office in Greenwich, NY. This insures that all new information meets the minimum qualification of NRCS Standards and Specifications.

Funds for planning, implementation, and technical assistance continued to be provided to the local SWCD's through the Agricultural Environmental Management (AEM) Program and the Agricultural Non-Point Source Abatement and Control Program (Ag-NPSACP).

The development and implementation of Comprehensive Nutrient Management Plans (CNMP) is required for farms regulated by New York State Concentrated Animal Feeding Operation (CAFO) permits. Under the Clean Water Act (CWA) CAFO permit initiated in July 2004, existing CAFO-sized farms (200 or more mature cows) were required to have a CNMP by the start of the permit (July 2004). Existing large CAFOs (700 or more mature cows) were required to have their plan fully implemented by the end of 2006

There are currently two CAFO permits in effect in New York State : (**1**) the existing Clean Water Act permit and (**2**) the New York State Environmental Conservation Law (ECL) CAFO permit (a no discharge permit released in June 2009). The 2004 CWA permit is currently extended until a new CWA permit is released by NYS DEC. For the new ECL CAFO permit, large CAFOs must have their CNMP fully implemented to gain coverage. Medium CAFOs must have all of their non-structural practices implemented to be authorized under the ECL permit and are allowed additional time (until March 31, 2012) to implement remaining structural practices in their CNMP. Additional requirements in the ECL permit for both large and medium CAFOs include: an evaluation of existing vegetated treatment areas, under designed manure transfer systems, and any improperly functioning practices by a Professional Engineer by March 31, 2011, and any needed retrofits completed by March 31, 2012.

If medium CAFOs are pursuing funding and making progress on implementation, but are unable to meet the March 2012 deadline for completion of all structural practices, they may apply for an extension up to June 2014 to

(Continued on page 4)

(Continued from page 3)

complete implementation. NYS DEC will ultimately determine whether or not to grant the extension.

All practices are tracked, not as individual Best Management Practices, but as Conservation Systems. For example, a Barnyard Water Management System may include several BMPs such as Heavy Use Protection, Underground Outlet and/ or Vegetative Filter Areas.

Utilizing the document entitled "Procedure for Estimating Agricultural NPS Phosphorous Runoff" written by Richard Croft, NRCS State Conservation Engineer; "Potential phosphorous load reductions from each principal nonpoint source category on the farm are estimated using coefficient (in annual pounds of phosphorous per animal unit) selected from NRCS Vermont Phosphorous Model runs on more than 200 farms in the basin." **[figure 7 & 8]**

For example, a barnyard water management system is given a phosphorous reduction coefficient of 0.5 pounds per animal unit while a milk house waste treatment system is only given a coefficient of 0.2 pounds per animal unit.

Each agricultural operation is tallied as to what practice was installed, the total number of all animal units on the farm and the corresponding phosphorous retention totals. Similar to past years, the 2010 estimation of possible phosphorous retention is performed by multiplying the animal unit information for each farm by the estimated phosphorous 'reduction coefficient' (expressed in a fraction of a pound per animal unit (1000 pounds of live weight or 1.0; typically 1.4 for milking cows) [**see Example below**].

No changes have been made to the coefficients and therefore the original coefficients continue to be utilized and incorporated in to the preparation of the 2010 report **[see tables 1-4; Lake Segment Comparison Graphs]**.

No one practice can accomplish the overall goals of installing the complete system. This methodology was developed in FY 2003 by an agricultural sub-committee of the Lake Champlain Basin Program (LCBP) Technical Advisory Committee's (TAC) Phosphorous Reduction Task Force (PRTF) and agreed to by New York, Vermont and Quebec as the best and most suitable method to report estimated phosphorous reductions from adapting agricultural practices. The existing coefficients are only an *estimate* of phosphorous retention and should not be interpreted as actual load reductions in the Lake.

Variables such as response time (time between installation and / or adaptation of a practice to actual reductions in phosphorous), stream dynamics and their effects on nutrients and distances to waterbodies (such as steams, ponds and lakes) can skew the accuracy of these coefficients.

Other factors that may affect the estimated phosphorous reduction include the operation and maintenance of the system by the landowner. Different levels of maintenance of a project will have varying degrees of effectiveness of phosphorous control.

EXAMPLE: *A 100 milking cow dairy implemented 1 milk house waste and 1 barnyard management system in 2010. The total P savings for the 2 systems are computed as follows:*

(100 milking cows x 1.4 = ***140 AU's****)*
1 milkhouse waste treatment system (P savings coefficient = ***0.2****)*
+
1 barnyard water management system (P savings coefficient = ***0.5****)*
140 au x 0.2 = 10 lbs + ***140 au x 0.5 = 70 lbs*** =
Total Estimated Phosphorus Savings = 80 lbs

TABLE 1 **– Year to year Comparison (FY 2003, FY 2004, FY 2005, FY 2009 and FY 2010) Farm Operation Numbers, Acres in Agriculture and Total Animal Units Tracked per Lake Segment and for the New York Portion of the Lake Champlain Basin.**

Lake Segment	# of Agricultural Operations					Acreage in Agricultural Operation					Total Animal Units				
	FY 2003	FY 2004	FY 2005	FY 2009	FY 2010	FY 2003	FY 2004	FY 2005	FY 2009	FY 2010	FY 2003	FY 2004	FY 2005	FY 2009	FY 2010
Isle La Motte	329	302	309	312	315	97888	81975	84896	88925	91647	21767	21431	26927	26765	28023
Cumberland Bay	147	132	134	133	134	27623	25469	25603	25679	25844	4871	4870	5064	5843	5962
Main Lake	172	155	156	155	160	43536	39746	39759	40652	41362	8169	8176	9038	10307	10742
Port Henry	26	24	24	26	27	6640	6051	6051	6174	6950	1084	857	857	946	946
South Lake A	52	48	49	51	50	12611	12418	13018	13076	13351	2280	2381	2914	2879	2939
South Lake B	322	285	285	279	286	75556	68181	69078	68936	70900	16592	16816	17559	17211	17486
NY Basin Total	**1048**	**946**	**957**	**956**	**971**	**263854**	**233840**	**238405**	**243442**	**250054**	**54763**	**54531**	**62359**	**63951**	**66098**
% Change from FY 2003*		**-9.50%**	**-8.70%**	**-8.80%**	**-7.30%**		**-11.38**	**-9.67%**	**-7.70%**	**-5.23%**		**-0.42%**	**13.87%**	**16.78%**	**20.8%**

***Note:** **The original change depicted in Table # 3 FY 2003—FY 2005 is from information that was reported from the NRCS River Basin Study inventory conducted from 1992 to 1994 and it was compared to new information in 2004 and 2005**

Data included in FY 2009 includes changes from FY 2006 through FY 2010

Updates on farm locations, landowners and animal units occur on an on-going and regular basis. This information is gathered from Soil and Water Conservation Districts (SWCDs), USDA Natural Resource Conservation Service, Farm Service Agency, Cooperative Extension Services, and New York State DEC.

TABLE 2 **- Cumulative Number of Best Management Practices Installed and the Estimated Phosphorous Load Retention for each Lake Segment.**
Comparison data for Systems Installed and corresponding Lbs of P Retained for FYs 2002-2005, FY 2009 Projects

Lake Segment	Total Systems Installed (Cumulative)						Total *Estimated* P Retained Annually (Lbs)					
	FY 2002	FY 2003	FY 2004	FY 2005	FY 2009	FY 2010	FY 2002	FY 2003	FY 2004	FY 2005	FY 2009	FY 2010
Isle La Motte	98	83	83	88	103	131	16,136	21,345	21,720	30,621	32,914	35,619
Cumberland Bay	15	21	21	29	30	32	1,732	4,207	4,207	5,295	6,001	6,444
Main Lake	52	47	47	50	51	60	10,770	12,799	12,806	15,052	17,303	18,753
Port Henry	6	6	3	6	6	9	694	471	200	200	262	247
South Lake A	35	10	10	17	18	22	3,461	1,410	1,410	2,719	2,864	3,111
South Lake B	68	76	80	78	77	83	7,987	14,575	16,075	17,203	16,793	19,325
NY Watershed Cumulative Totals	**274**	**243**	**244**	**268**	**285**	**338**	**40,780 lbs**	**54,807 lbs**	**56,416 lbs**	**71,090 lbs**	**76,137 lbs**	**83,499 lbs**

Graphic illustrations demonstrating trends and comparisons for estimated P retention shown in *Table 2* are displayed for each Lake Segment *in Tables 3 & 4*.
Each individual Lake Segment is illustrated on pages 8-10

TABLE 3 – *Estimated* Pounds of Phosphorus Retained per Lake Segment for years 2000-2005, 2009, 2010

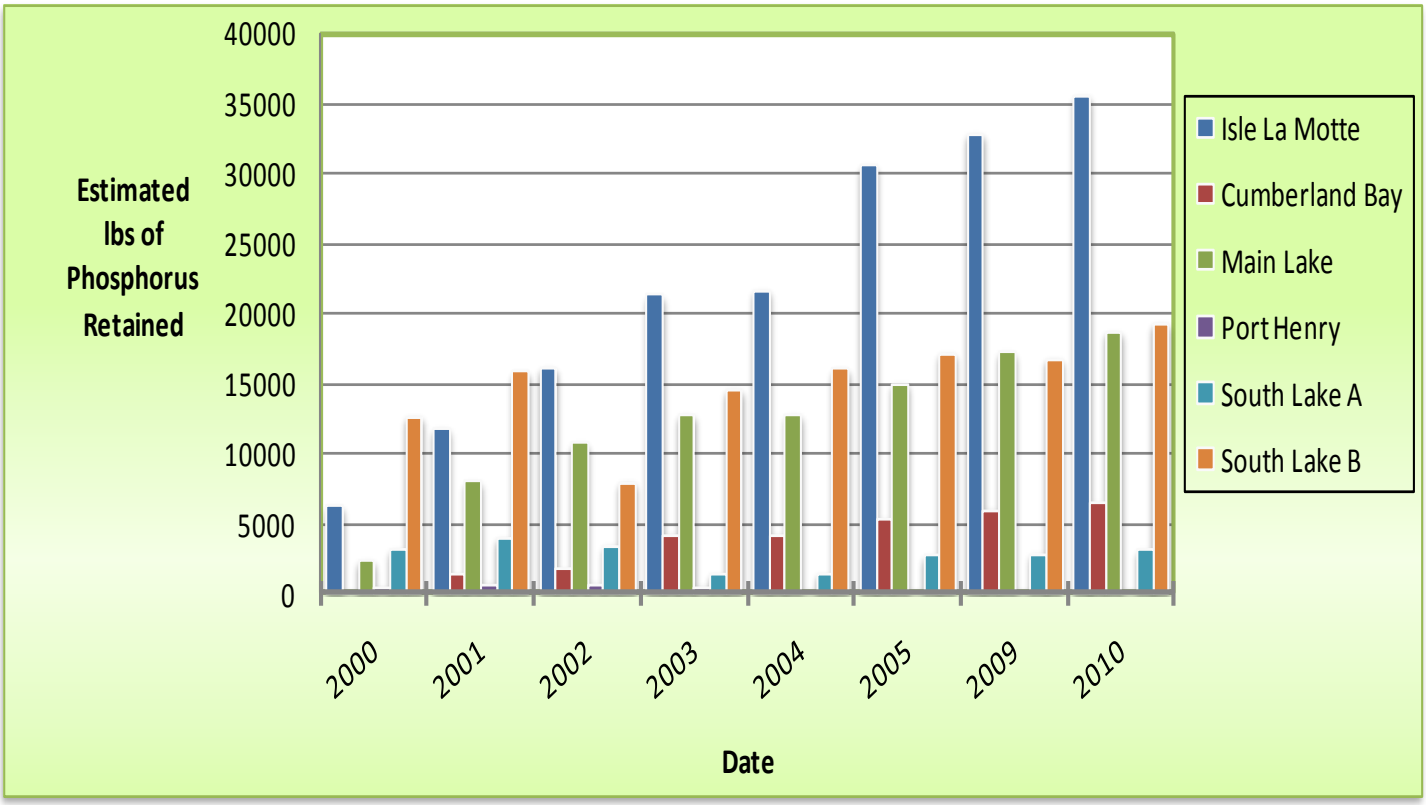
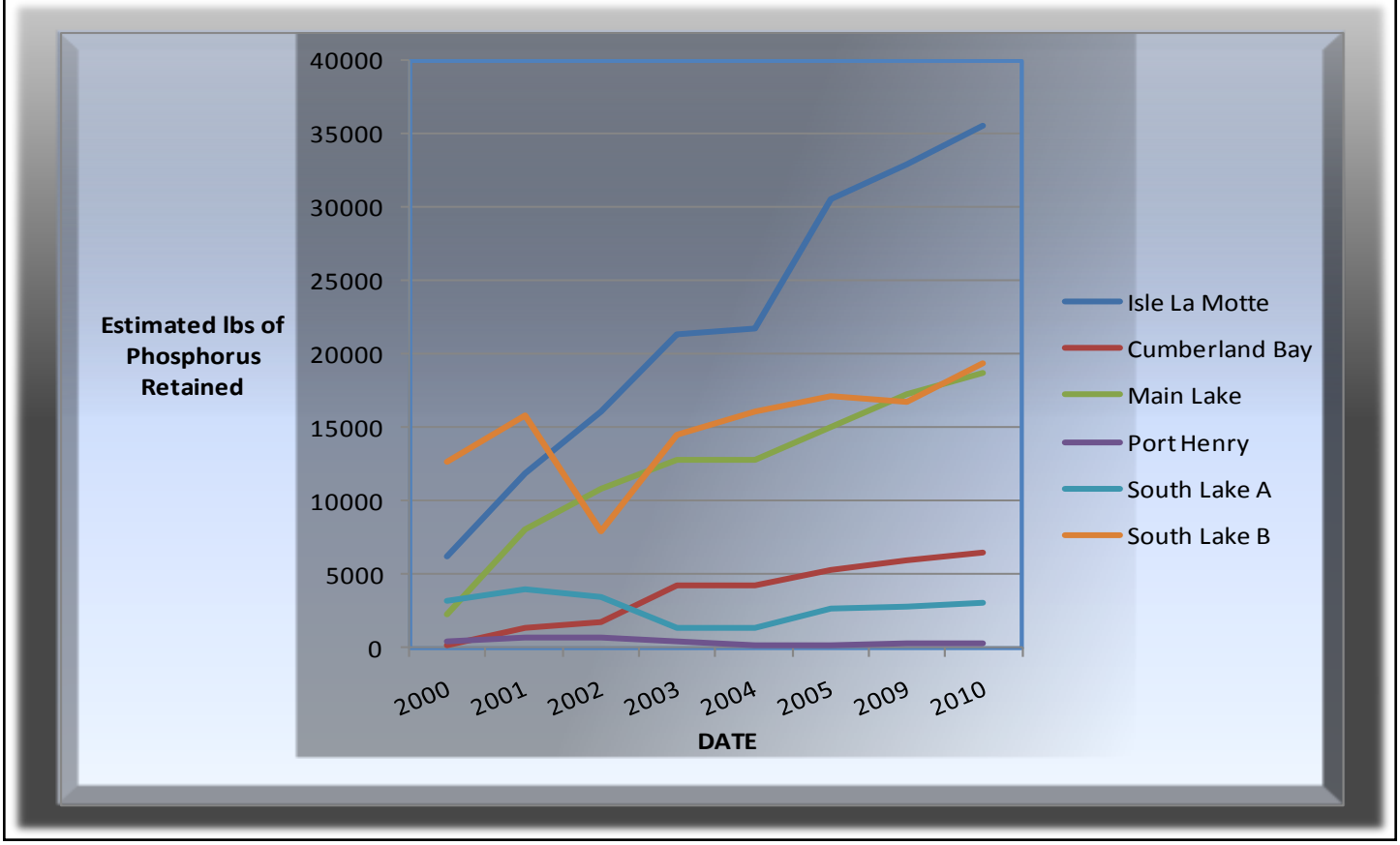
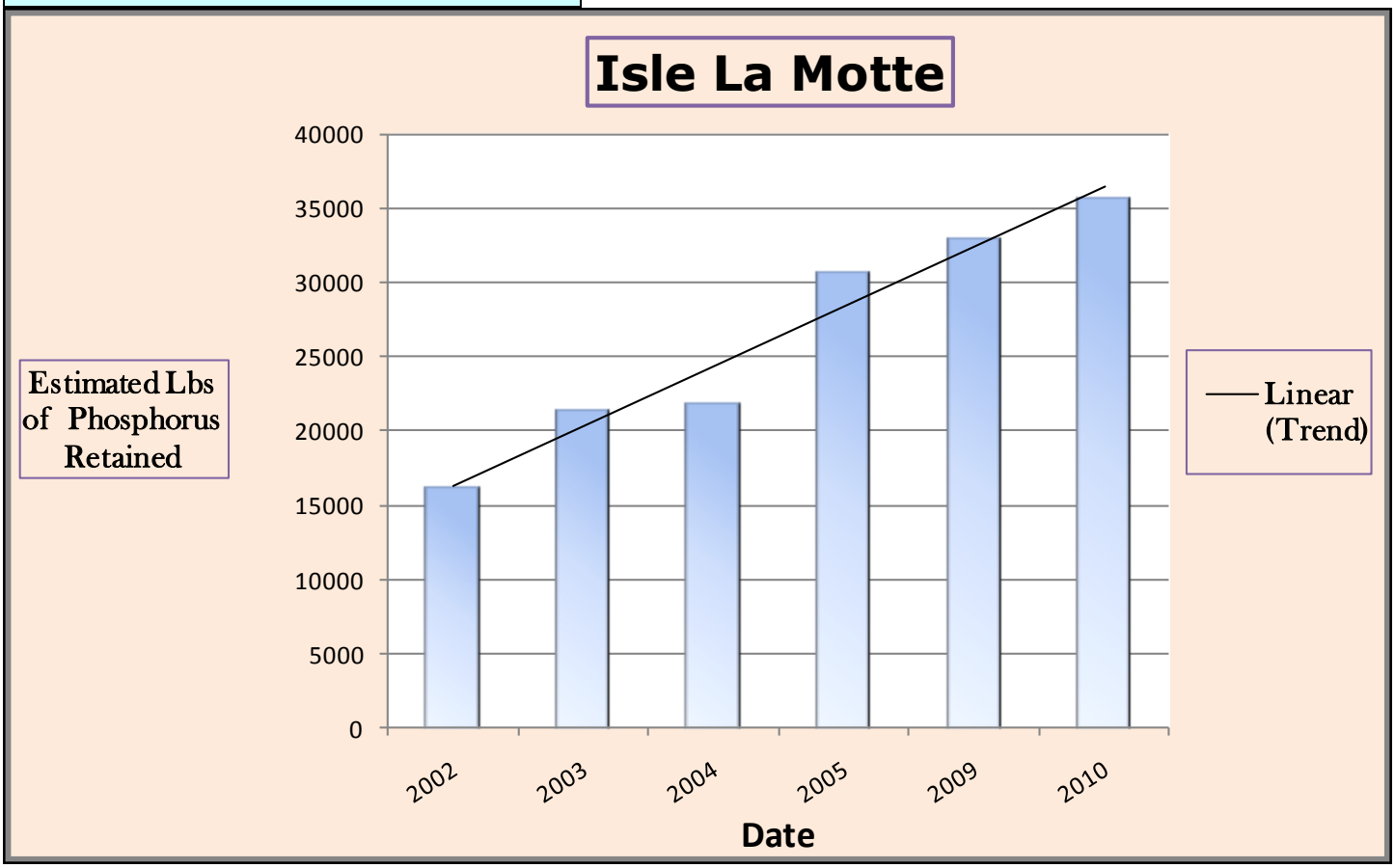
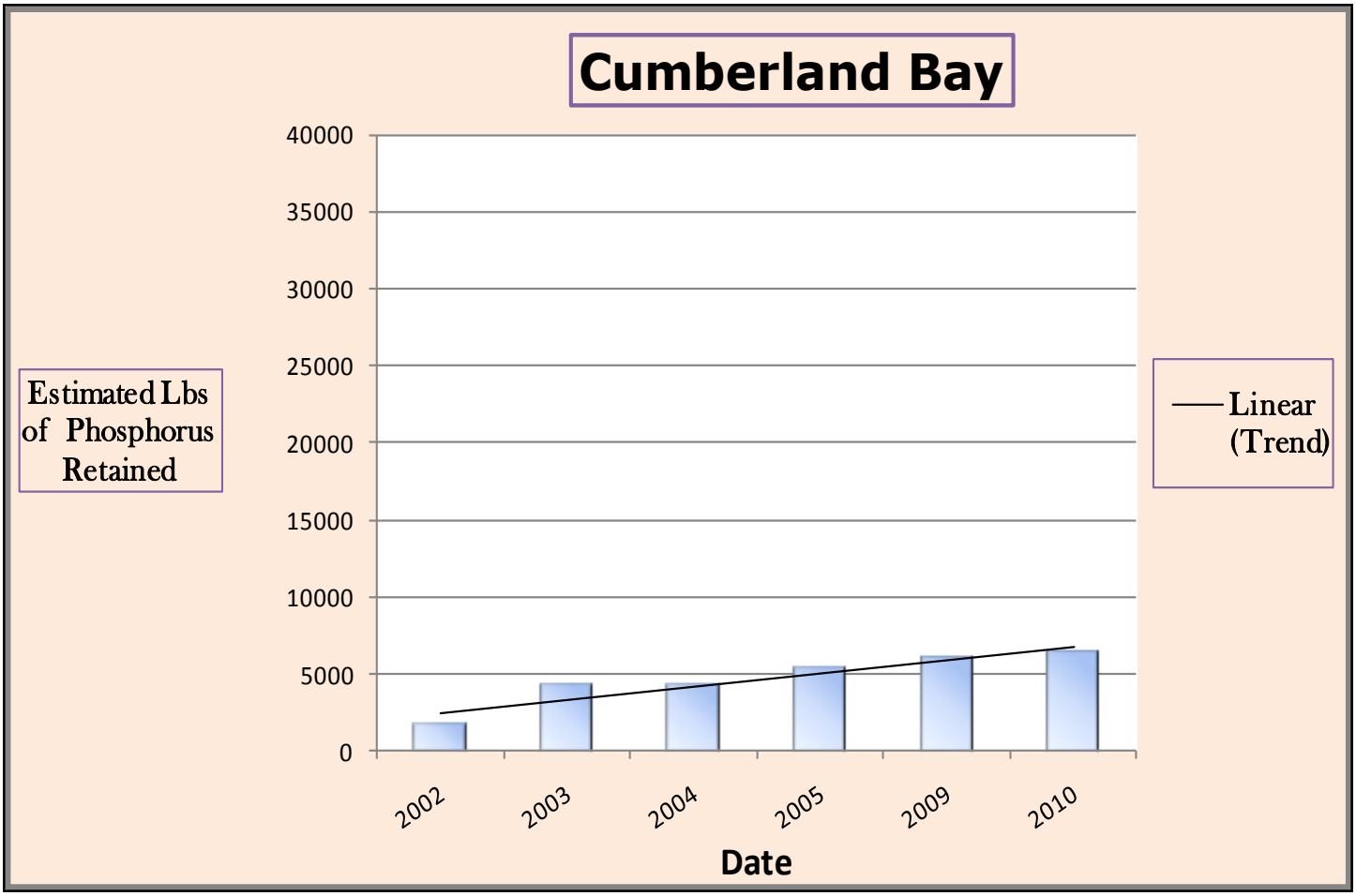


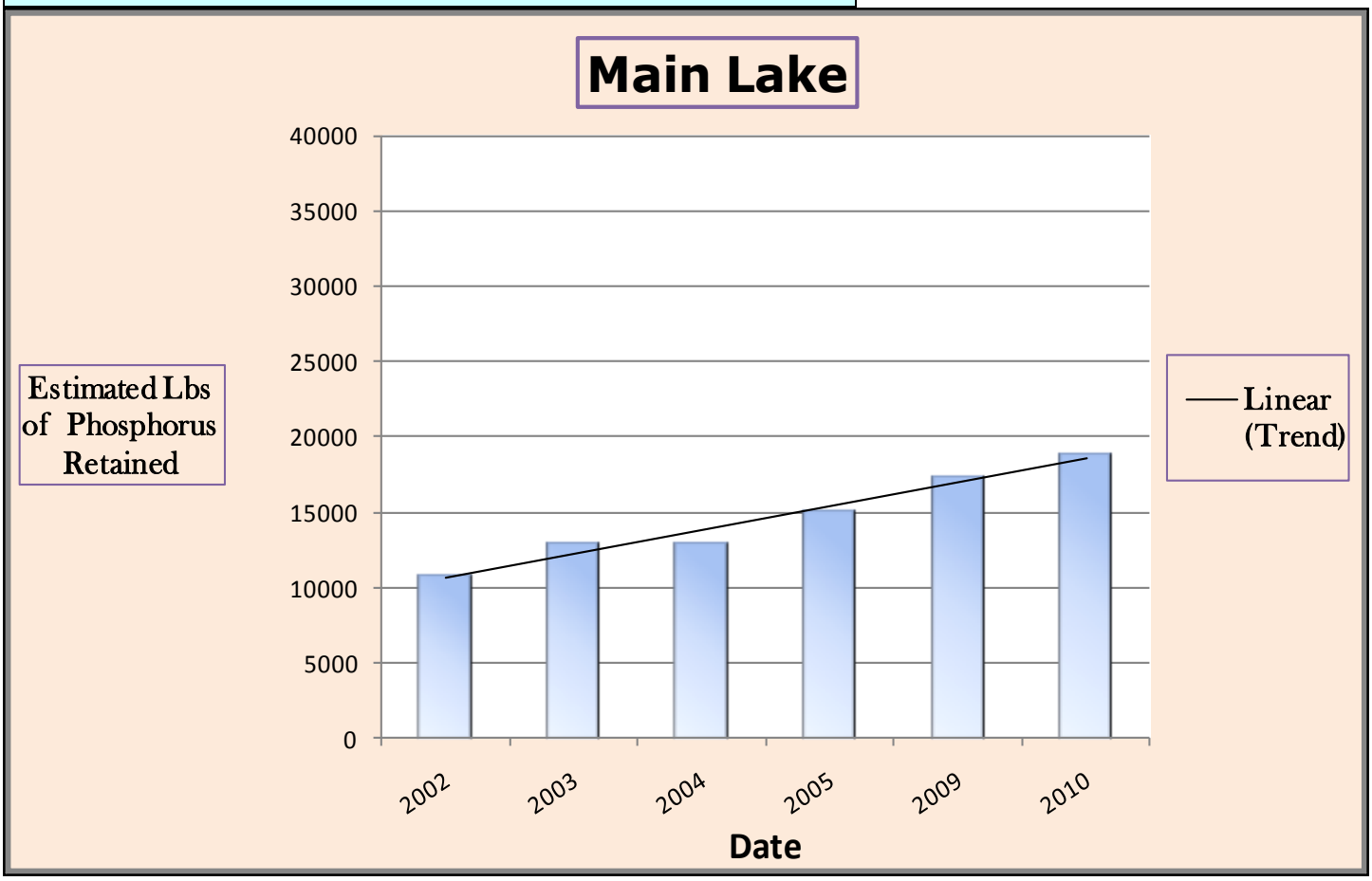
TABLE 4 – Trend Comparison of *Estimated* Phosphorus Retained (lbs) for years 2000-2005, 2009, 2010 in each Lake Segment

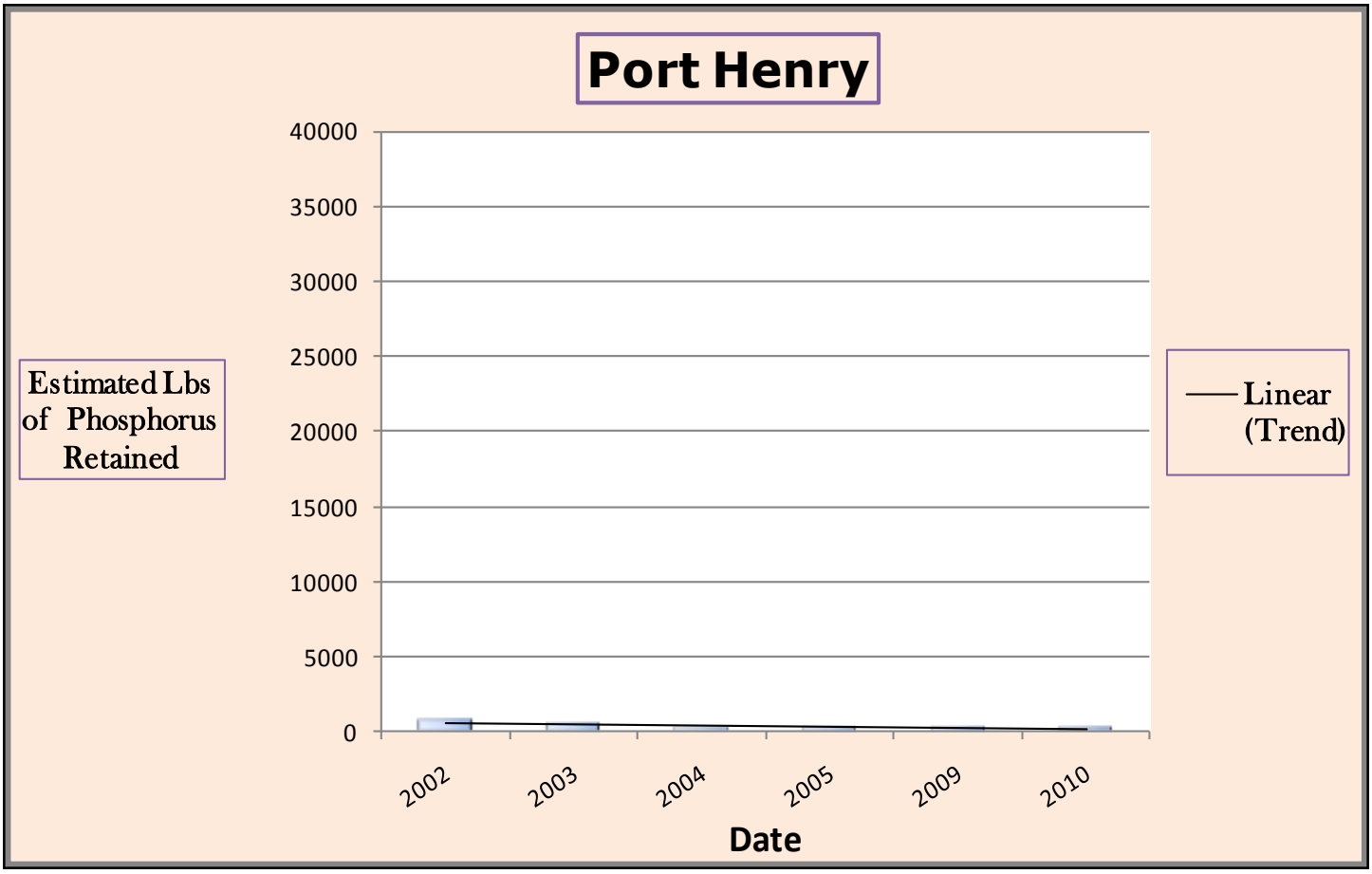


Lake Segment Comparison Graphs






Main Lake
Estimated Lbs of Phosphorus Retained
40000
35000
30000
25000
20000
15000
10000
5000
0
2002
2003
2004
2005
2009
2010
Date
Linear (Trend)


Port Henry
Estimated Lbs of Phosphorus Retained
40000
35000
30000
25000
20000
15000
10000
5000
0
2002
2003
2004
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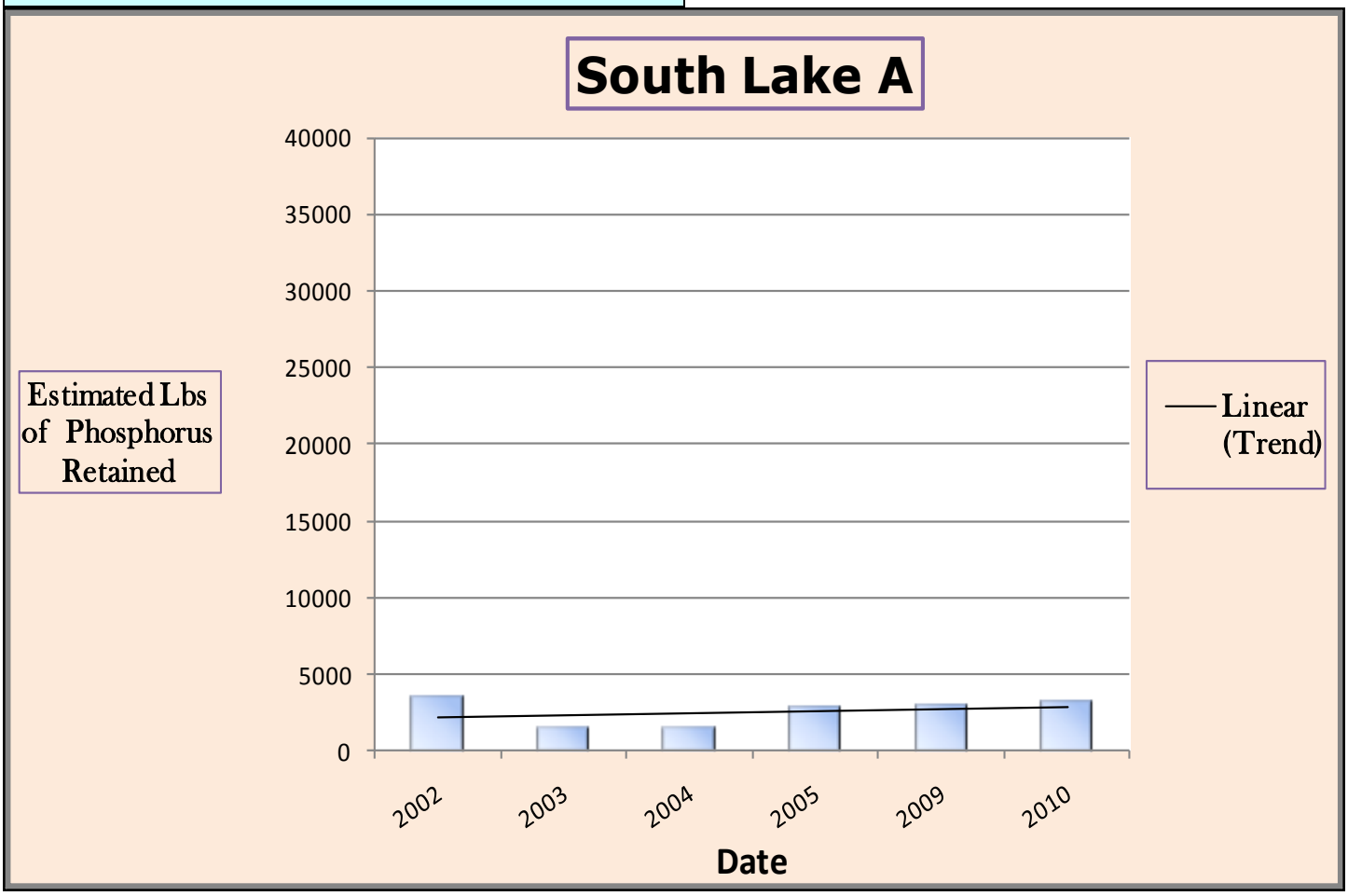
2009
2010
Date
Linear (Trend)


South Lake A
Estimated Lbs of Phosphorus Retained
40000
35000
30000
25000
20000
15000
10000
5000
0
2002
2003
2004
2005
2009
2010
Date
Linear (Trend)

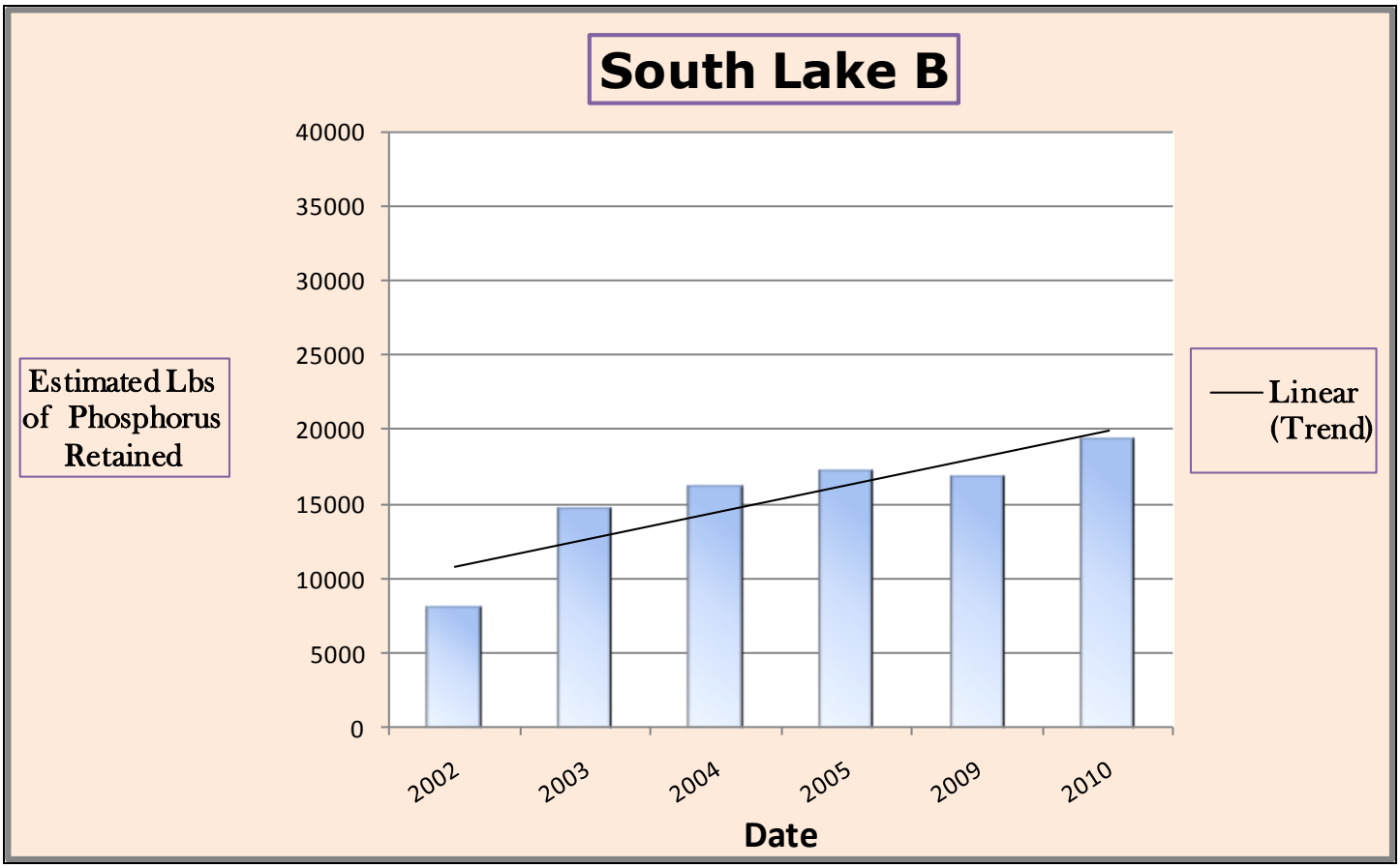

South Lake B
Estimated Lbs of Phosphorus Retained
40000
35000
30000
25000
20000
15000
10000
5000
0
2002
2003
2004
2005
2009
2010
Date
Linear (Trend)

TABLE 5 - Cumulative Cost Comparison Data

BMP	Net # of Practices	Animal Units Treated	Acreage in Practices (acres)	Estimated P Reductions (lbs)	Federal $	State $	Local $	Land-owner $	Total Cost $
Isle La Motte									
Barn Yard	14	6,953	22	3,389	$295,378	$30,000	$ -	$119,632	$445,010
Manure Storage	20	12,717	29	2,614	$1,184,585	$1,615,937	$31,991	$1,515,542	$4,348,055
Milkhouse Waste	10	6,299	4	1,609	$43,000	$2,000	$-	$22,950	$67,950
Sileage Leachate	7	3,371	16	1,498	$39,460	$25,000	$2,531	$36,181	$103,172
Erosion Control	24	15,205	17,194	14,291	$ -	$ -	$ -	$ 7,500	$ 7,500
Waste Utilization	12	83	139	1,900	$41,050	$ -	$ -	$ 1,700	$42,750
Grazing	16	1,233	904	898	$25,200	$12,056	$ -	$5,965	$43,221
CNMP	28	19,134	17,677	9,420	$39,000	$32,393	$ -	$100,480	$171,873
Segment Totals	**131**		**35,985**	**35,619**	**$1,667,673**	**$1,717,386**	**$34,522**	**$1,809,950**	**$5,229,531**
Cumberland Bay									
Barn Yard	3	1,258	3	629	$56,221	$ -	$ -	$12,500	$68,721
Manure Storage	5	2,795	6	419	$18,500	$126,495	$3,140	$170,812	$318,947
Milkhouse Waste	1	964	0	193	$7,000	$3,000	$ -	$2,500	$12,500
Sileage Leachate	0	0	0	0	$ -	$ -	$ -	$ -	$ -
Erosion Control	9	3,853	3,836	3,082	$ -	$ -	$ -	$ -	$ -
Waste Utilization	1	0	0	0	$ 6,000	$ 345	$ 1,000	$ 115	$ 7,460
Grazing	4	307	170	174	$13,524	$ -	$ -	$4,151	$17,675
CNMP	10	3,895	3,845	1,947	$11,371	$14,827	$ -	$2,648	$28,846
Segment Totals	**32**		**7,860**	**6,444**	**$112,616**	**$144,667**	**$4,140**	**$192,726**	**$454,149**
Main Lake									
Barn Yard	12	6,710	8	4,247	$48,680	$62,707	$5,000	$15,173	$131,560
Manure Storage	6	5,520	6	1253	$192,000	$1,233,783	$62,703	$423,744	$1,912,230
Milkhouse Waste	6	5,475	1	1,406	$5,200	$12,887	$2,000	$3,413	$23,500
Sileage Leachate	0	0	0	0	$ -	$ -	$ -	$ -	$ -
Erosion Control	14	8,640	6,708	6,893	$4,320	$ -	$ -	$ -	$4,320
Waste Utilization	1	0	0	77	$ -	$ -	$ -	$ -	$ -
Grazing	9	1,207	762	729	$52,798	$2,049	$ -	$9,750	$64,597
CNMP	12	6,366	7,835	4,148	$ -	$24,174	$ -	$25,715	$49,889
Segment Totals	**60**		**15,320**	**18,753**	**$302,998**	**$1,335,600**	**$69,703**	**$477,795**	**$2,186,096**
Port Henry									
Barn Yard	3	298	2.5	137	$18,500	$ -	$ -	$6,250	$24,750
Manure Storage	0	0	0	0	$ -	$ -	$ -	$ -	$ -
Milkhouse Waste	1	0	0	0	$ -	$ -	$ -	$3,500	$3,500
Sileage Leachate	0	0	0	0	$ -	$ -	$ -	$ -	$ -
Erosion Control	0	0	0	0	$ -	$ -	$ -	$ -	$ -
Waste Utilization	0	0	0	0	$ -	$ -	$ -	$ -	$ -
Grazing	5	120	575	110	$81,786	$49,926	$ -	$4,650	$136,362
CNMP	0	0	0	0	$ -	$ -	$ -	$ -	$ -
Segment Totals	**9**		**578**	**247**	**$100,268**	**$49,926**	**$ -**	**$14,400**	**$164,612**

TABLE 5—Cumulative Cost Comparison Data—Cont'd

BMP	Net # of Practices	Animal Units Treated	Acreage in Practices (acres)	Estimated P Reductions (lbs)	Federal $	State $	Local $	Landowner $	Total Cost $
South Lake A									
Barn Yard	5	1,429	4	715	$ 3,500	$ 234,124	$ -	$ 26,124	$ 263,748
Manure Storage	1	445	1	62	$ 208,927	$ -	$ -	$ 95,000	$ 303,927
Milkhouse Waste	4	1,147	3	260	$ 7,000	$ 6,000	$ -	$ 3,500	$ 16,500
Sileage Leachate	2	971	2	187	$ -	$ 3,750	$ -	$ 750	$ 4,500
Erosion Control	3	971	1,418	901	$ -	$ -	$ -	$ -	$ -
Waste Utilization	0	0	0	0	$ -	$ -	$ -	$ -	$ -
Grazing	3	645	377	335	$ -	$ 14,495	$ -	$ 3,000	$ 17,495
CNMP	4	1301	1,418	651	$ -	$ -	$ -	$ 16,720	$ 16,720
Segment Totals	**22**		**3,223**	**3,111**	**$ 219,427**	**$ 258,369**	**$ -**	**$ 145,094**	**$ 622,890**
South Lake B									
Barn Yard	5	3,949	7	1,602	$ 37,687	$ 106,050	$ -	$ 58,900	$ 202,637
Manure Storage	7	3,296	6.2	903	$154,518	$ 757,465	$ -	$ 191,632	$ 1,103,615
Milkhouse Waste	11	5,011	9	1,296	$ 3,000	$ 60,968	$ -	$ 28,100	$ 92,068
Sileage Leachate	6	4,310	8	1109	$ -	$ 62,795	$ -	$ 9,637	$ 72,432
Erosion Control	20	8,477	12,420	7191	$ -	$ -	$ -	$ -	$ -
Waste Utilization	0	0	0	0	$ -	$ -	$ -	$ -	$ -
Grazing	14	5,441	1290	2,730	$ 106,180	$ 16,745	$ -	$ 30,950	$ 153,875
CNMP	20	8,477	12,323	4,494	$ 38,967	$ -	$ 10,000	$ 82,597	$ 131,564
Segment Totals	**83**		**26,064**	**19,325**	**$ 340,352**	**$ 988,455**	**$ 10,000**	**$ 386,716**	**$ 1,756,191**
NY Basin Totals									
Barn Yard	42	20,597	46.5	10,719	$ 459,966	$ 432,881	$ 5,000	$ 238,579	$1,136,426
Manure Storage	39	24,773	48.2	5,251	$1,758,530	$3,733,680	$ 97,834	$ 2,396,730	$7,986,774
Milkhouse Waste	33	18,896	17	4,764	$ 65,200	$ 84,855	$ 2,000	$ 63,963	$216,018
Sileage Leachate	15	8,652	26	2,794	$ 39,460	$ 91,545	$ 2,531	$ 46,568	$180,104
Erosion Control	70	37,146	41,576	32,358	$ 4,320	$ -	$ -	$ 7,500	$ 11,820
Waste Utilization	14	83	139	1,977	$ 47,050	$ 345	$ 1,000	$ 1,700	$ 50,210
Grazing	51	8,953	4,078	4,976	$ 279,488	$ 95,271	$ -	$ 58,466	$433,225
CNMP	74	39,173	43,098	20,660	$ 89,338	$ 71,394	$ 10,000	$ 228,160	$398,893
Basin Totals	**338**		**89,029**	**83,499**	**$2,743,352**	**$4,509,971**	**$118,365**	**$3,040,081**	**$10,413,470**

Note: Cost figures were gathered from records at the NYS Department of Agriculture and Markets and NYS Soil and Water Conservation Committee based on projects funded by the New York State Bond Act and Environmental Protection Fund.

In conjunction with New York State Agriculture and Markets, basin-wide and state-wide average costs for each BMP were developed. This information was combined with information on cost-share limits on USDA programs (for example Agricultural Conservation Program had a $3,500 yearly limit and a $35,000 limit on 10 year Long Term Agreements at 75% cost share rate), farm size and personal experience of involved agency representatives, to apply total costs to each BMP. Landowner contribution may be somewhat higher as records are only kept to meet minimum cost-share rates and not total costs to landowners.

Project Deliverables:

1. A comprehensive agricultural database for each subwatershed (11 digit HUC) in the New York portion of the Lake Champlain Basin.

The database will include the following data obtained for each farm surveyed since 2000:

- **Subwatershed location**
- **Acreage in agricultural use**
- **Animal Units and type of animals**
- **Practices (BMPs) implemented**
- **Approximate date of BMP implementation**
- **P reduction credits accrued by each BMP implemented**
- **Acreage affected by each BMP implemented**
- **Dollars spent on each BMP implemented**
- **Source of funding (Bond Act, USDA EQIP, AMA, Farmer Cost Share, Other)**

This data is sortable by both subwatershed (11 Digit HUC) and by BMP so that the BMPs implemented, Animal Units affected, and phosphorus reduction credits can be evaluated by each practice and by each subwatershed.

The Phosphorus reduction credits accrued by all practices are totaled for each subwatershed, and for the New York portion of the Lake Champlain Basin as a whole.

2. Enhanced level of coordination between and assistance to local partners resulting in an increased technical presence and accelerated BMP implementation.

Tremendous interagency collaboration and support continues to exist and evolve among the local partners throughout the New York basin through CWICNY. The Soil and Water Conservation Districts continue to utilize the expertise from county partners and regional agencies to identify and solve both Ag and Non-Ag natural resource concerns in their localized areas. Efforts to address project planning, implementation, funding, and educational needs on a regional level has proven and continues to be very effective and successful.

A regional effort, proven to further leveraging state and federal funding, has enabled additional planning and implementation of projects, as well as educational programs throughout the watershed.

State, local and federal funding sources for projects obtained for the NY Basin since 2006 include the American Reinvestment and Recovery Act (ARRA, federal), EPA Targeted Watershed (federal), Aid to Localities (NY state) and Lake Champlain Basin Program (local) grants.

A basin-wide effort to identify and assess major areas throughout the watershed experiencing chronic roadside erosion continues with ARRA funding. The data collected will result in a watershed erosion and sediment control plan that CWICNY will utilize to secure future implementation funding. Remediation and stabilizing of high priority, critical areas contributing high amounts of sediment in to Basin waterbodies will be the long-term goal of this project. Additionally, the project will help foster an ongoing basin-wide road ditch stabilization program.

The EPA Targeted Watershed funding supports the implementation of agricultural and non-agricultural projects throughout the watershed. This funding is specifically designed to reduce phosphorus inputs from runoff. Installation of Targeted Watershed projects include best management practices throughout the watershed: urban stormwater retrofits, erosion and sediment control natural vegetation supplies and manufactured

(Continued on page 14)

(Continued from page 13)

materials, wastewater treatment system upgrade, agricultural nutrient runoff prevention, and barnyard protection.

CWICNY has and continues to utilize NYS Aid to Localities funding for special natural resources protection projects throughout the watershed. Projects include assisting with aquatic invasive species education and eradication, streambank stabilization, sediment retention pond cleanouts, and engineering expenses. Aid to Localities funding has, thus far, allowed the 5 CWICNY-member water quality coordinating committees (WQCC) to assist local municipalities, lake, and river associations with projects short on funds.

3. Data will be available as requested with quarterly reports and the Final Report.

The quarterly reports are included as attachments in the Appendices of this report. The reports illustrate the chronological activities and duties associated with administering the Agricultural BMP Tracking project from 2009 to 2010. In addition, the quarterly reports highlight project administrative and technical assistance to CWICNY as well as efforts to support Lake Champlain watershed partners.

4. An annual report will be submitted detailing the activities during the year including accomplishments to date with agricultural BMP installation within the NY portion of the Lake Champlain Basin and other assistance provided in various project development, funding and oversight. This report will summarize agricultural BMPs installed by practice type, by Lake segment, and will include associated phosphorous reductions achieved using the Vermont coefficients and report on major coordination activities accomplished including proposals submitted, persons or organizations assisted and major activities.

The current BMP Tracking report summarizes and updates the data from projects completed from 2006 to 2010. This report reflects phosphorus reduction estimates with practices that have been implemented by USDA-NRCS and Soil and Water Conservation Districts in New York. Best Management Practices or systems identified as "pending" or "planning phase" of development do not receive the corresponding P credit.

5. The database will accompany the final report in both hardcopy and electronically (in Excel format on CD).

The database, in MS Excel format, accompanies this report and contains the quantitative information necessary to evaluate the overall phosphorous savings. The database includes sub watershed Hydrologic Unit Code (HUC), ag operation coordinates, data by Lake Segment and overall New York portion of the Lake Champlain Basin.

OBJECTIVES

Objective #1

Maintain and continually update a basin wide farm identification numbering system, which may be used to track farm BMPs on an annual basis.

Task 1A - Identify and update data for any additional farms not already located in New York portion of Lake Champlain Basin.

Information is updated as new or modified information is obtained regularly. Data is collected from local SWCDs, NYS DEC, NRCS, CCE and FSA.

Task 1B - Locate farms by county, township and Hydrologic Unit Code (HUC).

All agricultural operations are geo-referenced or located using the Universal Transverse Mercator (UTM) projection system and entered into Geographic Information System (GIS) database [*see appendix Figure 7*]. The GIS data also includes shape files of assorted political boundaries including villages, towns, counties, school districts, voting and congressional districts, HUCs and lake segments. All information on agricultural operations can be queried from the GIS for any shape file or files.

Task 1C – Continue the existing numbering system, to establish farm locations in relation to the appropriate county, town and HUC.

New agricultural operations are assigned a farm ID according to the numerical succession in each of the sub watershed where the operation is located, then added to the overall watershed data spreadsheet.

Objective #2

Maintain the agricultural database (including HUCs, location coordinates, previously installed BMPs, animal units, acres and other relevant information) on an annual basis in a format compatible with the Natural Resources Conservation Service (NRCS) Geographic Information System.]

Task 2A – Maintain the farm record system, by number as established in objective 1, into a database with location coordinates.

Re-evaluation of all agricultural operations has been completed and currently 976 farms are located and numbered. This number is an increase from FY 2005 and includes several ag operations located during the AEM process as well as some additional operations that NRCS is currently or has been working with. New operations, animal units, acreages, locations and practices were identified through a lengthy extrapolation process of identifying landowner names and coordinates that were identified as receiving assistance through NRCS and SWCD offices since 2006. This information was then cross-referenced with the established BMP database, expanded with AEM information, then entered into the updated database.

Task 2B - Gather and load additional appropriate data for each farm such as BMPs implemented, acres, animal units, etc.

The information requested was collected throughout the year from various sources. Information on acreage was updated from information supplied by the landowner predominantly on AEM forms, DEC CAFO and NRCS files. Data collection for Ag BMPs primarily takes place at the end of the NRCS Federal Fiscal year and was requested in late 2010 through the NRCS Area Conservationist in Albany. Data on cow numbers, CNMP acreage, and other pertinent information was also gathered at that time from AEM and DEC CAFO files.

Task 2C – Continue to implement a procedure to update and maintain the database on an annual basis.

Task 2C (cont'd)

The 2010 BMP Tracking project is completed. The data will be held by the New York State Agriculture and Markets and if funding is made available, additional information can be updated on multi-year basis (3-5 years is recommended).

Objective #3

Continue to use the uniform method to survey farms for documentation of initial BMP implementation, as well as implementation of annual BMPs and non cost-shared BMPs, to assure completeness and accuracy of documentation as per the database requirements referenced in objective #2 and in cooperation with parallel efforts in Vermont.

Task 3A - Continue working relationships with Natural Resources Conservation Service (NRCS), Soil and Water Conservation District (SWCD) and Cornell Cooperative Extension (CCE) field staff in each county in the New York portion of Lake Champlain Basin and with Lake Champlain Basin Program (LCBP) staff and committees.

Task 3B - Explain importance of accurate phosphorous reduction documentation to above staff and appropriate boards of directors.

Task 3C – Continue to assess the level of familiarity which existing staff have with Agricultural Environmental Management (AEM) process, NRCS planning process and NRCS standards.

Task 3D - Provide training and/or assign leadership, for documentation of BMP implementation based on staff familiarity with items in Task 3C.

Task 3E – Improve format for reporting information (including desired BMPs to be reported, reporting units, etc.) with field staff input and provide a reporting timeframe.

Task 3F - Reach agreement with agency teams in each county on how reporting will be kept complete and up-to-date.

Task 3G - Receive information from field staff and enter into database as received.

Objective #4

Monitor BMP implementation, apply phosphorous coefficients to demonstrate phosphorous reduction and periodically report progress.

Task 4A - Establish a schedule and method for flagging BMP implementation, by HUC. The database includes a date of installation for all BMPs along with information on where information was gathered. This information in useful for deleting practices that have exceeded their lifespan or are designed as annual practices. It will also allow for the checking of accuracy of information and identifying the source so it can be verified at a later date, if needed.

Task 4B - Apply phosphorous coefficients to BMPs to arrive at phosphorous reduction by HUC. Collaborate with the LCBP and Vermont to develop new and revised coefficients for Ag BMPs.

Phosphorus reduction coefficients have been applied to all practices and a report has been generated by segment. The methodology employed to develop these charts is explained in the Executive Summary. This report does not reflect any revisions to established phosphorous coefficients or development of new ones.

Task 4C - Work with CCE to establish recommended annual P export values for each type of animal tracked. Also work with CCE to obtain information on summarized soil P farm data and report back information to LCBP.

New York State Agriculture and Markets and CWICNY provided assistance on efforts to calculate and establish a reference amount of excreted phosphorus by farm animal type, and to make the animal unit numbers (where animal type is known) more amenable to export calculations. This effort was completed to improve the way phosphorus exported loads were calculated, allowing for increased specificity.

Task 4D - **Provide quarterly reports to the Lake Champlain Basin Program project officer, local offices of NRCS, SWCD and CCE in New York portion of Lake Champlain Basin as well as to the following:**

- **NYS Department of Environmental Conservation**
- **NYS Department of Agriculture and Markets**
- **NYS Soil and Water Conservation Committee**
- **Five NY County Water Quality Coordinating Committees**

Quarterly reports provided from Oct 2009—March 2011. **[*See Attachments pages 16-21*]**

Task 4E – **Actively participate in the development of a P accounting system and provide needed data in order to collaborate with the LCBP staff and committees to develop new and revised agricultural BMP coefficients.**
Assistance with the Phosphorus Accounting System was shifted to a contractor other than CWICNY. However, NYS Agriculture and Markets played an active role with final contract, workplan and deliverable approvals for the Phosphorus Accounting System task (which was successful and accepted by the LCBP).

Objective #5

Provide an enhanced level of coordination to SWCDs and Water Quality Coordinating Committees (WQCCs) in the counties located in the New York portion of the Lake Champlain Basin to enable them to accelerate activities tied to agricultural best management practice planning and implementation related to Nonpoint source pollution prevention and remediation. Provide Administrative, Organizational and Technical assistance to the Lake Champlain Watershed Improvement Coalition of New York (CWICNY).

Task 5A - **Assist the above mentioned WQCCs to address priority nonpoint source pollution problems in the Lake Champlain Basin identified in their appropriate strategies.**
The CWICNY Coordinator attends WQCC meetings held in each county. County WQCC are locally developed with varying memberships which can include: SWCDs, Cooperative Extension, State Departments of Health and Environmental Conservation, local lake or river associations, water quality professionals such as engineers and lake managers, local colleges, interested environmental groups and others. The WQCC were created under a plan developed to address the Federal 319 Program and each WQCC has a Strategy or plan on how to address nonpoint source pollution in their county.

Task 5B - Assist with the expansion of an agricultural nutrient management program in the New York portion of the Lake Champlain Basin and assist in the development of demonstration projects where appropriate.
The AEM program has provided significant planning dollars to the New York Lake Champlain Basin. Each county has received funding to develop and implement a Strategic Plan. Additional state and federal dollars have been and continue to be allocated into the Basin for agricultural inventory and planning. **[See Figure 3]**

Task 5C - Conduct an annual evaluation of progress in the planning and implementation of NPS pollution reduction in the New York portion of the Lake Champlain Basin and develop and distribute an annual accomplishment report.
Information was submitted to New York State Department of Agriculture and Markets for the 2009 AEM report. The 2010 report is under development.

Conclusions:

The New York Agricultural BMP Tracking Project again documents the efforts put forth by agriculture and the agencies servicing this segment of land-use in controlling and limiting their inputs of phosphorous into Lake Champlain. The project continues to document estimated phosphorous reductions in each of the Lake sub watershed segments. The total number of farms tracked has increased slightly over last few years while the total number of animal units tracked by the project has also increased. Phosphorous savings continue to increase, due in part to dedicated federal dollars being spent by Natural Resources Conservation Service EQIP and AMA funding programs and New York State Environmental Protection Fund Agricultural Non Point Source Abatement and Control Program. CAFO farms (which make up nearly 50% of the animal units in the New York Basin) are continuing to show phosphorus reductions as they work toward full implementation of their CNMPs.

New York State programs such as the Agricultural Environmental Management (AEM) continue to fund the inventory of agricultural need and offer the opportunity for development of sound conservation planning to mitigate those problems. Key players, including the Soil and Water Conservation Districts (SWCD), NRCS, NYS Departments of Agriculture and Markets and Environmental Conservation, Cornell Cooperative Extension, USDA Farm Service Agency and Rural Development are all providing crucial technical and financial assistance to both agricultural producers and local communities to address their environmental concerns **[*Figures 1—5*]**.

Tracking of the BMPs installed, along with other agricultural information is a key component for documenting progress of non-point source pollution control measures throughout the Basin. This information is not only useful to the Basin Program in measuring the estimated amount of phosphorous reductions but is also helpful in leveraging additional funds from state and federal sources. As information is collected from the AEM environmental inventory process, hard data will be available that show the need for additional funds, technical assistance and programs.

Efforts to better quantify the phosphorous savings at both the farm and lake level from existing agricultural practices must continue. There is also a need to work toward developing additional animal unit coefficients for additional agricultural practices, including:

- **Streambank Stabilization / Livestock Exclusion**
- **Riparian Filter Strips**
- **Animal Feed Management** / **Phosphorus Budgets**
- **Soil Health**
- **Cover Crops**
- **Alternative Manure Management / Applications**

Many agricultural projects of this type have been installed but no phosphorous credit is given for their reduction. Looking at the 'big picture' of agriculture across the Basin, there is a continued need for the development and implementation of educational programs on a variety of topics that would assist in our phosphorous reduction efforts. They subjects include animal feed nutrient management, alternate manure management systems including manure separation, composting, methane digestion and alternative bedding materials. The search will continue to identify new technologies that exist in other areas but that can be easily transferred or adapted to the climate of the Lake Champlain Basin for BMPs such as milkhouse waste and silage leachate treatment systems. CWICNY, NRCS, SWCDs and partners continue to search for additional and alternative methods of funding these projects. The need for additional funding and engineering assistance to implement projects far outweigh the available funding and personnel in existing programs.

ATTACHMENTS

Quarterly Progress Report [January - March 2011]

Submitted By: Andrew Snell, CWICNY Coordinator

AG BMP TRACKING UPDATE

January — Commenced 2010 NY Ag BMP tracking database updating and data retrieval. Reformatted database mapping values from UTM to Latitude/Longitude coordinates compatible with GIS 9.3.

February — Continued the Ag BMP database tracking with new practice implementation information received from NYS Ag and Markets in mid-December of 2010.

March — Continued with 2010 Ag BMP data input and database updates in preparation of final report due in May 2011. Scheduled April visit with Washington County for NRCS IDEA/SWCD review to update state and federal BMP implementation data for 2010.

CWICNY PROJECT ADMINISTRATION & DEVELOPMENT / ORGANIZATIONAL SUPPORT

- The Coordinator's ongoing support for NY's Lake Champlain Watershed continues to progress and expand on a regional level. Upgrades and structural needs for Municipal Wastewater Treatment and stormwater infrastructure throughout the Lake Champlain watershed in NY continue to arise. Of particular concern, the Village of Whitehall is facing overwhelming environmental and financial situations in terms of their stormwater infrastructure.
  In light of the ongoing problem in Whitehall, the Coordinator contacted and assembled limited information from NYS DEC, NYS EFC and Shelter Planning to push for a FY 2011-2012 federal Senate Appropriations request through Senator Gillibrand's office. However, the federal fiscal situation has essentially eliminated the possibility for federal earmark requests for this year for this high priority project. The CWICNY Coordinator will continue working with Whitehall and watershed municipalities to create a 'WWTP Needs" document and assist with locating funding resources to address both stormwater and WWTP issues.
- A collaborative project between the Greater Adirondack Resource Conservation & Development (GARCD) and CWICNY, resulting from discussions held in March, is in consideration for 2011. A potential cooperative exists with the GARCD to assist with the implementation of the Lake Champlain watershed Skidder Bridge Program, funded through the Lake Champlain Basin Program. In light of federal funding cuts to the RC&D, CWICNY may consider a subcontractor role to the RC&D, assisting with education, geo-referencing, scheduling, tracking and construction of skidder bridges in each of the 5 watershed counties in NY.
- Assist with organizing and sponsoring On-Site Wastewater Trainings in Lake George (March) and Lake Placid (May)
- Developed and completed the 2010 CWICNY Annual Report for distribution throughout the watershed, state and federal political representatives, and organizational partners
- Continue efforts, data collection, partner feedback, to generate potential methodology towards the development of a comprehensive NY Lake Champlain Watershed Management Plan through the 2011 NYS DOS Watershed Grant program

Ongoing Projects/Programs	Source	Quarter Work Complete	Status
EPA Targeted Watershed	EPA	3 Project financial requests submitted	Ongoing
Aid to Localities II	NYS DEC	Info collection for 50% reimbursement	Ongoing
River Processes/Enhancement Project	LCBP	Created Informational 'Rack Card'	Complete
American Reinvestment and Recovery Act	NYS DEC	Schedule educational workshops , Erosion data collection	Ongoing

Meetings / Conferences Attended

The Coordinator continues to attend basin-wide meetings, monthly and quarterly, to lend support to partners and various organizations and gather information on future projects as well as establish monthly CWICNY meeting agendas.

Monthly:	Quarterly:	Annual/Special:
- RC&D	- Warren County WQCC	- Lake Champlain Watershed Summit
- LCBP – TAC	- Clinton County WQCC	- Invasive Species Summit
- CWICNY		
- NY CAC		- Annual NYS Water Quality Symposium

Quarterly Progress Report [October-December 2010]

Submitted By: Andrew Snell, CWICNY Coordinator

AG BMP TRACKING UPDATE

October — Met with the new State Soil and Water Conservation Committee Regional (SWCC) Analyst, Bob Brower, in Westport, to review the 2009 Tracking Report progress , reporting deliverables, concerns, and issues. Upon initial evaluation and discussion, additional items and recommendations were identified throughout the report. A timeline for the next review of the revisions to the report was established for the beginning of November. Changes and edits to the report as well as requested new BMP information from Ag and Markets and NRCS.
The Coordinator met with Washington County NRCS and SWCD staff to obtain identified supplementary information for the report.

November — The additional information was received and further edits to the report were completed. A draft of the 2006-2009 Tracking report was submitted to the Regional Analyst for further review. New comments, changes, and edits throughout the report were then returned from the Analyst to the Coordinator for review and incorporation.

December — Updates were integrated throughout the report and forwarded to the SWCC Analyst for review.

CWICNY PROJECT ADMINISTRATION & DEVELOPMENT / ORGANIZATIONAL SUPPORT

2010 North Country Stormwater Tradeshow and Conference

The 2010 Conference and Tradeshow event was held in Lake George on October 14th. The 2010 event was filled with educational topics relevant to the Lake Champlain watershed and beyond, as well as showcasing products, services, and organizations assisting throughout the region. The CWICNY Coordinator was and continues to be responsible for the organization of this annual event.
The 2010 conference was fortunate enough to have welcomed the expertise of UNH's Stormwater Center's Tom Ballestero, nationally-known Erosion and Sediment Control specialist Don Lake, and pervious pavement expert Daniel Hershberg.
The conference attracted nearly 125 erosion control and stormwater professionals from Plattsburgh to Albany. However, the vendor registration for the event declined in numbers than in previous years, perhaps relevant to current economic conditions.

Grants Administration

The CWICNY Coordinator continued administration, monitoring, and reporting on the following on-going state and federal grants from October through December. These projects promote phosphorus reduction and education throughout the Lake Champlain watershed

Ongoing Projects/Programs	Source	Quarter Work Complete	Status
EPA Targeted Watershed	EPA	2 Project financial requests submitted	Ongoing
Aid to Localities II	NYS DEC	Info collection for 50% reimbursement	Ongoing
River Processes/Enhancement Project	LCBP	Educational CD, New Visual Materials	Ongoing
American Reinvestment and Recovery Act	NYS DEC	Erosion data collection	Ongoing

South Lake Ag Projects—The Coordinator assisted Washington County SWCD's with two applications for Ag BMP Implementation grant proposals for South Lake Champlain projects aimed at reducing phosphorus. Assistance was also provided to the Bouquet River Association for an Invasive Species grant application.

Meetings Attended

The Coordinator continues to attend, basin-wide, to lend support to partners and various organizations.

- RC&D – October, November Meetings
- NYS DEC – ARRA Pre-Audit Project Review
- LCBP – Opportunities for Action signing
- Warren County WQCC – December Meeting
- Washington County WQCC – October Meeting
- Essex County - Clinton/Essex Waterfront Revitalization Plan Rollout town hall meeting
- Essex County - Saranac River Watershed Planning Committee
- Warren County - Environmental Facilities Corporation Decentralized Wastewater Treatment Program
- Essex County - Bulwagga Bay Erosion
- NY CAC

Quarterly Progress Report [July – September 2010]

Submitted By: Andrew Snell, CWICNY Coordinator

AG BMP TRACKING UPDATE:

July — Upon further review by NRCS staff and the Coordinator, it was determined that the data for the entire Lake Champlain watershed could be accessed and retrieved through the Washington County field office. The request for the additional information was submitted though NRCS, Washington County. The NRCS staff and Coordinator opted for this process to maintain overall consistency with data requests. The Coordinator spent several days sorting the large amount of additional information received through the NRCS IDEA program request covering Essex, Franklin and Clinton Counties. The re-configured data was then transferred to the Ag BMP database.

August — The Coordinator completed data queries and collection from AEM and IDEA. The Coordinator continues to input and update numbers and information within the BMP database. Breakdowns on BMP dollar amounts as well as GIS mapping conversions from 2006-2009 are ongoing. The Coordinator is working with the Warren County SWCD and the LGA to convert and update all GIS farm mapping and location data into ArcMap 9.2 format. Nearly 100 farms throughout the watershed are shown to have had a either a BMP implementation , change in animal units, change in acreage, or sale of farm since 2006. The Coordinator continues to work with the SWCD and NRCS staff to retrieve AEM/IDEA information to update/fill small gaps of information that continue to be found in the database.

September — Individual farm BMP updates, reformatting, and incorporations have been completed from 2006-2009. The Coordinator is forwarding summations and compilations into the annual report. The state and federal dollar amounts have not been updated and incorporated into the report as of yet. The request for the federal dollars tracking information has been submitted.

CWICNY PROJECT ADMINISTRATION & DEVELOPMENT / ORGANIZATIONAL SUPPORT

The Coordinator continues to provide daily assistance to CWICNY counties with administration 4 grant programs, funding numerous projects. The projects' funding originates from EPA Targeted Watershed, ARRA 604 (b), LCBP, and Aid to Localities. The grants are funding implementation, planning and educational projects throughout the Lake Champlain Watershed. The Coordinator works closely with the CWICNY treasurer to track funds for each of the programs and provide updates on funds to each of the counties throughout the construction season.

2010 North Country Stormwater Tradeshow and Conference Planning

The Coordinator continues the planning for the 2010 Conference and Tradeshow, to be held in Lake George, October 14th. The Coordinator is responsible arranging all aspects of organizing the event, including the convening of a conference task committee, participation registration, topics and presenters, location, program development, and vendor registration. The 2010 Conference will include topics such as porous pavement, cold climate BMPs, and updates to the NYS stormwater construction manual.

CWICNY Office Relocation

The CWICNY Coordinator has moved the office location from RC&D, Pack Forest in Chestertown to the Lake Champlain-Lake George Regional Planning Board office in Lake George. The new office location will allow the Coordinator to better collaborate and combine resources with the Regional Planning office staff on regional projects ongoing throughout the Lake Champlain Watershed. Currently, the Planning Board staff and the CWICNY Coordinator are jointly administering the ARRA 604(b) planning project throughout the Watershed as well as drafting new grant proposals for projects.

Meetings Attended

The Coordinator continues to attend County WQCC, NYS CAC, LCBP TAC and Saranac Lake Stormwater Planning meetings to assist with future project planning and garnering feedback on projects funded through current grant programs. The Coordinator attended the Adirondack Invasive Species Conference in Paul Smiths for an update on both terrestrial and aquatic species information affecting the Lake Champlain Watershed.

Quarterly Progress Report [April — June 2010]

Submitted By: Andrew Snell, CWICNY Coordinator

AG BMP TRACKING UPDATE:

April—May (Data Retrieval) — The MOU between CWICNY and NRCS was approved by NRCS for CWICNY's usage of the national Integrated Data for Enterprise Analysis (IDEA) database. The Coordinator and NRCS attempted to utilized the Greater Adirondack RC&D/USDA computer system to review the IDEA capabilities with the Ballston Spa NRCS office. The IDEA database was not capable of utilization at the RC&D office. As a result, the Coordinator met with Washington County NRCS to review the IDEA and the Ag BMP data retrieval processes. Through a trial and error process, the Coordinator and NRCS staff were able to become familiar with the capabilities of the IDEA database. The starting point of the data retrieval was tabulating the required information beginning in Washington County. After realizing how massive the quantity of data provided and capabilities of retrieval through the IDEA program, the Coordinator and Washington County NRCS staff were able to select the pertinent data for each county, reformat, and condense. The Washington County data was then transferred to CWICNY for BMP database updating.

June (Data Retrieval/Database Updates) — Additional IDEA information retrieved, including the name of landowner, individual practice implemented since 2005, and corresponding acres were documented in the existing Ag BMP database. All data received from IDEA request required and underwent additional formatting, consolidating, and calculations before being added to the existing database. Additional updates of information, including animal unit numbers and total acreages, required further SWCD field office visits and reviews with staff. An additional request for updated CAFO info was submitted to NYS DEC, Albany and received. Washington and Essex SWCD field office visits were conducted to retrieve and review documented AEM farm data for updated animal units and acreages to corresponding IDEA and BMP implementation information. The AEM and IDEA data were combined throughout the database to achieve better accuracy for each farm.

CWICNY PROJECT ADMINISTRATION & DEVELOPMENT / ORGANIZATIONAL SUPPORT

***604(b) ARRA*:** The Coordinator and the Lake Champlain-Lake George Regional Planning Board continue to administer year 1 of a 2 year 604(b) ARRA planning project titled: *Lake Champlain Water Quality Management Planning: Identification, Assessment, and Prioritization of Critical Eroding Areas to Protect Water Quality, Infrastructure, and Habitat.*
The 5 CWICNY Counties have begun the assessment, mapping and reporting processes with this project. Four of the five Counties are anticipating hiring an intern to aid in the project this summer. The Coordinator is responsible for training new and current employees on GPS usage as well as reporting requirements for the project.

***EPA TARGETED WATERSHED*:** The Coordinator continues to assist the 5 Counties with project troubleshooting, funding requests, and required administration of the Targeted Watershed phosphorus reduction program. Nearly ¾ of the projects are complete throughout the watershed. These projects include both Ag BMP implementation in Washington, Essex and Clinton counties as well as and Stormwater and Erosion Control projects in Franklin, Clinton, Essex and Warren counties.

***AID TO LOCALITIES II*:** The 25% advance was received for the second round of Aid to Localities. The Coordinator continues to track projects and submit reports and requests for funding on all projects receiving Aid to Localities dollars. Thus far, each of the CWICNY counties has received an advanced payment to begin projects assisting communities.

RIVER PROCESSES ENHANCEMENT PROJECT (RIVER PEEP): The Coordinator schedules and tracks usage, assists with training, provides educational services and reports on the River PEEP / EM River model project. Through June 2011.

Quarterly Progress Report [January – March 2010]

Submitted By: Andrew Snell, CWICNY Coordinator

AG BMP TRACKING UPDATE:

January — The Ag BMP database updating and reporting is underway. The CWICNY Coordinator has reviewed portions of the existing database with the NYS SWCC Regional Analyst. The MOU between CWICNY and NRCS has been drafted and is awaiting final approval with NRCS State Office. The MOU will allow CWICNY to access Ag BMP data updates through NRCS for tracking purposes. Upon final approval from NRCS, CWICNY will utilize the federal database known as the Integrated Data for Enterprise Analysis (IDEA). The Ag BMP tracking project will continue to move forward in tandem with county field office visits throughout the next few months.

February — SWCD Field office visits and spot checks are scheduled to begin during the month of May in Washington and Essex Counties and continue throughout May, Jun, July and August throughout the watershed.

MEETINGS / TRAINING:

The Coordinator continues agenda development and scheduling of monthly CWICNY meetings. Basin-wide meeting attendance continues with the following partners:

- *Citizens Advisory Committee*
- *South Lake Work Group*
- *County Water Quality Coordinating Committees*
- *Saranac Lake Stormwater Planning Committee*
- *Lake Champlain Technical Advisory Committee*
- *Greater Adirondack RC&D*

Training: *NYS Water Quality Symposium*

CWICNY PROJECT ADMINISTRATION & DEVELOPMENT / ORGANIZATIONAL SUPPORT

LCBP—$6,710 in LCBP educational grant funds has been awarded to CWICNY for the purchase of a small-scale river model as part of a 1 year program known as River Processes Educational Enhancement Project (River PEEP). The purchase of an EM River model will allow CWICNY and its partners to better demonstrate river dynamics to groups and organizations throughout the Lake Champlain watershed.

ARRA—CWICNY and the Lake Champlain-Lake George Regional Planning Board are working collaboratively on a 2 year 604(b) ARRA planning project awarded in fall of 2009. The project is titled: *Lake Champlain Water Quality Management Planning: Identification, Assessment, and Prioritization of Critical Eroding Areas to Protect Water Quality, Infrastructure, and Habitat.* This federal grant will provide funding to the CWICNY SWCD partners for reconnosaince efforts to identify areas of chronic road side erosion throughout the watershed, develop a database of theses areas, and develop BMPs for each location. Erosion and sediment control training seminars, planning equipment, additional staff and travel are additionally-funded portions of this grant. The data collected will be collected through 2012 and developed into a baseline of information that will be utilized to seek future BMP implementation funding to remediate critical areas. GPS units and software packages have been researched, identified, and purchased this quarter.

2009 Annual Report: The CWICNY Coordinator has completed the *2009- 2010 CWICNY Annual Report*. The report will be distributed to local and regional legislators, agencies and partners.

CONGRESSIONAL SUPPORT:

The CWICNY Coordinator submitted congressional appropriation requests to both Congressman Owens and Senator Gillibrand's offices in March. The request in the amount of $750,000 was submitted to each office to fund additional streambank erosion reconnaissance throughout the watershed's major river segments. Owens' office declined the 2010 request, while there has been no response as of yet from Gillibrand's office. The CAC and CWICNY scheduled and conducted a short afternoon meeting with Congressman Owens' office in Plattsburgh to discuss and raise awareness of the issues of the Lake Champlain basin. The hope of the meeting outcome is to garner additional congressional support, specifically from NY, including a federal earmark for the NY CAC and CWICNY for projects and administration. A follow-up meeting is planned for a later date.

Quarterly Progress Report [October - December 2009]

Submitted By: Andrew Snell, CWICNY Coordinator

AG BMP TRACKING UPDATE:

October — The CWICNY Coordinator met with the SWCC Regional Analyst in Westport to briefly review the Ag BMP project and transfer the Ag BMP Database to the CWICNY computer system. The CWICNY Coordinator will now establish CWICNY as the new receptacle for the database information and responsible for the Ag BMP updates and confidentiality. Review and familiarity of the database and the Ag BMP tracking program has begun and will continue throughout the watershed in 2010. CWICNY will begin the process of working with NRCS field office and SWCD staff to update the BMP database names, numbers, and mapping.

Reporting:

CWICNY Annual Report: The *2009 CWICNY Annual Report* highlighting the CWICNY projects and accomplishments of the year is currently under development and review. The report will be completed by the CWICNY Coordinator at the end of January 2010.

Meetings:

CWICNY continues to work with the Lake Champlain partnerships, organizations, and groups. The Coordinator regularly attends the following: *Citizens Advisory Committee* (Monthly), *South Lake Work Group* (bi-monthly), *County Water Quality Coordinating Committees* (Monthly), *Technical Advisory Committee* (monthly), *Greater Adirondack RC&D* (monthly). The Coordinators planning and organizational efforts with the *South Lake Work Group* continues. The South Lake Work Group is appreciative of the planning input, regular attendance, and support from CWICNY as well as from DEC and NYS Ag and Markets. Ag water quality planning efforts in the South Lake watershed may be conducted and modeled after NY's AEM program.

CWICNY PROJECT ADMINISTRATION & DEVELOPMENT / ORGANIZATIONAL SUPPORT

The Coordinator has submitted an educational/outreach grant to the LCBP for the purchase of a small-scale river model, known as *EM River*. The purchase of an EM River model will allow CWICNY to better demonstrate river dynamics to groups of all ages throughout the watershed. This would be particularly effective in demonstrating and forecasting infrastructure cause and effects on stream corridors.
CWICNY and the Lake Champlain-Lake George Regional Planning Board received award notice for the federal ARRA 604(b) project planning funding. The funds awarded will be utilized to identify major area of chronic erosion throughout the watershed. The Coordinator will collaborate with the Lake Champlain-Lake George Regional Planning Board and DEC to make adjustments and changes to the original proposal as requested by DEC. The final deliverables for the planning project will be forthcoming.

Aid To Localities Funding:

The 2nd round of Aid To Localities (NYS Senator Little) is currently being administered through CWICNY for natural resources improvement projects in communities throughout the Champlain Watershed of NY. A 25% payment 'advance' has been requested for assistance on starting projects. The projects initially identified by the CWICNY members being funded through this program are now undergoing small changes as a result of a reduction in the appropriation dollar amount and a time lapse. This program will continue to be administered through CWICNY and implemented by the county Soil and Water Conservation Districts / Water Quality Coordinating Committees through 2013.

EPA Targeted Watershed Funding:

The CWICNY Coordinator continues to assist with administration and implementation of individual county phosphorus reduction projects funded by the EPA Targeted Watershed program. The Targeted Watershed projects are slated to be entirely implemented by December 2011.

EDUCATIONAL & OUTREACH EFFORTS:

Annual North Country Stormwater Tradeshow and Conference:

The 2009 Conference and Tradeshow, held in Lake George, was a tremendously successful and well attended event. Approximately 160 attendees interested in or directly involved with stormwater from Northeastern NY participated in the conference. The Coordinator was responsible for organizing and administering the event. The 2009 event featured Don Lake as the keynote presenter as well as NY Assemblywoman Teresa Sayward providing a legislative standpoint in her opening remarks.

CWICNY Progress Report [March 2009]

Submitted By: Andrew Snell, CWICNY Coordinator

ADMINISTRATIVE:

The new CWICNY office has been established and furnished with hardware and supplies at the Greater Adirondack RC&D office in Warrensburg. The new office will function as the CWICNY headquarters.
With a new filing system in place at the RC&D office, the Coordinator has collected paperwork and data from CWICNY past presidents and has organized the information into a centralized filing system.

Reporting: The *2008 CWICNY Annual Report* highlighting the accomplishments of the year has been completed and distributed among the 5 counties comprising the Lake Champlain Basin of NY as well as basin partners in NY and VT. Additional distribution of the report included local and regional state/federal political representatives.
A draft *plan of work* for 2009 has been developed and is awaiting final approval by the CWICNY members.
Meetings: CWICNY has increased efforts to connect with various Lake Champlain organizations and groups. The Coordinator has and continues to attend the bi-monthly Essex and Warren County WQCC meetings. A brief presentation on the CWICNY 2008 Annual Report was given at the NY CAC meeting in March in an effort to inform the CAC of projects completed and ongoing throughout the watershed. The CAC was extremely interested in and supportive of the progress of the projects and programs CWICNY is involved with. Requests to meet with Senator Little, Assemblywomen Duprey and Sayward on CWICNY moving forward with appropriation inclusion in the NYS EPF have been made.
Cooperative efforts with the new *South Lake Work Group* continues to proceed.
CWICNY continues to hold monthly meetings at a variety of locations throughout the basin. Since October 2008, the CWICNY Coordinator has drafted, distributed and filed monthly CWICNY meeting minutes and agendas to members, interested organizations, and individuals throughout VT and NY.

GRANTS:

The CWICNY Coordinator continues to research state and federal funding opportunities appropriate for projects identified by the 5 counties throughout the Champlain Basin of NY.
Aid To Localities: $250,000 in Aid To Localities Projects administered though CWICNY have been completed for 2007/2008. The final report and final funding request have been completed by the Coordinator and submitted to DEC Office of Budget. The projects awaiting reimbursement through this grant closeout consist of Ag BMP Implementation, Streambank Stabilization, Invasive Species Awareness, Ag Plastics Baling Program, and Stormwater Filtration Retrofitting throughout the Lake Champlain Watershed.
EPA Targeted Watershed: The CWICNY Coordinator continues to assist with administration and implementation of individual county projects funded by the EPA Targeted Watershed program. The Coordinator tracks each of the projects on a monthly basis with updates provided at each CWICNY meeting. The Coordinator is the project liaison for requesting funding and additional assistance when needed, as well as submitting reports to EPA on a regular basis.

EDUCATION / TRAINING:

Annual North Country Stormwater Tradeshow and Conference: The 2008 Conference and Tradeshow, held in Lake George was a tremendously successful event – with approximately 160 attendees. The CWICNY Coordinator provided administrative assistance towards the organization of the event. The ceremonial opening remarks were made by Senator Betty Little.
Planning for the 2009 tradeshow and conference has begun. A save the date flyer has been developed and distributed to contractors for the 2009 event.
GPS: CWICNY and the Warren County SWCD organized and conducted a 1-day training session on the usage of Geo-XT GPS unit in Westport, October 2008. The session provided instruction for DPW, SWCD and Associations on the unit applications and ideas for usage throughout the Champlain Watershed.

CWICNY PROMOTIONS:

Website/ Logo: The CWICNY Coordinator continues to work with *ADKWEBDEVELOPMENT* on a new website that will feature information on projects ongoing and completed throughout the watershed amongst other information. The website will likely be CWICNY.ORG with the hope to have it up and running by Mid-may.
The CWICNY Logo is currently undergoing a design transformation.

APPENDIX

NYS AEM Program

The New York State Agricultural Environmental Management (AEM) Program continues to be implemented throughout the Basin by each of the Soil and Water Conservation Districts. AEM is a tiered planning process where agricultural producers, with the assistance of a professional staff person, voluntarily perform a comprehensive environmental inventory of the farm. This inventory and evaluation continues to help us to determine the environmental needs of a farming operation while also pointing out areas of suitable stewardship. Information collected during this inventory process is being included in our database. Funds are provided to each of the five Soil and Water Conservation Districts to implement their AEM program throughout the watershed. These funds come from a Congressional earmark with matching funds from the New York Environmental Protection Fund. Since 2005, the AEM planning program has allocated nearly $100,000 per Soil and Water Conservation District for program execution.

Participation in this program by the landowners, while completely voluntary, is required for applicants applying for funding through the annual New York State Non Point Source Agricultural Abatement and Control grants program.

AEM Tiered Planning Process

- **Tier 1** – Inventory current activities, future plans and potential environmental concerns.
- **Tier 2** – Document current land stewardship; assess and prioritize areas of concern.
- **Tier 3** – Develop conservation plans addressing concerns and opportunities tailored to farm goals.
- **Tier 4** – Implement plans utilizing available financial, educational and technical assistance.
- **Tier 5** – Evaluate to ensure the protection of the environment and farm viability.

FIGURE 1

County-Wide NYS Agricultural Environmental Management
AEM Base Conservation Dollars (2006 -2010)

County	Essex	Clinton	Franklin	Warren	Washington	Region Total
AEM Base To Date (Years 1-5)	$ 119,058.00	$ 72,728.00	$ 158,115.00	$ 36,245.00	$ 101,070.00	**$ 487,216.00**
Inventories	85	178	279	30	183	**755**
Environmental Assessments	75	76	121	38	83	**393**
Single Resource Plans	40	9	35	11	7	**102**
CNMP (NRCS 590)	0	0	0	0	1	**1**
Implementation (TA Only)	1	0	0	7	0	**8**
Environmental Assessments Update (3 YR Min.)	4	0	0	1	10	**15**
CNMP or BMP Evaluation	0	0	16	0	4	**20**
2011 Projected Base Dollars	$ 39,916.00	$ 20,400.00	$ 39,882.00	$ 4,420.00	$ 32,708.00	**$ 137,326.00**

FIGURE 2 **Past Funded Projects (2002 through 2005)**

Ag Non Point Source Grants		
Round XI	Clinton Co. SWCD – Little Chazy River Large Farm Project	$ 497,000
Round X	Essex Co SWCD – Lake Champlain AEM Tier V Evaluation	$ 30,000
Round IX	Clinton Co SWCD – AEM Tiered Planning	$ 36,000
	Clinton Co SWCD – 3 Implementation Projects	$ 400,000
	Essex Co SWCD – Manure Management Project	$ 125,000
	Washington Co SWCD – South Lake Manure Management	$ 140,000
	Washington Co SWCD – Poultney- Mettawee Implementation	$ 295,560
Bond Act Fund Re-Allocation		
	Washington County – Barnyard Water Management	$ 62,183
	Washington County – Silage Leachate Collection	$ 30,684
	Clinton County – Manure Storage system	$ 182,739
Lake Champlain Basin Program Grants		
CWICNY Organizational Grant		$ 3,000
CWICNY Table Top Display and Information Program		$ 3,000
CWCINY – "Entering Lake Champlain Watershed Signs"		$ 5,000
CWCINY – Envirothon Funding		$ 5,000
CWICNY – Technology Transfer		$ 5,000
Washington SWCD – CNMP Development		$ 9,000
Clinton WQCC – Pesticide Clean-up Day		$ 10,000
Essex SWCD – AEM Inventory		$ 3,000
CWICNY—Stormwater Tradeshow Seed Money		$ 5,000
Strategic Planning Workshop		$ 4,000
Washington SWCD – LochLane Farm Manure Storage		$ 10,000
NYS Agricultural Environmental Management (AEM) Program		
2005 **-** AEM Strategies - $2,000 / county		$ 10,000
2005 – AEM $20,000 / county		$ 100,000
Federal Legislative Initiatives		
2003 Cumberland Head Sewage Collection and Treatment		$ 300,000
2005 Hamlet of Essex Sewage Collection and Treatment		$ 2,262,000
TOTALS		**$ 4,533,166**

FIGURE 3

Summarized Ag/Non-AG Grant Dollar Amounts Received for Lake Champlain Basin (New York) 2006-2010

Federal **Awarded Amounts**

- EPA Targeted Watershed Grant [**Figure 7**]
  $150,000/County ***Ongoing***.....$ 900,000

- ARRA 604 (b) Watershed Planning
  $20,000/County ***Ongoing***..... $ 130,000

Local

- Lake Champlain Basin Program, EM River.....$ 6,710

NY State

- NYS Aid to Localities I (Planning/Implementation 2006-2008)
  $50,000/County.....$ 250,000

- NYS Aid to Localities II (Planning/Implementation 2009 - 2013)
  $37,000/County.....$ 188,000

Black Ash Project.....$ 700,000

.

NYS Ag-Non Point Source Funding

- AEM Program (5 SWCDs **[*Figure 3*]**).....$ 487,216

- *NYS AG Non-Point Source (Round 13)* ***Complete***.....$ 98,100

- NYS AG Non-Point Source (Round 13-15) ***Complete***.....$ 806,902

- NYS AG Non-Point Source (Round 14) ***Ongoing***.....$ 102,727

- Federal Funding EQIP/AMA
  Basin Totals 2006-2010 for 5 NY Watershed Counties **[*Figure 4 & 5*]**
  AMA.....$ 68,850

  EQIP.....$ 1,067,516

Legislative Requests (2007-2009)

Basin-Wide Streambank Assessment.....$ 750,000

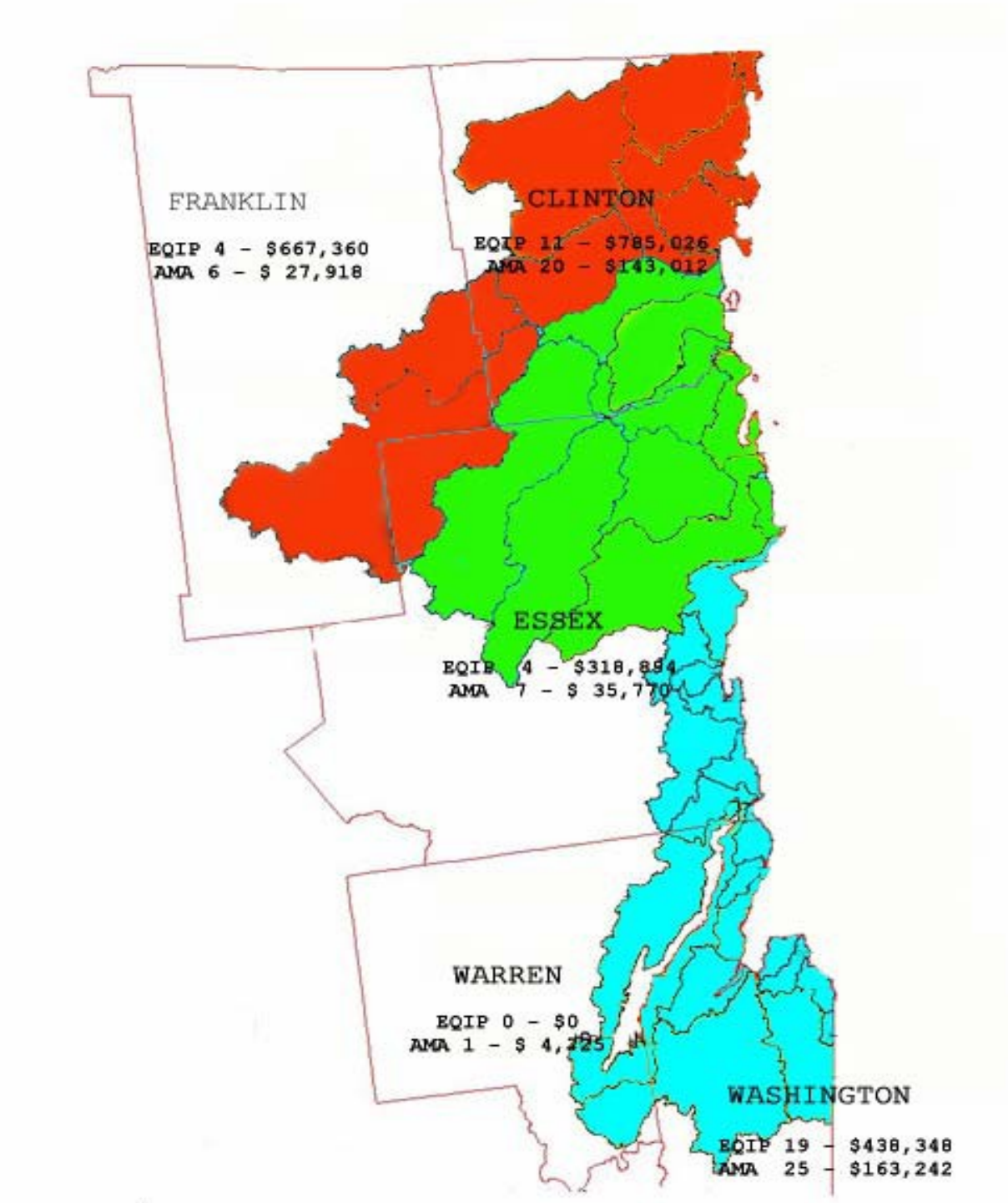
Inclusion Request into the NYS Environmental Protection Fund.....$ 300,000

TOTAL:.....$ 5,568,805

Grand Total (Figure 1+ Figure 2).....$ 11,424,626

FIGURE 4

Federal USDA/NRCS EQIP and AMA Dollars Allocated to the Lake Champlain Watershed Ag Projects 2004-2006



USDA EQIP AND AMA ALLOCATIONS 2004 - 2006

FIGURE 5

Federal USDA/NRCS EQIP and AMA Dollars Allocated to the NY Lake Champlain Watershed Ag Projects FY 2007—2010

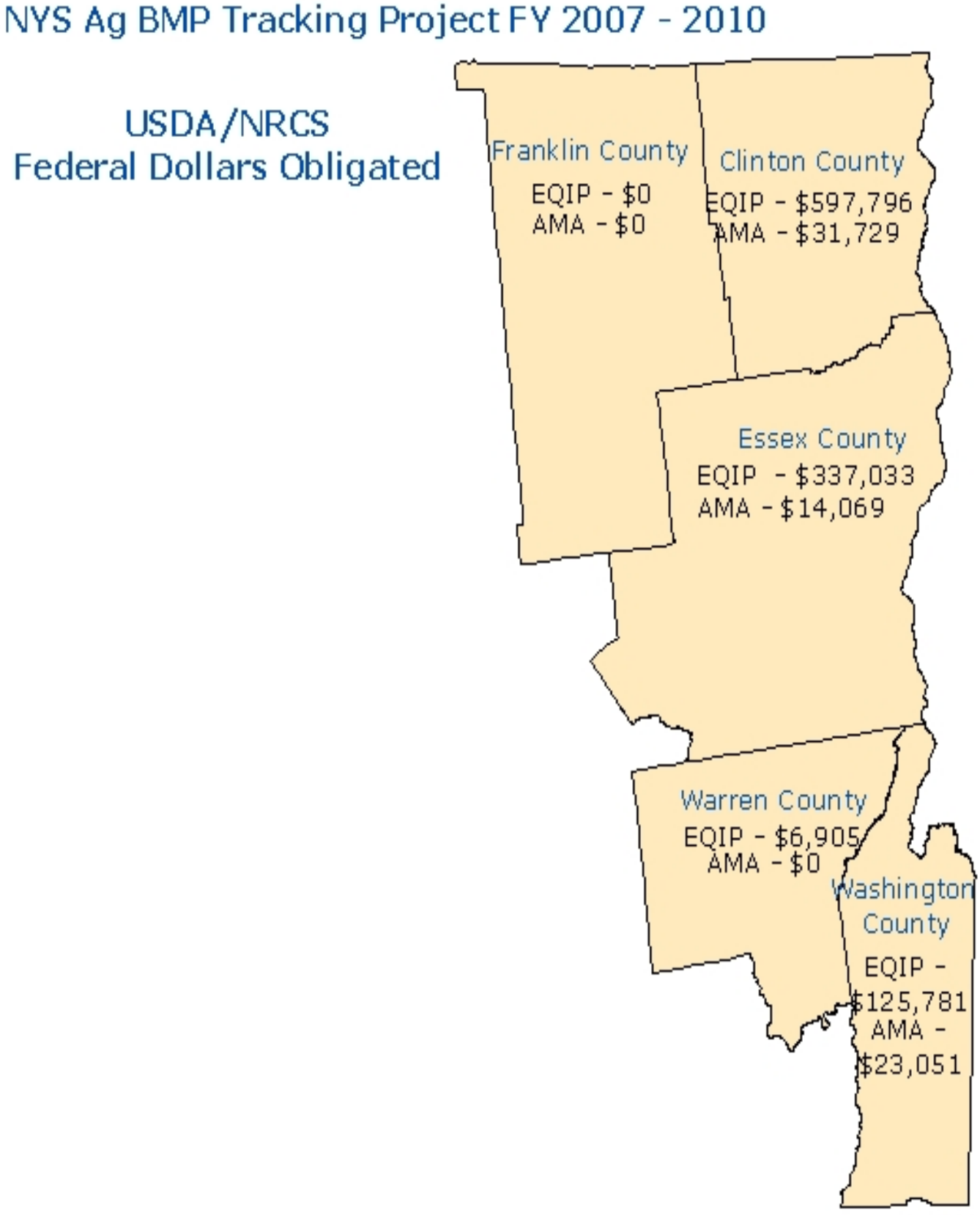
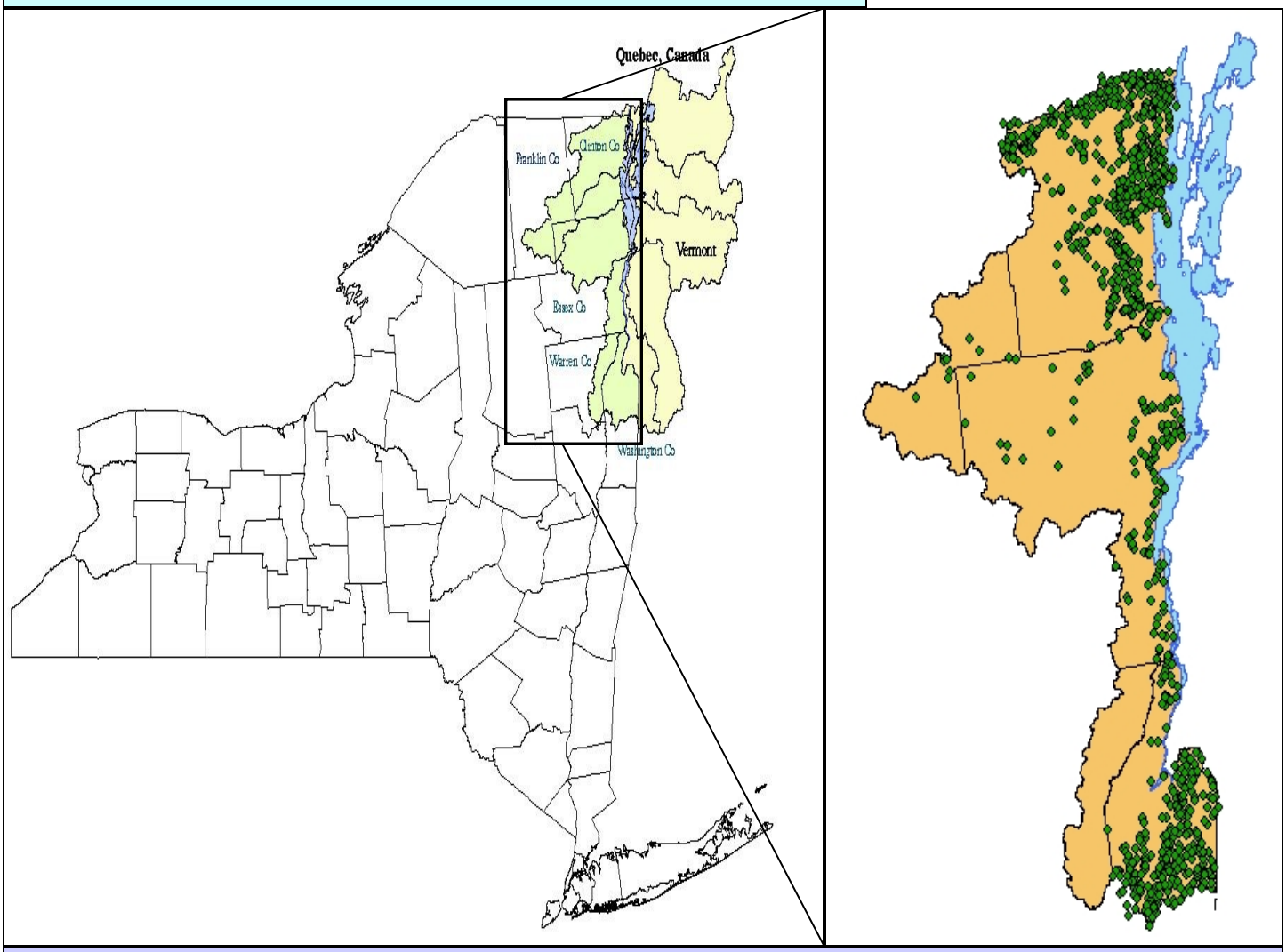


FIGURE 6

Farm Location—Geographic Information



Each dot on the watershed delineation graphic (above right) represents the general proximity of agricultural operations indentified in the GIS Ag BMP Tracking Database.

FIGURE 7

The methodology for estimating Phosphorus retention savings in NY were adopted through the VT Agency of Agriculture, Best Management Practices Regulations

SECTION 8: PHOSPHORUS LOADING REDUCTION CREDITING

Effective Date: January 27, 1996

SECTION 8: PHOSPHORUS LOADING REDUCTION CREDITING

8.1 The department's 1995 Vermont Dairy BMP Survey shall create the baseline data for determining phosphorus reduction credits for discontinuing winter spreading of manure within the Lake Champlain Basin.

8.2 The following practices shall be used to determine environmental credits for phosphorus reduction measured at the edge of the field following BMP implementation as part of a lake phosphorus allocation process:

(a)*Milk house* waste treatment is the storage of the waste in an animal waste treatment system, treatment through a filter strip or other system designed and constructed for such treatment.

(b)*Waste utilization* is a planned system to manage liquid and solid wastes, including runoff from concentrated waste areas, with ultimate disposal in a manner that does not degrade soil or water resources.

(c)*Barnyard runoff* treatment is a system to collect, control, and treat agricultural wastes from barnyards, feedlots, and other outdoor livestock concentration areas for disposal in a non-polluting manner. Its purpose is to properly manage runofffrom barnyards and related areas to minimize degradation of water quality and to conserve nutrients for use in crop production.

(d)*Erosion control* is a system to reduce soil erosion and water pollution on sloping cropland to reduce overland transport of pollutants.

(e)*Grazing management* is the exclusion of livestock from waters of the state other than from planned watering points.

(f)*Nutrient management* is handling the amount, placement and timing of plant nutrient application including a prohibition on winter spreading and is intended to supply adequate plant nutrients for crop production and plant growth; to minimize entry of nutrients and pathogens to surface and ground water; and to maintain or improve the chemical and biological conditions of the soils.

(g)A one-time phosphorus credit, because of a prohibition on winter spreading of animal manures (between December 15 and April 1) as required by the AAPs, shall be calculated at 0.15 pounds of phosphorus per animal unit for all farms identified as winter spreading in the department's 1995 Vermont Dairy BMP Survey.

8.3 The numerical values and the basis for determining phosphorus reduction credits for practices identified in subsection 8.2 of these rules will be contained in a procedure adopted and periodically revised, as necessary, by the Commissioner in consultation with the Secretary. The credits shall be used to show progress towards attaining compliance with the phosphorus allocation plan necessary to meet in-lake standards for phosphorus within the Lake Champlain Basin.

FIGURE 8

NY Lake Champlain Phosphorus Retention Coefficient Outline

BMP System	Common Practice(s) Installed	NRCS Practice	Coeffecient and Units
Barnyard Runoff Managemement	Heavy Use Protection	561	0.5# P / AU
	Roof Runoff	558	
	Underground Outlet	620	
	Fencing	382	
	Diversion	362	
Ag Waste Storage	Storage Facility	313	0.15# P / AU
	Composting Facility	317	
	Manure Transfer	634	
Nutrient Management	Nutrient Management	590	0.5# P / AU
	Waste Utilization	633	0.3# P / AU
Soil Erosion Control	Conservation Cropping System	328	0.8# P / AU
	Residue Management	328	
	Grassed Waterway	412	
	Cover Crop	340	
	Diversion	362	
	Strip Cropping	585	
	Contour Buffer Strip	332	
	Conservation Cover	327	
	Filter Strip	393	
	Riparian Forest Buffer	391	
Streambank Stabilization	Streambank and Shoreline Protection	580	0
Prescribed Grazing	Use Exclusion	472	0.5# P / AU
	Grazing Plan	528	
	Fencing	382	
Silage Leachate Collection	Waste Storage Facility	313	0.2# P / AU
	Silage Leachate Collection	629	
Milkhouse Waste	Milkhouse Waste Infiltration	629	0.2# P / AU
	Waste Storage Facility	313	

NOTE: Total P savings calculated in this report are based on assumptions derived from the BMP Phosphorus reduction effectiveness and *should not* be interpreted at this stage as verified load reductions to Lake Champlain

FIGURE 9

Examples of NY Lake Champlain Watershed Ag BMP implementation projects constructed in 2010

Outdated earthen waste storage area and transfer system, Washington County.

Agricultural waste runoff from precipitation and snowmelt is recognized as a potential contributor to non-point source phosphorus pollution in Lake Champlain and it's tributaries. However, local farmers, with the help of CWICNY and SWCDs, are doing their part to reduce agricultural waste runoff from their lands by incorporating waste management plans and systems into their operations.
In 2010, farms within Clinton and Washington counties utilized state and federal grant funding to construct waste containment units and barnyard runoff management systems.

Newly constructed steel "Slurry" storage unit, Washington County.

W*ashington County's* priority implementation project was a new slurry waste storage unit in southern Lake Champlain, Mettawee River sub-watershed.
This large, round, above ground 62-foot by 68-foot unit is constructed out of prefabricated steel and replaced an earthen pit which the farm had previously constructed and utilized for many years (Before & After photos).
Cost-share funding for the project included closure (filling in) of the old earthen storage pit and the purchase and construction of the steel Slurrystore unit. Construction of an additional 80-foot by 16-foot concrete reception pit and the installation of a manure pump to transfer the waste from the reception pit to the main storage was also included.
The new waste management system will allow for safe, long term storage of manure and milk center wastewater until soil and weather conditions are suitable for field application in accordance with the farm's Comprehensive Nutrient Management Plan (CNMP).

NYS Ag Non Point Source and Targeted Watershed funding used to cost-share manure storage and barnyard projects in northern *Clinton County*. The barnyard projects were implemented on a dairy and beef farm which were allowing animals to congregate in open, outdoor areas for the benefit of herd health and exercise.
These areas are typically exposed to the natural elements and especially susceptible to deep muddy conditions or nutrient runoff after precipitation. With this funding, both farms have completed projects covering these areas.
The animals are now protected and barnyard nutrient runoff is significantly reduced throughout the year. Containing the manure will enable the farmers to collect and recycle it onto their fields for use as soil fertilization at the appropriate time.

Uncovered Barnyard

Acknowledgements

This report was assembled with assistance from the following:

Steve Lanthier (retired)
Associate Environmental Analyst
NYS Soil and Water Conservation Committee

Bob Brower
Associate Environmental Analyst
NYS Soil and Water Conservation Committee
Malone, NY

Mike Latham
Director
NYS Soil and Water Conservation Committee
Albany, NY

Scott Fitscher
District Conservationist
USDA-NRCS
Washington County, NY

Marilyn Stephenson
Area Conservationist—Albany, NY
USDA—NRCS

New York Field Office Staff
Clinton County SWCD
Warren County SWCD
Essex County SWCD

Doug Ashline
NYS DEC
Division of Water
Bureau of Water Permits
Albany, NY

Jacqueline Lendrum
Research Scientist
NYS DEC
Division of Water
Bureau of Water Permits
Albany, NY

Randy Rath
Lake George Association
Lake George, NY