

Folder 1- Newsletters

"Watershed Watch." Baltimore: Chesapeake Bay Alliance, 2002. **LWB 01-01**

Newsletter that includes information about clearing out mile-a-minute weed, a Toyota Prius contest, and upcoming events for the Chesapeake Bay watershed.

Dehoff, Andrew, and Richard Promuth. Susquehanna River Basin Report, Delaware River Basin Report. N.p.: American Water Resources Association, 2000. **LWB 01-02**

The AWRA newsletter for 2000 that contains short summaries of reports on the Susquehanna and Delaware River basins.

LeFevre, Susan R. Susquehanna River Basin Commission. West Branch Susquehanna Subbasin Survey. N.p.: n.p., 2003. **LWB 01-03**

Samples were collected from 137 sites variables include macroinvertebrates categorized by EPA standards and habitat conditions were evaluated on the West Branch Susquehanna, specifically focusing on Cush Creek, Bear Run, Chest Creek, Anderson Creek, Clearfield Creek, Moshannon Creek, Mosquito Creek, Sinnemahoning Creek, Cooks Run, Kettle Creek, Bald Eagle Creek, Pine Creek, Antes Creek, Lycoming Creek, Loyalsock Creek, and Buffalo Creek. Test period was from July – November of 2002. Variables tested include pH, alkalinity, total suspended solids, total N, total ammonia, nitrite, nitrate, total phosphorous, total organic carbon, total hardness, total Ca, total Mg, total Na, total K, chloride, sulfate, total fluoride, specific conductants, total Cu, total Fe, total Pb, total Mn, total Ni, total Zn, total Al, and total orthophosphate.

"The Last Raft Project." Muncy: Muncy Historical Society and Museum of History, n.d. **LWB 01-04**

A pamphlet containing information on the one hour documentary called "The Last Raft". This documentary focuses on information on the river from 1938 – present and details regional history.

"Report to the Membership Fall 2001." N.p.: Northcentral Pennsylvania Conservancy, 2001. **LWB 01-05**

A newsletter sent out to all active members of the NPC that describes events and activities as well as grants awarded to the NPC for the term.

Pennsylvania. SRBC. Susquehanna Guardian. Harrisburg: SRBC, 2000. **LWB 01-06**

Articles on New York's WRAPS project, Maryland's SWAP program, the sediment symposium, Maryland Dye Trace Study, the Upper Tioga Watershed, and managing floods.

"Watershed Tea." N.p.: Department of Environmental Protection, 1999. **LWB 01-07**

Highlights current work (or at that time current) involving water shed groups in Pennsylvania. This issue highlights the pine creek headwaters protection group, beach creek group, Penn York Bentley creek assoc., kettle creek assoc., the cold stream project, fishing creek watershed assoc., the Shrader Creek Assoc., and the Seeley Creek Assoc.

Pennsylvania. Susquehanna Greenway Partnership. River Connections: The Susquehanna Greenway Vision. N.p.: n.p., 2003. **LWB 01-08**

The Susquehanna Greenway Partnership newsletter for Spring 2003 includes future plans for research and discussions on waterfowl and upcoming community events.

Pennsylvania. S.G.P.. Susquehanna Greenway Partnership. Lewisburg: SGP, n.d.

LWB 01-09

Brief history of river and surrounding land that describes the Susquehanna Greenway partnership charter.

Pennsylvania. SGP. River Connections. Lewisburg: SGP, 2001. **LWB 01-10**

Discusses river projects conducted and who received the Bay Commission award.

"Susquehanna River Basin Commission." Harrisburg: SRBC, n.d. **LWB 01-11**

Pamphlet includes: mission statement, map and area of basin, information about the staff, and managing the watershed.

Pennsylvania. SRBC. Susquehanna River Basin: Everyone Lives in a Watershed.

Harrisburg: SRBC, 1998. **LWB 01-12**

Contains a map of the Susquehanna river basin and facts about it and the river.

"Susquehanna Guardian." Harrisburg: SRBC, 2002. **LWB 01-13**

The second volume of the newsletter dealing with New York, Pennsylvania, and Maryland's watersheds that includes information about tropical storm Agnes in 1972 and total damages accrued, reintroducing American Shad, drought information, and hydraulic conditions.

Pennsylvania. USGS. Keystone Surveyor. Lemoyne, Pa: U.S.G.S., 1999. **LWB 01-14**

USGS newsletter dealing with biology, geology, cartography, and hydrology, included is basic water basin information, mapping of PA, and information on the abatement of coal mine drainage.

Pennsylvania. Department of Conservation of Natural Resources. DCNR: Conservation Program: A Grant Program of the Keystone Recreation Park and Conservation Fund. N.p.: n.p., n.d. **LWB 01 – 15**

Explanation of the grant application process for grants dealing with local watershed conservation.

"Scenic River Program Benefits." Harrisburg: Pennsylvania Scenic Rivers Program, n.d. **LWB 01 – 16**

Newsletter explaining the agency's efforts and benefits including state agency consistency and support of local restoration groups.

"Staff Report." N.p.: Susquehanna River Basin Commission, 2000. **LWB 01 – 17**

The annual staff reports crediting appropriate staff members with project completion; also lists current projects and who is responsible for completing them.

The Susquehanna River Basin Commission." N.p.: Susquehanna River Basin Commission, n.d. **LWB 01 – 18**

Pamphlet explaining the goals and responsibilities of SRBC as well as what they do with grant money they receive.

"Flooding in the Susquehanna River Basin." N.p.: Chesapeake Bay Commission, 1998. **LWB 01 – 19**

Pamphlet explaining flood control, flood loss reduction, nonstructural programs, and SRBC's flood protection program as well as an explanation as to why Susquehanna River Basin is a flood prone area.

"Water Quality Monitoring of Pennsylvania Streams by Citizen Groups." N.p.: Bradford County

A Guide for “citizen monitors” listing protocol, sample data sheets, and sources of assistance and guidance for inexperienced monitors.

Folder 2- Newspapers and Internet Articles

Barr, James P. "Swimming Upstream - Officials Hope More Shad Will Make it North

This Year." Williamsport Sun-Gazette 17 Mar. 2002, sec. F: 1. **LWB 02-01**

Newspaper article about the 2002 migration of Shad up the West Branch of the Susquehanna River.

Brysiak, Todd. "Public Has Say in River's Future." Williamsport Sun-Gazette Mar. 2002, sec. A: 4. **LWB 02-02**

Newspaper article stating that people were gathering at Lycoming College to determine the future of the river.

Brysiak, Todd. "'Swine Farm' Plan on Hold." Williamsport Sun-Gazette 21 Mar. 2002, 201st Year, No. 80. **LWB 02-03**

Newspaper article about citizens preventing swine farms from being located on the river due to environmental concern.

Crissey, Courtney. "Draft of Susquehanna River Conservation Plan Presented." Williamsport Sun-Gazette 20 May 2003, sec. B: 3. **LWB 02-04**

Newspaper article detailing Lock Havens plans to conserve the river.

Gleason, Jerry L. "Birthday Bash Planned for Historic Bridge." Patriot News 20 Dec. 2001, Sunday ed. **LWB 02-05**

Newspaper article about the Rockville Bridge being placed on a stamp.

Hess, David E. Department of Environmental Protection. It's Time to Stop Taking Pennsylvania's Water Resources for Granted. 20 Feb. 2002. 25 Feb. 2002 <<http://dep.state.pa.us/dep/hess/remarks/hessremarks022002.htm>>. **LWB 02-06**

Speech presented to the House of Environmental Resources and Energy Committee regarding the lack of legislation to ensure future water needs are able to be met.

"Last Raft Project in Final Stages of Production." Webb Weekly 27 Apr. 2004: 32-32. **LWB 02-07**

Article detailing that the money was finally raised to complete the Muncy Historical Societies documentary called the last raft project.

Pennsylvania. Department of Environmental Protection. How much do you know about the Susquehanna River and the Chesapeake Bay. 5 Feb. 1997. 8 May 2000 <[wysiwyg://45/http://www.dep.state.pa.us/deputate/enved/watershed/bayquiz.htm](http://www.dep.state.pa.us/deputate/enved/watershed/bayquiz.htm)>. **LWB 2-08**

Has to do with the Susquehanna River Basin in relation to the Chesapeake Basin, testing knowledge about water amounts, area, main pollution sources, the nutrients that impact water quality, reduction of non-point source pollution and benefits provided by the basins.

Pennsylvania. Department of Environmental Protection. Pennsylvania Department of Environmental Protection Draft 2002 Section 303(d) Report List of Impaired Water bodies. 5 June 2002. 16 July 2002 <<http://www.dep.state.pa.us/dep/deputate/watermgmt/wqp.wqstandards/303d-report.htm>>.

LWB 02-09

Pennsylvania's 2002 303(d) list of impaired waters. Explains why and how the list was developed, lists streams and lakes impaired for aquatic life use, lists of fish consumption advisories, lists of streams impaired for recreational usage, and a list of old abandoned mine drainage segments that are to be part of the area covered.

Pennsylvania. Department of Environmental Protection. Top Ten Tip for Watershed Organizations. 22 May 2000

<<http://www.dep.state.pa.us/dep/deputate/watermgmt/wc/factsheets>>. **LWB 02-10**

Offers tips and suggestions for success in developing and carrying out "local solutions to existing water quality and quantity problems and in helping to prevent future problems." Also gives a fact

sheet of potential funding sources for watershed groups.

Pennsylvania. Department of Environmental Protections. Water Pollution Control in Pennsylvania. 26

Dec. 1996 <<http://dep.state.pa.us/dep/deputate/watermgmt/wq/factsheets>>. **LWB 02-11**

Gives a general overview explaining the types of water, how they get polluted, and what people can do to help protect the water. Also explains current laws and agreements dealing with water pollution etc. Concludes with a list of resources linked to more information.

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Rivers Institute at Hanover College. Hanover College. 22 Feb. 2004

<<http://www.riverinstitute.org>>. **LWB 02-12**

Includes the proposal to the Lilly Endowment to establish the Rivers Institute at Hanover. It includes the mission statement, programs, staffing, scope of institute, benefits to students, facilities and equipment, administration, promotion, and outcome measurements. Its organization phase if from 2004-2005, its building phase is from 2005 – 2008, and its expansion phase is from 2009-2012.

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Subbasin Information. SRBC. 21 June 2002 <<http://www.srbc.net/wstbrnch.htm>>. **LWB 02-13**

Discusses the geographic features, drainage area, major tributaries, population, stream impairment/causes, and water use of the Susquehanna.

Pennsylvania. Western Pennsylvania Watershed Protection Program. N.p.: n.p., n.d. **LWB 02-14**

Explains the program and various projects it funds including: The French Creek Project, Headwaters Charitable Trust, Seuickly Creek Watershed Assoc., Loyalhanna Assoc., PA Clean ways, PA Environmental Defense Foundation, Monastery Run, Mountain Watershed Assoc., The Alliance for Aquatic Resource Monitoring and Resource Recovering, Clean Water Conservancy, Oven Run Project, Cooks Run, Alliance for the Chesapeake Bay, The Western PA Watershed Protection Program, and Cold Water Heritage Fisheries Grants.

Walters, Mariah I. "Area Watershed Group Plans Activities." Williamsport Sun

Gazette 16 May 2003, sec. B: 4. **LWB 02-15**

Newspaper article about Montgomery citizens and how the town is trying to involve residents with Black hole Creek Watershed.

Majede, Brenda F., and Linda D. Zynjuk. January 1996 Floods Deliver Large Loads of Nutrients and Sediment to the Chesapeake Bay. 1997. U.S. Department of Interior: **LWB 02-16**

Facts about the 1996 blizzard that caused the flood.

Lycoming County Flood History. 4 May 2001. Lycoming County Partnership. 2002 <<http://lyco.org/projectimpact.pi-floodhistory.html>>. **LWB 02 – 17**

Includes flood history, hazard vulnerability, maps, projects, and explanations on location and types of flood hazards.

"Lycoming County Home Page Carries Flood Hazard Maps." Sunday Patriot-News 12 Nov. 2000. **LWB 02- 18**

Newspaper article listing web page to gain access to flood hazard maps; also explains information on web page and lists reasons why citizens should be concerned.

Folder 3- Drought and Flood Information

"1996 Wettest Year on Record for Flows to Chesapeake." Bay Journal Mar. 1997. 28 Apr. 1997 <<http://www.gmv.edu/bios/bay/journal/current/flow.htm>>. **LWB 03-01**

Online article about the spawning of fish in the Chesapeake Bay and the height of the water.

"Baltimore Withdrawing Water from Susquehanna Due to Drought." Online posting. Feb. 2002.

Pennsylvania Department of Environmental Protection. 8 Feb. 2002 <<http://www.dep.state.pa.us/update/default.asp?is=5434>>. **LWB 03-02**

The Susquehanna River Basin Commission has agreed to let the city of Baltimore take more water out of the river due to a drought-internet article 2002.

Pennsylvania. SRBC. Information Sheet. Harrisburg: SRBC, 2001. **LWB 03-03**

Discusses the 1999 drought plan impacts of the drought, lessons learned and water conservation tips.

Albee II, Lewis R. Storm Flow Nutrient Element Dynamics in Two Central Pennsylvania Watersheds.

Bucknell U, Bucknell: Bucknell University, 1993. **LWB 03-04**

Masters thesis concerning the intensity of storms and how they affect water trajectories, agricultural influences, and chemical variable including: nitrate, K, Ca, and Na.

Ciaio, Carole-Jay. Dissolved Organic Carbon Dynamics in a Small Stream. . Bucknell U, Bucknell:

Bucknell University, 1989. **LWB 03-05**

A master's thesis having to do with a small stream in PA with documented DOC and flow rates for 1989. The DOC was monitored in response to rainstorms.

Folder 4- West Branch of Susquehanna DEP Files

Pennsylvania. Department of Environmental Protection. Department of Environmental Protection Raw

Data. N.p.: n.p., 2000. **LWB 04-01**

Data dating from 1895 – 2000 including nitrate testing, discharge and cf's, stream flow in cubic feet per second, stage in feet above datum, and also considers water uses and measurement units, NAWQA, pesticides, the Chesapeake Bay, the Pa nutrient act and riparian buffers.

Folder 5- Fisheries

Bilger, M., et al. National Water-Quality Assessment Program: Field Data Sheet for Contaminants in Fish.

N.p.: raw data 9/16/92 - 7/28/94, n.d. **LWB 05-01**

Raw data concerning the West Branch Susquehanna River at Lewisburg PA and the organic compounds and trace elements present. Data was collected from the livers of vertebrates in the river.

Haven, Kollo, and Romeo Mansueti. State of Maryland Board of Natural Resources Department of

Research and Education. A Historical Review of the Shad Fisheries of North America. Solomons:

Chesapeake Biological Laboratory, 1953. **LWB 05-02**

Study was conducted on the Susquehanna River to assess the effects of dams and pollution on the Shad populations as well as Shad spawning, the economic importance of Shad fisheries, and the rehabilitation of these fisheries.

Pennsylvania. Sport Fish Restoration. Migratory Fish Restoration and Passage on the Susquehanna River.

N.p.: n.p., n.d. **LWB 05-03**

This study looks at dams, pollution, over-fishing, shad history and restoration, tetracycline, marketing, alewife, hickory shad, American shad, blue-back herring, striped bass, and the American eel.

Pennsylvania. Department of Environmental Protection. Final Total Maximum Daily Load for the

Susquehanna River, PCB's. Mar. 1999. 3 May 2000 <<http://www.dep.state.pa.us>

/dep/dep...QStandards/TMDL/Susquehan-TMDL.htm>. **LWB 05-04**

Study takes place on the Pa route 92 bridge the confluence with the West Branch Susquehanna River. They monitored fish tissue and tested for PCB's and TMDL.

"Susquehanna Fisheries info." Not Published: Raw Data: Lycoming College, n.d. **LWB 05-05**

Amount of fish and species diversification in the Susquehanna River with stats from 1973, 1981, and 1982.

Toner, Katherine B. Physiological and Biochemical Effects of Environmental Acidification in Two

Catostomical Fish Species. Bucknell U, Bucknell: Bucknell University, 1988. **LWB 05-06**

Study determined how pH effects the Northern Hog Sucker and White Sucker. pH was the only chemical variable tested.

Folder 6- Recreation

Bogle, Jon, and Sid Furst. Susquehanna Recreational River Development: Reconnecting Williamsport to

the River. N.p.: n.p., n.d. **LWB 06-01**

Article distributed to gain attention and support in favor of two new recreational areas, the first across from downtown Williamsport, the second by the old rail road bridge on Lycoming creek.

The areas are to include bike trails and walking paths which may be used as commuter routes to work in Williamsport.

"Possible Watershed Group Members." Online posting. Aug. 1997. Pennsylvania Department of

Environmental Protection. Aug. 1997 <<http://www.dep.state.pa.us>>. **LWB 06-02**

A basic list of contacts and references for the PA DEP.

Folder 7- Watershed Restoration

Watershed Restoration Action Strategy Subbasin 09C. Centre and Clinton Counties: Bald Eagle Creek

Watershed, 2000. 1-12. **LWB 7-01**

Site area is a 769 sq. mile area located in the geographical centre of PA and includes most of central centre county and south eastern and southwestern Clinton County. It describes the geology and soils of the area, surrounding land use, natural and recreational resources, water quality impairment, restoration initiatives including several projects, public outreach projects funding, and strategies for the watershed.

Folder 8- Acid Mine Drainage

Callen, Jed Z., and Donald F. Charles. A Guide for Environmental Impact on Aquatic Ecosystems in the Susquehanna River Basin. N.p.: n.p., 1974. **LWB 08-01**

Discusses the effects of main point acid mine drainage including its effects on land usage, also details what acid mines do, the different types of mines and how they effect the Chemung and the Susquehanna which it flows into. Chemical variables tested in streams near mines include pH, acidity, alkalinity, Fe, SO₄, total suspended solids, total dissolved solids and total hardness.

Pennsylvania. Pennsylvania Department of Environmental Protection. Commonwealth of Pennsylvania Water Assessment 1994. N.p.: PA DEP, 1994. **LWB 08-02**

Bits and pieces of the 1994 COP water assessment dealing mostly with acid mine runoffs into streams.

Palmer, Timothy. Susquehanna Waterway: The West Branch in Lycoming County Susquehanna River Basin Study Summary June 1970. N.p.: n.p., 1975. **LWB 08-03**

Article discusses acid mine drainage into the Susquehanna and its effects in 1970.

Pennsylvania. Department of Environmental Protection and Commonwealth of Pennsylvania.

Commonwealth of Pennsylvania 1996 Water Quality Assessment. N.p.: n.p., 1996. **LWB 08-04**

Special state concerns dealing with acid mine drainage as well as abandoned mine land reclamation.

Skelly and Loy. SRBC. Coalmine Drainage in the Susquehanna River Basin. Harrisburg:

Robert J. Bielo, 1973. **LWB 08-05**

Paper deals with 13000 miles of streams in the Susquehanna River basin area and tests for: coal mine drainage. Specific things sought out were the impacts of coal mine drainage, the sources, and the water sheds where it is most prevalent. Included is a table that lists the watersheds, abatement costs, dollar value of stream oriented benefits and dollar value of land oriented benefits.

Engleman Jr., Carl J. Accumulation of Aluminum and Iron by Bryophytes in Streams Affected By Acid Mine Drainage. Bucknell U, Bucknell: Bucknell University, 1994. **LWB 08-07**

Masters thesis conducted at Cooks Run to examine the accumulation of Al, and Fe in areas of high acid mine drainage. Also compares these findings to pH.

Macbeth, Jennifer S. Diatom Assemblage Structure in Streams Affected by Acid Mine Drainage. Bucknell U, Lewisburg: Bucknell University, 1997. **LWB 08-08**

Masters thesis concerning how acid mine drainage effects water quality and thus diatom assemblages in Cook's Run watershed. The study measures pH, conductivity, nitrate, phosphate, chloride, sulfate, and chlorophyll concentration.

Folder 9- Upper West Branch Conservation Plan

Upper West Branch Susquehanna River Conservation Plan. Edensburg: Cambria County Conservation and Recreation Authority, 2001. **LWB 09-01**

Executive Summary includes 675 sq. miles of Cambria, Centre, Clearfield, And Indian Counties. It contains project area characteristics, community resources, water resources, education and public participation, concerns and issues, and the budget. Variables tested include: lab pH, field pH, alkalinity, acidity, temp, DO, conductivity, BOD, NH₃-N, NO₂-N, NO₃-N, Kjeld-N, organic N, total N, total phosphorous, total Ca, total MG, chloride, SO₄, Fe, Mn, Al, fecal coliforms, fecal strep, and macroinvertebrates

Folder 10- Lower West Branch Conservation Plan

Carey, Renee. Lower West Branch River Conservation Plan. N.p.: Northcentral Pennsylvania

Conservancy, 2003. **LWB 10-01**

Includes comments on plan discussing replacing river lots with natural trails and/or riparian buffer zones.

Carey, Renee. River Conservation Plan Implementation. : Northcentral Pennsylvania Conservancy, 2002. **LWB 10-02**

This is the implementation plan for the Lower West Branch Susquehanna River. It points out steps and actions that need to be taken to get the conservation plan moving and out of the planning stage. Also outlines goals of plan and educational possibilities. This particular outreach is to the board members of the NPC to decide what their levels of participation in the West Branch Conservation Project will be.

Pennsylvania. Northcentral Pennsylvania Conservancy. Lower West Branch Susquehanna River Conservation Plan. N.p.: NCPC, 2002. **LWB 10-03**

Includes executive summary (introduction)m issues tables, resource directory, copies of implementation projects/plans, funding plans, Greenway element, management options and background information, and a list of issues and potential actions.

Pennsylvania. Northcentral Pennsylvania Conservancy. Lower West Branch Conservancy Plan 2002. N.p.: NCPC, 1999. **LWB 10-04**

A perspective working plan for 1999 – 2002 functioning as an RCP.

Pennsylvania. Northcentral Pennsylvania Conservancy. Lower West Branch River Conservation Plan. N.p.: NCPC, 2000. **LWB 10-05**

This document lists all areas, towns, cities, and access areas to the Susquehanna River, tourism information, dam history, flooding information, historical sites, and bicycling areas. It encompasses Clinton, Lycoming, Union, and Northumberland Counties along with the lumber heritage region and the west branch water trail.

Pennsylvania. Northcentral Pennsylvania Conservancy. Lower West Branch Susquehanna River Conservation Plan Executive Summary. Williamsport: NCPC, 2000. **LWB 10-06**

Study includes Lick Run to the north and west branches of the Susquehanna River, Clinton , Lycoming, Union, and Northumberland Counties and was conducted 1999 – 2000. It includes a conservation plan and process, a list of resources of the river, demographics, land use, water resources, tributaries, trout stocked fisheries, biological resources, cultural resources, issues and concerns, recommended actions, and the Greenway element.

Folder 11- Examples of Grant Applications

A Glimpse of 2003-2004 Grant Round-10. N.p.: n.p., 2004. **LWB 11-01**

Information on how to apply for grants and form grant worthy projects. Also states when grant applications are available and when they are due.

Pennsylvania. Environmental Protection Agency. Request for Applications Assistance Agreements for Training and Education of Watershed Partnerships. 31 May 2003 <file://c:~1~.htm>. **LWB 11-02**

Last page contains list of endangered or threatened species in PA. Gives information for applying for training and education on watershed partnerships, the awards process and implementation of applications.

Pennsylvania. Northcentral Pennsylvania Conservancy. Growing Greener Grant Application. N.p.: n.p., 2001. **LWB 11-03**

Discusses the project need and funding justification, gives an outline of the project, goal and objective, work plan, project schedule, environmental benefits, and a suggested budget. The project deals with 75 miles of the West Branch for Lick Run to where the West Branch meets the North Branch in Northumberland County and +/- 400 yards into the shoreline. Video logging will allow them to give people a better understanding of relationships among land forms, vegetation, and potential uses and impacts, an understanding of different habitats, and how people live in relation to their resources.

Hess, David E. Department of Environmental Protection. Pennsylvania is Growing Greener and Cleaner. N.p.: n.p., 2002. **LWB 11-04**

A request for the approval of the DEP's 2002-2003 budget. Discusses what money has been used for as well as future intended uses including current environmental programs involving stream clean up.

"Fact Sheet: Potential Funding Sources for Watershed Groups." N.p.: Pennsylvania Department of Environmental Protection, 1997. **LWB 11-05**

Gives brief descriptions of available sources of assistance to watershed groups. Includes contact numbers, descriptions of programs and whether or not these programs are involved in planning, implementation, and other facts of water shed management.

Pennsylvania. Department of Environmental Protection. Ridge Administration Offers Environmental Education Grants. 7 July 2000 [wysiwyg://40/http://www.dep.state.pa.us/newsreleases/default.asp](http://www.dep.state.pa.us/newsreleases/default.asp)>. **LWB 11-06**

Grant information becoming available for the Ridge administration.

Pennsylvania. Department of Environmental Protection. efacts Permit Alert Service. N.p.: n.p., 2001. **LWB 11-07**

An explanation sheet regarding tracking and notification of permits and applications submitted to DEP.

Folder 12- Online Data Sources

Technical Support Center: Alliance for Aquatic Resource Monitoring. Dickinson College. 29 Feb. 2000 <<http://www.dickinson.edu/storg/allarm/support.htm>>. **LWB 12-01**

Internet database for PA streams and their pH and Alkalinity.

Folder 13- U.S. Army Corps

U.S. Army Corps of Engineers Philadelphia District. Draft Compensatory Mitigation Guideline. Philadelphia: n.p., n.d. **LWB 13-01**

Information about litigation and impact sites details how to make a litigation proposal, performance standards, monitoring plan, site protection/maintenance, adaptive management plan, and financial insurances.

Pennsylvania. Lycoming County Planning Commission. Lower West Branch, Susquehanna River Reconnaissance Study. Baltimore: U.S. Army Corps of Engineers, Baltimore District, 1997. **LWB**

13-02

Explains existing conditions of major waterways that connect to the lower west branch including water, land, and fish conditions as well as water resources. Problems found include flooding, stream bank/ stream bed erosion, and excessive down stream sedimentation. Study are includes the Lower West Branch Susquehanna River Basin from 1995 – 1997.

Folder 14- Monitoring Site Data Results

“Big Bend Watershed Baseline Assessment and Cause and Effect Analysis.” April 2001: n. pag. **LWB**

14-01

This analysis includes pollution graphs with stats for agriculture, road run off, mining, acid runoff prevention, and how to correct the imbalances. Also deals with municipal, residual, and hazardous material in the Big Bend watershed.

Pennsylvania. Environmental Protection Agency. Mosquito Creek at Duboistown. 13 June 2002

<<http://www.epa.gov/cgi-bin/rwcgistoret?storetkey>>. **LWB 14-02**

Data from Mosquito Creek and Dubois town collected from 8-10-1983 to present chemical variables tested include, N, nitrate, nitrite, phosphorous, chloride, Al, acidity, coliforms, DO, temp, specific conductants, BOD, PLT, and alkalinity. Includes latitude and longitude of site.

Gummo, Charles E., and Gerald G. Miller. Commonwealth of Pennsylvania. Aquatic Biology

Investigation: West Branch Susquehanna. N.p.: n.p., 1974. **LWB 14-03**

West Branch Report including site area Clinton Lycoming and Northumberland counties from July 23, 1973 to July 26 1973. Benthic macroinvertebrates and fish were collected also tested was pH, DO, Fe, So4, Mn, NO2, NO3, NH3, Cl, AB3, PO4, Cu, Zn, OR, Ca, Mg, P. Other research tested temp, turbidity, alkalinity, pH4, pH8, total solids, suspended solids, settle able solids, BOD, and hardness.

Barker, Jones L., and Robert A. Hainly. U.S. Geological Survey . Water Quality of the Upper West Branch Susquehanna River and Tributary Streams between Curwensville and Renova Pennsylvania.

Lemoyne: n.p., 1993. **LWB 14-04**

Duration of research includes May- July 1984 conducted on the upper west branch of the Susquehanna River, having to do with stream flow and water quality, geology, physiography, land

use, hydrology, and tributaries. Tested variables include pH, alkalinity, total recoverable iron, total recoverable manganese, sulfate, total dissolved solids, and acidity.

Hughey, Ronald E. Commonwealth of Pennsylvania Department of Environmental Protection. West Branch Susquehanna River PA DEP#18668. Harrisburg: n.p., 1995. **LWB 14-05**

The objective of this research was to assess the impact of municipal sewage treatment plants that discharge directly to the river. Study was conducted July 31 –August 14, 1995 on the West Branch Susquehanna River from Williamsport to Lewisburg. Chemicals tested included Ammonia, N, total Phosphorous, total precipitates, temp, pH (field and lab), DO, conductivity, alkalinity, total dissolved solids, suspended solids, NH₃-N, NO₃-N, BOD, GOC, hardness, sulfates, chlorides, total Fe, Mn, Al, and fecal coliforms. Benthic macroinvertebrates were also tested along with habitat scores and habitat composition.

Pennsylvania. Susquehanna River Basin Commission. West Branch Susquehanna Subbasin Survey: A Water Quality and Biological Assessment. Harrisburg: n.p., 2003. **LWB 14-06**

Site area includes Lick Run at SR1001 bridge at Ferrandville Community Park to Goodway Road Bridge near Bakerton, Cambria County. Chemical variables tested include: temp, pH, DO, alkalinity, nitrite, nitrate, N, ammonia, phosphorous, Ca, Mg, Na, K, chloride, sulfate, fluoride, Cu, Fe, Pb, Mn, Ni, Zn, Al, ortho-phosphorous. Other variables tested include: TSS, flow, conductivity, TOC, and hardness. Macroinvertebrates were also studied and identified to genus with tolerance and trophic levels. Habitat assessments including primary (epifaunal substrate, in stream cover, embeddedness, velocity, depth regimes) secondary, (sediment deposition, channel flow status, alteration, frequency of riffles) and tertiary (condition of bank, vegetated protective cover, riparian vegetated zone width) parameters, a total habitat zone, and field water quality data.

Olbleski, Susan, and Deborah Shaughnessy. SRBC. 1998 Annual Report-Susquehanna River Basin Commission. Harrisburg: SRBC, 1998. **LWB 14-07**

Includes commentary on out of basin diversion quality, the determination on Baltimore's withdraw of water from the basin, a year of hydraulic extremes, evaluating impact of water withdraws on fishery habitats, low impact recreation, and nutrient and sediment trends.

Pennsylvania. Susquehanna River Basin Commission. Susquehanna River Basin Commission 1999 Annual

Report. Harrisburg: SRBC, 1999. **LWB 14-08**

Discusses the state of the Susquehanna, highlights protection plans and reports as well as research done within this year.

Pennsylvania. SRBC. Upper Susquehanna Subbasin: A Water Quality and Bio Assessment. Harrisburg: SRBC, 1999. **LWB14-09**

Tests were conducted by the SRBC to determine total residue, total suspended solids, ammonia, N, nitrate, nitrite, phosphorous, orthophosphate, harness, Na, K, Mg, Ca, chloride, sulfates, Fe, Mn, Al, Pb, Cu, Zn, Ni, organic carbon, temp. Flow rate, pH, conductivity, DO, acidity, RBP's and alkalinity. Methods used in the subbasin survey also identify trophic similarities.

Pennsylvania. U.S.G.S. 1994 West Branch Data. N.p.: U.S. Geological Society, 1994.

LWB 14-10

Study conducted in 1994 dealing with the West Branch from Colver to Lewisburg. Variables tested bottom substrate- % bedrock boulder, cobble, gravel and sand, silt, clay, detritus, muck flow, width and depth, riffle, canopy cover, shading, channel alteration, bottom scour, PR-RB ratio score, pool ft, riffle ft, low bank capacity score, up bank stability, bank vegetation, stream cover, riparian zone, land use, woodland agriculture, residential, commercial, industrial, institution. Sediment was tested for odors oils, and deposits, water was tested for odors.

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West Branch Susquehanna River at Williamsport Pa Provisional Data. USGS. Apr. 2003

http://www.panzo.er.usgs.gov/rts-cgi/gen_stn_pg. **LWB 14-11**

Variables tested include discharge stats including mean, minimum, 20th percentile median, 80th percentile median, maximum and years of record.

Folder 15- Practicum Reports

Fogg, Melissa. "Practicum Summary." Lycoming College, 2001. **LWB 15-01**

Summary of the practicum at Lycoming College with NCP concerning what to do with the river basin.

Tully, Rebecca. Practicum with the North Central Pennsylvania Conservancy.

Lycoming College, 2001. N.p.: n.p., n.d. **LWB 15-02**

Practicum paper written on the West Branch with subheadings including agriculture, historical aspects, quality of water, pollution, and a summary of the meeting.

Folder 16- Dam Impact/Removal

Pennsylvania. Leetown Science Center Research and Development Lab. Model Habitat Quality and Impact of Dam Removal on the Restoration of Alosines in the Susquehanna River. N.p.: n.p., n.d. **LWB 16-01**

Information included: dam history, fisheries information, schedule of study, safety, animal welfare, costs, and staffing.

Folder 17- Erosion/River Morphology/Sediment "River Morphology: Muncy To Sunbury." . State College: Penn State University, 1989. N. pag. **LWB 17-01**

Two pages of a large report conducted by Penn State University dealing with river morphology.

Pennsylvania. SRBC. Proceedings: Addressing the impact of the Sediment Loads in the Susquehanna River Basin. Harrisburg: SRBC, 2001. **LWB 17-02**

Discusses the extent of the sediment problem, management of sediment load, land, reservoir options, and recommendations.

Takita, Charles S., and Edwards E. Robert. SRBC. Nutrients and Suspended Sediment Transported in the Susquehanna River Basin 1998, and Trends, January 1985 through December 1998. Harrisburg: SRBC, 1999. **LWB 17-03**

Study deals with the Susquehanna River at Towanda, Danville, and Marietta, the West Branch Susquehanna River at Lewisburg, and the Conestoga River at Conestoga PA. Research was conducted in 1998 and chemical variable included: total N, total nitrite, total nitrate, total phosphorous dissolved, phosphorous, dissolved inorganic phosphorous, ammonia total and dissolved, organic carbon, and orthophosphate. The 1998 nutrients and suspended sediment yield were compared to five year base line yields and trends were computed for January 1985 to December 1998.

Takita, Charles S. SRBC. Summary of Nutrient and Suspended-Sediment Loads in the

Susquehanna River Basin, 1994-1995. Harrisburg: SRBC, 1997. **LWB 17-04**

Study took place in Towanda, Danville, Lewisburg, Newport, Marietta, and Conestoga between 1994 and 1995. The main purpose of the study was to test seasonal water discharges and other chemicals tested include: ammonia, dissolved nitrogen, total nitrogen, nitrate, nitrite, dissolved ortho-phosphate and phosphorous dissolved and total.

Folder 18- Assessment Reports

Pennsylvania. Department of Environmental Protection. 1996 Water Quality Assessment. N.p.: n.p., 1996. **LWB 18-01**

24,482 miles of Pennsylvania streams were considered in this test focusing on groundwater, lakes, wetlands, and coastal areas in 1996. Assessment contains results from surface monitoring programs, river and stream water quality stations also studied ground water contamination and lake, coastal, and estuary wetlands. It deals with pollution control programs and special state concerns including mine drainage and zebra mussels.

Pennsylvania. Susquehanna River Basin Commission. Assessment of Interstate Streams in the Susquehanna River Basin. Harrisburg: SRBC, 2000. **LWB 18-02**

Study conducted July 1, 1998 to June 30, 1999 in the Susquehanna River basin. Chemical variables tested include: Pb, Zn, Cu, Ni, U, solids, ammonia, nitrite, nitrate, phosphorous, orthophosphate, organic carbon, Ca, Mg, chloride, sulfate, Fe, Mn, and aluminum. Other variables tested include conductivity, discharge, temp, DO, pH, alkalinity, acidity, turbidity, physical habitat, and riparian assessment.

"Hydrological Conditions - Susquehanna River Basin." N.p.: Susquehanna River Basin Commission, 2000. **LWB 18 – 03**

A report containing data variables including: precipitation levels, discharge, general ground and surface water levels, mean stream-flow, and ground water levels listed by county.

Risser, Dennis w., and Steven F. Siwiec. United States Dept. of the Interior. Water Quality Assessment of the Lower Susquehanna River Basin, Pennsylvania and Maryland: Environmental Setting. N.p.: United States Dept. of the Interior, 1996. **LWB 18 – 04**

Report gives data and test results for geology and soil, climate, hydrology, fisheries (from the lower Susquehanna River Basin only), nutrient levels, suspended sediment levels, and the effects of human components on the environmental settings; also provides graphs and supplemental maps.

Pennsylvania. United States Dept. of the Interior. Water Resources Data Pennsylvania: Water Year 1998.

N.p.: United States Dept. of the Interior, 1998. **LWB 18-05**

Includes data and charts for stage and water discharge, surface water quality, ground water levels, ground water quality, and stream flow; also identifies test site locations.

Pennsylvania. United States Dept. of the Interior. Water Resources Data Pennsylvania: Water Year 1983.

N.p.: United States Dept. of the Interior, 1983. **LWB 18-06**

Report containing stage and water discharge records, water quality records, ground water levels, flow rate records, and ground water quality records for 1983.

Alley, William M., Olehn Franke, and Thomas E. Reilly. United States Geological Survey. Sustainability of Ground-Water Resources. Denver: United States Geological Survey, 1999. **LWB 18-07**

Gives an explanation about ground-water, its importance, quality, flow to and from surface water bodies, the factors effects ground-water sustainability, and what possible results these factors may produce.

Folder 19- Qualifications for Lower West Branch Conservation Plan RETTEW

Pennsylvania. RETTEW associates inc.. Qualifications for the Lower West Branch

Susquehanna River Conservation Plan. N.p.: n.p., 2000. **LWB 19-01**

Gives the Northcentral PA Conservancy a look at the company and why they should support it in funding the lower West Branch Susquehanna River conservancy plan. Includes organizational chart, PA

registration, resume of team, and licenses. Prepared for the North Central PA Conservancy.

Synoracki, Daniel. RETTEW Associates. Proposal for the Lower West branch Susquehanna River Conservation Plan. N.p.: n.p., 2000. **LWB 19-02**

This document was presented to the NPC and is a proposal for the lower west branch Susquehanna River Conservation Plan. It concerns the 75 mile West Branch from Lick Run to the convergence of West Branch and North Branch in Northumberland. It includes an explanation of the work plan, the work schedule, a costs summary, a detailed explanation of full cost information, and the conditions of the offer. There is also an application for Growing Greener grants for preservation education, restoration, and enhancement projects

Pennsylvania. Skelly and Loy Inc.. Qualifications Statement for the Preparation of a River Conservation Plan. N.p.: n.p., 2000. **LWB 19-03**

Skelly and Loy's list of qualifications and their proposal submitted to Carrey for the Lower West Branch Susquehanna River conservancy plan.

Folder 20- Maps

Susquehanna River Basin Commission." Map. Harrisburg: SRBC, 2001. **LWB 20-01**

Two maps of the watersheds in the Susquehanna River basin.

"Groundwater Resources of Williamsport Region, Lycoming County Pennsylvania." Map. N.p.:

Department of Environmental Resouce Offices of Resources Management, 1981. **LWB 20 -02**

Topography Map of ground-water sources in Lycoming County.

Folder 21- Water Pollution

Ecosystem Trends and Response: Chesapeake Bay. 2000. United States Geological

Survey. 24 Feb. 2000 <<http://eochange.er.usgs.gov/pub/info/facts/chesapeake>>. **LWB 21-01**

Paper has to do with restoring the ecosystem in the Chesapeake Bay and trends in DO.

Chesapeake Bay: Measuring Pollution Reduction. U.S. Geological Society. 24 Feb.

2000 <<http://water.usgs.gov/wid/html/chesbay.htm>>. **LWB 21-02**

Deals with Chesapeake Bay and its tributaries, pollution entering the tributaries, and ways to reduce pollution. Single chemical tested – N.

Folder 22- Algae and Diatoms

Strayer, Jason S. Determination of Limiting Nutrients in White Deer Creek, PA, Through the Use of Diatoms and Nutrient Diffusing Substrates. Bucknell U, Bucknell: Bucknell University, 1989.

LWB 22-01

Masters thesis conducted on White Deer Creek five miles above where it meets the Susquehanna River conducted 1990. Reviews how everything effects diatoms from climate to biological factors. Chemical variables tested include: phosphate, nitrate, and organic carbon

Lock Haven Information

West Branch Susquehanna Scenic River Study. Penn State, 1989. N.p.: Penn State, 1989. **LH 01**

Study are follows the Susquehanna River from Muncy to Sunbury from 1973 – 1976 with prehistoric history to present. The qualities of the area included soil, lithology, climate, agriculture, vegetation, wildlife habitats, wetlands, pH, temp, DO, conductivity, and fecal coliforms. The paper is predominantly about geology and geography including river morphology and discusses roads, railroads, canals, oil. Lumber, Fe, and coal industries and where they are located. There are also detailed histories of Muncy, Milton, Watsonstown, Lewisburg, Sunbury and Northumberland County.

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West Branch Susquehanna Scenic River Study. . Penn State U, 1988. N.p.: Penn State, 1988. **LH 02**

Study area includes area along the river from Lock Haven to Muncy and details the history of Susquehanna Valley culture, early settlements, history of Williamsport, Lock Haven and Clinton County natural resources, geology, climate, vegetation and agriculture, wildlife (including endangered, vulnerable and extirpated species), river characteristics, development, population growth, economics, government, and zoning.