pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

Supporting Documentation

Laurel Hill Creek, Somerset and Fayette Counties

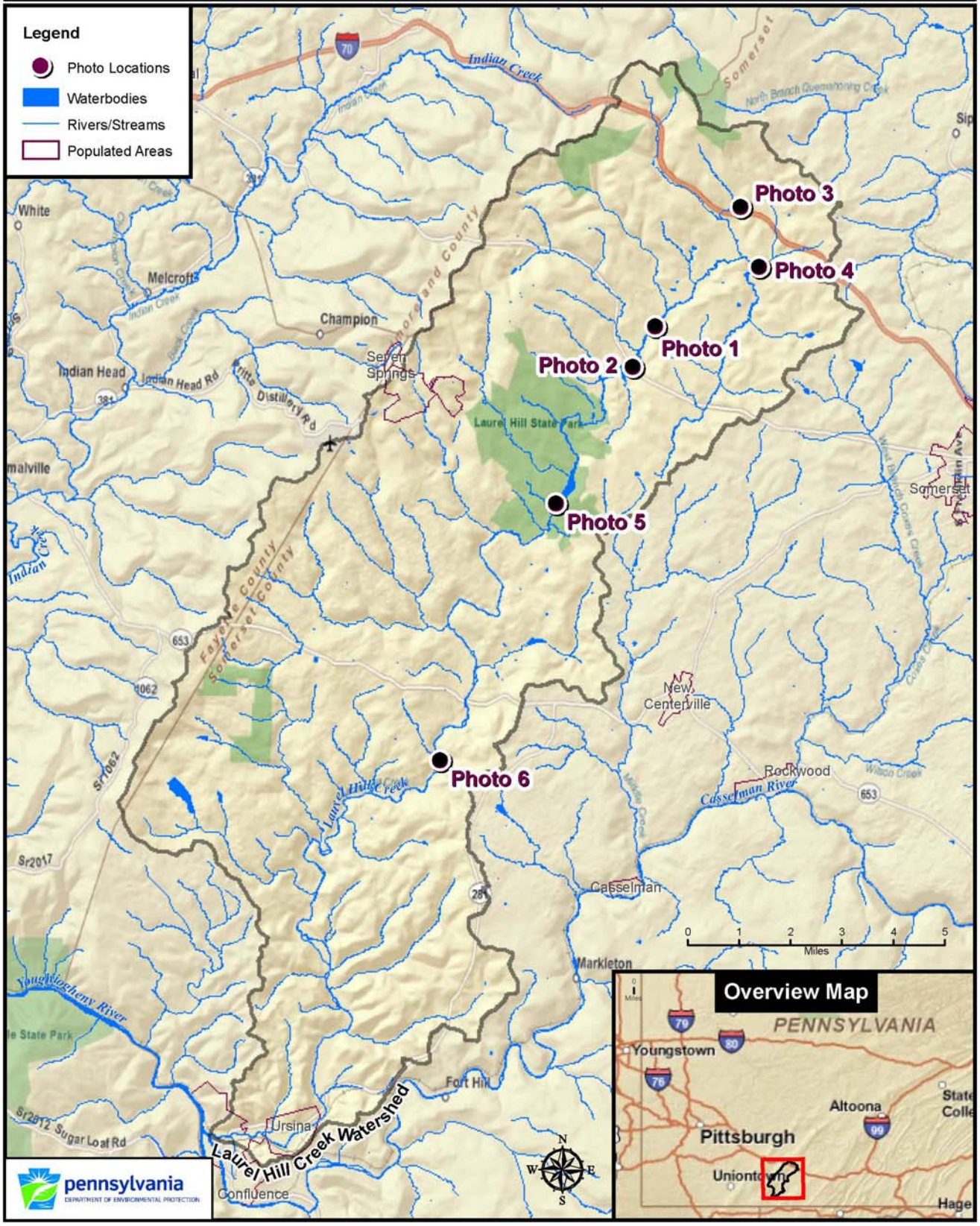
Nomination for Critical Water Planning Area

Under Pennsylvania State Water Plan

August 2009

Laurel Hill Creek Watershed

Somerset & Fayette Counties



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Photos of Watershed

Photo 1-Laurel Hill Creek Reservoir

Photo 2-Looking south from Rt 31

Photo 3-Looking south above PA Turnpike

Photo 4-Crab Run Trib at Jefferson Rd

Photo 5-Laurel Hill Creek State Park

Photo 6-Whipkey Dam South of Rt 653

Purpose

This document provides a summarization of information supporting the Department of Environmental Protection (DEP) findings as to whether a nomination for the Laurel Hill Creek (or certain tributaries) would satisfy the Critical Water Planning (CWPA) designation criteria. Attached as part of this document is a report entitled "Verification of Water-Analysis Screening Tool Results for the Laurel Creek Watershed, Somerset County, Pennsylvania" prepared by the United States Geologic Survey (USGS) as part of the process for identification of critical water planning areas by DEP.

Watershed Characteristics

Thorough descriptions of the Laurel Hill Creek Watershed may be found in the studies referred to later in this document.

The watershed is predominately undeveloped with a majority of its area forested or within agricultural land use. Within the developed portions of the watershed are ski resorts and a quarry operation.

Laurel Hill Creek is classified as a High Quality Coldwater Fishery, with four Exceptional Value (EV) tributaries.

Estimations completed for the watersheds during this planning process project population in the Laurel Hill Creek to increase by over 3% by 2010, over 5% by 2020 over year 2000 figures.

Drainage area (mi^2)	Miles Total Streams	Miles HQ Streams	Total EV Miles	% Forest	% Agriculture	% Other
125	269	247	22	73%	24%	3%

Summary Table – Laurel Hill Creek Watershed

Problem Statement

The following was compiled from information provided as part of the nomination package for Critical Water Planning Area designation, ongoing studies, and a draft Rivers Conservation Plan.

Sixty eight percent (68%) of registered water use in the watershed is estimated as coming from public water supply sector with 38% of all registered water use coming from groundwater, 52% from surface water and 10% estimated as either groundwater or surface water.

A Rivers Conservation Plan (RCP) was drafted in 2004 for the Southern Alleghenies Conservancy, but never finalized for the Department of Conservation and Natural Resources (DCNR). The draft plan identified a number of issues within Laurel Hill Creek. Stakeholders believed that surface and groundwater withdrawals in the upper portion of the watershed were causing stream flows to be lower than what they recall historically. A RCP analysis indicated that the stakeholders' concerns have merit in that occurrences of low stream flows was higher from 1991 to 2003 as compared with 1954 to 1990 or from 1918 to 1953. Somerset Borough Municipal Authority began withdrawing water in 1954. The RCP noted that certain tributaries have poor water quality that is impacting the water quality of the main stem of Laurel Hill Creek. Runoff related to timbering, agriculture and roads contribute to the water quality degradation.

Currently, several planning studies are underway that further document and aim to address quantity and quality issues within the watershed; a Water Resource Management Plan and a Storm Flow and Sediment Analysis study both of which are funded through DEP Environmental Stewardship (Growing Greener) grants.

Details on the water analysis screening and data verification are provided in the attached report prepared by the United States Geologic Survey (USGS). The analysis based on 2003 base year withdrawals indicates potential water availability problem areas during drought conditions (having negative Screening Indicator Percentage (SIP) for much of the main stem downstream of the Laurel Hill Creek Reservoir area and on a few tributaries.

Any changes in water demands or withdrawals from the watershed resulting from water diversion through a new Quemahoning pipeline to the Borough of Somerset were not addressed in the USGS study, but will be addressed under the ongoing Water Management Plan.

Therefore, the results of the screening and verification work in combination with non-numerical or "quantitative" factors including previous and ongoing studies indicates there is sufficient evidence presented so far for a nomination to meet the designation criteria due to the potential threat of impairment to the Laurel Hill Creek. Following are a list of factors that may be considered by during the designation process.

Factors to consider in nomination decision

Category of Factor	Factor	Applied to this watershed
Water Supplies	Documented water supply issues	Withdrawals by Somerset from Laurel Hill Reservoir when stream flow at dam < minimum pass-by requirements - 1994, 1995, 1998, 1999, 2001, 2002. According to Borough of Somerset, changes in operations (drought plan) not sufficient to meet water supply demands over a prolonged period.
Negative Screening Indicators (SI) and/or percentage (SIP) at pour points	Negative SI, SIP numbers at pour points	19 of 26 points in watershed
	Relatively high magnitudes of negative SI, SIP	Between -4% up to -268%
	Groupings of negative pour points	Most of main stem
Population	Population densities	Not high. Concentrations of developed areas at resorts
	High projected population growth	Low, but increase in commercial employees expected to grow through 2030.
Development	Projected water demand from industry and other sectors	Water use in the resort sector and proposed expansion of quarry may increase water demands.
Watershed Size	Small watersheds <50 mi^2	> 50 mi^2
Stream Designations	Extent of HQ/EV streams	Extensive

Category of Factor	Factor	Applied to this watershed
Existing problems	Existing water resource issues such as flooding, stormwater, drought, water quality	Water quality issues related to sedimentation. 303(d) listing of impaired streams from siltation, nutrients, low dissolved oxygen.
Existing Planning Investment	Presence of Storm Water 167 plans, rivers conservation plans, source water protection plans, etc.	Draft Rivers Conservation Plan 2004, ongoing Water Management Plan and Sedimentation Study.
Solutions to problems	Potential for viable solutions	Opportunities exist for planning to address sediment and water availability. Potential solutions being undertaken through Water Management Plan.

Contacts with stakeholders

As part of the verification process for watersheds across the state, contacts were made with particular stakeholders that resulted in verbal information received about water use in the watershed as well as comments on the verification process. The table below indicates whether any official written comments were received by DEP or the USGS in response to the mailed verification report.

Entity	Date of DEP contact	Written comments on verification report?
Somerset Borough Municipal Water Authority	January 14, 2009	None
Seven Springs Municipal Authority		None
Hidden Valley Public Utility Services, LLC		None

References to recent relevant studies

Name of Study	Author	Date	Web Link (if available
Water Resource Plan for Laurel Hill Creek Watershed. Environmental Stewardship Grants (Growing Greener)	Trout Unlimited with consultation by the United States Geologic Study (USGS)	Ongoing as of August 2009	Water Management Plan
Laurel Hill Creek Storm Flow and Sediment Analysis	Sponsored by Chestnut Ridge Chapter of Trout Unlimited and by Somerset County Conservation District	2008 Environmental Stewardship Grant to be completed September 2011	None
Laurel Hill Creek Rivers Conservation Plan, Somerset	Prepared for Southern Alleghenies	Draft December 17, 2004	None

County, Pennsylvania DCNR Plan RCP-7-18	Conservancy		

Verification of Water Analysis Screening Tool Results for Laurel Hill Creek Watershed, Somerset County, Pennsylvania

This summary provides a brief description of verification of water use data, including registered and estimated, any mitigation efforts, and potential aquatic resource influences for the Laurel Hill Creek watershed, located primarily in Somerset County, Pennsylvania. Water use data from 2003 were compiled and input into a Geographic Information System-based Water Analysis Screening Tool (WAST) to identify potential aquatic resource influences throughout the approximately 125 square mile (mi^2) Laurel Hill Creek watershed. Results from this watershed and others will be used by the Pennsylvania Department of Environmental Protection (PaDEP) and Regional and Statewide Water Resources Committees to help identify Critical Water-Planning Areas (CWPAs) across the state. If this watershed is chosen to be nominated as a CWPA, a more comprehensive report will be developed.

The WAST uses a mouth-of-watershed or "pour-point" concept to compare net withdrawals (total withdrawals minus total discharges) to predetermined initial-screening criteria (ISC). The ISC is a percentage of the 7-day, 10-year low flow (7Q10), which is determined from regression equations (Stuckey, 2006). The result of the WAST is a Screening Indicator (SI) expressed as a rate in million gallons per day (Mgal/d), and is equal to ISC – (total withdrawals – total discharges) +/- any impoundment evaporation or mitigating factors. When the SI is presented as a percentage of the ISC, the result is a dimensionless screening indicator (SIP) useful for comparing different watersheds with varying drainage areas and natural flows. Potential aquatic resource conflicts may occur in watersheds when the SI is negative (Stuckey, 2008).

The ISC used in the analysis for Laurel Hill Creek watershed was 50 percent of the 7Q10 because there are no Class A trout streams in carbonate areas within the watershed (Stuckey, 2008). There are 32 dams in the Laurel Hill Creek watershed including two that had a conservation release and one that has a minimum pass-by requirement. Evaporation from the lakes without a conservation release or a pass-by was determined to be insignificant and was not factored into the calculation of SI or SIP. Evaporation from the lakes that had a conservation release or a pass-by was not determined because it was assumed to be factored into the storage and release calculations. Trout Unlimited and the U.S. Geological Survey are in the process of developing a water resources management plan for the Laurel Hill Creek watershed. In May 2008, Trout Unlimited nominated the watershed as a potential CWPA.

Withdrawals in the Laurel Hill Creek watershed, including those from registered users and estimates for unregistered water use points, totaled 2.27 Mgal/d (table 1). Unregistered withdrawals were estimated for water use categories with water use known to be underreported using water use factors (Stuckey, 2008). There are 18 registered users, 6 discharges, and 358 estimated unregistered water use points (some of which, such as self-supplied residential water use points, represent a larger area) in the watershed. Surface water withdrawals accounted for 1.18 Mgal/d (52 percent) of the total (figure 1). Remaining withdrawals were from groundwater 0.87 Mgal/d (38 percent), or were estimated water withdrawals from unregistered water use points, 0.23 Mgal/d (10 percent). Discharges in the Laurel Hill Creek watershed totaled 0.26 Mgal/d; half the discharges (3 of 6) were greater than or equal to 0.01 Mgal/d. Discharges were returned directly to surface water rather than to groundwater recharge.

Table 1. Summary of water discharges and withdrawals within Laurel Hill Creek watershed, Somerset County, Pennsylvania, 2003.

[>=, greater than or equal to; Mgal/d, million gallons per day; --, not applicable]

Water Use	Number of water use points	Number of values >= 0.01 Mgal/d	Water use, in Mgal/d				Percent of total water use
			Mean	Minimum	Maximum	Total	
DISCHARGES							
ALL DISCHARGES	6	3	0.04	0.01	0.15	0.26	--
WITHDRAWALS							
ALL WITHDRAWALS	376	11	--	--	--	2.27	--
SUMMARY OF WITHDRAWALS BY SOURCE							
Ground water[1]	16	7	0.05	0.00	0.21	0.87	38
Surface water[1]	2	2	0.59	0.18	1.00	1.18	52
Other[2]	358	2	0.00	0.00	0.08	0.23	10
SUMMARY OF WITHDRAWALS BY WATER-USE CATEGORY							
REGISTERED							
Water supplier	6	6	0.26	0.02	1.00	1.53	68
Commercial	9	2	0.04	0.00	0.18	0.33	14
Mineral	3	1	0.06	0.00	0.17	0.18	8
ESTIMATED UNREGISTERED							
Self-supplied residential	277	0	0.00	0.00	0.00	0.03	1
Industrial	5	0	0.00	0.00	0.00	0.01	1
Commercial	52	1	0.00	0.00	0.08	0.09	4
Agriculture	24	1	0.00	0.00	0.02	0.10	4
Livestock	24	1	0.00	0.00	0.02	0.10	4

[1] as described in registration data; does not include estimated water use

[2] estimated water use not identitifed as ground water or surface water

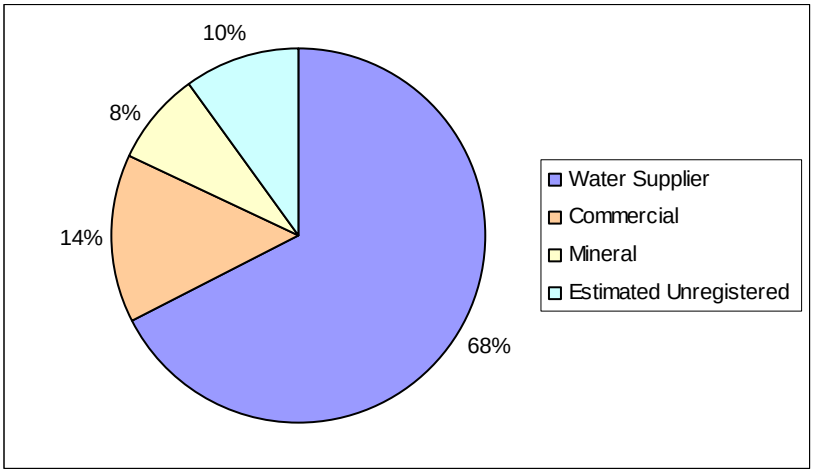

Figure 1. Portion of water withdrawn by selected categories within Laurel Hill Creek watershed, Somerset County Pennsylvania, 2003.

Mitigation factors were calculated for the two dams with impoundments in the watershed that have a conservation release or minimum pass-by requirement (table 2). The smaller of the two impoundments

is Hidden Valley Pond Number 5 with a conservation release of 0.035 Mgal/d. Water is released through an approximately 1-inch diameter pipe that runs through the pond's bank. There is no mechanism to control the water flow and no gauge to measure it; however, there is no record of the water level of the pond falling below the level of the pipe. A discharge to supplement streamflow based on this conservation release was added to the analysis. Water is withdrawn from Pond Number 5 and other ponds in the area to irrigate an 18-hole golf course. The amount of water withdrawn from these ponds was estimated at 0.0769 Mgal/d. An analysis of storage in the impoundment did not show sufficient storage to maintain this withdrawal and the required conservation release for 180 days or more.

There was another impoundment with a release that mitigation factors were not calculated for. Hidden Valley Pond Number 2 is similar in size to Pond Number 5 and water is released from it in a similar manner (an approximately 1-inch diameter pipe with no mechanism to control the water flow and no gauge to measure it). Records on how much water is released from Pond Number 2 were not available but there is no record of the water level of the pond falling below the level of the pipe (Hidden Valley Public Utility Services, LLC, oral commun., 2009). Mitigation factors were not calculated because there were no records of how much water is required to be released from Pond Number 2.

The larger impoundment is Laurel Hill Creek reservoir and is owned by the Borough of Somerset (Somerset). Somerset is a municipal water supplier whose service area is located outside the Laurel Hill Creek watershed to the east. Somerset withdraws water from three wells and a reservoir located within the watershed and withdraws water from another three wells located outside the watershed to the east. Somerset has a minimum pass-by requirement at the dam of 1.37 Mgal/d. When the flow at the dam drops below this minimum amount, Somerset enacts a drought plan in which they cease withdrawing from the reservoir and increase the amount of water withdrawn from all six water supply wells. These changes in operation procedures result in an overall reduction in withdrawals and are not sufficient to meet water supply demands over a prolonged period (Borough of Somerset, written commun., 2008). In 1994, 1995, 1998, 1999, 2001, and 2002 Somerset continued to withdraw water from the reservoir over multiple continuous days when the streamflow at the dam was less than the minimum pass-by requirement of 1.37 Mgal/d. The changes to withdrawals based on the drought plan are not reflected in Table 1 because the registered withdrawals shown in table 1 are from 2003, which was a year with above-normal precipitation.

Table 2. Mitigation Summary for Laurel Hill Creek watershed, Somerset County Pennsylvania, 2003.

[Mgal, million gallons; Mgal/d, million gallons per day; --, not applicable]

Dams and Reservoirs

Name	Permittee	Stream Name	Use	Initial Screening Criteria[1] (Mgal/d)	Normal Storage (Mgal)	50-yr safe yield (Mgal/d)	Conservation Release[2]				Associated Withdrawal (Mgal/d)			Storage Sufficent for Withdrawal and Conservation Release[6]	Note
							Amount (Mgal/d)	Waiver requested[3]	Reduced Release Due to Requested Waiver (Mgal/d)	Additional Discharge to Adjust for Conservation Release[4] (Mgal/d)	From Pool	Water Supply (or other) Release	Withdrawal plus any Conservation Release times 180 days[5]		
Hidden Valley Pond No. 5	The Buncher Company	Tributary to Kooser Run	Other	--	1.63	--	0.035	No	--	0.035	0.0769 (estimated)	--	20.14	No	

Minimum Pass-by Requirements

Name	Permittee	Stream Name	Use	Initial Screening Criteria[1] (Mgal/d)	Normal Storage (Mgal)	50-yr safe yield (Mgal/d)	Pass-by Requirement[7]				Associated Withdrawal			Storage Sufficent for Withdrawal[6]	Note
							Amount (Mgal/d)	Waiver requested[3]	Reduced Pass-by Due to Requested Waiver (Mgal/d)	Additional Discharge to Adjust for Pass-by[4] (Mgal/d)	From Pool (Mgal/d)	Withdrawal times 180 days[5]	Adjustments to Withdrawals Needed[8]		
Laurel Hill Creek	Borough of Somerset	Laurel Hill Creek	Public Water Supply	0.217	81.4	--	1.37	Yes	--	0.000	0.9969	179.4	Yes	No	When flow drops below minimum pass-by flow, withdrawals are increases from near-by wells; however in past years (1994, 1995, 1998, 1999, 2001, 2002) withdrawals continued from reservoir when flow past the dam was less than minimum pass-by.

[1] Initial Screening Criteria is 50 percent of the 7-day, 10-year low flow as determined from regression equations, unless otherwise noted.
[2] Conservation release refers to a release made at the dam to supplement flow.
[3] A facility may request a waiver or reduction from their conservation release or pass-by requirements; information compiled from facility and PaDEP.
[4] A discharge may be added to the analysis equal to the conservation release or pass-by requirement minus the initial screening criteria to account for storage or minimum flow requirement.
[5] To determine if storage is sufficent to maintain the withdrawal and associated conservation release for half a year, the sum is multiplied by 180 days.
[6] If storage is sufficient, a discharge equal to the withdrawal amount will be added to the analysis.
[7] Pass-by requirement is a required minimum flow past a point on a stream, usually at an intake or streamflow gaging station; withdrawals may be reduced or suspended to maintain required minimum flow.
[8] Withdrawals may need adjusted depending on past performance, drought operations plan, or discussions with facility operators or PaDEP.

The results of the WAST after verification of water use and mitigating factors are listed in appendix 1. To obtain a more accurate picture of the Borough of Somerset's water use during drought conditions, withdrawals were adjusted to reflect the drought plan. The SIP was estimated at 26 pour points within Laurel Hill Creek watershed representing sub-watershed drainage areas ranging from 8.22 to 124.65 mi^2 (appendix 1). Net withdrawals exceeded the ISC at 19 of the pour points, resulting in negative SIP values. The lowest SIP value was -268.62 percent at pour point 112491 and the highest SIP value was 94.26 percent at pour point 111511. Of the 26 pour points, 17 (65 percent) are colored yellow in the WAST, representing watersheds with a SIP balance of less than or equal to -20 percent; 2 (8 percent) are colored white in the WAST, representing watersheds with a SIP balance of greater than -20 percent to 20 percent; 7 (27 percent) are colored green in the WAST, representing watersheds with a SIP balance of greater than 20 percent (figure 2).

The 17 watersheds with a SIP balance of less than or equal to -20 percent (yellow pour points) and the 2 watersheds with a SIP balance of greater than -20 percent to 20 percent (white pour points) are located along the main stem of Laurel Hill Creek (figure 2). These watersheds are affected by public water supply withdrawals. The associated discharge for these withdrawals is at a waste water treatment plant located outside the basin to the east. Running the WAST with the Borough of Somerset's registered water use from 2003 rather than their drought plan water use decreased the SIP at all 19 pour points with negative SIP values. The number of watersheds with a SIP balance of less than or equal to -20 percent (yellow pour points) increased from 17 to 19, while the number of watersheds with a SIP balance of greater than 20 percent (green pour points) did not change.

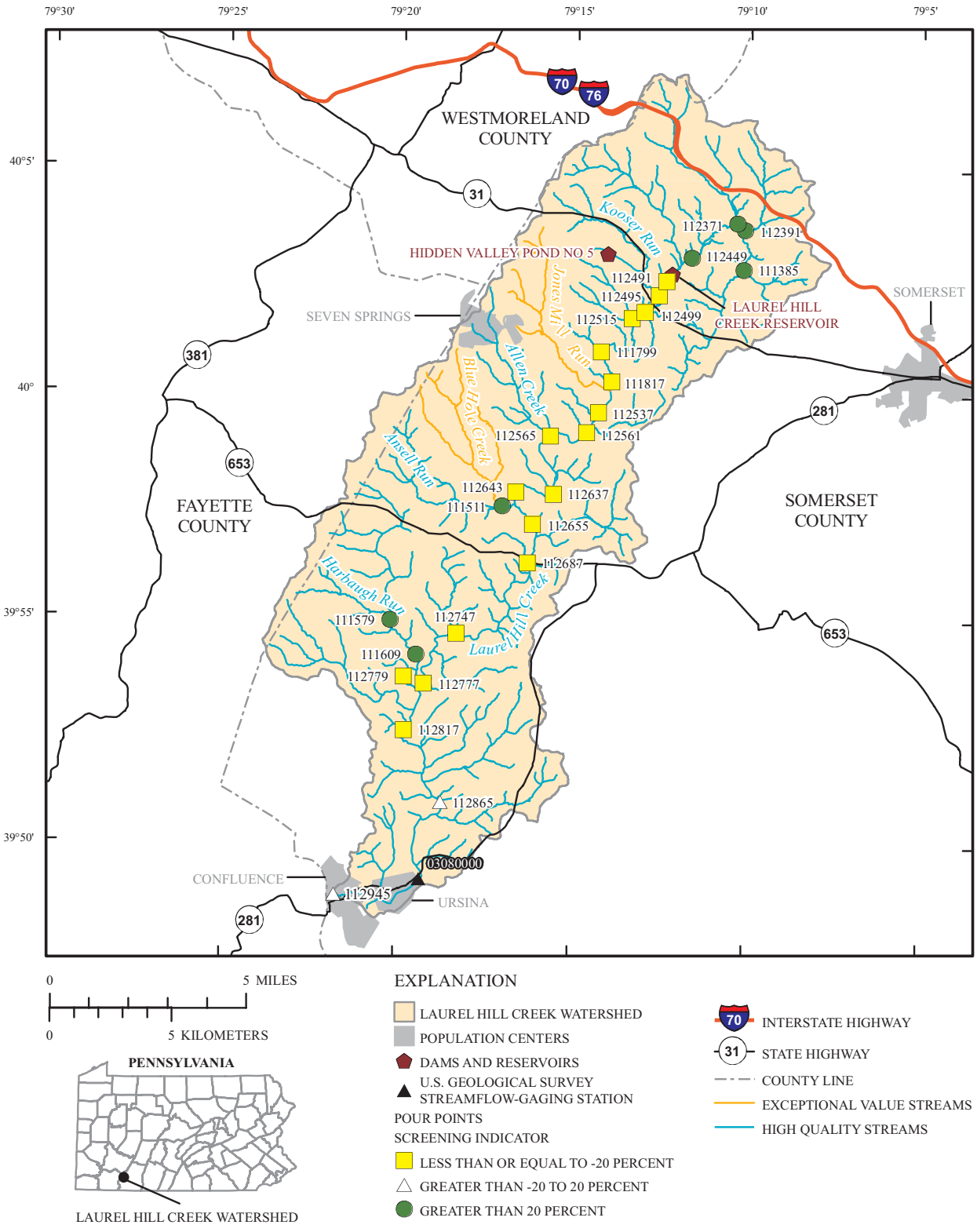

Figure 2. Location of pour points in Laurel Hill Creek watershed, Somerset County.

In July of 2007, the Somerset County Drought Task Force requested a voluntary water use reduction of 20 percent. This request was lifted in January of 2008. There is a USGS continuous-record streamflow gaging station (station) located within the watershed on Laurel Hill Creek operated from 1918 to present. The station (03080000) is 2.7 miles upstream from the mouth of Laurel Hill Creek and has a drainage area of 121 mi^2. The 7Q10 determined from station records for the period of record is 3.43 Mgal/d, or approximately 0.028 Mgal/d/sqmi. During the drought of 1998 to 2002, the streamflow past the station was much below the mean and numerous times in 1999 and 2002 streamflow was lower than the 7Q10.

Somerset County is in the process of building a water distribution pipeline from the Quemahoning Reservoir to several municipalities throughout the county but none that are located within the Laurel Hill Creek watershed. The Quemahoning Reservoir is an 845-acre reservoir located in Somerset County, outside the Laurel Hill Creek watershed to the northeast. The Borough of Somerset is an advanced customer and has pledged to buy 0.90 Mgal/d. It is not known at this time if Somerset will reduce the amount of water they withdraw from the Laurel Hill Creek watershed and replace it with water from the Quemahoning Reservoir.

Population projections were determined by PaDEP on the basis of municipalities through 2030 (PaDEP, 2006). Population in the Laurel Hill Creek watershed is projected to increase from 2000 by approximately 3 percent in 2010, by approximately 6 percent in 2020, and by approximately 6 percent in 2030 (figure 3). Long-term industry employment projections were determined from Workforce Investment Area data (Center for Workforce Information and Analysis, 2004). The number of employees in the industrial category is projected to decrease from 2002 by approximately 17 percent in 2010, by approximately 22 percent in 2020, and by approximately 28 percent 2030 (figure 3). The number of employees in the commercial category is projected to increase from 2002 by approximately 6 percent in 2010, by approximately 13 percent in 2020, and by approximately 19 percent in 2030 (Figure 3). Projected changes in water use by these categories are assumed to follow the same patterns.

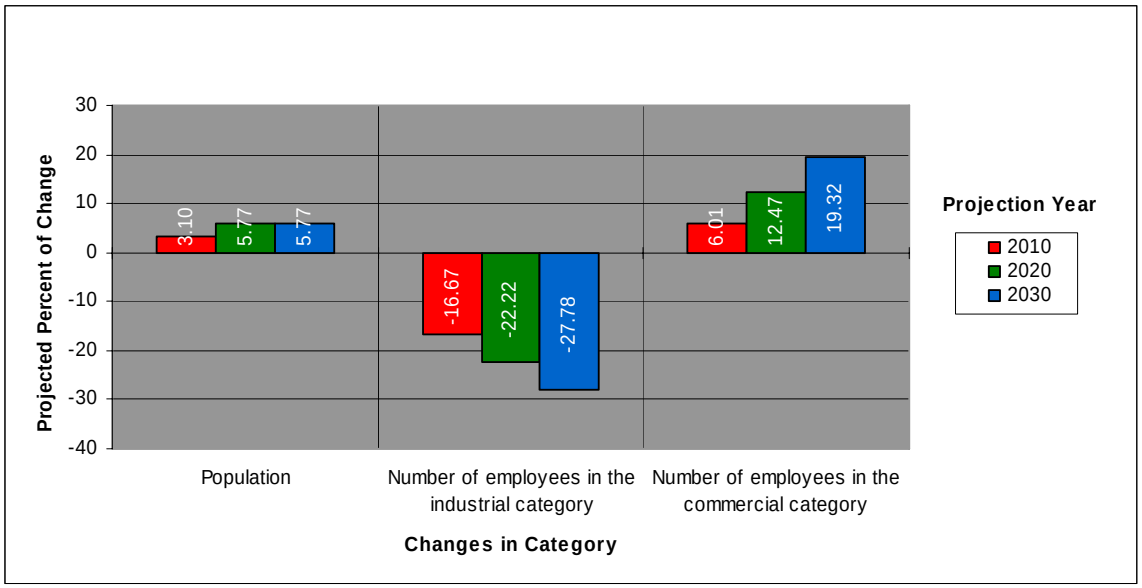

Figure 3. Projected percent of change in population, number of employees in the industrial category, and number of employees in the commercial category from baseline year[1] to projection year within Laurel Hill Creek watershed, Somerset County, Pennsylvania.

[1]Baseline year for population is 2000. Baseline year for both number of employees in the industrial category and number of employees in the commercial category is 2002.

References Cited

Center for Workforce Information and Analysis, 2004, Long-term industry employment projections: accessed July 21, 2008, at *http://www.paworkstats.state.pa.us/gsipub/index.asp?docid=399*.

Pennsylvania Department of Environmental Protection, 2006, Population projection methodology for Act 220 State Water Plan: accessed July 21, 2008, at *http://www.depweb.state.pa.us/watershedmgmt/lib/watershedmgmt/state_water_plan/data/population_projections2000/2006_07_24_pop_proj_procedure.pdf*

Stuckey, M.H., 2006, Low-flow, base-flow, and mean-flow regression equations for Pennsylvania streams: U.S. Geological Survey Scientific Investigations Report 2006-5130, 84 p.

Stuckey, M.H., 2008, Development of the Water-Analysis Screening Tool used in the initial screening for the Pennsylvania State Water Plan update of 2008: U.S. Geological Survey Open-File Report 2008-1106, 9 p.

Appendix 1. Summary of water use and screening indicator in areas draining to pour points in Laurel Hill Creek watershed, Somerset County, Pennsylvania, 2003.

[All flows and water use in million gallons per day; ISC, initial screening criteria (50 percent of 7Q10); IND, industrial; COMM, commercial; AG, Agriculture; MITIGATION, Additional discharge to adjust for conservation release; SI, screening indicator [ISC-(Total Withdrawals – Total Discharges) + Mitigation]; SIP, screening indicator as a percent [(SI/ISC)*100]]

POINT NUMBER	STREAM NAME	DRAINAGE AREA (SQUARE MILES)	ISC	REGISTERED WITHDRAWALS			ESTIMATED WITHDRAWALS				TOTAL ESTIMATED WITHDRAWALS	TOTAL WITHDRAWALS	MITIGATION	TOTAL DISCHARGES	SI	SIP (%)
				PUBLIC WATER SUPPLY	COMM	MINING	RESIDENTIAL	IND	COMM	AG						
111511	Fall Creek	12.55	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.08	94.26
111385	Laurel Hill Creek	8.22	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.03	0.03	0.00	0.00	0.02	42.32
112391	Laurel Hill Creek	13.22	0.09	0.00	0.00	0.00	0.00	0.01	0.00	0.03	0.04	0.04	0.00	0.00	0.05	52.49
112371	Laurel Hill Creek	18.75	0.14	0.00	0.00	0.00	0.01	0.01	0.00	0.03	0.05	0.05	0.00	0.00	0.09	67.31
112449	Laurel Hill Creek	20.77	0.16	0.00	0.00	0.00	0.01	0.01	0.00	0.03	0.05	0.05	0.00	0.00	0.11	67.77
112491	Laurel Hill Creek	26.56	0.22	0.79	0.00	0.00	0.01	0.01	0.00	0.04	0.06	0.85	0.00	0.05	-0.58	-268.62
112495	Laurel Hill Creek	31.48	0.27	0.79	0.14	0.18	0.01	0.01	0.01	0.04	0.06	1.18	0.04	0.20	-0.71	-261.94
112499	Laurel Hill Creek	31.97	0.28	0.79	0.14	0.18	0.01	0.01	0.01	0.04	0.07	1.18	0.04	0.20	-0.70	-256.01
112515	Laurel Hill Creek	35.59	0.31	0.79	0.14	0.18	0.01	0.01	0.08	0.04	0.15	1.27	0.04	0.20	-0.75	-239.87
111799	Laurel Hill Creek	36.70	0.33	0.79	0.14	0.18	0.01	0.01	0.08	0.04	0.15	1.27	0.04	0.20	-0.74	-228.03
111817	Laurel Hill Creek	38.27	0.34	0.79	0.14	0.18	0.01	0.01	0.08	0.04	0.15	1.27	0.04	0.20	-0.73	-211.78
112537	Laurel Hill Creek	43.88	0.41	0.81	0.15	0.18	0.01	0.01	0.08	0.04	0.15	1.29	0.04	0.20	-0.68	-167.34
112561	Laurel Hill Creek	47.63	0.45	0.81	0.15	0.18	0.01	0.01	0.08	0.05	0.16	1.30	0.04	0.20	-0.65	-143.75
112565	Laurel Hill Creek	53.46	0.52	1.02	0.33	0.18	0.01	0.01	0.09	0.05	0.16	1.69	0.04	0.25	-0.92	-177.21
112637	Laurel Hill Creek	56.19	0.55	1.02	0.33	0.18	0.01	0.01	0.09	0.05	0.17	1.70	0.04	0.25	-0.90	-162.23
112643	Laurel Hill Creek	56.89	0.56	1.02	0.33	0.18	0.01	0.01	0.09	0.05	0.17	1.70	0.04	0.25	-0.89	-158.54
112655	Laurel Hill Creek	69.85	0.72	1.02	0.33	0.18	0.01	0.01	0.09	0.06	0.17	1.70	0.04	0.25	-0.73	-100.48
112687	Laurel Hill Creek	75.40	0.79	1.02	0.33	0.18	0.02	0.01	0.09	0.06	0.18	1.71	0.04	0.26	-0.66	-83.74
112747	Laurel Hill Creek	80.53	0.85	1.02	0.33	0.18	0.02	0.01	0.09	0.07	0.19	1.72	0.04	0.26	-0.61	-70.85
112777	Laurel Hill Creek	87.15	0.94	1.02	0.33	0.18	0.02	0.01	0.09	0.07	0.19	1.72	0.04	0.26	-0.53	-56.60
112779	Laurel Hill Creek	98.46	1.09	1.02	0.33	0.18	0.02	0.01	0.09	0.08	0.20	1.73	0.04	0.26	-0.38	-34.88
112817	Laurel Hill Creek	105.17	1.18	1.02	0.33	0.18	0.02	0.01	0.09	0.08	0.20	1.73	0.04	0.26	-0.29	-24.69
112865	Laurel Hill Creek	115.01	1.31	1.02	0.33	0.18	0.02	0.01	0.09	0.09	0.21	1.74	0.04	0.26	-0.18	-13.43
112945	Laurel Hill Creek	124.65	1.43	1.02	0.33	0.18	0.03	0.01	0.09	0.10	0.23	1.76	0.04	0.26	-0.07	-4.76
111579	Sandy Run	9.39	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	92.57
111609	Sandy Run	10.76	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.07	93.04