IN THE COURT OF COMMON PLEAS OF HUNTINGDON COUNTY, PENNSYLVANIA

CIVIL DIVISION

COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF ENVIRONMENTAL PROTECTION, DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES, PENNSYLVANIA FISH AND BOAT COMMISSION, Plaintiffs	:	
vs.	:	NO. 03-781
CONNIE L. ESPY t/d/b/a CAMP ESPY FARMS, DONALD L. BEAVER, JR., HIDDEN HOLLOW ENTERPRISES, INC., t/d/b/a PARADISE OUTFITTERS, LEGACY CONSERVATION GROUP, LLC, t/d/b/a SPRING RIDGE CLUB, ANGLING FANTASIES, LLC, and BELLWOOD-ANTIS ENTERPRISES, INC., Defendants	:	

OPINION

This case was tried to the Court June 12 through June 16, 2006. The Commonwealth agencies who are the Plaintiffs allege that Defendants have interfered with the public's rights in the use of a 1.3 mile section of the Little Juniata River near the Village of Spruce Creek in Huntingdon County, Pennsylvania. Plaintiffs request injunctive relief and concomitantly a declaration that the Little Juniata is

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a navigable stream of the Commonwealth.

After a careful review of the evidence presented at trial, the memoranda submitted by counsel and the fine arguments proffered December 13, 2006, this Court makes the following:

Findings of Fact

A. The Parties

1. Plaintiffs (the Commonwealth) are the Commonwealth agencies charged with responsibility for administering and enforcing the laws of the Commonwealth that relate to water resources and water management.

2. In this regard, Ms. Cathleen Curran Myers, Deputy Secretary, Department of Environmental Protection (DEP), testified that it was the duty of her deputate (Water Management) to protect the public's right to recreation, navigation, commerce and fishing on the navigable waters of the Commonwealth.

3. Allen Bright is the Plaintiff in Civil Action No.

2003-1297 which has been consolidated with this action for the purposes of discovery and the adjudication of issues relating to the navigability of the Little Juniata River.

4. Defendant Donald L. Beaver, Jr., is the majority stockholder in, and chief executive officer of Hidden Hollow Enterprises, Inc. (Hidden Hollow), the managing member of Pamdon, LLC (Pamdon), and the managing member of Cold Currents, LLC (Currents).

5. Defendant Hidden Hollow is a Pennsylvania corporation, and the sole shareholder of Defendant Angling Fantasies, Inc. (Angling Fantasies).

6. Defendant Bellwood Antis Enterprises, Inc. (BEA), is a Pennsylvania corporation.[1]

7. Defendant Legacy Conservation Group is a Pennsylvania limited liability company which has changed its

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[1]BEA leased from Ms. Connie L. Espy the right to occupy and use Espy Farms.

name to Spring Ridge Club, LLC (Spring Ridge).

8. Pamdon is the managing member of Spring Ridge (formerly Legacy Conservation Group).

9. Cold Currents, LLC, is a Pennsylvania limited liability company and the general partner of Rural Conservation Partners, LP (Rural Partners), a Pennsylvania limited partnership.

10. Ms. Connie L. Espy, a single person, owned until quite recently Camp Espy Farms situated in Spruce Creek Township, Huntingdon County, Pennsylvania.

11. By deed dated September 28, 2006, and recorded October 3, 2006, in Huntingdon County Record Book 826, page 543, Ms. Espy conveyed Camp Espy Farms to Rural Partners.

B. The Controversy

12. Camp Espy Farms is situated on the east/north bank of the Little Juniata River.

13. The property is designated as parcels A and B on a

map of the area which is attached to this Opinion and marked as the Court's Exhibit A.[2]

14. Spring Ridge and Rural Partners have operated a private fishing club/lodge on this property for a number of years.

15. In addition, since 2002, the fishing club has leased from Norfolk Southern Railroad Company 0.60 acres of land on the west/south bank of the Little Juniata River.

16. The property subject to the lease is designated I on the Court's Exhibit A.

17. The unrecorded lease provides that the leased property could be used ". . . for the purpose of general beautification and security and for no other purpose . . .".

18. The operators of the fishing club have consistently claimed ownership to the middle of that part of the streambed of the Little Juniata River which adjoins Camp Espy Farms.

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[2]The map is a reduction of Commonwealth's Exhibit 33 which was admitted into evidence at trial.

19. In accord with their assertion of ownership of the streambed, they have advertised access to "our private stretch of the Little Juniata".

20. Not surprising, sportsmen, and particularly fishermen, have complained to the Commonwealth regarding the closing to the public of the 1.3 mile stretch of the Little Juniata River adjacent to Espy Farms.

21. In response to the not insubstantial public outcry, former Deputy Secretary for Water Management Christine Martin wrote to Mr. Beaver on March 27, 2002.

22. In her epistle, Deputy Martin succinctly summarized the Commonwealth's position. She wrote:

> "Dear Mr. Beaver:
>
> I am writing on behalf of the Commonwealth of Pennsylvania, Departments of Environmental Protection (DEP) and Conservation and Natural Resources (DCNR) and the Fish and Boat Commission (PFBC), to inform you **that the Commonwealth owns the Little Juniata River, a navigable river of the Commonwealth and the associated submerged lands in the vicinity of the river's confluence with Spruce Creek, and holds them in trust for public use.** Accordingly, the public has a right to fish and otherwise enjoy the use of the Little Juniata and associated submerged lands, so long as the public

uses lawful access to the river and associated submerged lands.

. . .

Attempts to interfere with the public's rights, including efforts to exclude the public from fishing the Little Juniata River are unlawful if the public gains lawful access to the river and associated submerged lands. If attempts to interfere with public rights continue, the Commonwealth intends to initiate appropriate legal action to protect the public's rights." (Emphasis added.)

23. The letter failed to achieve its purpose.

24. In early spring 2003, a cable with signs stating "Keep Out", "No Trespassing", "Private Property" was installed across the Little Juniata near its confluence with Spruce Creek.

25. A second cable with similar signs was also installed downstream approximately 1.3 miles.

26. Both cables have since been removed.

27. Complaints from individuals who attempted to use the river adjacent to Camp Espy Farms also continued to be received by the Commonwealth.

28. As a consequence, Deputy Secretary Myers testified she participated in a meeting in the spring of 2003 with all the affected agencies after which a recommendation was made to the Governor's Office to take action.

29. This suit was commenced June 11, 2003.

C. The River

30. The Little Juniata River is one of the three branches of the Juniata River.

31. The other branches are the Frankstown Branch and the Raystown Branch.

32. The Little Juniata flows through east-central Blair County and west-central Huntingdon County. It is thirty-two (32) miles in length, and the watershed as a whole drains 342 square miles.

33. The river flows north from its headwaters near Altoona in Blair County, to Tyrone, where it turns generally southeast, running along the Blair-Huntingdon County line and Sinking Valley for several miles beyond Birmingham.

34. The river then continues through Huntingdon County past the villages of Spruce Creek and Barree to a point west of Petersburg, where it joins the Frankstown Branch to form the main stem of the Juniata River.

35. The Little Juniata River is located at the western edge of the Ridge and Valley Province of the Appalachian Highlands, just to the east of the Allegheny Front.

36. The Ridge and Valley physiographic province extends for 1200 miles from the St. Lawrence Lowlands to Alabama and is characterized by a series of long, narrow parallel ridges running in a general northeast-southwest direction. These ridges are separated by the rolling uplands of inter-mountain valleys that lie a thousand feet or more below the ridge tops.

37. Two ridges (Bald Eagle, Tussey Mountain) were a formidable barrier to travel in this region as a consequence of which water gaps such as the ones carved by the Little Juniata and the Frankstown Branch were important components of late eighteenth and early nineteenth century transportation.

38. Attached hereto and marked as the Court's Exhibit B is a late nineteenth century map of the area.

39. Dr. Frank Vento, Professor of Geology at Clarion University, Clarion, Pennsylvania, examined the river between Tyrone and Barree at the behest of Defendants.

40. Dr. Vento told us he focused on the area near Camp Espy Farms, and was looking, he said, at conditions which would inhibit a vessel moving down the river.

41. Examples of the types of obstructions to navigation that were of interest to Dr. Vento were channel width, islands and nic-points.

42. Dr. Vento defined nic-points as ledges where the elevation of the streambed abruptly increases or decreases causing the water within the stream to become more turbulent.

43. In the stretch of the Little Juniata from Tyrone to its mouth, particularly from Birmingham to just below Camp Espy Farms, Dr. Vento testified there are multiple

nic-points.

44. However, he also testified that nic-points are not uncommon in the inland rivers of Pennsylvania.

45. Dr. Vento described the width of the river channel as variable but, in general, moderately narrow.

46. He related that the depth of water was very low and did not exceed twenty-four (24) inches.

47. He opined that the primary sources of water for the Little Juniata, alike all perennial streams in Pennsylvania, is surface run-off and precipitation.

48. Flow and depth of water are therefore, he said, dependent upon seasonable variations in precipitation.

49. Dr. Vento was certain that there has been no significant change either in the width or the depth of the river channel in the past two hundred fifty (250) years.

50. According to Mr. Walter Rosser, a retired waterways conservation officer whose district included the

Little Juniata, the river is a well-known fishery.

51. People, he testified, from all over the United States annually fish the Little Juniata, and he described the volume of fishing on the river during his tenure as heavy.

D. Facts Relevant to the Issue of Navigation on the Little Juniata River

1. Introduction

52. The principal source for many of the findings that follow is the extraordinary testimony at trial of the two history experts as well as their reports which were admitted into evidence.

53. Dr. Judith Heberling and Mrs. Nancy S. Shedd are Huntingdon County natives and are well acquainted with all the resources that provide historical insight into life in Huntingdon County in the eighteenth and nineteenth centuries.

54. While Dr. Heberling is a professional historian

with thirty (30) years of research experience, Mrs. Shedd has been affiliated for more than thirty (30) years with the Huntingdon County Historical Society.

55. Mrs. Shedd lives in the Juniata Valley; Dr. Heberling maintains her principal business office in that venue.

56. Each expert in her testimony evidenced substantial research on the subject of navigation on the Little Juniata River, and it was clear that each relied on many of the same sources.

57. Thus, each historian testified that three nineteenth century histories of Huntingdon County had been examined for information pertinent to the subject.

58. On this point Mrs. Shedd responded when asked how she started her study, "Well, I think everybody starts with Africa's History of Huntingdon County. That's just the bible". (N.T., June 14, 2006, at p. 122.)

59. Her remark referenced the 1883 work of J. Simpson Africa titled History of Huntingdon and Blair Counties.

60. The other two, shorter histories are:

60.1. U. J. Jones, History of the Early Settlement of the Juniata Valley, 1940 reprint by The Telegraph Press, Hollidaysburg, Pennsylvania, 1855.

60.2. Milton Scott Lytle, History of Huntingdon County in the State of Pennsylvania, William H. Roy, Publisher, 1876.

61. Both Dr. Heberling and Mrs. Shedd testified to examination and consideration of the papers of John Cadwallader which are maintained at the Juniata College archives.

62. Mr. Cadwallader was an attorney, land speculator, entrepreneur, postmaster, county commissioner (1790) and the founder of Birmingham Borough in 1797.

63. Birmingham is adjacent to the Little Juniata.

64. Mr. Cadwallader's Huntingdon residence (he also

had one in Birmingham) is today the site of the Huntingdon County Courthouse.

65. Both historians also testified to consideration of a collection of letters at the Huntingdon County Historical Society between Conrad Bucher of Alexandria and his brother Jacob of Harrisburg.

66. The Buchers were merchants (hatters among other things) and engaged in the transportation of goods into and out of the upper Juniata Valley.

67. Their letters, written in the early nineteenth century, provided the experts information into the transportation of produce during the period under consideration.

68. For what it's worth, the wife of this Court's long time tipstaff is a descendant of Conrad Bucher.

69. Finally, both historians testified that they consulted a variety of other sources in preparing their reports, and each related that she focused her inquiry to the period following the Revolutionary War to the

mid-nineteenth century.

70. In this regard, there was agreement that the opening of the Pennsylvania canal in the 1830's and, subsequently, the construction of the Pennsylvania Railroad in 1850 dramatically altered the means by which commerce moved from the area of the Little Juniata watershed.

71. The breadth of research, and the scholarship of each historian has made the task of deciding this case pleasurable.

72. Not surprising, the opinions expressed by the experts were for the most part consistent, and where there was a difference, our sense is that it was the questions asked, and not the answers given, that created an impression of disagreement.

2. Roads

73. Roads during the period examined by the historians were unimproved and extremely poor by any standard.

74. No evidence at trial suggested that early residents transported their excess produce to eastern markets over a road system.

75. In this regard, the bulky nature of grain, flour, whiskey[3] and lumber made long distance movement by road difficult and expensive even when it was possible.

76. Dr. Heberling, in her report, cited to the work of George Rogers Taylor, a scholar she labeled dean of transportation historians.

77. In The Transportation Revolution, 1815-1860 (New York: Harper & Row, 1968, Mr. Taylor wrote about the road systems in America as follows:

> "In 1815 a great network of [these] roads covered the settled portion of the country. Unbelievably poor by mid-twentieth century standards, they were hardly more than broad paths through the forest. In wet places they presented a line of ruts with frequent mud holes, and, where dry, a powdered surface of deep dust. The largest stones and

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[3]We were astounded by the fact that in 1826, a newspaper letter directed to the Legislature reported that there were 62 gristmills and 84 distilleries in Huntingdon County. Dr. Heberling explained that because of transportation, it was the custom to convert corn into whiskey since barrels were easier to move.

> stumps were removed only so far as was absolutely necessary to permit passage. An early act of the Ohio legislature [1804] provided that stumps left in the road should not be more than a foot high. In the most swampy places where mud rendered passage impossible, logs were laid side by side across the road to form what were known as corduroy roads. Across the rivers a few wooden bridges had been built, but for the most part fords or ferries were the only recourse.
>
> **These country roads led from the farms to the nearby village . . . Typically the village was located on water which was navigable at least for small boats during part of the year.** If the village was not on navigable water, then the road would extend on to such a point; but the village could not be far away, for the prices paid for the bulky products of the farms could not absorb the cost of extended transportation by land routes (Taylor 1968: 15-16)." (Emphasis added.)
>
> Commonwealth Exhibit 52, at p. 15.

78. That roads were not a viable means for transporting goods is reflected in a letter Attorney John Cadwallader wrote to a Philadelphia client in 1798. (See Finding of Fact 62.)

79. The client apparently contacted Attorney Cadwallader about seizing the goods of a failing Lewistown business in which the client had a financial interest.

80. Lawyer Cadwallader wrote on June 14, 1798, to the

client and advised against this strategy. He explained:

> "Suppose we were to take them (the store goods) - in all probability, it will be at least 5 or 6 months before the waters of this River will serve for transportation **and to force land carriage - I cannot even think of making the attempt -"** (Defendants Exhibit 37). (Emphasis added.)

81. The reason roads were so poor and not an option for the transportation of commerce was addressed by Dr. Heberling.

82. She wrote in her report:

> "Taylor suggests that the roads continued to be kept in such poor condition until the second half of the century largely because rural communities did not have the capital, the labor, the time, or the expertise to expend on improving the network of country roads (Taylor 1968: 16-17). Joseph Durrenberger agrees, saying that "Colonial America accepted as inevitable a class of roads which was of such low grade that they proved the greatest possible hindrance to the economic and social welfare of the land for almost two centuries" (Durrenberger 1968: 15).
>
> Commonwealth Exhibit 52 at p. 15.

83. J. Simpson Africa discussed road building and the alternative in his <u>History of Huntingdon and Blair Counties</u> as follows:

"The numerous mountain gorges along the course of the Juniata presented so many difficulties in the way of constructing a passable artificial road, that little could be done with the amount of money from time to time collected by taxation, or appropriated from the public treasury towards that end, and **after the upper part of the valley had reached that state of improvement as to have a surplus of the products of agriculture or manufacture, resort was had to the river for reaching the eastern markets.**"

Africa, at p. 31 (Emphasis added).

84. Mr. Lytle concurred that the rivers - the Frankstown Branch and the Little Juniata - became the means for the transportation of commerce in the Juniata Valley.

85. Referring to the early settlers, he wrote:

"**From the Juniata and its branches, they floated down the current whenever those streams were at a stage to permit, carrying principally flour, grain and whiskey three of the staple productions of the times. This mode of transportation continued until after the Pennsylvania Canal was made.**"

Lytle, at p. 113 (Emphasis added).

3. Arks

86. The manner of transportation necessitated development of a vessel capable of navigation in the

shallow, inland waters.

87. Arks, unlike the one constructed by Noah, became the boat of choice.

88. Mr. Africa described arks as "constructed of hewn and sawed lumber, fastened together with wooden pins, built to carry freight down the river, and after the discharge of the cargo sold". Africa, at p. 31.

89. Dr. Heberling in her report gave this description:

> "Arks were basically roughly and strongly constructed boxes with flat bottoms and perpendicular sides, measuring sixty to ninety feet long, fifteen to twenty feet wide, and three to five feet high/deep. They could operate in water as shallow as twenty to twenty-four inches and were able to carry about fifty tons of goods. The ends of the ark were tapered and equipped with a long sweep. The sweeps served as the steering mechanism in place of a rudder and allowed the arks to bounce over falls and rapids (Livingood 1947: 37; Maryland Commissioners 1823: 26). Arks moved only with the current and were therefore unable to travel back upriver. As a result, they were normally dismantled at the mouth of the river and sold for lumber."
>
> Commonwealth Exhibit 52 at p. 22.

90. She opined that the ark revolutionized traffic on inland rivers since they were tough enough to withstand the

rigors of travel on the rivers.

91. Mr. Lytle on the subject of arks relates in his history a fascinating story that, if true, ties the popularity of the ark in the early part of the nineteenth century directly to a Huntingdon County resident who possibly lived on the Little Juniata. He wrote:

> "In 1796, the first ark appeared in the Susquehanna. It had been taken there from the Juniata by _____ Cryder, an enterprising German, and was laden with flour manufactured at his mill above Huntingdon. The mouth of the Swatara at Middletown, was then considered the termination of navigation on the Susquehanna, being believed to be impracticable below that point. But Cryder surmounted the difficulties by which others had been deterred, passed the falls and cataracts and other obstacles which had been regarded as so dangerous, descended safely to Baltimore, and reaped a rich reward from the profits of his meritorious undertaking. The success of this enterprise becoming known throughout the region from which the Susquehanna and its tributaries flow, numerous arks were built in the following year, and reached tide water with their cargoes."
>
> Lytle, at p. 113. (See Finding of Fact 146.)

4. Public Highway Declarations

92. The Legislature in 1790 appointed Commissioners to examine and survey the waters of a number of Pennsylvania rivers including the Juniata.

93. On February 5, 1794, the Legislature passed an Act to declare the Little Juniata and Standing Stone Creeks in the County of Huntingdon, public highways.

94. The statute in pertinent part provided:

"Act of February 5, 1794, Pa. Laws § 1

AN ACT TO DECLARE LITTLE JUNIATA AND STANDING STONE CREEKS. IN THE COUNTY OF HUNTINGDON. PUBLIC HIGHWAYS.

[Section I.] Section I. P. L.) Be it enacted by the Senate and House of Representatives of the Commonwealth of Pennsylvania, in General Assembly met, and it is hereby enacted by the authority of the same, That, from and after the passing of this act, Little Juniata, in the county of Huntingdon, from the mouth up to the head of Logan's Narrows, shall be, and the same is hereby declared to be, a public highway, for the passage of boats and rafts, under the limitations and restrictions herein-after specified; and it shall and may be lawful for the inhabitants, desirous of using the navigation of the said creek, to remove all natural and artificial obstructions, from the mouth thereof up to the head of Logan's Narrows aforesaid, and to erect such slopes and locks at the mill-dams now built, as may be necessary for the passage of boats and rafts; provided such slopes and locks shall be so constructed as not to injure the works of said dams."

95. The portion of the Little Juniata River declared to be a public highway includes all of the river in Huntingdon County.

96. Two additional Public Highway Declarations were passed by the Legislature in 1808 and 1822 for the remainder of the river in Blair County.

97. The relevance of the 1794 declaration was debated at trial, but, the fact was clear that the Plaintiffs attach significance to public highway declarations.

98. Deputy Secretary Myers testified that DEP maintains a list of all rivers declared to be public highways.

99. She also testified ". . . that these declarations were contemporaneous expressions by the General Assembly that they believed the waters to be public highways . . ." and that DEP consideres the declarations to be "extremely compelling evidence" of navigability. (N.T., June 12, 2006, at pp. 22, 25.)

100. Both historians agreed that the impetus for passage of the 1794 declaration came from the people in the Little Juniata watershed who petitioned for its passage.

101. Dr. Heberling opined in response to the question of why the citizenry would seek a declaration that the Little Juniata was a public highway, as follows:

> "THE WITNESS: Well some of it was, I think, basically economic development issues, but the main thing was navigation because if they were declared public highways, then there was a lot more control of navigation on the river and particularly being able to control mill dams because there had to be permission for the dams. And there was -- there was a process eventually then if a dam or people who were involved in fishing obstructed navigation, there was a process to deal with it and get it rectified. Then it also then would make it possible to do some improvements if they had the money and the manpower to do that. To clear rocks and boulders. So it was a way of ensuring navigation on those streams."
>
> (N.T., June 12, 2006, at p. 171.)

102. Mrs. Shedd, on the other hand, expressed the opinion that the declarations were intended "to finance stream and river improvements with citizens' voluntary contributions".

103. She, as well as Mr. Lytle, expressed the opinion that the impact on navigation on the Little Juniata was minimal if not nonexistent.

104. However, if, as we were told, the declarations

were intended to improve navigation of the Little Juniata, a reasonable inference is that the river was in fact navigable.

5. Title to Camp Espy Farms

105. On February 5, 1794, the date on which the public highway declaration was passed, the Commonwealth of Pennsylvania owned Camp Espy Farms.

106. Title to this real estate passed into private ownership by three patents (deeds) issued by the Commonwealth in August/September, 1803.

107. Joseph Heister was the grantee of the three properties that today are owned by Rural Partners.

108. The records certified by the Historical and Museum Commission and received into evidence at trial as Commonwealth's Exhibits 3, 4 and 5 indicate the following facts.

109. On August 1, 1766, Peter Young applied for a warrant for a tract of land in Franklin Township, Huntingdon

County, Pennsylvania, consisting of 85 acres.

110. The land was surveyed for Mr. Young October 20, 1767.

111. Mr. Young did nothing more as a consequence of which Mr. Heister applied for and received a warrant for this property on August 31, 1803.

112. Mr. Heister simultaneously filed the 1767 Young survey for the 85 acre parcel on August 31, 1803, and received a patent dated August 2, 1803, that was enrolled in Patent Book P-51, page 259, on September 5, 1803.

113. The date on the patent is, almost certainly, an error of the land office scrivener.

114. Mr. Heister also on September 2, 1803, received patents to adjacent properties originally warranted to Abraham Sells.

115. The first Sells warrant was dated February 22, 1785, and described the real estate as "twenty-five acres of land including an Improvement on the mouth of Spruce Creek

in Franklin Township".

116. This land was surveyed May 28, 1791; however, the survey was not returned to the land office until Mr. Heister returned it on August 31, 1803.

117. A patent for this property was issued to Mr. Heister on September 2, 1803, and enrolled September 5, 1803, in Patent Book P-51, page 260.

118. A second Abraham Sells warrant for 100 acres was issued June 7, 1792.

119. This land was surveyed October 30, 1798, and alike the first survey was returned to the land office by Mr. Heister on August 31, 1803.

120. The patent for this property was issued September 2, 1803, and enrolled in Patent Book P-51, page 260.

6. Other Legislation

121. Other acts of the General Assembly of Pennsylvania are pertinent to the issue of navigability.

122. On April 8, 1799, an act was passed "to prevent the erection of fish-dams and baskets in the rivers Schuylkill, Susquehanna and Juniata, and the Branches thereof".

123. The act was specific that it was intended to apply to branches, "which have been, or hereafter may be, declared public highways".

124. On February 21, 1801, an act was passed authorizing "the erection of a bridge over the Little Juniata, in Huntingdon County".

125. This act was also specific "that the said bridge shall not injure or impede **the navigation of the said river**". (Emphasis added.)

126. In March 1803, the General Assembly passed an act "to authorize any person or persons owning land adjoining **navigable streams of water, declared public highways**, to erect dams upon such streams, for mills and other water works". (Emphasis added.)

127. Again, the legislation was clear that persons

erecting dams "shall not obstruct or impede navigation of such stream or prevent the fish from passing up the same".

128. Finally, in her testimony, Deputy Secretary Myers testified that DEP, and more particularly her deputate, was charged with responsibility for enforcing the Dam Safety and Encroachments Act, 1978, Nov. 26, P.L. 1375, No. 325, 32 P.S. § 693.1, et seq.

129. This act provides in pertinent part, as follows:

> **"§693.6. Permit requirement**
>
> (a) No person shall construct, operate, maintain, modify, enlarge or abandon any dam, water obstruction or encroachment without the prior written permit of the department.
>
> . . .
>
> **§693.15. Projects affecting submerged lands of the Commonwealth**
>
> (a) **No permit shall be granted pursuant to this act for any project to occupy submerged lands of the Commonwealth in any navigable lake or river or stream declared a public highway**, unless the applicant has obtained an easement, right-of-way, license or lease pursuant to this act, or holds an estate or interest in such submerged lands pursuant to other specific authority from the General Assembly." (Emphasis added.)

130. Consistent with the view held by DEP that public

highway declarations are presumptive evidence of navigability, Deputy Secretary Myers testified that DEP requires a submerged lands license for every project on streams and rivers declared to be public highways.

131. Counsel stipulated that fifteen (15) submerged land licenses have been issued by DEP for projects on the Little Juniata River.

7. Birmingham

132. In 1788, Attorney Cadwallader purchased a large tract of land on the Little Juniata. (See Finding of Fact 62.)

133. There was already a gristmill and saw mill on his property, and he built a paper mill in 1795 as well as a residence.

134. Later, he added a distillery.

135. In 1797, Squire Cadwallader platted a town - Birmingham - and the name indicates the gentleman's vision for his new borough.

136. Mr. Cadwallader lacked experience in land use planning and therefore modeled his plan on his hometown of Philadelphia.

137. The plan (1454 lots) was recorded in Huntingdon County Plan Book 5, page 65A, on February 26, 1797.

138. The plan included two school lots, a lot for a library, four lots for churches, and, on the Little Juniata, there was a public landing.

139. In handbills marketing the sale of lots for his "manufacturing town", Mr. Cadwallader trumpeted the fact that Birmingham was "[s]ituated on the north bank of the River, at the head of the navigation, . . .".

140. Although the town envisioned by the founder never materialized, a substantial community nonetheless developed.

141. In this regard, Mr. Lytle wrote:

> "During the interval between 1835 and 1846, Birmingham attained the zenith of its prosperity and a population of about four hundred. It then had several stores, each having a trade of from five thousand to thirty thousand dollars annually, and was the chief mart for Bald Eagle, Logan,

> Clearfield and Sinking valleys. The staple articles of trade were iron, lumber, shingles, hoop-poles, hides and whisky. There were three distilleries in the place at an early day, making the last mentioned article to their fullest capacity. **Many arks loaded with these commodities left the Public Landing and 'Laurel Spring wharf.'"** Lytle, at p. 297. (Emphasis added.)

142. Mr. Africa agreed noting that Birmingham "until the building of the railroad had an importance as a business point possessed by no other village of the same size in the Juniata Valley". Africa, at p. 394.

143. He too reported that produce was shipped down the river from Birmingham on arks or flat-bottomed boats. Africa, at p. 394.

8. Industry on the Little Juniata

144. Dr. Heberling wrote in her report that "[T]he earlist recorded industry in the area was a crude gristmill built in 1774 by Jacob and Josiah Minor at Barree". Report at p. 11.

145. She also related that "Greenberry Dorsey built a forge nearby (Barree), subsequently expanding it to form the Barree Ironworks". Report, at p. 11.

146. Also, she reported that the "**Cryder (or Crider/Kryder)** family operated sawmills, gristmills, a chopping mill, a carding machine, and a woolen mill on two properties near the confluence of the Little Juniata and the Frankstown Branch . . .". (See Finding of Fact 91.) Report, at p. 11.

147. Dr. Heberling added that "[A]bout 1775, the Bebault brothers established a gristmill at the junction of Spruce Creek and the Little Juniata" and that "Spruce Creek[4] became a rural industrial center quite early with the addition of a sawmill and a distillery to the gristmill property and a tavern to the village". Report, at p. 11.

148. The industrial efforts of John Cadwallader have been previously chronicled.

149. According to Dr. Heberling, "Edward Bell moved to Antis Township (Blair County) in 1800 and soon built a gristmill, distillery, and sawmill in an area that came to be known as Bells Mills" (now Bellwood).

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[4]Spruce Creek was called "Graysport" or "Stockdale" until 1850 when the Pennsylvania Railroad placed a station there called Spruce Creek.

150. Bell and his sons later developed Elizabeth Furnace and Mary Ann Forge on the river.

151. Dr. Heberling testified that manufacturing census data which is available on microfilm at the Pennsylvania State University provided a basis for her to determine that the output of the industries along the Little Juniata was impressive given the population.[5]

152. Her conclusion was:

> "The Little Juniata River from the beginning, then, specifically attracted entrepreneurs who recognized the advantage of locating rural industries along a body of water that offered both the power to drive the machinery and transportation for the products made there. Gristmills, sawmills, carding mills, furnaces, forges, textile mills, and a paper mill were located along the entire length of the river within easy launching distance of the boats, rafts, and arks available to carry the mills' products to market."
>
> Report at p. 13.

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[5]The 1790 census indicated a population of 7500 in Huntingdon County. By 1820, the number was 20,000.

9. Letters and Newspaper Evidence

153. Newspaper articles and personal letters were the most interesting evidence in the case.

154. This evidence however was susceptible to more than one interpretation.

155. By way of example, Conrad Bucher in Alexandria wrote to his brother Jacob in Harrisburg on February 3, 1826, as follows:

> "Dear Brother
>
> **We had a fine flood in our river on the 1st instant and some of the arks started.** The greater part of which got fast and had to unlade, owing to their not being ready to start when the water was at its hight. We also have an ark to take down, but our boat and loading was not ready, or we would also have started. We sent also about sixty tons Bar Iron to the Conemaugh to be boated to Pittsburgh. We received a letter by last nights mail from Thos. Stewart informing us that all our iron is taken on, the waters being in fine boating order west of the mountains and very large quantities of iron and salt taken on. **There has been more than 120 arks built in this county this winter, each of which will carry from 350 to 450 barrels of flour, but few of them will take on pig metal. How much we want a canal or railroad to take on our produce."**

156. From an historical perspective, the letter is a

veritable treasure trove.

157. Certainly, it verifies the use of the rivers to transport commerce although it must be pointed out that Conrad in Alexandria was on the Frankstown Branch of the Juniata River, or about six miles from the point where the Little Juniata and the Frankstown Branch join at Petersburg.

158. In this regard, Dr. Heberling gave her professional opinion that if the evidence showed ark traffic on one branch of the Juniata, there would have been ark traffic on the others as well.

159. The close proximity of the two branches - the Little Juniata and the Frankstown Branch - and their comparability support this opinion.

160. The Bucher letter also confirms the unpredictability of river travel as well as the desire on the part of local residents for a safer, more predictable means of transportation.

161. Also, the letter attests to what both historians told us which is that iron went west to the Conemaugh River

and from there to Pittsburgh.

162. Finally, the letter corroborates the evidence that arks were the boat of choice, and had to be constructed from year to year since they never returned from their journey downstream.

163. There were several newspapers in Huntingdon County in the nineteenth century.

164. According to both historians, they tended to be highly political and partisan.

165. Notwithstanding this fact, both historians pointed to articles in The Gazette on the subject of navigation.

166. In the March 8, 1826, edition of The Gazette, the following was reported:

> **"The rain which has fallen for the last eight days, has kept the Juniata in fine boating order - twenty-three, or twenty-four Arks laden with Flour & Pig Metal have passed this place on their way to Market, and a number of Arks have descended the Raystown Branch also."** (Emphasis added.)

167. On March 29, 1826, this report was the lead story in the Gazette:

> "Notwithstanding all the branches of the Juniata, in this County, were in good boating order for the last five or six days, two Arks belonging to M. Wallace were totally lost, in the 'Little River', on Saturday last - cargoes principally saved; and what was still more unfortunate, a man named Crow, who has lived near Williamsburg, was thrown out of Adam Smith's Ark, in crossing Shoenberger's Forge dam and drowned.
>
> **The greater part of the surplus produce of this County has descended the river within the last few weeks, but unfortunately to a bad market."** (Emphasis added.)

168. Another letter dated May 11, 1825, from Conrad Bucher to brother Jacob illuimines the dependence on the river and high water. He wrote:

> **"We have had remarkable dry weather and backward season, and our river is very low. There is yet 3000 bbls of flour to take down above this place and all waiting for a flood."** (Emphasis added.)

169. The February 28, 1827, Gazette had a feature which it captioned as follows:

> "ARK NEWS
>
> **On Monday and Tuesday of this week, nine**

arks, laden with flour, passed this place, in safety, destined for the Baltimore market. The Baltimoreans, we hope, will compensate our industrious citizens for their early visit, Without scraping or scratching their cargoes." (Emphasis added.)

170. Finally, on May 30, 1827, The Gazette reported:

"The rain which fell last week, swelled our streams sufficiently high to carry off all the produce intended for an eastern market. There were not less than 50 arks, heavily laden, passed down the Juniata, from its several branches, in this and Bedford County." (Emphasis added.)

171. This report succinctly states the reality that commerce only moved downstream on the branches of the Juniata when the river was sufficiently high for arks to move.

172. This body of evidence also sustains the conclusion that not only was the movement of commerce unpredictable and dependent upon water levels but also it was extremely dangerous.

173. The risk was discussed in another Huntingdon newspaper - The Republican Advocate - which reprinted on April 15, 1826, a long article from another newspaper -

Oracle of Dauphin - on the subject of risk:

> "The losses which have been sustained during the last month on the Susquehanna have been great; more than sufficient . . . to have paid ten times over a reasonable canal toll on all the produce which reached a market. This simple fact speaks a language not to be misunderstood in favor of the canal project. It tells the authorities of the commonwealth to protect the property of its citizens from useless destruction. It alarms the fears of the individual adventurer and makes him not only willing, but desirous, to advance a portion of his anticipated profits to guard against the probable loss of the whole, and the consequent ruin of himself and his family. The fruit of all his toils throughout the live-long year are spread from season to season upon the bosom of the river; & if ill betide the luckless craft, and the humble ark be dashed upon a rock, as too often happens, the labor of many families for many months, are buried in the impetuous torrent." (Emphasis added.)

10. Summary

174. The following facts were established by a preponderance of the credible evidence:

174.1. During the period from after the Revolutionary War until 1850, the Little Juniata River was a highway of commerce for the surplus produce produced by the residents living in the Little Juniata watershed.

174.2. Annually when the river was swollen by rain, surplus produce would be shipped by ark downriver with an ultimate destination of Baltimore.

174.3. The ark traffic on the Little Juniata was one-way - the arks never returned but rather were dismantled and the lumber sold at their destination.

174.4. The date of the annual pilgrimage was not predictable and the journey was extremely dangerous.

174.5. Nonetheless, the river was the only viable option for transporting commernce to market.

174.6. No evidence indicated that the river was ever used to transport passengers.

174.7. The risk of river transportation prompted not only the rural settlers in Huntingdon

County but also similarly situated settlers across the state to demand that a better means of transportation be established.

174.8. The Pennsylvania Canal which was constructed and opened in the 1830's was the response of the Pennsylvania Legislature.

174.9. Thereafter, the use of the river as a means of communication dwindled.

174.10. After 1850 and construction of the Pennsylvania Railroad, the use of the river for the transportation of commerce ended.

Discussion

The issue in this litigation is who owns the riverbed of the Little Juniata River adjacent to the real estate now owned by Rural Partners since ownership in fee of the lands beneath water confers upon the owner the right to control activities on the surface. Pennsylvania Power & Light Company v. Maritime Management, Inc., 693 A.2d 592, 594 (Pa.Super. 1997).

A determination with respect to the ownership of the riverbed demands a judgment by this Court as to whether or not the Little Juniata River is a navigable or nonnavigable river. Superior Court explained the reason for the imposition on courts of this duty in its decision in Mountain Properties, Inc. v. Tyler Hill Realty Corp., 767 A.2d 1096 (2001):

> "In Pennsylvania, if a body of water is navigable, it is publicly owned and may only be regulated by the Commonwealth; ownership of the land beneath would not afford any right superior to that of the public to use the waterway. City of Philadelphia v. Pennsylvania Sugar Co., 348 Pa. 599, 36 A.2d 653 (1944); Pennsylvania Power v. Maritime Management, 693 A.2d 592, 594 (Pa.Super. 1997). If a body of water is non-navigable, it is privately owned by those who own the land beneath the water's surface and the lands abutting it, and may be regulated by them. Lakeside Park Co. v. Forsmark, 396 Pa. 389, 153 A.2d 486 (1959); Conneaut Lake Ice Co. v. Quigley, 225 Pa. 605, 74 A. 648 (1909)."
>
> Mountain Properties, Inc., at pp. 1099, 1100.

Appellate court decisions recognize several categories of navigable waters.

First, and in a class by themselves are the judicially declared "Principal Rivers". In 1826, in the case of Shrunk

v. The President, Managers and Company of the Schuylkill Navigation Company, 1826 WL 2218, 14 Serg & Rawle 71, Chief Justice William Tilghman opined as follows:

> "I consider it as settled in Pennsylvania by the decision in Carson v. Blazer, that the owners of land on the banks of the Susquehanna and other principal rivers have not an exclusive right to fish in the river immediately in front of their lands, but that the right to fisheries, in these rivers, is vested in the state, and open to all. It is unnecessary to enumerate, at this time, the rivers which may be called principal, but that name may be safely given to the Ohio, Monongahela, Allegheny, Susquehanna and its north and west branches, Juniata, Schuylkill and Delaware." (Emphasis added.)

The rivers named by Chief Justice Tilghman are therefore navigable as a matter of law since that status was conferred upon them by the highest court in the Commonwealth.

The Commonwealth argues in this case that other rivers and streams are also entitled to be considered navigable as a matter of law. Specifically, it posits that rivers declared to be public highways by Acts of Assembly are navigable as a matter of law **unless** the Act of Assembly was made subsequent to grants of title by the Commonwealth. The case of Leaf, et al., Pennsylvania Co., 268 Pa. 579, 112 A.

243 (1920), is cited as authority for this proposition.

In Leaf, the issue was the navigability of Beaver Creek in Beaver County. Plaintiffs whose land had been condemned by the railroad, claimed title to the middle of the stream. Title to Plaintiffs' property ran to 1794. An Act declaring Beaver Creek navigable was passed in 1798. Nonetheless, the trial judge determined that Beaver Creek was navigable in fact. The Supreme Court in an opinion by Justice, later Chief Justice John W. Kephart discussed the relationship between navigability and acts of the Legislature. He wrote:

> "It is only to small streams not navigable that the principle of ownership to the middle of the stream applies in Pennsylvania. In grants of vacant lands by the proprietors or the Commonwealth, streams not actually navigable, thus conveyed, belong to the owner of the tract; when such stream forms a boundary, the grantee acquires a title to the center, but the large rivers and principal streams, by nature navigable, belong to the commonwealth. This is contrary to the principles of the common law, where the grantee takes title to the middle of the river wherein the title to the middle of the river wherein the tide does not ebb and flow regardless of navigability, **but in this state the rule of title to low-water mark applies to rivers actually navigable, or made so by Legislature; in the former, the test is navigability in fact and the latter does not apply to grants made prior to legislative action.** (Citations omitted.)" (Emphasis added.)
>
> Leaf, at p. 582, 112 A. at pp. 243, 244.

This opinion clearly recognized the right of the Legislature to declare streams navigable. Accordingly, there is, as the Commonwealth asserts, another category of streams that are navigable as a matter of law. However Leaf also recognized that the Commonwealth could not by legislative action make a nonnavigable stream navigable after title passed from the Commonwealth because to do so would constitute a taking without compensation. See Commonwealth v. Foster, 36 Pa.Super. 433 (1908).

In this case, the section of the Little Juniata River that is adjacent to Defendants' property was declared a public highway by an Act of Assembly dated February 5, 1794. (See Finding of Fact 93.) Title to the real estate now owned by Defendants was not however obtained by Joseph Heister until September 1803 when he received deeds ("patents") conveying the property to him. (See Findings of Fact 105-120.)

Consequently, the first question for decision is whether Mr. Heister obtained title to the middle of the Little Juniata River, or did his riparian rights end at the low watermark because the Little Juniata had been declared a public highways in 1794.

Case law, as noted, has made it crystal clear that the ownership rights of riparian owners along nonnavigable streams cannot be changed by subsequent declarations that the stream is a public highway. See Coovert v. O'Conner, 8 Watts 470 (1839). No case however has held that the state while the owner of real estate adjacent to a stream cannot change the measure of riparian rights with respect to that property by declaring an otherwise nonnavigable stream a public highway.

In this regard, it is important to keep in mind that the issue is a very narrow one. The question is whether Rural Partners owns the streambed of the Little Juniata River adjacent to its property or whether its property line ends at the low watermark. Since the Commonwealth declared the Little Juniata a public highway nine years before granting the land to Joseph Heister in 1803, our conclusion is that it does not own the streambed and that its property ends at the low watermark of the river. In other words, we believe that the grant to Heister was as a matter of law subject to the 1794 public highway declaration.

In reaching this judgment we have not overlooked the

facts chronicled in Findings of Fact 105-120. However we believe that the decision of the Pennsylvania Supreme Court in Emery v. Spencer, 23 Pa. 271 (1854), forecloses any possible argument that equitable title in the real estate may have passed prior to 1794.

Although this conclusion is dispositive, it would be cavalier for this Court to not address the flagship contention of the Commonwealth in this case which is that the Little Juniata River is navigable-in-fact and that as a consequence, the title of all riparian owners of property along the river extends only to the low watermark.

Some history of the concept of navigable-in-fact is appropriate.

The first and most important decision from the Pennsylvania Supreme Court was handed down in 1810 in the case of Carson v. Blazer, 2 Binn. 475 (1810).

Mr. Carson owned land along the Susquehanna River and sued his neighbor in trespass because the neighbor was fishing in the river opposite Plaintiff's property. Mr. Carson asserted that as a riparian landowner he had the exclusive right to fish in the Susquehanna opposite his property.

Again, Chief Justice William Tilghman for the Supreme Court disagreed with Mr. Carson since in the opinion of the court "**the owners of the banks have no rights to the water of navigable rivers**". (Emphasis added.)

Thus, this decision made navigability the yardstick for riparian property rights in Pennsylvania contrary to the common law which based such rights on tidal flow.

Since Carson, a test has evolved for the delineation of navigable streams.

In 1862, in Flanagan v. The City of Philadelphia, 42 Pa. 219, the Court opined that ". . . in Pennsylvania . . . **we hold as navigable not only those streams which are subject to tides, but all rivers capable of being navigated; that is navigable in the common sense of the term**". (Emphasis added.)

In 1888, in the case Fulmer v. Williams, 1 L.R.A. 603, 15 A. 726, Justice Henry Williams discussed the evolving concept of navigability as follows:

> "**On this continent the early settlers found large rivers with navigable tributaries, forming vast**

> systems of internal communication, extending above the reach of tide water. The common-law definition of a navigable river was unsuited to this state of things, and seems never to have been adopted in Pennsylvania; on the contrary, navigability, in fact, was made the test by which the character of a stream as public or private was determined, and the great but tideless rivers of the state were held to be navigable rivers, public highways, belonging to the state and held for the use of all her citizens." (Emphasis supplied.)

Next, in Cleveland & Pittsburgh Railroad Co. v. Pittsburgh Coal Co., 317 Pa. 395, 176 A. 7, 9 (1935), the Court quoted and adopted the federal test for navigability enunciated by the United States Supreme Court in 1870 in The Daniel Ball, 77 U.S. 577. That test is:

> "Those rivers must be regarded as public navigable rivers in law which are navigable in fact. And they are navigable in fact when they are used, or are susceptible of being used, in their ordinary conditions, as highways for commerce, over which trade and travel are or may be conducted in the customary modes of trade and travel on water." The Daniel Ball, at p. 563, 19 L.Ed. 999. Cleveland & P.R. Co., et al. v. Pittsburgh Coal Co., at p. 397, 176 A. at p. 9. (Emphasis added.)

This definition was repeated by the Supreme Court in Lakeside Park Co. v. Forsmark, 396 Pa. 389, 153 A.2d 486 (1959). In that case, however, the Court added:

> "We think that the concept of navigability should

> not be limited alone by lake or river, or by commercial use, or by the size of water or its capacity to float a boat. Rather it should depend upon whether water is used or usable as a broad highroad for commerce and the transport in quantity of goods and people, which is the rule naturally applicable to rivers and to large lakes, or whether with all of the mentioned factors counted in the water remains a local focus of attraction, which is the rule sensibly applicable to shallow streams and to small lakes and ponds. The basic difference is that between a trade-route and a point of interest. The first is a public use and the second private."
>
> Lakeside Park, at p. 396, 153 A.2d at p. 489.

Most recently, in Pennsylvania Power & Light Company v. Maritime Management, Inc., supra., the Superior Court of Pennsylvania rehearsed the definition of navigability found in Lakeside Park Co. v. Forsmark, supra.

The question then is whether or not the Commonwealth established at trial by a preponderance of the evidence that the Little Juniata River is navigable in fact. Our conclusion is that the Commonwealth met its burden and that for a brief period in history the Little Juniata River was navigable-in-fact. Our conclusion is that the Commonwealth met its burden, and that for a brief period in history the Little Juniata River was navigable-in-fact.

We have reached this conclusion for the following

reasons:

1. The opinion of Dr. Heberling that the river was a highroad for commerce was persuasive and supported by a substantial body of evidence.

2. The Act of February 5, 1794 (the Public Highway Declaration), which declared the Little Juniata River in Huntingdon County to be a public highway, as well as the other late eighteenth and early nineteenth century Acts of Assembly that recognized the Little Juniata River as navigable. The importance of the public highway declaration was specifically addressed by the Pennsylvania Supreme Court in 1865 in the case of McKeen v. The Delaware Division Canal Company, 49 Pa. 424 (1865), where the issue was the navigability of the Lehigh River. In concluding the river was navigable, the court said:

> "So early as the 7th of March 1771, the legislature, after reciting the great importance of the improvement of the navigation in rivers, declared both the Delaware and Lehigh to be common highways for the purposes of navigation up and down the same: 1 Smith's L. 322. Indeed, the Lehigh had been long known as the West Branch of the Delaware, and was thus designated in the title and enactment of the Act of March 14th 1761: 1 Id. 231. **Its character, as one of the navigable streams of the Commonwealth, was again recognised in the Act of March 23d 1803, excepting the**

> Delaware, Lehigh, and Schuylkill from the authority given to erect dams over navigable streams." (Emphasis added.)

In this case as the Findings of Fact attest, the Legislature consistently during the period under consideration recognized the character of the Little Juniata as navigable. This contemporaneous legislation is therefore entitled to substantial weight on the issue.

3. The Commonwealth has at all times since 1794 acted toward the river in a manner consistent with its ownership of the streambed, and has required the public to do the same. Similarly, the public and riparian owners have at all times until the early 1990's treated the river as a Commonwealth resource.

4. The primary and secondary evidence presented by both historians at trial demonstrated to us that during the period between the Revolutionary War and the advent of the railroad commerce moved down the Little Juniata River when the river permitted on its way to eastern markets. In this regard, the newspaper articles and letters were highly probative, and when considered with the histories of the nineteenth century, were clear and compelling evidence of

navigation-in-fact. While the evidence was also clear that river travel was unpredictable and risky, we do not believe those facts change the character of the river as navigable during the period under investigation since the river in reality was the only viable transportation option available to the residents of the area served by the river.

Conclusion

The determination that the river was navigable in fact in the late eighteenth and early nineteenth century is conclusive today on the question of the extent of the Defendants' riparian rights. See Lehigh Falls Fishing Club v. Andrejewski, supra. Therefore, for this reason as well as the reason previously stated, we conclude that the property of Rural Partners extends only to the low watermark and not to the middle of the stream.

Conclusions of Law

1. In 1803, when the Commonwealth granted to Joseph Heister the three tracts of land that are owned today by Rural Partners, the grant was subject to the 1794 Act of Assembly that declared the Little Juniata River to be a public highway.

2. Therefore, Mr. Heister's property extended only to the low watermark of the Little Juniata River.

3. By virtue of the public highway declaration, the Commonwealth of Pennsylvania retained ownership of the streambed adjacent to the land granted to Mr. Heister, and its ownership continues to today.

4. The Little Juniata River during the period following the Revolutionary War until the advent of the Pennsylvania Railroad was navigable in fact.

5. An order consistent with these conclusions enjoining Defendants from interfering with the lawful rights of the public vis a vis the river is appropriate.

Plaintiffs shall submit a form of order for the entry of a judgment consistent with these findings of fact and conclusions of law.

BY THE COURT,

J.

DATED: January 29, 2007

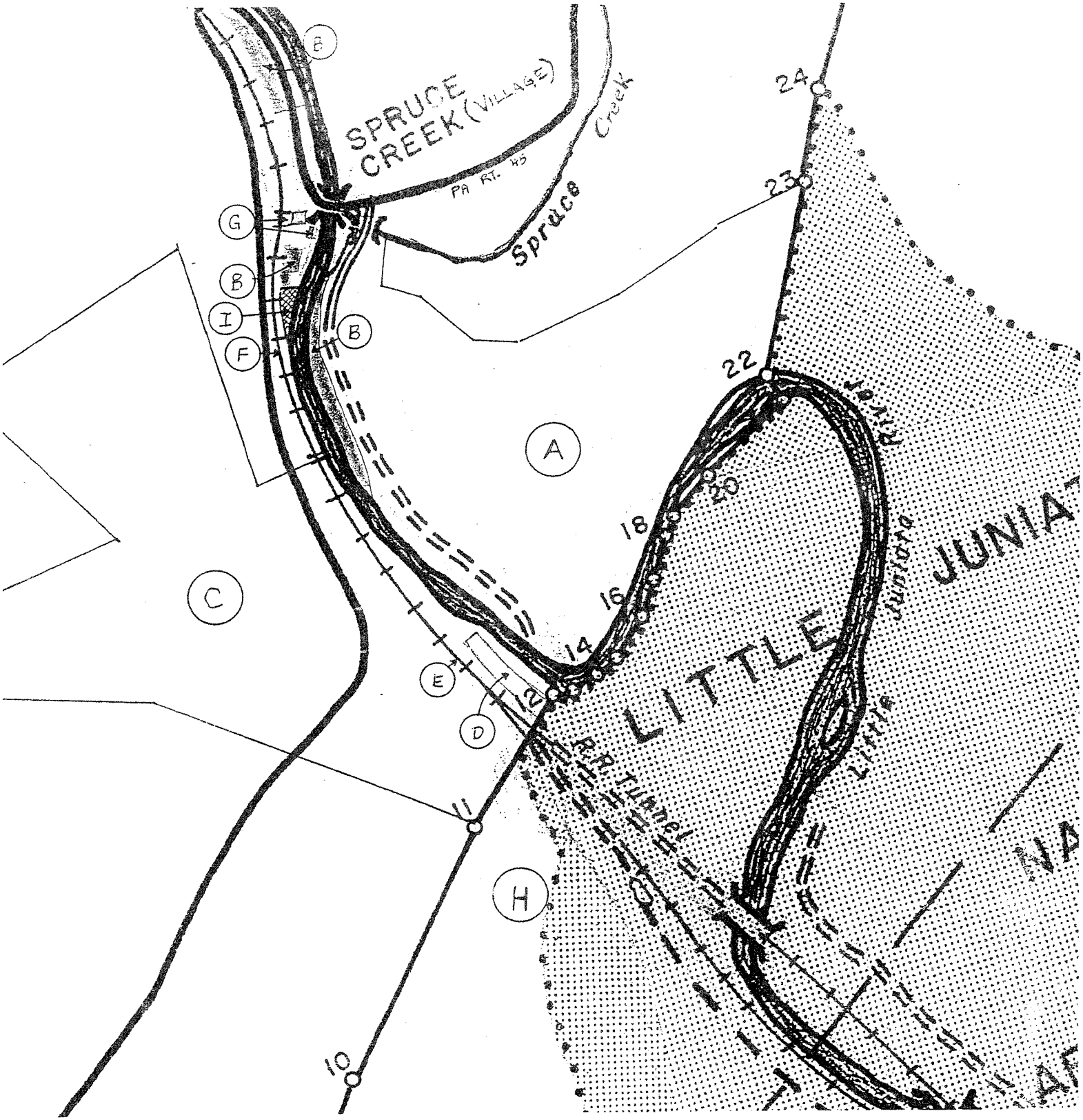
SPRUCE CREEK (VILLAGE)
PA RT. 45
Spruce Creek
LITTLE JUNIA
Little Juniata River
R.R. Tunnel
A
B
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EXHIBIT A

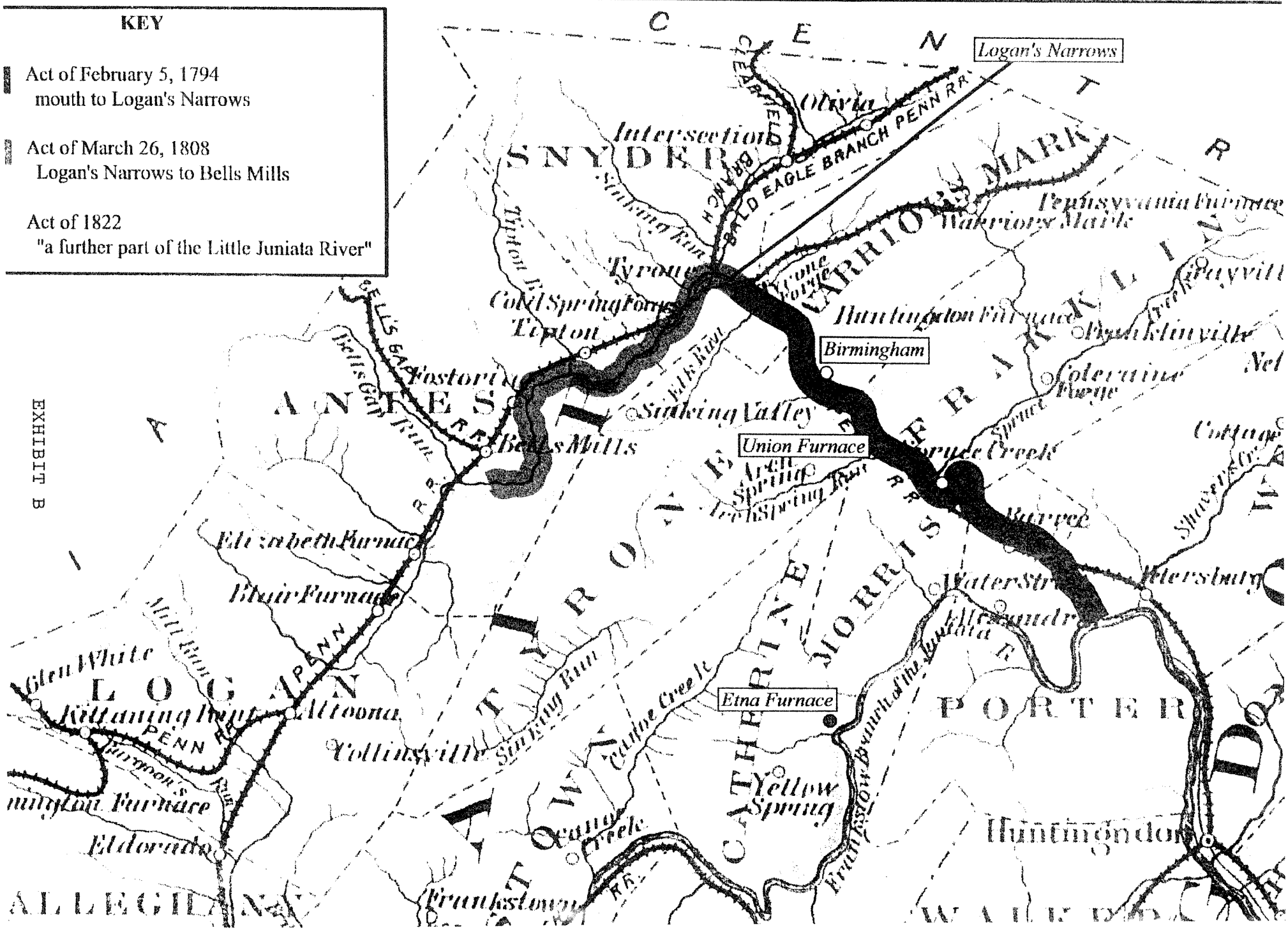
KEY
Act of February 5, 1794
mouth to Logan's Narrows
Act of March 26, 1808
Logan's Narrows to Bells Mills
Act of 1822
"a further part of the Little Juniata River"
Logan's Narrows
Birmingham
Union Furnace
Etna Furnace
Olivia
Intersection
Tyrone
Tipton
Fostoria
Bells Mills
Sinking Valley
Elizabeth Furnace
Blair Furnace
Altoona
Collinsville
Kittanning Point
Glen White
Eldorado
Frankstown
Yellow Spring
Huntingdon
Petersburg
Barree
Coleraine Forge
Franklinville
Huntingdon Furnace
Pennsylvania Furnace
Warriors Mark
Spruce Creek
Arch Spring
Canoe Creek
Sinking Run
Tipton R.
Bells Gap Run
Mill Run
Burgoon's Run
Frankstown Branch of the Juniata R.
Shavers Cr.
Cottage
Nel
Grayvill
Water Str
Alexandr
CENTR
SNYDER
WARRIORS MARK
FRANKLIN
TYRONE
CATHARINE
MORRIS
PORTER
LOGAN
ALLEGHANY
BALD EAGLE BRANCH PENN RR
CLEARFIELD BRANCH
PENN RR
BELLS GAP RR

EXHIBIT B