

BEFORE THE
ARIZONA NAVIGABLE STREAM ADJUDICATION COMMISSION

IN THE MATTER OF THE
NAVIGABILITY OF THE VIRGIN
RIVER FROM THE UTAH BORDER
TO THE NEVADA BORDER,
MOHAVE COUNTY, ARIZONA

No.: 05-013-NAV

**REPORT, FINDINGS AND DETERMINATION
REGARDING THE NAVIGABILITY OF THE VIRGIN RIVER
FROM THE UTAH BORDER TO THE NEVADA BORDER**

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Pursuant to Title 37, Chapter 7, Arizona Revised Statutes, the Arizona Navigable Stream Adjudication Commission ("Commission") has undertaken to receive, compile, review and consider relevant historical and scientific data and information, documents and other evidence regarding the issue of whether the Virgin River from the Utah Border to the Nevada Border was navigable or nonnavigable for title purposes as of February 14, 1912. Proper and legal public notice was given in accordance with law and a hearing was held at which all parties were afforded the opportunity to present evidence, as well as their views, on this issue. The Commission, having considered all of the historical and scientific data and information, documents and other evidence, including the oral and written presentations made by persons appearing at the public hearing and being fully advised in the premises, hereby submits its report, findings and determination.

I. PROCEDURE

Pursuant to A.R.S. § 37-1123(B), the Commission gave proper prior notice by publication in the Kingman Daily Miner on June 17, June 24 and July 1, 2005 of its intent to receive, compile, review, consider and study all relevant historical and scientific data and information, documents and other evidence regarding the issue of navigability or nonnavigability of the Virgin River from the Utah border to the Nevada border in Mohave County, Arizona. A copy of the Notice of Intent to Study, Receive, Review and Consider Evidence on the issue of navigability of the Virgin River in Mohave County, Arizona, is attached hereto as Exhibit "A."

After collecting and documenting all reasonably available evidence received pursuant to the Notice of Intent to Receive, Compile, Review, Consider and Study Evidence, the Commission scheduled a public hearing to receive additional evidence and testimony regarding the navigability or nonnavigability of the Virgin River. Public notice of this hearing was given by legal advertising on July 7, in the Kingman Daily Miner and on July 8, 2005 in the Arizona Republic as required by law pursuant to A.R.S. § 37-1126 and, in addition, by mail to all those requesting individual notice and by means of the ANSAC website (azstreambeds.com). This hearing was held on August 8, 2005, in the City of Kingman, the county seat of Mohave County, since the law requires that such hearings be held in the county in which the watercourse being studied is located. Attached hereto as Exhibit "B" are copies of the notices of the public hearing.

All parties were advised that anyone who desired to appear and give testimony at the public hearing could do so and, in making its findings and determination as to navigability and nonnavigability, the Commission would consider all matters presented to it at the hearing, as well as other historical and scientific data, information, documents and evidence that had been submitted to the Commission at any time prior to the date of the hearing, including all data, information, documents and evidence

previously submitted to the Commission. Following the public hearing held on August 8, 2005, all parties were advised that they could file post-hearing memoranda pursuant to the Commission Rules. Post-hearing memoranda were filed by the Salt River Project Agricultural Improvement and Power District and the Salt River Valley Water Users Association, and the Arizona Center for Law in the Public Interest.

On October 20, 2005, at a public hearing in Phoenix, Arizona, after considering all of the evidence and testimony submitted and the post-hearing memoranda filed with the Commission, and the comments and oral argument presented by the parties, and being fully advised in the premises, the Commission, with a unanimous vote, found and determined in accordance with A.R.S. § 37-1128 that the Virgin River from the Utah border to the Nevada border in Mohave County, Arizona, was nonnavigable as of February 14, 1912.

II. THE VIRGIN RIVER FROM THE UTAH BORDER TO THE NEVADA BORDER

The headwaters of the Virgin River are in the mountains above Zion National Park in Kane County, Utah. The river flows in a westerly and southerly direction through Washington County, Utah, passing by the towns of Washington and St. George and entering Arizona at a mean elevation above sea level of 2,360 feet at the extreme northwest portion of Mohave County at approximately latitude 37°00' north, longitude 113°42'10" west in the northeast quarter of Section 33, Township 42 North, Range 13 West, Gila and Salt River Base and Meridian. From there it flows in a southwesterly direction until it crosses Interstate Highway 15 approximately three miles south of the Utah border and then continues in a southwesterly direction passing by the town of Littlefield, Arizona, generally paralleling Interstate Highway 15 for a distance of approximately 30 miles where it enters the State of Nevada near the town of Mesquite, Nevada at approximately 36°42'58" north, longitude 114°3'5" west in the northwest quarter of Section 8, Township 39 North, Range 16 West, Gila and Salt River Base and

Meridian. From there, it turns in a more southerly direction and flows into Lake Mead. Thus, the reach of the Virgin River in Arizona is approximately 33 miles and this is the reach with which this report will be concerned.

The Arizona segment of the Virgin River can be divided geographically into two segments. The Gorge segment and the Littlefield segment. The upper stream portion from the Utah border is commonly referred to as the Virgin River Gorge, as the river flows through a deep gorge in the Virgin Mountains. This segment is approximately 16 miles in length and is characterized by steep narrow canyon walls. The average channel slope is approximately 28 feet per mile, or one-half of one percent. In the gorge, the channel is confined with bedrock walls and has not been subjected to significant change over time notwithstanding flooding. Approximately four miles upstream from the town of Littlefield, Arizona, the Gorge segment ends and the Littlefield segment begins. The Littlefield segment is approximately 17 miles in length and passes through the town of Littlefield, Arizona, which is the only settlement or community along the Arizona portion of the Virgin River. In this segment, the river consists of a meandering sand bed channel in a wide geologic flood plain. The flood plain is from hundreds to thousands of feet wide through this reach which continues to the Nevada border and beyond. The river is bounded in this reach by agricultural development associated with the towns of Littlefield, Arizona, and Mesquite, Nevada. The average channel slope in this segment is also approximately 28 feet per mile, or one-half of one percent. The Virgin River enters Nevada near the town of Mesquite, Nevada, at an elevation of 1,587 feet above mean sea level.

The watershed of the Virgin River ranges in elevation from 10,375 feet at Black Peak and Pine Peak in the Cedar Mountain and Pine Mountain ranges in Utah to 1,587 feet above sea level where the river exits Arizona and enters Nevada. The Virgin River watershed at Littlefield, Arizona, is approximately 5,090 square miles. The

watershed is bounded by the Pine Mountains of Utah to the northwest, the Kolob Terrace in Utah to the northeast, and the Kaibab Plateau along the north rim of the Grand Canyon in Arizona to the southeast. The only major tributary to the Virgin River within the Arizona portion is Beaver Dam Wash, which has a drainage area of 579 square miles. It meets the Virgin River near Littlefield, Arizona.

The Virgin River is generally considered a perennial stream, but during dry times of the year there may be no flow of water in certain portions of the plain below the Virgin River Gorge. The climate within this watershed varies significantly with elevation. The Arizona portion of the river is characterized by hot, semi-arid desert conditions, while more temperate conditions exist in the higher elevations of the upper watershed in Utah. Average annual precipitation at Littlefield, Arizona is approximately 7 inches per year. Present day vegetation within the Arizona reach of the Virgin River consists primarily of Tamarisk, Cattails, Rushes, Arrowweed, Coyote Willow, Seepwillow, Salt Grass, Bermuda Grass, and an occasional occurrence of Cottonwood, Mesquite, and Desert Willow. Copies of the maps of the Virgin River watershed are attached hereto as Exhibit "C."

III. BACKGROUND AND HISTORICAL PERSPECTIVES

A. Public Trust Doctrine and Equal Footing Doctrine

The reason for the legislative mandated study of navigability of watercourses within the state is to determine who holds title to the beds and banks of such rivers and watercourses. Under the Public Trust Doctrine, as developed by common law over many years, the tidal lands and beds of navigable rivers and watercourses, as well as the banks up to the high water mark, are held by the sovereign in a special title for the benefit of all the people. In quoting the U. S. Supreme Court, the Arizona Court of Appeals described the Public Trust Doctrine in its decision in *The Center for Law v. Hassell*, 172 Arizona 356, 837 P.2d 158 (App. 1991), *review denied* October 6, 1992.

An ancient doctrine of common law restricts the sovereign's ability to dispose of resources held in public trust. This doctrine, integral to watercourse sovereignty, was explained by the Supreme Court in *Illinois Cent. R.R. v. Illinois*, 146 U.S. 387, 13 S.Ct. 110, 36 L.Ed. 1018 (1892). A state's title to lands under navigable waters is a title different in character from that which the State holds in lands intended for sale. . . . It is a title held in trust for the people of the State that they may enjoy the navigation of the waters, carry on commerce over them, and have liberty of fishing therein freed from the obstruction or interference of private parties. *Id.* at 452, 13 S.Ct. at 118; *see also Martin v. Waddell*, 41 U.S. (16 Pet.) at 413 (describing watercourse sovereignty as "a public trust for the benefit of the whole community, to be freely used by all for navigation and fishery, as well for shellfish as floating fish").

Id., 172 Ariz. at 364, 837 P.2d at 166.

This doctrine is quite ancient and was first formally codified in the Code of the Roman Emperor Justinian between 529 and 534 A.D.¹ The provisions of this Code, however, were based, often verbatim, upon much earlier institutes and journals of Roman and Greek law. Some historians believe that the doctrine has even earlier progenitors in the rules of travel on rivers and waterways in ancient Egypt and Mesopotamia. This rule evolved through common law in England which established that the king as sovereign owned the beds of commercially navigable waterways in order to protect their accessibility for commerce, fishing and navigation for his subjects. In England the beds of non-navigable waterways where transportation for commerce was not an issue were owned by the adjacent landowners.

This principle was well established by English common law long before the American Revolution and was a part of the law of the American colonies at the time of the Revolution. Following the American Revolution, the rights, duties and responsibilities of the crown passed to the thirteen new independent states, thus making them the owners of the beds of commercially navigable streams, lakes and other waterways within their boundaries by virtue of their newly established sovereignty. The ownership of trust lands by the thirteen original states was never

¹ *Putting the Public Trust Doctrine to Work*, David C. Slade, Esq. (Nov. 1990), pp. xvii and 4.

ceded to the federal government. However, in exchange for the national government's agreeing to pay the debts of the thirteen original states incurred in financing the Revolutionary War, the states ceded to the national government their undeveloped western lands. In the Northwest Ordinance of 1787, adopted just prior to the ratification of the U.S. Constitution and subsequently re-enacted by Congress on August 7, 1789, it was provided that new states could be carved out of this western territory and allowed to join the Union and that they "shall be admitted . . . on an equal footing with the original states, in all respects whatsoever." (Ordinance of 1787: The Northwest Territorial Government, § 14, Art. V, 1 stat. 50. See also U.S. Constitution, Art. IV, Section 3). This has been interpreted by the courts to mean that on admission to the Union, the sovereign power of ownership of the beds of navigable streams passes from the federal government to the new state. *Pollard's Lessee v. Hagan, et al.*, 44 U.S. (3 How.) 212 (1845), and *Utah Division of State Lands v. United States*, 482 U.S. 193 (1987).

In discussing the Equal Footing Doctrine as it applies to the State's claim to title of beds and banks of navigable streams, the Court of Appeals stated in *Hassell*:

The state's claims originated in a common-law doctrine, dating back at least as far as Magna Charta, vesting title in the sovereign to lands affected by the ebb and flow of tides. See *Martin v. Waddell*, 41 U.S. (16 Pet.) 367, 412-13, 10 L.Ed. 997 (1842). The sovereign did not hold these lands for private usage, but as a "high prerogative trust . . . , a public trust for the benefit of the whole community." *Id.* at 413. In the American Revolution, "when the people . . . took into their own hands the powers of sovereignty, the prerogatives and regalities which before belong either to the crown or the Parliament, became immediately and rightfully vested in the state." *Id.* at 416.

Although watercourse sovereignty ran with the tidewaters in England, an island country, in America the doctrine was extended to navigable inland watercourses as well. See *Barney v. Keokuk*, 94 U.S. 324, 24 L.Ed. 224 (1877); *Illinois Cent. R.R. v. Illinois*, 146 U.S. 387, 434, 13 S.Ct. 110, 111, 36 L.Ed. 1018 (1892). Moreover, by the "equal footing" doctrine, announced in *Pollard's Lessee v. Hagan*, 44 U.S. (3 How.) 212, 11 L.Ed. 565 (1845), the Supreme Court attributed watercourse sovereignty to future, as well as then-existent, states. The Court reasoned that the United States government held lands under territorial navigable waters in trust for future states, which would accede to sovereignty on an "equal footing" with established states upon admission to the Union. *Id.* at 222-23, 229;

accord Montana v. United States, 450 U.S. 544, 101 S.Ct. 1245, 67 L.Ed.2d 493 (1981); *Land Department v. O'Toole*, 154 Ariz. 43, 44, 739 P.2d 1360, 1361 (App. 1987).

The Supreme Court has grounded the states' watercourse sovereignty in the Constitution, observing that "[t]he shores of navigable waters, and the soils under them, were not granted by the Constitution to the United States, but were reserved to the states respectively." *Pollard's Lessee*, 44 U.S. (3 How.) at 230; *see also Oregon ex rel. State Land Board v. Corvallis Sand & Gravel Co.*, 429 U.S. 363, 374, 97 S.Ct. 582, 589, 50 L.Ed.2d 550 (1977) (states' "title to lands underlying navigable waters within [their] boundaries is conferred . . . by the [United States] constitution itself").

Id., 172 Ariz. 359-60, 837 P.2d at 161-162.

In the case of Arizona, the "equal footing" doctrine means that if any stream or watercourse within the State of Arizona was navigable on February 14, 1912, the date Arizona was admitted to the Union, the title to its bed is held by the State of Arizona in a special title under the public trust doctrine. If the stream was not navigable on that date, ownership of the streambed remained in such ownership as it was prior to statehood--the United States if federal land, or some private party if it had previously been patented or disposed of by the federal government--and could later be sold or disposed of in the manner of other land since it had not been in a special or trust title under the public trust doctrine. Thus, in order to determine title to the beds of rivers, streams, and other watercourses within the State of Arizona, it must be determined whether or not they were navigable or non-navigable as of the date of statehood.

B. Legal Precedent to Current State Statutes

Until 1985, most Arizona residents assumed that all rivers and watercourses in Arizona, except for the Colorado River, were non-navigable and accordingly there was no problem with the title to the beds and banks of any rivers, streams or other watercourses. However, in 1985 Arizona officials upset this long-standing assumption and took action to claim title to the bed of the Verde River. *Land Department v. O'Toole*, 154 Ariz. 43, 739 P.2d 1360 (App. 1987). Subsequently, various State officials alleged that the State might hold title to certain lands in or near other watercourses as well. *Id.*,

154 Ariz. at 44, 739 P.2d at 1361. In order to resolve the title questions to the beds of Arizona rivers and streams, the Legislature enacted a law in 1987 substantially relinquishing the state's interest in any such lands.² With regard to the Gila, Verde and Salt Rivers, this statute provided that any record title holder of lands in or near the beds of those rivers could obtain a quitclaim deed from the State Land Commissioner for all of the interest the state might have in such lands by the payment of a quitclaim fee of \$25.00 per acre. The Arizona Center for Law in the Public Interest filed suit against Milo J. Hassell in his capacity as State Land Commissioner, claiming that the statute was unconstitutional under the public trust doctrine and gift clause of the Arizona Constitution as no determination had been made of what interest the state had in such lands and what was the reasonable value thereof so that it could be determined that the state was getting full value for the interests it was conveying. The Superior Court entered judgment in favor of the defendants and an appeal was taken. In its decision in *Hassell*, the Court of Appeals held that this statute violated the public trust doctrine and the Arizona Constitution and further set forth guidelines under which the state could set up a procedure for determining the navigability of rivers and watercourses in Arizona. In response to this decision, the Legislature established the Arizona Navigable Stream Adjudication Commission and enacted the statutes pertaining to its operation. 1992 Arizona Session Laws, Chapter 297 (1992 Act). The charge given to the Commission by the 1992 Act was to conduct full evidentiary public hearings across the state and to adjudicate the State's claims to ownership of lands in the beds of watercourses. *See generally* former A.R.S. §§ 37-1122 to -1128.

The 1992 Act provided that the Commission would make findings of navigability or non-navigability for each watercourse. *See* former A.R.S. § 37-1128(A). Those

² Prior to the enactment of the 1987 statute, the Legislature made an attempt to pass such a law, but the same was vetoed by the Governor. The 1987 enactment was signed by the Governor and became law. 1987 Arizona Session Laws, Chapter 127.

findings were based upon the “federal test” of navigability in former A.R.S. § 37-1101(6). The Commission would examine the “public trust values” associated with a particular watercourse only if and when it determined that the watercourse was navigable. *See* former A.R.S. §§ 37-1123(A)(3), 37-1128(A).

The Commission began to take evidence on certain watercourses during the fall of 1993 and spring of 1994. In light of perceived difficulties with the 1992 Act, the Legislature revisited this issue during the 1994 session and amended the underlying legislation. *See* 1994 Arizona Session Laws, Ch. 278 (“1994 Act”). Among other things, the 1994 Act provided that the Commission would make a recommendation to the Legislature, which would then hold additional hearings and make a final determination of navigability by passing a statute with respect to each watercourse. The 1994 Act also established certain presumptions of non-navigability and exclusions of some types of evidence.

Based upon the 1994 Act, the Commission went forth with its job of compiling evidence and making a determination of whether each watercourse in the state was navigable as of February 14, 1912. The Arizona State Land Department issued technical reports on each watercourse, and numerous private parties and public agencies submitted additional evidence in favor of or opposed to navigability for particular watercourses. *See Defenders of Wildlife v. Hull*, 199 Ariz. 411, 416, 18 P.3d 722, 727 (App. 2001). The Commission reviewed the evidence and issued reports on each watercourse, which were transmitted to the Legislature. The Legislature then enacted legislation relating to the navigability of each specific watercourse. The Court of Appeals struck down that legislation in its *Hull* decision, finding that the Legislature had not applied the proper standards of navigability. *Id.* 199 Ariz. at 427-28, 18 P.2d at 738-39.

In 2001, the Legislature again amended the underlying statute in another attempt to comply with the court’s pronouncements in *Hassell* and *Hull*. *See* 2001 Arizona

Session Laws, Ch. 166, §1. The 2001 legislation now governs the Commission in making its findings with respect to the navigability of all watercourses within the State.

IV. ISSUES PRESENTED

The applicable Arizona statutes state that the Commission has jurisdiction to determine which, if any, Arizona watercourses were “navigable” on February 14, 1912 and for any watercourses determined to be navigable, to identify the public trust values. A.R.S. § 37-1123. A.R.S. § 37-1123A provides as follows:

A. The commission shall receive, review and consider all relevant historical and other evidence presented to the commission by the state land department and by other persons regarding the navigability or nonnavigability of watercourses in this state as of February 14, 1912, together with associated public trust values, except for evidence with respect to the Colorado river, and, after public hearings conducted pursuant to section 37-1126:

1. Based only on evidence of navigability or nonnavigability, determine which watercourses were not navigable as of February 14, 1912.
2. Based only on evidence of navigability or nonnavigability, determine which watercourses were navigable as of February 14, 1912.
3. In a separate, subsequent proceeding pursuant to section 37-1128, subsection B, consider evidence of public trust values and then identify and make a public report of any public trust values that are now associated with the navigable watercourses.

A.R.S. §§ 37-1128A and B provide as follows:

A. After the commission completes the public hearing with respect to a watercourse, the commission shall again review all available evidence and render its determination as to whether the particular watercourse was navigable as of February 14, 1912. If the preponderance of the evidence establishes that the watercourse was navigable, the commission shall issue its determination confirming the watercourse was navigable. If the preponderance of the evidence fails to establish that the watercourse was navigable, the commission shall issue its determination confirming that the watercourse was nonnavigable.

B. With respect to those watercourses that the commission determines were navigable, the commission shall, in a separate, subsequent proceeding, identify and make a public report of any public trust values associated with the navigable watercourse.

Thus, in compliance with the statutes, the Commission is required to collect evidence, hold hearings, and determine which watercourses in existence on February 14, 1912, were navigable or nonnavigable. This report pertains to the 33-mile reach of the Virgin River from the Utah border to the Nevada border in Mohave County, Arizona. In the hearings to which this report pertains, the Commission considered all of the available historical and scientific data and information, documents and other evidence relating to the issue of navigability of the Virgin River in Mohave County, Arizona as of February 14, 1912.

Public Trust Values were not considered in these hearings but will be considered in separate, subsequent proceedings if required. A.R.S. §§ 37-1123A3 and 37-1128B. In discussing the use of an administrative body such as the Commission on issues of navigability and public trust values, the Arizona Court of Appeals in its decision in *Hassell* found that State must undertake a “particularized assessment” of its “public trust” claims but expressly recognized that such assessment need not take place in a “full blown judicial” proceeding.

We do not suggest that a full-blown judicial determination of historical navigability and present value must precede the relinquishment of any state claims to a particular parcel of riverbed land. An administrative process might reasonably permit the systematic investigation and evaluation of each of the state’s claims. Under the present act, however, we cannot find that the gift clause requirement of equitable and reasonable consideration has been met.

Id., 172 Ariz. at 370, 837 P.2d at 172.

The 2001 *Hull* court, although finding certain defects in specific aspects of the statute then applicable, expressly recognized that a determination of “navigability” was essential to the State having any “public trust” ownership claims to lands in the bed of a particular watercourse:

The concept of navigability is “essentially intertwined” with public trust discussions and “[t]he navigability question often resolves whether any public trust interest exists in the resource at all.” Tracy Dickman Zobenica, *The Public Trust Doctrine in Arizona’s Streambeds*, 38 Ariz. L. Rev.

1053, 1058 (1996). In practical terms, this means that **before a state has a recognized public trust interest in its watercourse bedlands, it first must be determined whether the land was acquired through the equal footing doctrine. However, for bedlands to pass to a state on equal footing grounds, the watercourse overlying the land must have been "navigable" on the day that the state entered the union.**

199 Ariz. at 418, 18 P.3d at 729 (also citing *O'Toole*, 154 Ariz. at 45, 739 P.2d at 1362) (emphasis added).

The Legislature and the Court of Appeals in *Hull* have recognized that, unless the watercourse was "navigable" at statehood, the State has no "public trust" ownership claim to lands along that watercourse. Using the language of *Hassell*, if the watercourse was not "navigable," the "validity of the equal footing claims that [the State] relinquishes" is **zero**. *Hassell*, 172 Ariz. at 371, 837 P.2d at 173. Thus, if there is no claim to relinquish, there is no reason to waste public resources determining (1) the value of any lands the State **might own if it had a claim to ownership**, (2) "equitable and reasonable considerations" relating to claims it might relinquish without compromising the "public trust," or (3) any conditions the State might want to impose on transfers of its ownership interest. *See id.*

V. BURDEN OF PROOF

The Commission in making its findings and determinations utilized the standard of the preponderance of the evidence as the burden of proof as to whether or not a stream was navigable or nonnavigable. A.R.S. § 37-1128A provides as follows:

After the commission completes the public hearing with respect to a watercourse, the commission shall again review all available evidence and render its determination as to whether the particular watercourse was navigable as of February 14, 1912. If the preponderance of the evidence establishes that the watercourse was navigable, the commission shall issue its determination confirming that the watercourse was navigable. **If the preponderance of the evidence fails to establish that the watercourse was navigable, the commission shall issue its determination confirming that the watercourse was nonnavigable.** (emphasis added)

This statute is consistent with the decision of the Arizona courts that have considered the matter. *Hull*, 199 Ariz. at 420, 18 P.3d at 731 ("... a 'preponderance' of

the evidence appears to be the standard used by the courts. *See, e.g., North Dakota v. United States*, 972 F.2d 235-38 (8th Cir. 1992)"); *Hassell*, 172 Ariz. at 363, n. 10, 837 P.2d at 165, n. 10 (The question of whether a watercourse is navigable is one of fact. The burden of proof rests on the party asserting navigability . . ."); *O'Toole*, 154 Ariz. at 46, n. 2, 739 P.2d at 1363, n. 2.

The most commonly used legal dictionary contains the following definition of "preponderance of the evidence":

Evidence which is of greater weight or more convincing than the evidence which is offered in opposition to it; that is, evidence which as a whole shows that the fact sought to be proven is more probable than not. *Braud v. Kinchen*, La. App., 310 So.2d 657, 659. With respect to burden of proof in civil actions, means greater weight of evidence, or evidence which is more credible and convincing to the mind. That which best accords with reason and probability. The word "preponderance" means something more than "weight"; it denotes a superiority of weight, or outweighing. The words are not synonymous, but substantially different. There is generally a "weight" of evidence on each side in case of contested facts. But juries cannot properly act upon the weight of evidence, in favor of the one having the *onus*, unless it overbear, in some degree, the weight upon the other side.

Black's Law Dictionary 1064 (5th ed. 1979).

The "preponderance of the evidence" standard is sometimes referred to as requiring "fifty percent plus one" in favor of the party with the burden of proof. One could image a set of scales. If the evidence on each side weighs exactly evenly, the party without the burden of proof must prevail. In order for the party with the burden to prevail, sufficient evidence must exist in order to tip the scales (even slightly) in its favor. See generally *United States v. Fatico*, 458 U.S. 388, 403-06 (E.D. N.Y. 1978), *aff'd* 603 F.2d 1053 (2nd Cir. 1979), *cert.denied* 444 U.S. 1073 (1980); *United States v. Schipani*, 289

F.Supp. 43, 56 (E.D.N.Y. 1968), *aff'd*, 414 F.2d 1262 (2d Cir. 1969); *State of North Dakota Board of University and State Lands v. U.S.*, 972 F.2d 235 (8th Cir. 1992).³

VI. STANDARD FOR DETERMINING NAVIGABILITY

The statute defines a navigable watercourse as follows:

"Navigable" or "navigable watercourse" means a watercourse that was in existence on February 14, 1912, and at that time was used or was susceptible to being used, in its ordinary and natural condition, as a highway for commerce, over which trade and travel were or could have been conducted in the customary modes of trade and travel on water.

A.R.S. § 37-1101(5).

The foregoing statutory definition is taken almost verbatim from the U.S. Supreme Court decision in *The Daniel Ball*, 77 U.S. (10 Wall) 557, 19 L.Ed. 999 (1870), which is considered by most authorities as the best statement of navigability for title purposes.⁴ In its decision, the Supreme Court stated:

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 condition, as highways for

³ In a recent Memorandum Decision of the Arizona Court of Appeals, the Defenders of Wildlife and others through their representative, Arizona Center for Law in the Public Interest, attacked the constitutionality of the burden of proof for navigability determination by the Commission specified in A.R.S. § 37-1128(A). In that case, the Defenders claimed that the burden of proof specified in the statute conflicts with federal law and should be declared invalid because it is contrary to a presumption favoring sovereign ownership of bedlands. In discussing and rejecting *Defenders* position the Court stated: ". . . In support of this argument, Defenders cite to our decision in *Defenders*, see 199 Ariz. At 426, ¶ 54, 18 P.3d at 737, and to *United States v. Oregon*, 295 U.S. 1, 14 (1935). But neither of these decisions held that the burden of proof in a navigability determination must be placed on the party opposing navigability. Moreover, this court has twice stated that the burden of proof rests on the party asserting navigability. *Hassell*, 172 Ariz. At 363 n. 10, 837 P.2d at 165 n. 10; *O'Toole*, 154 Ariz. At 46 n. 2, 739 P.2d at 1363 n. 2. We have also recognized that a 'preponderance' of the evidence appears to be the standard used by the courts" as the burden of proof. *Defenders*, 199 Ariz. At 420, ¶ 23, 18 P.3d at 731 (citing *North Dakota v. United States*, 972 F.2d 235, 237-38 (8th Cir. 1992)). Defenders have not cited any persuasive authority suggesting that these provisions in § 37-1128(A) are unconstitutional or contrary to federal law. We agree with this court's prior statements and conclude that neither placing the burden of proof on the proponents of navigability nor specifying the burden as a preponderance of the evidence violates the State or Federal Constitutions or conflicts with federal law." *State of Arizona v. Honorable Edward O. Burke* 1 CA-SA 02-0268 and 1 CA-SA 02-0269 (Consolidated); Arizona Court of Appeals, Division One, (Memorandum Decision filed December 23, 2004).

⁴ The *Daniel Ball* was actually an admiralty case, but the U.S. Supreme Court adopted its definition of navigability in title and equal footing cases. *Utah v. United States*, 403 U.S. 9, 91 S.Ct. 1775, 29 L.Ed.2 279 (1971) and *United States v. Oregon*, 295 U.S. 1, 55 S.Ct. 610, 70 L.Ed.2 1263 (1935).

commerce, over which trade and travel are or may be conducted in the customary modes of trade and travel on water.

77 U.S. at 563.

In a later opinion in *U.S. v. Holt Bank*, 270 U.S. 46 (1926), the Supreme Court stated:

[Waters] which are navigable in fact must be regarded as navigable in law; that they are navigable in fact when they are used, or are susceptible of being used, in their natural and ordinary condition, as highways for commerce, over which trade and travel are or may be conducted in the customary modes of trade and travel on water; and further that navigability does not depend on the particular mode in which such use is or may be had--whether by steamboats, sailing vessels or flatboats--nor on an absence of occasional difficulties in navigation, but on the fact, if it be a fact, that the [water] in its natural and ordinary condition affords a channel for useful commerce.

270 U.S. at 55-56.

The Commission also considered the following definitions contained in A.R.S. § 37-1101 to assist it in determining whether this 33-mile reach of the Virgin River in Mohave County was navigable at statehood.

11. "Watercourse" means the main body or a portion or reach of any lake, river, creek, stream, wash, arroyo, channel or other body of water. Watercourse does not include a man-made water conveyance system described in paragraph 4 of this section, except to the extent that the system encompasses lands that were part of a natural watercourse as of February 14, 1912.

5. "Navigable" or "navigable watercourse" means a watercourse that was in existence on February 14, 1912, and at that time was used or was susceptible to being used, in its ordinary and natural condition, as a highway for commerce, over which trade and travel were or could have been conducted in the customary modes of trade and travel on water.

3. "Highway for commerce" means a corridor or conduit within which the exchange of goods, commodities or property or the transportation of persons may be conducted.

2. "Bed" means the land lying between the ordinary high watermarks of a watercourse.

6. "Ordinary high watermark" means the line on the banks of a watercourse established by fluctuations of water and indicated by physical characteristics, such as a clear natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial

vegetation or the presence of litter and debris, or by other appropriate means that consider the characteristics of the surrounding areas. Ordinary high watermark does not mean the line reached by unusual floods.

8. "Public trust land" means the portion of the bed of a watercourse that is located in this state and that is determined to have been a navigable watercourse as of February 14, 1912. Public trust land does not include land held by this state pursuant to any other trust.

Thus, the State of Arizona in its current statutes follows the Federal test for determining navigability and the Commission has followed the statutes in its proceedings..

VII. EVIDENCE RECEIVED AND CONSIDERED BY THE COMMISSION

Pursuant to A.R.S. § 37-1123, and other provisions of Title 37, Chapter 7, Arizona Revised Statutes, the Commission received, compiled, and reviewed evidence and records regarding the navigability and nonnavigability of the Virgin River from the Utah border to the Nevada border. Evidence consisting of studies, written documents, maps, newspapers and other historical accounts, pictures and testimony were submitted. There were ten (10) separate documentary filings, the most comprehensive of which was the Final Report on the Arizona Stream Navigability Study for the Virgin River in Arizona dated December 1998, prepared by JE Fuller/Hydrology and Geomorphology, Inc., SWCA Environmental Consultants, Inc., and Water Resources Research Center of the University of Arizona, all under contract with the Arizona State Land Department. This study was updated in June 2004 by JE Fuller/Hydrology and Geomorphology, Inc. Documents were also submitted by the State of Nevada Department of Museums, Library and Arts, Nevada State Library and Archives, on the administrative history of the Colorado River Commission of Nevada and information from the Division of Water Resources of the Department of Conservation and Natural Resources of Nevada on the legislative history of actions taken by the legislature of Nevada declaring the Virgin River in Nevada navigable. Also, the Commission staff prepared a report authored by George Mehnert, Director of ANSAC. A legal

memorandum on the issue of navigability of the Virgin River as found by the legislature of Nevada was prepared by ANSAC's counsel and presented to the Commission. A report on the water resource of the Virgin River basin was submitted by the Arizona Department of Water Resources. The Commission also considered documents and papers submitted in connection with the hearings on small and minor watercourses in Mohave County, the State of Utah and the State of Nevada insofar as they pertain to the issue of navigability of the Virgin River. The list of evidence and records, together with a summarization is attached as Exhibit "D".

A public hearing was held on August 8, 2005, at Kingman, Arizona, in Mohave County, for the public to present testimony and evidence on the issue of navigability of the Virgin River. A number of individuals appeared at the hearing in Kingman and gave testimony. A public hearing was also held on October 20, 2005, in Phoenix, Arizona, to consider the evidence submitted and the post-hearing memoranda filed. The minutes of these hearings are attached hereto as Exhibit "E."

A. Prehistoric Conditions on the Virgin River Watershed

Archeological studies of the Virgin River Valley have documented nearly 9,000 to 11,000 years of human use of the area. Evidence of paleoindian occupation in the Virgin River country of Arizona is very sparse and consisted only of surface finds of lithic tools.⁵ A Clovis projectile point which was found just south of the Virgin River in the Arizona Strip country suggests that the paleoindian tradition may have persisted in this area until 5500 B.C. No paleoindian-age sites have been excavated, and some archaeologists feel that the Virgin River Valley may be the demarcation or boundary between the Llano Complex (Clovis and Folsom) traditions of the great plains and the "Western Pluvial Tradition" of Lake Mohave and Silver Lake phases. Surface finds of

⁵ The paleoindian period is generally considered to be between 9500 B.C. or 11500 B.P. (Before Present) to approximately 6,000 to 8,000 B.P. when the Archaic period is deemed to have commenced.

distinctive transverse oblique-flaked lanceolate-shaped blades may be representative of late paleoindian/early Archaic transition occupation.

The Archaic period represents a shift from reliance on hunting of the pleistocene megafauna to a subsistence regimen based on hunting more modern animal species and gathering wild plants. This period which precedes the introduction of ceramics and cultivated plant species is generally regarded as the time when aboriginal people became increasingly familiar with regionally available holocene resources as reflected in the emergence of regional traditions of flint napping, rock art styles and basket making. Archaeologists have utilized different names for various Archaic traditions which lasted over a long period of time, and the more familiar are the Desert Culture, the North Colorado Plateau Tradition and the Pecos Tradition. Desert Culture peoples practiced the foraging way of life and, although sometimes called the Cochise Tradition, seem to have developed into the more familiar pre-Columbian Indian traditions in the southwest such as Hohokam and Mogollon. The Pecos Tradition was the most recent of the Archaic traditions and is believed to be ancestral to the later Formative cultures such as the Anasazi. The Archaic way of life persisted in parts of northern and western Arizona and the Great Basin while Formative cultures developed elsewhere in the southwest.

The Formative period is thought to have commenced around 600 B.C. with a transition from a hunting gathering economy to agriculture villages and ceramics. It started with the use of baskets, and pottery or ceramics were developed later. The three major Formative cultures developed in the southwest are identified as Anasazi, Mogollon and Hohokam and they are distinguished by differences in architecture, burial customs, flagstone and groundstone tools and pottery. The Anasazi territory included much of the northern plateau from southern Nevada across southern Utah and northern Arizona to southwestern Colorado and the northwestern quarter of New

Mexico. The Anasazi culture itself is divided into different traditions such as Mesa Verde, Chaco, Kayenta and others. The Anasazi living in the Moapa Valley of Nevada and the Virgin River country of northern Arizona and southern Utah were originally felt to be a branch of the Kayenta culture, but most archaeologists have now determined that a separate Nevada/Virgin/Western Anasazi tradition should be used to describe these people. The Anasazi traditions are further subdivided into phases based upon the development of each individual tradition. These are the Basketmaker II and III and the Pueblo I-V, the higher numbers being considered more culturally developed. The Virgin Anasazi are generally considered to have developed slower than other Anasazi traditions, but by 700 A.D. had developed the lost city complex in Nevada near the Arizona border and somewhat later settled in the "Old Fort" ruin area near Littlefield, Arizona. Other sites have been found in the Virgin Gorge and elsewhere, primarily due to excavations associated with the construction of Interstate Highway 15. There is little archeological evidence that the Virgin Anasazi irrigated their fields, but early Mormon settlers in the Littlefield and Moapa Valley areas told stories of prehistoric irrigation ditches which are believed to have been utilized by these early Anasazi for irrigated farming. There is no evidence that the pre-Columbian cultures utilized the Virgin River for travel by boat or floating of logs.

The period from A.D. 1300 to 1500 involved major changes in the cultural landscape of the southwest. The Anasazi communities decreased in number but grew in size, with many long settled regions abandoned in favor of a few selected locations that had better access to water and more favorable climatic conditions. This period is marked in the Virgin River area with innovative new pottery technology and apparent interaction with peoples living on the Pacific Coast and the great plains. It is believed that this period saw the beginning of the development of a new religion, the Katsina Cult. Also, after A.D. 1000, there appears to have been a region-wide migration, with

the southern Paiute moving from California and Nevada into the Virgin River and southern Utah country. It appears the southern Paiute and Anasazi were co-resident in some areas, but others argue that the southern Paiutes arrived shortly after the Anasazi departed the region due to a very substantial drought. The Paiute claim to have been descended from the Anasazi. Although rejected by most archaeologists, this hypothesis has not been investigated sufficiently.

There is no evidence in the archeological record that would indicate that any of the prehistoric cultures located in the study area along the Virgin River used the Virgin River or its tributary as a means of transportation by boat or other watercraft and there has been no documented use of the river for commercial trade or travel or for regular floatation of logs. All travel along the Virgin River during this period was by foot. The prehistoric Indians did not have horses, mules or oxen.

B. Historic Development of the Virgin River Watershed

Although Coronado explored much of the American southwest in his famous expedition of 1539-40, and one of his officers by the name of Tovar visited the Hopi villages and went to the southern edge of the Grand Canyon, there is no recorded Spanish exploration of the Virgin River watershed until 1776. In that year, Fray Silvestre Velez de Escalante and Fray Francisco Atanasio Dominguez led an exploration party from Santa Fe as far north as the Great Salt Lake and returned to the south through present-day St. George and the Virgin River watershed, then turned east and returned to Santa Fe, crossing the Colorado near Page, Arizona, at a place subsequently named "Crossing of the Fathers." Their only lasting impact was the introduction of horses to the area and possibly the introduction of wheat as a crop. There was no other Spanish exploration and no Spanish missions were established in this area.

The first Anglos to explore the area were the beaver trappers and mountainmen of the 1820's and 1830's. Jedediah Smith came down the Virgin River in 1826 and 1827,

followed in later years by George Yount, William Wolfskill and others. The trailblazing efforts of these men set the stage for travel in 1849 to the gold fields of California, which in later years became the main route from Salt Lake City to Los Angeles. The route was called the Old Spanish Trail because portions of it were followed by Escalante. One of the advantages of this trail was the ready water furnished by the Virgin River and the good stopping or camping points near Beaver Dam Wash and what is now Littlefield, Arizona.

In 1846 war broke out between Mexico and the United States which ended with the Treaty of Guadalupe Hidalgo in 1848 and the cession of the American southwest, including Utah and the Virgin River area to the United States. After the war, the United States sent many military-led surveying expeditions to map and survey the newly acquired territory. The only one that traveled down the Virgin River was led by Colonel John Fremont in May of 1854. He noted that the wagons encountered great difficulty in crossing the Virgin River because of sand, including quicksand, and water. A review of the historic documentation indicates that while the river valley was a corridor of traffic, all travel was accomplished by foot, horseback and wagon, and crossing the Virgin River was generally considered an obstacle.

Under the leadership of Brigham Young in 1847, the first Mormons arrived in the Great Salt Lake Valley where they hoped to live as they pleased, avoiding the religious persecution they had faced in Ohio, Illinois, Missouri and other eastern states. They immediately began to settle the State of Utah in a systematic manner. Originally the Mormons intended to establish the state of Deseret, which would have included present-day Utah, Nevada, southern California, parts of southern Idaho and Wyoming, eastern Colorado, and Arizona north of the Gila River. They believed that if the Texans could defeat Mexico and win independence, so could they, but the Treaty of Guadalupe Hidalgo made the United States the sovereign with whom they would have to deal.

After a great deal of discussion, and even some confrontation, the Mormons acknowledged that Utah was a part of the United States. It first became a territory in 1850 and later was admitted to statehood in 1896.

In 1849, when gold was discovered in California, the Mormons were able to capitalize on the needs of many people passing through Utah on their way to California by providing food, blacksmith services, etc. Also, in 1850, the Mormons began to explore and settle in southwestern Utah and northwestern Arizona, including the Virgin River watershed. That year John D. Lee created a settlement with fifteen men and their families at a place he named New Harmony on a tributary of the Virgin River. This settlement was followed by other settlements on the Virgin River itself, such as Leavittville, Beaver Dam, Mesquite, Bunkerville, and later Littlefield, Arizona. One of the more adventurous Mormon explorers was Jacob Hamblin who explored areas in northern Arizona and made frequent trips from southern Utah into Arizona. He located good areas for crossing the Colorado River and established relationships with the Ute, Hopi and Navajo Indians. He is the only person of record to attempt to navigate the Virgin River in historic times. In February of 1865, he set out by boat from St. George, Utah, with the intent of determining whether or not the Virgin River was navigable to the Colorado River. Apparently, he did float down into Arizona and the Virgin River canyon or gorge but, due to the low volume of flow, the boat had to be abandoned about five miles after entering the canyon, and the party went on foot to their destination.

Many areas along the Virgin River were settled and irrigated, but floods would frequently wash out diversion dams, ditches and fields, and a number of settlements were abandoned. During the Civil War when cotton supplies were severely limited, the elders of the church decided to develop cotton as a major cash crop in the Virgin River area. For this reason, the southwestern portion of Utah, including the Virgin River

Valley, became known as "Dixie." The early settlers reported that the quality of the water in the river was proverbially bad for many uses other than agriculture as it was loaded with silt and minerals, including sulfur from hot springs in the Virgin River Canyon. In most of the farming communities, alternative drinking water supplies were available from springs in the nearby hills and the river water itself was not used for drinking.

Besides cotton, the early settlers attempted to get into the silk making business by planting dozens of mulberry trees to provide food for silk worms. Grapes were also grown and there was a small wine making industry. Today grapes are cultivated in the Mesquite-Littlefield area, but are used primarily to make raisins. Other crops grown in the area at that time and which continue to this day, are alfalfa, melons, squash, sorghum, vegetables, and a variety of orchard crops. The cherries, peaches and apricots from the Virgin River country are famous throughout the southwest. The mining camps mostly in Nevada and Utah offered opportunities for the settlers to sell all types of crops, particularly fruits and vegetables. Today hay is a crop most often grown commercially and is used to make hay pellets for export.

Cows, goats and chickens were also introduced by the Mormon settlers for their own use to provide milk, meat, poultry and eggs. In the more arid areas away from the river, ranching of both cattle and sheep was far more profitable than farming and some respectable ranches were established in the area and especially in the Arizona Strip country north of the Grand Canyon. In 1870, Erastus Snow organized the Canaan Stock Company in Pipe Spring, a ranch which is reputed to have a herd of over 4,000 cattle.

Many prospectors tried their luck in the Virgin River watershed, but few were successful. There were no profitable mining operations located in the Arizona portion of the Virgin River. Two communities were established in Arizona -- Littlefield and Beaver Dam -- although Littlefield is the only one that survived. Just across the border

in Nevada, the town of Mesquite is a successful ongoing community. Bunkerville is located a few miles southwest of Mesquite. Upstream, in southwestern Utah, is the relatively large city of St. George (where a Mormon Temple is located), as well as the smaller towns of Santa Clara, Washington and Hurricane.

The amount of irrigable land around Littlefield was rather limited and the community never grew beyond a population of approximately 100 people. Another problem was the frequent floods that would wash out their irrigation ditches, but the settlers kept the town going.⁶ Many attempts were made to dam the river but few were successful for any length of time due to the frequent floods. It was not until 1955 that a permanent dam that was able to stand up to the punishing floods was built on the Virgin River just above Mesquite in Nevada.

The historic descriptions of travel along the river refer to its difficulty. Other than the attempt by Jacob Hamblin, no one tried to navigate the river, but the river valley has been a corridor of travel from the time of Jedediah Smith in 1826 to the present. Historical accounts describe crossing the river as dangerous due to quicksand and the unexpected high water or floods that occur during spring and summer runoff. Since statehood in recent years, a number of individuals have floated down the Virgin River for recreational purposes, and the Bureau of Land Management estimates that 50-200 boaters per year float down the river. This can only be done for four to six weeks of the year and typically only every three or four years.

Although the Virgin River is considered a perennial stream, there are numerous reports that during the dry season, no water flows in the central and lower divisions of

⁶ While the river provided the necessary water for agriculture, it also destroyed the works of many settlers through devastating floods. The Mormon diaries are punctuated with stories of great floods which seemed to come with little warning and devastate fields, dams, homes and roads. Some communities were abandoned after just one flood, but others were rebuilt several times, sometimes on higher land nearby. (Final Report on the Arizona Stream Navigability Study for the Virgin River of Arizona prepared by JE Fuller/Hydrology & Geomorphology, Inc., Water Resources Research Center, December 1998, p. 48, updated June 2004, p. 42)

the river, which includes much of the Arizona portion of the river. Except in the Virgin River gorge, even when the river does flow in a normal fashion, it is wide and very shallow. Because of quicksand, the Virgin River was generally considered an obstacle to travel by those who tried to follow the riverbed. Most early travelers preferred an alternative overland route away from the actual riverbed. There is very little scientific data to document specific conditions of high or low water flow along the Virgin River prior to and at the time of statehood. See Section C. Geology, Geomorphology and Hydrology, p. 29. The Littlefield gauge on the Virgin River was established in 1929 and is the only reliable record of flow of the Virgin River through Arizona. This gauge shows that between 1930 and 1997, the average annual mean flow was 242 cfs, with the lowest annual mean flow of 100 cfs and the highest annual mean flow of 697 cfs. During this period of time, there was a flood that peaked at 61,000 cfs and a daily mean flow during this flood season of 17,000 cfs. The average depth of the river with a normal flow was only 0.8 feet to 1.3 feet in the Littlefield sector. While certain canoes, kayaks and rafts could float on the river with a normal flow, the flows are not constant and the river could not be considered as truly navigable. None of the usual craft used on rivers could have navigated the river at or about the time of statehood or the years prior thereto. Tree ring studies show that Arizona's climate at statehood and prior thereto was not drastically different from the existing or present day conditions.

The Virgin River is not listed in the Rivers and Harbors Act of 1899. 33 U.S.C. § 401-467(e). The customary mode of transportation in the region of the Virgin River was not and never has been by boat. Prior to and at the time of statehood, travel was by foot, horseback and wagon. At the time of statehood and immediately thereafter, trucks and automobiles were also used as the road system was expanded and improved.

C. Geology, Geomorphology and Hydrology

The Virgin River flows for 33 miles through the extreme northwest corner of the State of Arizona in Mohave County. It is a part of the Colorado Plateau Province, which extends south to the central mountain region of Arizona and north into Utah and Nevada. From the beginnings of the Paleozoic Era to the end of the Mesozoic – 570 million to 65 million years ago, this area was essentially a low-lying plain sometimes submerged under the sea, at other times, a flood plain crossed by sluggish rivers, and on occasion, a desert with blowing sand dunes. During this time period, over 10,000 feet of sediment accumulated, rocks present today in the Grand Canyon and in Zion Canyon region to the north, and Black Mesa and Navajo Reservation to the east. Regional uplift of the entire area is thought to have occurred during the Laramide Orogeny in the late cretaceous and early tertiary period, 65 million to 75 million years ago. Volcanic activity in the area generally occurred starting approximately 29 million years before the present during the tertiary period.

The headwaters of the Virgin River are in the wilderness mountain area above Zion Canyon in the formations that were laid down in the Mesozoic periods – 65 million to 225 million years ago. The river flows in a southwesterly direction near Washington and St. George, Utah, through some very fertile farmland. It crosses into Arizona and flows for 33 miles from the Utah border to the Nevada border. There are two distinct segments contained in this 33-mile reach; the Gorge segment and the Littlefield segment. Soon after crossing the Utah border into Arizona, the Virgin River flows into a deep gorge in the Virgin Mountains. This gorge segment is approximately 16 miles in length and is characterized by steep, narrow canyon walls with some rapids and riffles. The channel slope is about 28 feet per mile (0.5%). Approximately 4 miles upstream of the town of Littlefield, Arizona, the gorge ends and the Littlefield segment begins. The Littlefield segment is approximately 17 miles in length and passes through

the town of Littlefield, Arizona from which it gets its name. This segment is a wider valley consisting of a meandering sand bed channel. The flood plain is from 100's to 1,000's of feet wide through this reach to the Nevada border. The river is bounded in this segment by agricultural development associated with the towns of Littlefield, Arizona, and Mesquite, Nevada. The average channel slope of this segment is also approximately 28 feet per mile (0.5%).

Just prior to statehood, and before that, the Virgin River was described as a perennial stream and was thought to flow the year round, although the flow varied from very low, sometimes less than 100 cubic feet per second (cfs) and was sometimes dry in certain places, to periodic floods, which flow could be as high as 12,000 to 15,000 cfs. The early Mormon settlers in the Virgin River Valley around Littlefield and other settlements that were established farmed the area and irrigated the crops. They would build diversion dams of cottonwood logs and rock, but the floods, when they came, would invariably take out the dams, requiring them to be rebuilt. The nature of the terrain in the Virgin River Valley, as well as obstacles such as dams, would cause the floods to flow over farmland and orchards, and sometimes even flooding houses. The other characteristic noted by the early settlers was that there was quicksand in the riverbeds, which made the Virgin River an obstacle and very difficult to cross or travel down it. The river itself could be described as erratic, unstable and unpredictable in its disposition and sometimes even quite hazardous.

The climate within the study area has not changed significantly in historic times. It does vary significantly with elevation. The Arizona portion of the river is characterized by hot, semi-arid desert conditions, while more temperate conditions exist in the higher elevations on the upper watershed in Utah, which supports stands of pine and aspen forests. The average annual precipitation at Littlefield, Arizona, located approximately midway along the Arizona portion of the river, is approximately

7 inches per year. However, annual precipitation can increase up to 35 inches per year in the higher elevations in Utah. The contributing watershed at Littlefield, Arizona, is 5,090 square miles. The only major tributary to the Virgin River within the Arizona reach is the Beaver Dam Wash, which has a drainage area of 579 square miles and meets the Virgin River near Littlefield, Arizona. Stream flow data for the Virgin River is available from a number of U.S. Geological gauging stations, however, only the Littlefield gauge is located within the Arizona reach of the river and it has been in continuous operation since October of 1929. Very little data exists to document specific flow conditions of the Virgin River in Arizona at the time of statehood in February of 1912. The nearest stream flow available as of that time comes from a U.S. Geological survey stream gauge station on the Virgin River at Virgin, Utah. Stream flow data for that gauge shows a mean daily discharge in 1912 of between 113 and 134 cfs. Extrapolating the flow rates downstream and considering the additional water shed area and the U.S.G.S. stream gauge measurements at Littlefield in 1929, an estimate can be arrived at that at statehood, the stream flow at Littlefield, Arizona, would be between 100 and 450 cfs. Using the actual stream flow figures from the Littlefield gauging station for the 67-year period between 1930 and 1997 shows an average mean flow of 242 cfs. This calculation takes into consideration annual floods with a mean flow of 15,000 to 17,000 cfs and one very large flood of 61,000 cfs. These do correspond with the figures from the flow station at Virgin, Utah, which being upstream are somewhat lower. Indirect estimates of flow conditions have been made using dendrochronology (tree ring chronology) for the purpose of reconstructing climatic conditions between 966 A.D. and 1965 A.D. The results of these climate reconstructions indicate a fairly consistent range of annual discharges for the period 1850 to 1950, with an average at 262 cfs. From approximately 1402 A.D. to 1850 A.D., the reconstruction shows a lower range of flow rates with an average flow rate on the order of 221 cfs.

Due to the containment of the riverbed by bedrock in the Virgin River Gorge, the river is probably deeper than in the alluvial plain of the Littlefield reach of the river, but more dangerous due to riffles, rapids and other obstacles. Comparison of the average monthly stream flows with conditions required for various types of boating indicate that opportunities for boating are extremely limited in both reaches of the Virgin River, with a boating season for recreational purposes only, typically only 4 to 6 weeks in length when boating conditions do occur, which is typically 3 out of every 4 years.

Nearly all of the historical references of the river in the Littlefield segment include descriptions of shifting sand bed and/or quicksand in the channel. The historical references relating to boating on the Virgin River suggest that it was not feasible in the pre-statehood period. An article in the Deseret News in February of 1865 recounts a boat trip on the Virgin River by Jacob Hamlin, an early Mormon settler, guide and interpreter. The boat was launched at St. George in water that was 15 yards wide and from 6 to 8 inches deep. The article states that after gliding easily for about 2 miles, the boat entered the narrow canyon estimated to be 15 miles in length. The party had to leave the boat about 5 miles after entering the canyon and carried their bedding and provisions, crossing and recrossing the water a great many times. This account of pre-statehood boating on the Virgin River casts considerable doubt on its navigability at the time.

In modern times there has been some recreational boating, especially in the gorge segment, by persons using kayaks and rafts, probably of the rubber and neoprene type. One firm of commercial boating operators does provide recreational trips through the gorge between February and May if the average flow conditions allow the same. These float trips are strictly for recreational purposes to view the scenery and wildlife and for the excitement of running the rapids in the gorge, if they are available, and possibly fishing, but not for commercial purposes. The rafts do not carry any commercial goods

for transport or sale. The acknowledged definition of navigability, as set forth in *The Daniel Ball*, 77 U.S. (10 Wall.) 557 at 563, 19 L.Ed. 999 (1870), states:

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 condition, as highways for commerce over which trade and travel are or may be conducted in the customary modes of trade and travel on water. (emphasis added)

Arizona has codified *The Daniel Ball* definition in A.R.S. § 37-1101(5), which defines “navigable” or “navigable watercourse” as:

A watercourse that was in existence on February 14, 1912, and at that time was used or was susceptible to being used, in its ordinary and natural condition, as a highway for commerce, over which trade and travel were or could have been conducted in the customary mode of trade and travel on water. (emphasis added)

“Highway for commerce” is defined as “a corridor or conduit within which the exchange of goods, commodities or property or the transportation of persons may be conducted.” A.R.S. § 37-1101(3).

In *The Daniel Ball* case, the U.S. Supreme Court held that Grand River was navigable because it supported the passage of a steamer that carried 123 tons of merchandise and passengers both upstream and downstream. 77 U.S. at 564-65.

Following the decision in *The Daniel Ball*, the Supreme Court premised its navigability decisions based upon whether the watercourse was used as a “highway for commerce” or was susceptible for such use. For example, evidence of using boats on a watercourse in the fur trade, in the ranching industry, and for the transportation of supplies, passengers, and freight have all satisfied the requirement of commercial activity under the federal test for navigability. See *Utah v. United States*, 403 U.S. 9, 11-12 (1971) (boats had been used on the Great Salt Lake to haul livestock in ranching business and other evidence indicated that boats were used to transport salt, passengers, freight, ore, and cedar posts); *Economic Light & Power Co. v. United States*, 256 U.S. 113, 117-18 (1921) (river was used extensively in the fur trade and for the

transportation of large amounts of supplies between Chicago and St. Louis using boats that could carry several tons); *The Montello*, 87 U.S. 430, 441-41 (1874) (finding the Fox River navigable where it had been used considerably in the fur trade and as a route for interstate commerce).

Thus, for a river to be considered navigable or susceptible of navigability, there must be a showing of commercial activity for the river to be used as a “highway for commerce” or susceptible to such use. *United States v. Utah*, 283 U.S. 64, 81-82 (1931) (portions of river held navigable where there was extensive evidence of various boats that carried passengers and supplies, in exploring, prospecting, surveying and mining operations, and for recreational purposes, both before and after Utah’s statehood). Likewise, the Ninth Circuit Federal Court of Appeals has found that commerce is a requisite to determining that a watercourse was susceptible to navigation as of statehood. *Alaska v. Ahtna, Inc.*, 891 F.2d 1401, 1405 (9th Cir. 1989). As the Ninth Circuit found, guided fishing and sightseeing tours for nearly twenty years was commercial activity where “[a] substantial industry of such transportation for profit emerged in the lower Gulkana, which industry today employs approximately 400 people.” *Id.*

In *United States v. Oregon*, 295 U.S. 1, 21 (1935), the Court found that five lakes were non-navigable because the only “boating which took place in the area involved no commercial aspects and was of such a character as to be no indication of navigability. Boating evidence was primarily limited to seasonal trapping and duck hunting. Other cases in which the courts have found no evidence that a watercourse was a “highway for commerce” are *Harrison v. Fite*, 148 F. 781, 784 (8th Cir. 1906) (“mere depth of water, without profitable utility, will not render a watercourse navigable in the legal sense . . . nor will the fact that it is sufficient for pleasure boating or to enable hunters or fishermen to float their skiffs or canoes”); *Monroe v. State*, 175 P.2d 759, 761 (Utah 1946) (no evidence that the lake was used for transportation of goods or that “it is likely ever

to develop as a valuable means of public commercial transportation"); *Proctor v. Sim*, 236 P. 114, 116 (Wash. 1925) (principal use of nonnavigable lake included recreational boating, fishing, swimming, and skating).

The only evidence submitted regarding boating on the Virgin River is one of recreational use, whether personal or commercial, in order to view the scenery and wildlife, enjoy the excitement of white water rapid running and perhaps do some recreational fishing, in late winter and spring. These facts do not satisfy the federal test for navigability or susceptibility of navigability.

D. Navigability Determinations in Utah and Nevada

The Virgin River in the State of Utah, upstream from the reach located in Arizona, has not been declared navigable. According to staff at the State of Utah Department of Natural Resources, the issue of navigability with regard to the Virgin River and other streams was the subject of a state review, probably sometime in the 1960's. The result of this review was that the State of Utah did not pursue claims of sovereignty over the Virgin River based on navigability.

The Virgin River in the State of Nevada, downstream from Arizona, has been declared by statute to be a navigable stream. This declaration is made pursuant to Nevada Revised Statutes § 537.020, which was adopted in 1921 and reads as follows:

537.020. Virgin River declared navigable; title to lands below high water mark held by state.

All of the Virgin River, including its sources confluent above St. Thomas, insofar as the waters thereof traverse the State of Nevada, particularly within the counties of Lincoln and Clark, is hereby declared to be a navigable stream for purposes of fixing ownership of the banks and bed thereof, and title to the lands below the high water mark thereof is held by the State of Nevada.

(1921, p. 163, CL 1929, § 7810.)

Although records were requested by the Arizona State Land Department and its contractors, the Nevada State Land Department was unsuccessful in finding any documentation explaining the history of the adoption of this statute.

In an effort to obtain more information on the position of the Nevada legislature and thus the State of Nevada as to the navigability of the Virgin River, the Commission directed that the staff conduct its own research project and report back to the Commission. The ANSAC Staff Report authored by George Mehnert, Director, relating the information he was able to obtain from various agencies and offices in the State of Nevada was submitted to the Commission and reviewed by it. Legal Counsel to the Commission also conducted a research project into the statutes and cases in Nevada bearing on this issue and submitted a legal memorandum that was considered by the Commission.

All of the information collected indicates that in the latter decades of the 19th Century, as well as the early part of the 20th Century, the issue of water availability and use was of primary importance in the State of Nevada as it no doubt was in Arizona. Nevada, also a desert state, approached the issue of title to streambeds and banks by navigability in a manner different than Arizona. It tied the bed and banks of the rivers and lakes and the water that flowed in them together. A possible precursor to N.R.S. § 537.020 was an act of the Legislature approved March 16, 1899 and codified as Section 354 of the Compiled Laws of Nevada Annotated (1900) which provided that:

Relative to Water Rights and Storage.

354. SECTION 1. All natural watercourses and natural lakes, and the waters thereof, which are not held in private ownership, belong to the state, and are subject to regulation and control by the state.

At the same time as N.R.S. § 573.020 relating to the Virgin River was adopted the Nevada Legislature also passed N.R.S. § 537.030 which declared Winnemucca Lake

navigable. These are the only bodies of water other than the Colorado River declared navigable by the Nevada Legislature.

In its decision in the case of State Engineer v. Cowles Brothers, Inc., 86 Nev. 872, 478 P.2d 159 (1970), the Supreme Court of Nevada held that N.R.S. § 537.030 did not overrule the common law doctrine of reliction and allowed adjacent landowners to enter upon the dried up bed of Winnemucca Lake to drill wells and use the lake bed for grazing and other agricultural purposes. In doing so the Nevada Court did not recognize that N.R.S. § 537.030 made a finding of navigability for title purposes for Winnemucca Lake as of October 31, 1864, when Nevada became a state.

In its decision in State v. Bunkowski, 88 Nev. 623, 503 P.2d 1231 (1972), the Supreme Court of Nevada dealt with the question of navigability of the Carson River which is not one of the watercourses listed in the Nevada Revised Statutes. In that decision, the Court held that the Carson River had been used to float logs and was ideally located geographically for such use and was therefore navigable as of statehood under the federal test for navigability. In response to the argument that the Carson River could not be navigable since it is not listed in the Nevada Revised Statutes, the Court stated:

Respondents assert in their answering brief that the list of legislative declared navigable waters in NRS Chapter 537 is exclusive and that since the Carson does not there appear, it is not navigable. First, as to the question of navigability, this court held in State Engineer v Cowles Bros., Inc., 86 Nev. 872, 876, 478 P.2d 159 (1970), that the issue of navigability is a judicial question, the "statement in the statutes therefore served no purpose." Accord, People v. Mack, 19 Cal.App.3d 1040, 97 Cal.Rptr. 448, 453 (1971). Second, Chapter 537 is not a complete list as it omits Lake Tahoe which was held navigable in Davis v. United States, 185 F.2d 938, 942-943 (9th Cir. 1950).

503 P.2d at 1238.

In view of the fact that the Supreme Court of Nevada does not recognize that N.R.S. § 537.020 is a binding finding of navigability of the Virgin River as of the date

Nevada became a state, the Commission does not feel bound by the act of the Nevada Legislature and further finds that Arizona can make its own findings of navigability or nonnavigability as to the section of the Virgin River which lies in Arizona.

VIII. SUMMARY AND CONCLUSION

The Commission conducted a "particularized assessment" of potential public trust claims on the part of the State of Arizona of the Virgin River as required by Arizona Revised Statutes § 37-1101 through § 37-1129 and *Center for Law v. Hassell, supra.* and in doing so considered all of the evidence available as to the issue of navigability, including archeology, of the Virgin River and prehistoric and pre-Columbian history and development of the Virgin River from the time Europeans first came into the area, the views and opinions of people who lived at or about the time Arizona became a state, the geology, geomorphology and hydrology of the Virgin River, the actual attempt at boating or use of the river as a highway for commerce over which trade and travel may be conducted in the customary modes of trade and travel over water.

There was no archeological evidence submitted that any of the prehistoric Indians made use of the Virgin River for purposes of transportation. They had no draft animals and all transportation or travel in the area prior to European explorers was by foot. In 1776, Sylvester Valez de Escalante and others led an exploring party from Santa Fe and traveled down the Virgin River but made no lasting impression or settlements. The first Anglos to explore the area were beaver trappers in the 1820's and 1830's led by Jedidiah Smith. From the 1820's the Virgin River was a part of the important exploration and transportation corridor reaching from Salt Lake to California and from Santa Fe to California. Beginning in the 1850's Mormon settlers occupied the area from the upper reaches of the Virgin River to the Colorado River establishing farms and orchards. None of these early explorers or settlers utilized the Virgin River for

transportation, but it was very useful for irrigation of the crops of these early settlers. Also, it provided a corridor for people wanting to go to California for the gold rush. The Virgin River was not listed in the Rivers and Harbors Act of 1899. The evidence presented to the Commission indicated that there were only a few attempts prior to statehood at boating on the Virgin River and there are no accounts of floating logs down the Virgin or its tributaries. The geomorphology and hydrology of the Virgin River indicates that a minimum flow of 100 cfs to 400 cfs is the amount usually found on the river and while at higher flows recreational boating through the gorge may be possible, the river, when it leaves the gorge, flows out onto a wide alluvial plain in the Littlefield segment, which is shifting sand and shallow and dangerous because of the quicksand on the river bed and not at all suitable for navigation. The periodic and seasonal floods do great damage to the farms and orchards until they were somewhat contained by small permanent dams built in 1955 above Mesquite and another in 1957 at Bunkerville. No opinions or evidence was submitted by anyone in support of the claim of navigability of the Virgin River.

In *The Daniel Ball*, *supra*, the Court stated that:

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 susceptible of being used in their ordinary condition as highways for commerce over which trade and travel are or may be conducted in the customary modes of trade and travel on water.

77 U.S. at 568. See also, *U.S. v. Holt Bank*, *supra*, and *Muckleshoot Indian Tribe v. FERC*, 993 F.2d 1428 (9th Cir. 1993). The evidence submitted to the Commission did not show that the Virgin River is navigable in fact under the federal test as set forth in *The Daniel Ball* and other U.S. Supreme Court decisions. Therefore, the Virgin River may not be considered as navigable in law nor is it susceptible of navigability as of the date of statehood.

IX. FINDINGS AND DETERMINATION

Based upon all of the historical and scientific data and information, documents and other evidence produced, including oral testimony, considered by the Commission, the Commission finds that the Virgin River from the Utah border to the Nevada border is erratic, unstable, undependable and unpredictable, characterized by periodic floods in its ordinary and natural condition. The flow of the Virgin River is also so low in its ordinary and natural condition that commercial transportation cannot be carried on it. While the gorge area may be used for recreational boating during certain times of the year, the Littlefield section has a configuration that would not be considered navigable or susceptible of navigability as of statehood.

Accordingly, the Commission finds that the Virgin River from the Utah border to the Nevada border was not navigable or susceptible of navigability or used or susceptible of use as a highway for commerce over which trade and travel was or may be conducted in the customary modes of trade and travel on water as of February 14, 1912.

DATED this 27 day of January 2009.




Earl Eisenhower, Chair

Dolly Echeverria, Vice Chair




James K. Henness, Member



Cecil Miller, Member

Jay Brashear, Member
Deceased September 15, 2007

STAFF MEMBERS:



George Mehnert
Executive Director



Curtis A. Jennings
Legal Counsel to the Commission

EXHIBIT A

AFFIDAVIT OF PUBLICATION

Kingman Daily Miner

3015 Stockton Hill Road, Kingman, AZ 86401

web: www.kingmandailyminer.com • e-mail: legals@kingmandailyminer.com

Phone (928) 753-6397, ext. 242 • Fax (928) 753-5661

"Serving Kingman since 1882"

STATE OF ARIZONA)
County of Mohave) ss.

I, **ULLI SCHNEIDER**, being first duly sworn on her oath says:
That she is the Legals Clerk of **THE KINGMAN DAILY MINER**
An Arizona corporation, which owns and publishes the Miner,
a Daily Newspaper published in the City of Kingman, County of Mohave,
Arizona; that the notice attached hereto, namely,

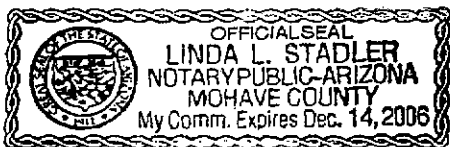
**Statement of Intent
No. 2119**

Has, to the personal knowledge of affiant, been published in the news-
paper aforesaid, according to law, from the **17 day of June, 2005**
to the **1st day of July, 2005**, inclusive without change, interruption or
omission, amounting in **3** insertions, made on the following dates:
06/17, 06/24, 07/01, 2005

By: Ulli Schneider
Legal Clerk, 1st Day of **July, 2005**

By: Linda L. Stadler
Notary Public

My commission expires: 12/14/2006



(2119)
STATEMENT OF INTENT
State of Arizona
Navigable Stream Adjudication Commission
Pursuant to A.R.S. §37-1101, et. seq., the Arizona Navigable Stream Adjudication Commission (ANSAC) is planning to hold watercourse navigability hearings regarding the major watercourses in Mohave County. Notice is hereby given, pursuant to A.R.S. §37-1123 (B), that ANSAC intends to receive, review, and consider evidence regarding the navigability or nonnavigability of the Big Sandy River, Bill Williams River, Burro Creek, Santa Maria River and Virgin River. Interested parties are requested to file all documentary evidence they propose to submit to ANSAC by August 9, 2005. All evidence submitted to ANSAC will be the property of ANSAC and the State of Arizona. Evidence submitted will be available for public inspection at the ANSAC offices during regular office hours.
An unbound original plus seven bound copies of documentary evidence is to be submitted. ANSAC offices are located at 1700 West Washington, Room 304, Phoenix, AZ 85007. The telephone number is (602) 542-9214. The web site address is <http://www.azstreambeds.com>. The e-mail address is streams@mindspring.com. The fax number is (602) 542-9220.
Individuals with disabilities who need a reasonable accommodation to communicate evidence to ANSAC, or who require this information in an alternate format may contact the ANSAC office at (602) 542-9214 to make their needs known.
6/17, 6/24, 7/1/2005
No.2119

EXHIBIT B

AFFIDAVIT OF PUBLICATION

Kingman Daily Miner

3015 Stockton Hill Road, Kingman, AZ 86401

web: www.kingmandailyminer.com • e-mail: legals@kingmandailyminer.com

Phone (928) 753-6397, ext. 242 • Fax (928) 753-5661

"Serving Kingman since 1882"

STATE OF ARIZONA)
County of Mohave) ss.

I, **ULLI SCHNEIDER**, being first duly sworn on her oath says:
That she is the Legals Clerk of **THE KINGMAN DAILY MINER**
An Arizona corporation, which owns and publishes the Miner,
a Daily Newspaper published in the City of Kingman, County of Mohave,
Arizona; that the notice attached hereto, namely,

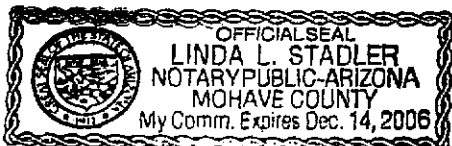
NOTICE OF PUBLIC HEARING
No 2212

Has, to the personal knowledge of affiant, been published in the news-
paper aforesaid, according to law, from the 7 day of **July, 2005**, to
the 7 day of **July, 2005**, inclusive without change, interruption or
omission, amounting in 1 insertion, made on the following date:
07/07, 2005

By: *Ulli Schneider*
Legal Clerk, 7th Day of **July, 2005**

By: *Linda L. Stadler*
Notary Public

My commission expires: 12/14/2006



(2212)
NOTICE OF PUBLIC HEARING
State of Arizona
Navigable Stream Adjudication
Commission

Pursuant to A.R.S. § 37-1126 (A), notice is hereby given that the Navigable Stream Adjudication Commission will hold public hearings to receive physical evidence and testimony relating to the navigability or non-navigability of the major watercourses in Mohave County. The hearings will be held in Mohave County on August 8, 2005 beginning at 2:00 p.m. in an order established by the chair in the Mohave County Supervisors' Conference Room located at 809 E. Beale St., Kingman, Arizona. The following are presently the only hearings scheduled.

The Big Sandy River, the Bill Williams River, Burro Creek, the Santa Maria River, and the Virgin River.

Interested parties may submit evidence to the commission office prior to the hearing and/or during the appropriate public hearing. The commission will conduct its hearings informally without adherence to judicial rules of procedure or evidence.

Evidence submitted in advance of the hearing will be available for public inspection during regular Commission office hours of 8:00 a.m. to 5:00 p.m., Monday thru Friday, except on holidays. The commission office is located at 1700 West Washington Street, Room 304, Phoenix, Arizona 85007. Please call first to review evidence at (602) 542-9214.

Individuals with disabilities who need a reasonable accommodation to communicate evidence to the commission, or who require this information in an alternate format may contact the commission office at (602) 542-9214 to make their needs known.

Published: July 7, 2005
No. 2212

THE ARIZONA REPUBLIC

NOTICE OF PUBLIC HEARING
 State of Arizona
 Navigable Stream
 Adjudication Commission

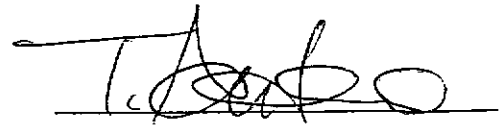
Pursuant to A.R.S. § 37-1126 (A), notice is hereby given that the Navigable Stream Adjudication Commission will hold public hearings to receive physical evidence and testimony relating to the navigability or non-navigability of the major watercourses in Mohave County. The hearings will be held in Mohave County on August 8, 2005 beginning at 2:00 p.m. in an order established by the chair in the Mohave County Supervisors' Conference Room located at 809 E. Beale St., Kingman, Arizona. The following are presently the only hearings scheduled: The Big Sandy River, the Bill Williams River, Burro Creek, the Santa Maria River, and the Virgin River. Interested parties may submit evidence to the commission office prior to the hearing and/or during the appropriate public hearing. The commission will conduct its hearings informally without adherence to judicial rules of procedure or evidence. Evidence submitted in advance of the hearing will be available for public inspection during regular Commission office hours of 8:00 a.m. to 5:00 p.m., Monday thru Friday, except on holidays. The commission office is located at 1700 West Washington Street, Room 304, Phoenix, Arizona 85007. Please call first to review evidence at (602) 542-9214. Individuals with disabilities who need a reasonable accommodation to communicate evidence to the commission, or who require this information in an alternate format may contact the commission office at (602) 542-9214 to make their needs known. George Mehnert, Executive Director, July 5, 2005. 05441-July 8, 2005

STATE OF ARIZONA }
 COUNTY OF MARICOPA } SS.

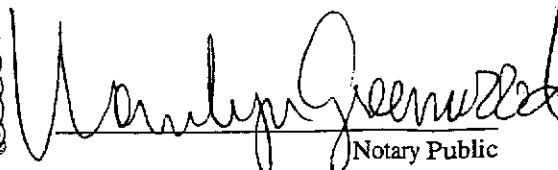
Tabitha Antoniadis, being first duly sworn, upon oath deposes and says: That she is a legal advertising representative of the Arizona Business Gazette, a newspaper of general circulation in the county of Maricopa, State of Arizona, published at Phoenix, Arizona, by Phoenix Newspapers Inc., which also publishes The Arizona Republic, and that the copy hereto attached is a true copy of the advertisement published in the said paper on the dates as indicated.

The Arizona Republic

July 8, 2005



Sworn to before me this
 8TH day of
 July A.D. 2005

Notary Public

EXHIBIT C

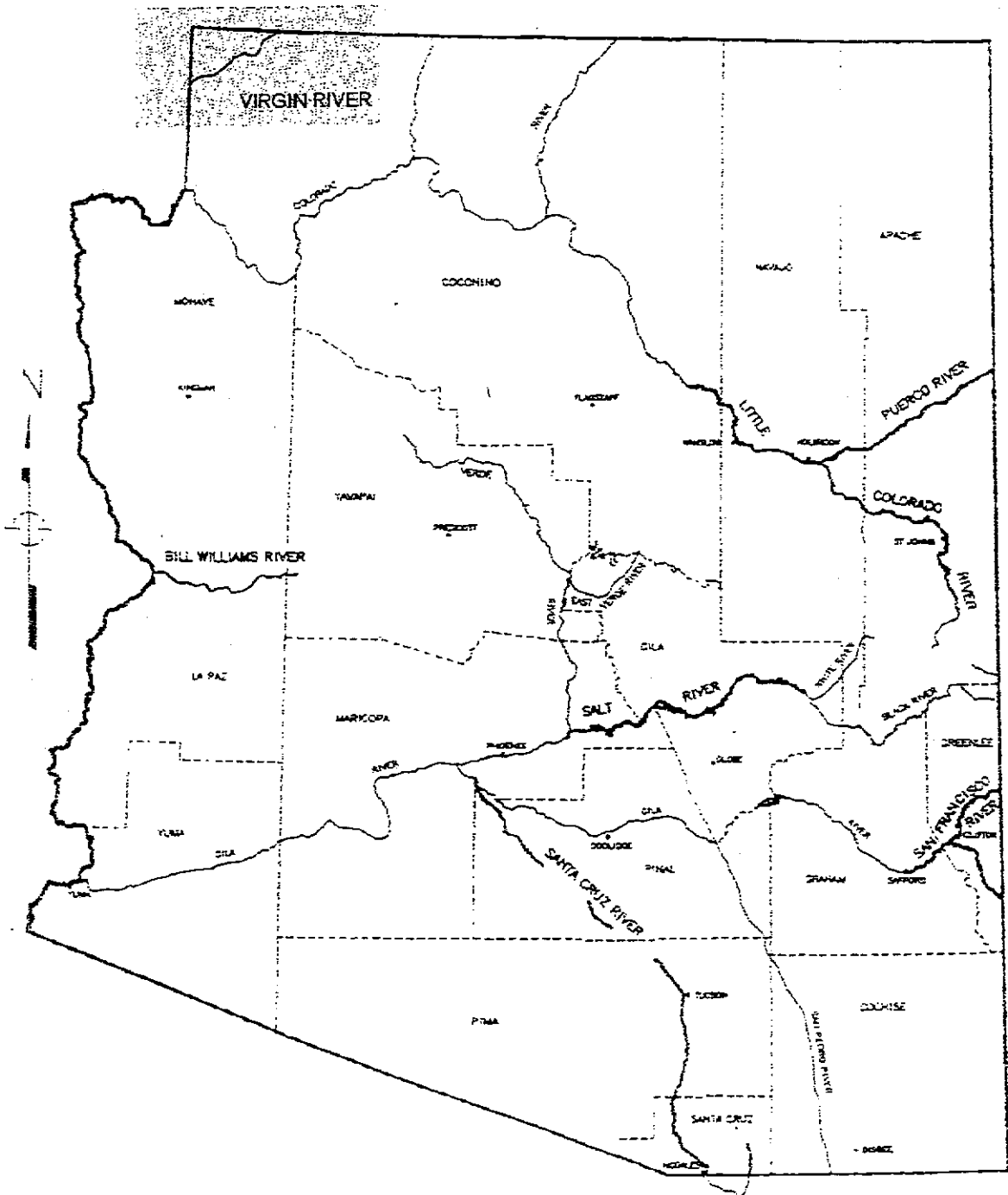


Figure 1.1: Virgin River Study Reach Location Map

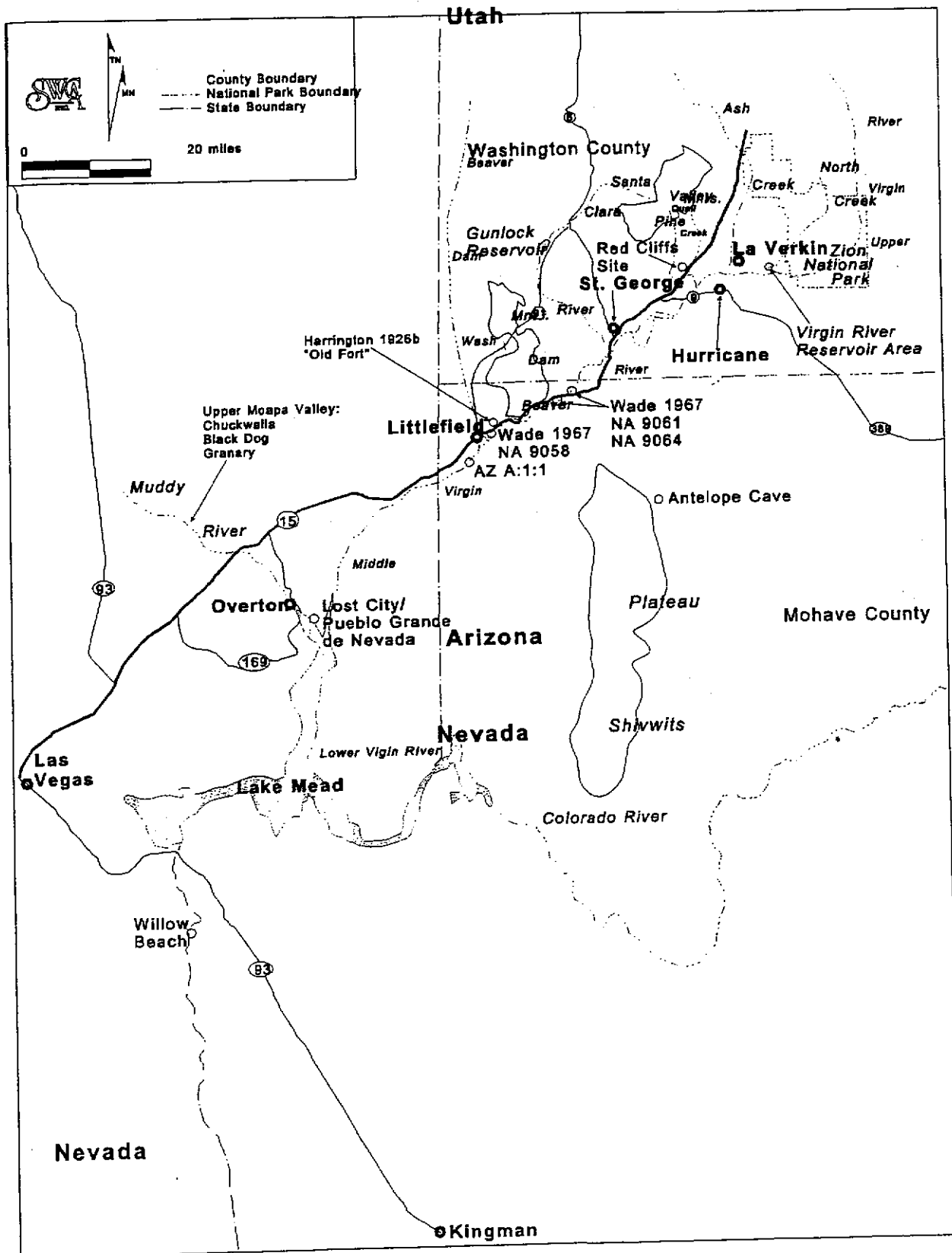
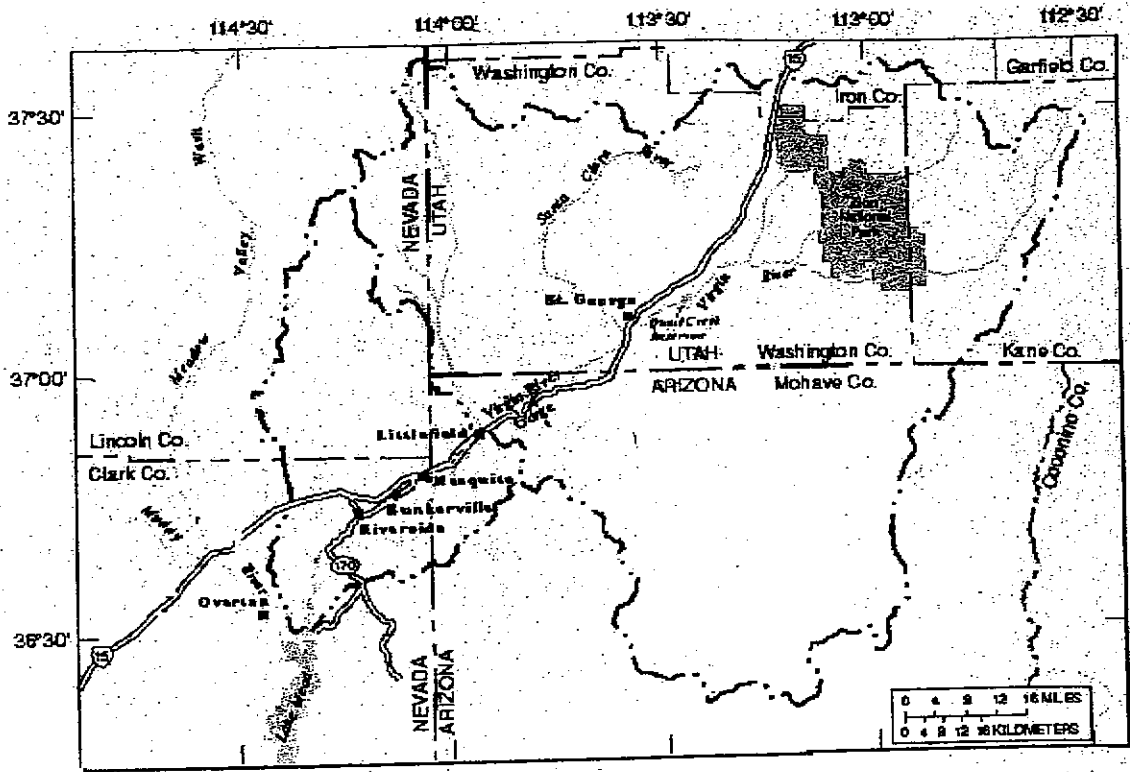


Figure 2.1 Archaeological Projects Near the Virgin River





- EXPLANATION**
-  Drainage area of Virgin River at Littlefield, Arizona, gaging station—Number 09415000
 -  Hydrographic-area boundary—From Rush (1988)

Figure 4.1: Location Map; Virgin River Watershed at Littlefield, Arizona
 (excerpted from USGS Water Resources Investigation Report 97-4073)

EXHIBIT D

Evidence Log

Hearing No. 05-013-NAV

Page No.

1

Arizona Navigable Stream Adjudication Commission

Virgin River, Mohave County
August 8, 2005

Item Number	Received Date	Source to ANSAC	Description	Entry By
1	2/18/97	David Baron ACLPI	Letter from David Baron dated February 18, 1997.	George Mehnert
2	9/19/97	James Braselton	Letter and maps.	George Mehnert
3	1/19/99	Land Department	Report by J. E. Fuller, etc.	George Mehnert
4	8/26/99	Commission Staff	Research Report.	George Mehnert
5	8/26/99	Commission Attorney	Legal Memorandum.	George Mehnert
6	8/26/99	Commission Attorney	Related to Item 5, Legal Memorandum. Cowles.	George Mehnert
7	8/26/99	Commission Attorney	Related to Item 5, Legal Memorandum. Bunkowski.	George Mehnert
8	8/26/99	Commission Attorney	Related to Item 5, Legal Memorandum. Peterson.	George Mehnert
9	7/11/04	Nancy Orr	Letter.	George Mehnert
10	7/14/05	Land Department	Report Revision, J.E. Fuller, etc.	George Mehnert

EXHIBIT E



STATE OF ARIZONA
NAVIGABLE STREAM ADJUDICATION COMMISSION

1700 West Washington, Room 304, Phoenix, Arizona 85007

Phone (602) 542-9214 FAX (602) 542-9220

JANET NAPOLITANO
Governor

E-mail: streams@mindspring.com Web Page: <http://www.azstreambeds.com>

GEORGE MEHNERT
Executive Director

MEETING MINUTES

Kingman, Arizona August 8, 2005

COMMISSION MEMBERS PRESENT

Jay Brashear, Earl Eisenhower, Jim Henness, and Cecil Miller.

COMMISSION MEMBERS ABSENT

Dolly Echeverria.

STAFF PRESENT

George Mehnert, and Commission Legal Counsel Curtis Jennings.

1. CALL TO ORDER.

Chair Eisenhower called the meeting to order at approximately 2:03 p.m.

2. ROLL CALL.

See above.

3. APPROVAL OF MINUTES (discussion and action).

July 14, 2005, Coconino County.

Motion by: Jim Henness Second by: Cecil Miller

Motion: To approve the minutes of July 14, 2005.

Vote: All aye.

4. Hearing regarding the navigability of the Big Sandy River 05-011-NAV.

Cheryl Doyle and Engineer Jon Fuller representing the State Land Department presented evidence regarding this watercourse. The Chairman stated the hearing on this matter was completed for the purpose of taking evidence.

5. Hearing regarding the navigability of the Bill Williams River 05-012-NAV.

Cheryl Doyle and Engineer Jon Fuller representing the State Land Department presented evidence regarding this watercourse. Also, a discussion took place regarding the Bill Williams, Colorado River Confluence and Mr. Fuller indicated the State Land Department was presently establishing boundaries along the Colorado River. Mr. Fuller indicated he would call engineering project manager Pat Deschamps this evening to determine whether she has yet studied the boundaries regarding the Colorado River in the Bill Williams Confluence area, and that he would report back to the commission tomorrow.

6. Hearing regarding the navigability of Burro Creek 05-003-NAV.

Cheryl Doyle and Engineer Jon Fuller representing the State Land Department presented evidence regarding this watercourse.

7. Hearing regarding the navigability of the Santa Maria River 05-005-NAV.

Cheryl Doyle and Engineer Jon Fuller representing the State Land Department presented evidence regarding this watercourse. Commissioner Brashear stated that he wanted mention made in the minutes that Mr. Fuller had made comments regarding boating and a potential for commercial boating on the Bill Williams River and its tributaries. The Chairman stated the hearing on this matter was completed for the purpose of taking evidence.

8. Hearing regarding the navigability of the Virgin River 05-013-NAV.

Cheryl Doyle and Engineer Jon Fuller representing the State Land Department presented evidence regarding this watercourse. The Chairman stated the hearing on this matter was completed for the purpose of taking evidence.

9. Call for Public Comment (comment sheets).

(Pursuant to Attorney General Opinion No. 199-006 [R99-002]. Public Comment: Consideration and discussion of comments and complaints from the public. Those wishing to address the Commission need not request permission in advance. Action taken as a result of public comment will be limited to directing staff to study the matter or rescheduling the matter for further consideration and decision at a later date.)

Assistant Attorney General Lori Hachtel spoke regarding the State Land Department's work relating to the boundaries of the Colorado River and stated that it is not likely information earlier requested by the Commission has been completed yet by the Land Department concerning the confluence of the Bill Williams River and the Colorado River.

10. Future Agenda Items and Establishment of Future Hearings and other Meetings.

11. ADJOURNMENT.

Motion by: Jay Brashear Second by: Jim Henness

Motion: To adjourn. Vote: All aye.

Meeting adjourned at approximately 3:04 p.m.

Respectfully submitted,



George Mehnert, Director

August 10, 2005



JANET NAPOLITANO
Governor

STATE OF ARIZONA
NAVIGABLE STREAM ADJUDICATION COMMISSION

1700 West Washington, Room 304, Phoenix, Arizona 85007

Phone (602) 542-9214 FAX (602) 542-9220

E-mail: streams@mindspring.com Web Page: <http://www.azstreambeds.com>

GEORGE MEHNERT
Executive Director

MEETING MINUTES

Phoenix, Arizona, October 20, 2005

COMMISSION MEMBERS PRESENT

Jay Brashear, Dolly Echeverria, Earl Eisenhower, Jim Henness.

COMMISSION MEMBERS ABSENT

Cecil Miller was absent, and Commissioner Henness had to leave early at approximately 11:45 a.m.

STAFF PRESENT

George Mehnert.

1. CALL TO ORDER.

Chair Eisenhower called the meeting to order at approximately 9:36 a.m.

2. ROLL CALL.

See Above.

3. APPROVAL OF MINUTES (discussion and action).

A. September 21, 2005, Maricopa County

Motion by: Jim Henness Second by: Earl Eisenhower

Motion: To accept minutes as submitted. Vote: All aye.

4. Jurisdiction regarding Roosevelt Lake, including motion entitled "SALT RIVER PROJECT'S MOTION FOR FINDING OF LACK OF STATUTORY SUBJECT MATTER JURISDICTION TO DETERMINE NAVIGABILILTY OF ROOSEVELT LAKE", and all other motions filed relating to this matter in both 04-008-NAV and 04-010-NAV (discussion and action).

The Office of the Attorney General, on behalf it their client the State Land Department filed a response to the original motion on October 20, 2005.

The Chair accepted the Attorney General response, continued the matter to a later meeting, and granted the Salt River Project's Attorney a week to reply to the Attorney General's response to the original motion.

5. Hearing regarding the navigability of the Upper Salt River, 04-008-NAV.

Persons who presented evidence or spoke regarding this matter: Jon Fuller, Dennis Gilpin, David Weedman, Stanley Schumm and Douglas Littlefield, Ph.D.

Also, attorneys Mark McGinnis and Rebecca Goldberg, Laurie A. Hachtel, John Ryley and Joe Sparks spoke or examined witnesses.

6. **Hearing regarding the navigability of the small and minor watercourses in Gila County, 04-010-NAV.** Persons who presented evidence or spoke regarding this matter: Jon Fuller.
7. **Adoption of the Commission report regarding the Pima County Small & Minor Watercourses (discussion and action).** The Chair continued this matter to a future meeting.
8. **Determination of the navigability of the Little Colorado River 05-007-NAV (discussion and action).**
 Motion by: Jay Brashear Second by: Dolly Echeverria
 Motion: The Little Colorado River was not navigable as of statehood. Vote:
 All aye.
9. **Determination of the navigability of the Big Sandy River 05-011-NAV (discussion and action).**
 Motion by: Dolly Echeverria Second by: Jay Brashear
 Motion: The Big Sandy River was not navigable as of statehood.
 Vote: All aye.
10. **Determination of the navigability of the Bill Williams River 05-012-NAV (discussion and action).**
 Motion by: Jay Brashear Second by: Dolly Echeverria
 Motion: The Bill Williams River was not navigable as of statehood.
 Vote: All aye.
11. **Determination of the navigability of Burro Creek 05-003-NAV (discussion and action).**
 Motion by: Dolly Echeverria Second by: Jay Brashear
 Motion: Burro Creek was not navigable as of statehood.
 Vote: All aye.
12. **Determination of the navigability of the Santa Maria River 05-005-NAV (discussion and action).**
 Motion by: Jay Brashear Second by: Dolly Echeverria
 Motion: The Santa Maria River was not navigable as of statehood.
 Vote: All aye.
13. **Determination of the navigability of the Virgin River 05-013-NAV (discussion and action).**
 Motion by: Jay Brashear Second by: Dolly Echeverria
 Motion: The Virgin River was not navigable as of statehood. Vote:
 All aye.
14. **Call for Public Comment (comment sheets).**
(Pursuant to Attorney General Opinion No. 199-006 [R99-002]. Public Comment: Consideration and discussion of comments and complaints from the public. Those wishing to address the Commission need not request permission in advance. Action

taken as a result of public comment will be limited to directing staff to study the matter or rescheduling the matter for further consideration and decision at a later date.)

15. **Future agenda items and establishment of future hearings and other meetings.**

16. **Commission budget and continuation.**

The Director and the Chair commented that the Commission is very weak insofar as budget is concerned and that the Commission will appreciate the support of everyone to continue the Commission for two additional so that it can complete its work.

17. **ADJOURNMENT.**

Motion by: Jay Brashear Second by: Dolly Echeverria

Motion: To adjourn.

Vote: All aye.

Meeting adjourned at approximately 1:55 p.m..

Respectfully submitted,



George Mehnert, Director

October 21, 2005



JANET NAPOLITANO
Governor

STATE OF ARIZONA
NAVIGABLE STREAM ADJUDICATION COMMISSION

1700 West Washington, Room 304, Phoenix, Arizona 85007
Phone (602) 542-9214 FAX (602) 542-9220

E-mail: streams@mindspring.com Web Page: <http://www.azstreambeds.com>

GEORGE MEHNERT
Executive Director

AGENDA AND NOTICE OF A PUBLIC HEARING TO BE HELD
October 20, 2005, at 9:30 a.m. in Phoenix, Arizona

Pursuant to A.R.S. §38-431.02, notice is hereby given that the Navigable Stream Adjudication Commission will hold a meeting open to the public at 9:30 a.m. on October 20, 2005 at the La Quinta Inn located at 2510 West Greenway Road, Phoenix, Arizona (Northeast corner of I-17 and West Greenway Road).

Pursuant to A.R.S. §38-431.03(A)(3), the Navigable Stream Adjudication Commission may vote to go into Executive Session for purposes of obtaining legal advice from the Commission's attorney on any matter listed on the agenda, or pursuant to A.R.S. §38-431.03(A) or for discussion of records exempt by law from public inspection on any matter listed on the agenda, or for personnel matters listed on the agenda.

Title 2 of the Americans with Disabilities Act (ADA) prohibits the Commission from discriminating on the basis of disability in its public meetings. Individuals with disabilities who need a reasonable accommodation to attend or communicate at the Commission's meeting, or who require this information in alternate format, may contact George Mehnert at (602) 542-9214 to make their needs known. Requests should be made as soon as possible so the Commission will have sufficient time to respond. For those individuals who have a hearing impairment, this Commission can be reached through the Arizona Relay Service at 1-800-367-8939 (TTY) or 1-800-842-4681 (Voice). The agenda for the meeting is as follows:

1. CALL TO ORDER.
2. Roll Call.
3. Approval of Minutes (discussion and action).
September 21, 2005, Maricopa County, Phoenix, Arizona.
4. Hearing regarding the navigability of the Upper Salt River, 04-008-NAV.
5. Hearing regarding the navigability of the small and minor watercourses in Gila County, 04-010-NAV.
6. Adoption of the Commission report regarding the Pima County Small & Minor Watercourses (discussion and action).
7. Call for Public Comment (comment sheets).
(Pursuant to Attorney General Opinion No. 199-006 [R99-002]. Public Comment: Consideration and discussion of comments and complaints from the public. Those wishing to address the Commission need not request permission in advance. Action taken as a result of public comment will be limited to directing staff to study the matter or rescheduling the matter for further consideration and decision at a later date.)
8. Future agenda items and establishment of future hearings and other meetings.
9. Commission budget and continuation.
10. ADJOURNMENT.

The chair reserves the right to alter the order of the agenda.

Dated this 19th day of September, 2005, George Mehnert, Director, Navigable Stream Adjudication Commission



JANET NAPOLITANO
Governor

STATE OF ARIZONA
NAVIGABLE STREAM ADJUDICATION COMMISSION

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GEORGE MEHNERT
Executive Director

AGENDA AND NOTICE OF A PUBLIC HEARING TO BE HELD

October 20, 2005, at 9:30 a.m. in Phoenix, Arizona

First Amended Agenda

Pursuant to A.R.S. §38-431.02, notice is hereby given that the Navigable Stream Adjudication Commission will hold a meeting open to the public at 9:30 a.m. on October 20, 2005 at the La Quinta Inn located at 2510 West Greenway Road, Phoenix, Arizona (Northeast corner of I-17 and West Greenway Road).

Pursuant to A.R.S. §38-431.03(A)(3), the Navigable Stream Adjudication Commission may vote to go into Executive Session for purposes of obtaining legal advice from the Commission's attorney on any matter listed on the agenda, or pursuant to A.R.S. §38-431.03(A) for discussion of records exempt by law from public inspection on any matter listed on the agenda, or for personnel matters listed on the agenda.

Title 2 of the Americans with Disabilities Act (ADA) prohibits the Commission from discriminating on the basis of disability in its public meetings. Individuals with disabilities who need a reasonable accommodation to attend or communicate at the Commission's meeting, or who require this information in alternate format, may contact George Mehnert at (602) 542-9214 to make their needs known. Requests should be made as soon as possible so the Commission will have sufficient time to respond. For those individuals who have a hearing impairment, this Commission can be reached through the Arizona Relay Service at 1-800-367-8939 (TTY) or 1-800-842-4681 (Voice). The agenda for the meeting is as follows:

1. CALL TO ORDER.
2. Roll Call.
3. Approval of Minutes (discussion and action). Minutes of September 21, 2005, Maricopa County.
4. Jurisdiction regarding Roosevelt Lake, including motion entitled "SALT RIVER PROJECT'S MOTION FOR FINDING OF LACK OF STATUTORY SUBJECT MATTER JURISDICTION TO DETERMINE NAVIGABILITY OF ROOSEVELT LAKE", and all other motions filed relating to this matter in both 04-008-NAV and 04-010-NAV (discussion and action).
5. Hearing regarding the navigability of the Upper Salt River, 04-008-NAV.
6. Hearing regarding the navigability of the small and minor watercourses in Gila County, 04-010-NAV.
7. Adoption of the Commission report regarding the Pima County Small & Minor Watercourses (discussion and action).
8. Determination of the navigability of the Little Colorado River 05-007-NAV (discussion and action).
9. Determination of the navigability of the Big Sandy River 05-011-NAV (discussion and action).
10. Determination of the navigability of the Bill Williams River 05-012-NAV (discussion and action).
11. Determination of the navigability of Burro Creek 05-003-NAV (discussion and action).
12. Determination of the navigability of the Santa Maria River 05-005-NAV (discussion and action).
13. Determination of the navigability of the Virgin River 05-013-NAV (discussion and action).
14. Call for Public Comment (comment sheets).
(Pursuant to Attorney General Opinion No. 199-006 [R99-002]. Public Comment: Consideration and discussion of comments and complaints from the public. Those wishing to address the Commission need not request permission in advance. Action taken as a result of public comment will be limited to directing staff to study the matter or rescheduling the matter for further consideration and decision at a later date.)
15. Future agenda items and establishment of future hearings and other meetings.
16. Commission budget and continuation.
17. ADJOURNMENT.

The chair reserves the right to alter the order of the agenda.

Dated this 6th day of October, 2005, George Mehnert, Director, Navigable Stream Adjudication Commission