

BEFORE THE
ARIZONA NAVIGABLE STREAM ADJUDICATION COMMISSION

IN THE MATTER OF THE
NAVIGABILITY OF SMALL AND
MINOR WATERCOURSES IN
MOHAVE COUNTY, ARIZONA,
EXCLUDING THE COLORADO
RIVER, VIRGIN RIVER, BILL
WILLIAMS RIVER, BIG SANDY
RIVER, SANTA MARIA RIVER AND
BURRO CREEK

**REPORT, FINDINGS AND DETERMINATION
REGARDING THE NAVIGABILITY OF SMALL AND
MINOR WATERCOURSES IN MOHAVE COUNTY, ARIZONA**

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 any small and minor watercourse in Mohave County, Arizona, excluding the Colorado River, Virgin River, Bill Williams River, Big Sandy River, Santa Maria River and Burro Creek, 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.

There are 5,145 documented small and minor watercourses in Mohave County. Of this number 4,905 are unnamed. All of these watercourses, both named and unnamed, are the subject of and included in this report. Excluded from this report is the Colorado River which was long ago determined to be navigable and serves as the boundary between Mohave County, Arizona, and the States of California and Nevada. Also excluded are the Virgin River, Bill Williams River, Big Sandy River, Santa Maria River, and Burro Creek, which are deemed to be major watercourses and are the subject of separate reports. Attached hereto as Exhibit "A" is a list of all of the small and minor watercourses in Mohave County, Arizona, both named and unnamed, covered by this report.

I. Procedure

On September 3, 2002, the Commission gave proper prior notice of its intent to study the issue of whether small and minor watercourses in Mohave County, Arizona, were navigable or nonnavigable for title purposes as of February 14, 1912, in accordance with A.R.S. § 37-1123B. A copy of the Notice of Intent to Study and Receive, Review and Consider Evidence on the issue of navigability of small and minor watercourses in Mohave County is attached hereto as Exhibit "B."

After collecting and documenting all reasonably available evidence received pursuant to the Notice of Intent to Study and to Receive, Review and Consider Evidence, the Commission scheduled a public hearing to receive additional evidence and testimony regarding the navigability or nonnavigability of small and minor watercourses located in Mohave County, Arizona. Public notice of this hearing was given by legal advertising on November 1, 2002, 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 December 9, 2002, in the City of Kingman, the county seat of Mohave County, since the law requires that such hearing be held in the county in which the watercourses being studied are located. Attached hereto as Exhibit "C" is a copy of the notice 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 December 9, 2002, all parties were advised that they could file post-hearing memoranda pursuant to Rule R12-17-108.01. A

post-hearing memorandum was filed by the Salt River Project Agricultural Improvement and Power District and the Salt River Valley Water Users' Association.

On March 12, 2003, at a public hearing in Bisbee, 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 all small and minor watercourses in Mohave County, Arizona, were nonnavigable as of February 14, 1912.

II. Mohave County, Arizona

Mohave County, Arizona, is located in the northwestern portion of the state and is approximately 13,480 square miles in land area. It borders the States of California and Nevada to the west, the State of Utah to the north, the counties of Coconino and Yavapai to the east, and La Paz County to the south. Mohave County lies within the following latitude and longitude ranges: latitude from 34° 12' 00" north to 37° 00' 00" north and longitude from 112° 32' 30" west to 114° 45' 00" west.

Mohave County is xeric in character located almost entirely within the Mohave Desert, with the Grand Canyon and Lake Mead cutting across its upper two-thirds. It has some desert mountains, mostly rocky with little foliage, but the higher mountains, such as Hualapai Peak southeast of Kingman and mountains north of the Grand Canyon in the strip area, are covered with ponderosa pine, pinion pine and other evergreens. The highest point in the county is Hualapai Peak in Hualapai Mountain

Park at 8417 feet above sea level. The lowest point is approximately 450 feet above sea level at the center of the Colorado River at the confluence with the Bill Williams River in the southwestern corner of the county. The average rainfall for Mohave County is 6 to 12 inches per annum with the higher rainfall in the mountainous areas.

The major population centers of Mohave County are the cities of Kingman (the county seat), Bullhead City and Lake Havasu City on the Colorado River. Small towns or settlements located in Mohave County are Littlefield, Golden Shores, Chloride, Oatman, Peach Springs and Wickieup. The major commercial industry of Mohave County is tourism and recreation, but there is some mining and farming in various areas. Interstate 40 is the main corridor of transportation east and west, and Highways 93 and 95 are the principal corridors running north and south. The main line of the Santa Fe Railroad also crosses the county from east to west, first following Old Highway 66 and then from Kingman to the Colorado River, following Interstate 40. Interstate 15 crosses the northeastern corner of the county connecting Las Vegas with Salt Lake City. Major areas of interest in Mohave County are the lower western end of the Grand Canyon, Lake Mead on the Colorado River which is backed up by Hoover Dam, Lake Mead National Recreation Area, Kaibab Indian Reservation, Hualapai Indian Reservation, Fort Mohave Indian Reservation, Davis Dam and Parker Dam, Alamo Dam and Alamo Lake State Park, and various wildlife refuge areas and wilderness areas.

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 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

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

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

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.

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 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 small and minor watercourses in Mohave County.

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 what watercourses were not navigable as of February 14, 1912.
2. Based only on evidence of navigability or nonnavigability, determine whether 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 all of the small and minor watercourses in Mohave County, Arizona and excludes the Colorado River, Virgin River, Bill Williams River, Big Sandy River, Santa Maria River, and Burro Creek. 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 small and minor watercourses 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.

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).

VI. Standard for Determining Navigability

The statutes 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. 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 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 small and minor watercourses in Mohave County are 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.

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.

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 small and minor watercourses located in Mohave County, Arizona. Evidence consisting of studies, written documents, newspapers and other historical accounts, pictures and testimony were submitted. A comprehensive study entitled "Final Report - Small & Minor Watercourses Analysis for Mohave County, Arizona" prepared by JE Fuller/Hydrology & Geomorphology, Inc. under supervision of the Arizona State Land Department, dated November 22, 2002, was reviewed and considered by the Commission. Various earlier

draft reports of this study were also reviewed and considered by the Commission. Also reviewed and considered by the Commission were documents submitted by the Arizona Center for Law in the Public Interest, the Central Arizona Paddlers Club (Dorothy Riddle), Chicago Title Insurance Company, the Arizona Stream Navigability Study for the Bill Williams River prepared by SFC Engineering Company in association with George V. Sabol Consulting Engineers, Inc., JE Fuller/Hydrology & Geomorphology, Inc., SWCA, Inc. Environmental Consultants and the Arizona Geological Survey, the Arizona Stream Navigability Study for the Virgin River prepared by JE Fuller/Hydrology & Geomorphology, Inc., SWCA, Inc. Environmental Consultants and Water Resources Research Center of the University of Arizona, and the Arizona Stream Navigability Study for the Big Sandy River, Burro Creek and Santa Maria River prepared by JE Fuller/Hydrology & Geomorphology, Inc., SWCA, Inc. Environmental Consultants and the Arizona Geological Survey, which reports were submitted by the Arizona Land Department in connection with the hearings on those rivers, as well as others. The list of evidence and records, together with a summarization is attached as Exhibit "D". The public hearing on small and minor watercourses located in Mohave County, Arizona, was held in Kingman, Arizona, on December 9, 2002, and the minutes of the meeting are attached hereto as Exhibit "E," as are that portion of the minutes of the public hearing held on March 12, 2003 which pertains to small and minor watercourses in Mohave County, Arizona.

A. Small & Minor Watercourses Analysis for Mohave County, Arizona

1. Analysis Methods.

Due to the large number of small and minor watercourses located in Mohave County, Arizona (5,146 watercourses of which 4,905 are unnamed), it is impractical and unnecessary to consider each watercourse with the same detail that the Commission will consider major watercourses. The study of small and minor watercourses developed by Stantec Consulting Inc. and its associates J. E. Fuller Hydrology & Geomorphology, Inc., and the University of Arizona Water Resources Research Center provided for an evaluation using a three-level process which contained criteria that would be necessarily present for a stream to be considered navigable.³ A master database listing all small and minor watercourses was developed from the Arizona Land Resource Information System (ALRIS) with input from the U. S. Geological Survey, the U. S. Environmental Protection Agency and other agencies and sources. The final version of the master database called "Streams" includes a hydrological unit code (HUC), segment number, mileage, watercourse type and watercourse name, if available. Thus there is a hydrological unit code for each of the segments of the 1,475 small and minor watercourses in Mohave County, Arizona. In addition, the database locates each segment by section, township, and range. Some of the satellite databases

³ The three-level process begins with a presumption and hypothesis that each stream is navigable. Analysis at each of the three levels attempts to reject that hypothesis. Fuller Final Report, Nov. 22, 2002, p. 9.

discussed below also locate certain significant reference points by latitude and longitude.

Using the master database, the contractor also set up six satellite databases, each relating to a specific stream characteristic or criterion, that would normally be found in a watercourse considered to be navigable or susceptible of navigability. These stream criteria are as follows:

1. Perennial stream flow;
2. Dam located on stream;
3. Fish found in stream;
4. Historical record of boating;
5. Record of modern boating; and
6. Special status (other water related characteristics, including in-stream flow application and/or permit, unique waters, wild and scenic, riparian, and preserve).

All watercourses were evaluated at level one which is a binary (yes or no) sorting process as to whether or not these characteristics are present. For a stream or watercourse not to be rejected at level one, it must be shown that at least one of these characteristics is present. If none of these characteristics are present, the stream or watercourse is determined to require no further study and is rejected at level one as having no characteristics of navigability.

All streams and watercourses surviving the level one sorting (*i.e.*, determined to have one or more of the above characteristics) are evaluated at level two. The level two

analysis is more qualitative than level one and its assessment requires a more in-depth analysis to verify and interpret the reasons which caused a particular stream to advance from level one. Each of the above characteristics on which there was an affirmative answer at level one is analyzed individually at level two to determine whether the stream is potentially susceptible to navigation or not susceptible to navigation; for example, a watercourse that at first appears to be perennial in flow but upon further analysis is determined to have only a small flow from a spring for a short distance and therefore cannot be considered perennial for any substantial portion of the watercourse.

In addition, the level two analysis utilizes a refinement with value engineering techniques analyzing watercourses with more than one affirmative response at level one and assigned values to each of the six categories mentioned above. Clearly, perennial flow, historical boating, and modern boating are more important to the issue of navigability than the categories of dam impacted, special status, or fish. Thus, for the purpose of the value engineering study, the following rough values were assigned to each of the six categories: historical boating-10, modern boating-8, perennial stream-7, dam impacted-4, fish-4, and special status-2. This system is a recognized tool used in value engineering studies, and seven qualified engineers from the state Land Department and consulting staff of the contractor participated in determining the values used for each category. This system establishes that a value in excess of 13 is required for a stream to survive the level two evaluation and pass to level three for consideration. Thus, a stream having both perennial flow and historical boating (sum

value of 17), or a combination of the values set for other criteria equaling more than 13, would require that the stream pass to evaluation at level three. If a stream does not have a sum value greater than 13, it is determined to require no further study and is rejected at level two as having insufficient characteristics of navigability.

If a stream survives the evaluation at level two, it goes on to level three which uses quantitative hydrologic and hydraulic analysis procedures including any stream gauge data available, as well as engineering estimates of depth, width and velocity of any water flow in the subject watercourse and comparing the same to minimum standards required for different types of vessels. Also considered is the configuration of the channel and whether it contains rapids, boulders or other obstacles. If a stream or watercourse is not rejected or eliminated at level three, it is removed from this process and subjected to a separate detailed study similar to that performed on a major watercourse, and a separate report will be issued on that stream or watercourse.

2. Application of Analysis Methods to Small and Minor Watercourses in Mohave County.

The application of the level one analysis to the 5,145 small and minor watercourses located in Mohave County resulted in 5,110 watercourses or 99.3% being determined as not having any of the six characteristics listed above, and these 5,110 were therefore rejected or eliminated and did not proceed to a further evaluation at level two. Attached as Exhibit "F" is a list of the watercourses in Mohave County which

were determined to have no characteristics of navigability or characteristics indicating susceptibility of navigability at level one.

Only 35 watercourses, approximately .7%, received an affirmative response to the above characteristics or criteria and were evaluated at level two. Twenty-eight of these watercourses had only one affirmative response at level one and six of these were non-perennial and had an affirmative response because of the presence of fish or a dam. Seven watercourses had an affirmative response to more than one of the characteristics listed. Attached as Exhibit "G" is a list of the 35 watercourses that received a positive response to one or more of the characteristics listed above and were evaluated at level two.

At the level two analysis where a characteristic that received a positive response was considered in greater depth and other sources of information were considered, it was determined that 33 of these 35 watercourses considered did not score higher than the cutoff score of 13 and could not be considered as susceptible of navigability and were therefore rejected at level two. Only two streams—Beaver Dam Wash and Kanab Creek had a higher score than 13 and survived the level two analysis and were evaluated at level three.

3. Level Three Analysis

a. Beaver Dam Wash

Beaver Dam Wash is located in the northwestern portion of Mohave County and is one of the major tributaries of the Virgin River. It received three affirmative

responses in the level one analysis, including perennial stream flow, fish in stream, and special status.

Beaver Dam Wash originates in the mountains of southwestern Utah and flows across the Utah-Arizona border and into the Virgin River. Its total drainage area is approximately 820 square miles of which only 16% is in Arizona. The elevations on its watershed range from a maximum of 6,240 at its headwaters in the Dixie Mountain Forest in Utah to approximately 1,778 feet at its confluence with the Virgin River. The portion of this stream in Arizona is only 8.6 miles long from the Utah border to the confluence with the Virgin River. Only the lower reach of approximately 1-1/2 miles is considered to be a perennial flowing stream. There are two stream gauges on this reach, the more important of which for our purposes is the one located at the Beaver Dam, .8 of a mile upstream from the confluence with the Virgin River. Between February 1992 and October 1999 this gauging station registered a mean annual flow of 3.21 cubic feet per second (cfs), but during floods it exceeded this amount. This flow gives a depth of less than 1/2 foot and a width of 6 to 6-1/2 feet with a velocity of 1-1/2 to 2 miles per hour, which is not adequate for utilization by recreational craft much less commercial craft. There is no history of boating on this stream and no history of commercial fishing. In view of the foregoing, Beaver Dam Wash was considered as not being susceptible of navigability during its ordinary flow and was determined to require no further study.

b. Kanab Creek

Kanab Creek is located in the northeastern portion of Mohave County and forms the boundary between Mohave and Coconino Counties. It received four affirmative responses in the level one analysis, including perennial stream flow, dam located on stream, fish in stream, and special status.

Kanab Creek originates in the mountains of Utah and flows across the Utah-Arizona border through the Strip area to the North Rim of the Grand Canyon and into the Colorado River. Its watershed consists of approximately 2322 square miles, most of which is in Arizona. The elevations on this watershed range from 9350 feet near its headwaters to 2590 feet at its confluence with the Colorado River. The upper reach of this stream in Arizona flows through an alluvial valley located between Kanab, Utah, and Fredonia, Arizona. Most of the natural runoff of this reach is diverted for municipal or agricultural use. This reach is perennial where it enters Arizona until it reaches the town of Fredonia where it becomes ephemeral for the rest of its length to the Grand Canyon. The lower reach from Johnson Wash to its confluence with the Colorado River is non-perennial, although numerous springs provide a level of base flow to short reaches of the stream. The lower reach consists of flat bottom boulder-strewn channels between vertical bedrock canyons and has a slope of less than one percent.

There are two gauge stations on this stream, one near Kanab, Utah, and the other near Fredonia, Arizona. Both of these stations for a period between 1997 and 1999 have

indicated a mean annual flow during ordinary times of less than seven cfs. This flow gives a depth of less than 3/10 of a foot, although its width is 16 feet or wider, and its velocity is between 1.1 and 1.4 cfs. The two-year flood peak is, of course, much higher but cannot be considered as the ordinary condition of the stream. This flow is less than the minimum required for recreational craft and certainly less than that required for commercial use. There is no history of boating on this stream, and the lower reach is strewn with boulders and other obstructions that would make it extremely difficult to navigate. In view of the foregoing, Kanab Creek was considered as not being susceptible of navigability during its ordinary flow and was determined to require no further study.

Evidence consisting of reports, photographs, maps and statements submitted by other parties and considered by the Commission agreed with and confirmed the findings contained in the Fuller report. Testimony presented to the Commission at the hearing established that the present climate and weather conditions in Mohave County are the same or very similar to that which existed in 1912 when Arizona became a state.

B. Prehistoric and Historic Considerations Affecting Small and Minor Watercourses in Mohave County, Arizona

In addition to the Small and Minor Watercourses Analysis and other evidence described above, the Commission also considered evidence of the prehistoric conditions and the historic development of Mohave County as disclosed primarily in the studies submitted in connection with the hearings on navigability of the Bill Williams River,

Virgin River, Big Sandy River, Santa Maria River, and Burro Creek. None of the streams in Mohave County, excluding the Colorado River, has been listed in the Rivers and Harbors Act of 1899 (33 U.S. Code § 401-467e).

The archaeology of western Arizona, and specifically Mohave County, is perhaps more poorly known than the archaeology of most other portions of the state. Evidence of paleoindian occupation in this area is very sparse and consisted only of surface finds of lithic tools.⁴ A clovis projectile point from the paleoindian period was found in the Arizona Strip area in the northern part of the county, and another was found by a rancher in the Aquarius Mountains. No paleoindian sites have been excavated, although there are no doubt sites that have not been located. A number of late archaic period sites dating from 3000 B.C. to 700 A.D. have been found which indicate that these people used the area primarily for hunting wild animals and gathering plants. Many of these sites show stone tools and flakes from the working of stone tools, and in some sites split twig figurines indicating the archaic tradition have been found.

More permanent settlements and some farming began approximately 700 A.D. The introduction of pottery, maize, and the bow and arrow about this time indicate the development of two defined farming cultures. The first is the Prescott culture with small pueblos and crudely painted pottery located in the central mountains, and the second is the Patayan culture which originated on the lower Colorado River and spread

⁴ The paleoindian period is generally considered to be between 9500 B.C. or 11500 B.P. (before present) to approximately 7500 B.C. when the archaic period is deemed to have commenced.

eastward into the deserts of western Arizona and north along the Colorado River. The Patayan culture developed into the Cerbat archaeological culture, the predecessor of the modern Pai tribes, the Hualapai, Havasupai and Yavapai. Approximately 1300 A.D. the Paiute, Chemahueve and Ute tribes entered the northern part of the county. There is no indication that any of these pre-Columbian cultures utilized any of the small and minor watercourses for transportation, nor did they attempt to float logs on them.

Although Spanish exploration of the Southwest began in 1540 with the Coronado Expedition, no Europeans traveled in Mohave County until much later. In 1604 Juan Mateo de Oñate, Governor of Spanish New Mexico, came into the area, traveling along the Santa Maria and Bill Williams Rivers to reach the Colorado River. In 1776, Frey Silvestre Velez de Escalante and Frey Francisco Atanasio Dominguez led an exploration party from Santa Fe to the Great Salt Lake and returned to the South through the Virgin River watershed. They then turned east along the north edge of the Grand Canyon, crossing the Colorado near Page to return to Santa Fe. There were no missions or permanent Spanish settlements in Mohave County.

In 1821 Mexico won its independence from Spain, and sovereignty over the area which later became Mohave County passed to Mexico. The Mexican government sponsored few expeditions into western Arizona and actually attempted to discourage incursions into its territories by citizens of the United States. Notwithstanding this policy, fur trappers and mountainmen began exploring the southwest as early as the 1820's. These mountainmen generally traveled by foot or horseback and did not use

boats for their fur trapping activities. They were certainly familiar with and trapped along the major rivers and possibly some of the minor streams and watercourses in Mohave County, but they left no records of their travels.

The war between Mexico and the United States (1846-48) resulted in all of Mohave County becoming a part of the United States. Following the war, a number of surveying and mapping expeditions led by Army engineers traveled through the territory looking for routes from the eastern United States to California. One expedition led by Col. John Fremont in 1854 traveled along the Virgin River. Others following the route which later became Highway 66 and is now Interstate 40, then turned south to cross the Colorado River at the confluence with the Bill Williams River. Later they began to cross the Colorado River by way of Kingman and the present location of Bullhead City, Arizona, and Needles, California. None of these military expeditions recorded any small or minor watercourses that could be considered susceptible of navigability. In 1859 the Army established Camp Mohave in Arizona at Beale's Crossing of the Colorado River, across from the present location of Needles, California. It was closed in 1861 at the beginning of the Civil War but was reestablished in 1866. In 1879 the name was changed to Fort Mohave and it remained an active post until 1890.⁵

There is extensive literature on the era of navigation on the Colorado River which lasted from 1852 to 1909. Commercial navigation occurred on the length of the

⁵ Nearing, Richard, and Hoff, David, Arizona Military Installations: 1752-1922, pp. 14-15, Tempe: Gem Publishing Co. (1995).

Colorado River from its mouth to the mouth of the Virgin River, but there is no evidence of any commercial navigation or floating of logs on any of the small or minor watercourses in Mohave County. In 1861 silver was discovered on the west side of the Colorado River, and this was followed by a number of mineral strikes in the southern and middle portion of Mohave County. Aubrey Landing was founded in 1864 at the confluence of the Bill Williams and Colorado Rivers where ships traveling up the Colorado could land goods and freight teams would then haul the supplies for mines and camps into the southern part of the county. Mining also became very important in the central part of the county south of the Colorado River. In the 1850's Mormons from Utah began to explore and settle in northwestern Arizona, including the Virgin River watershed. Farming and ranching were established as commercial enterprises in northern and central Mohave County.

The Beale Road from Santa Fe to California became established as a major transportation corridor across the state. It crossed the Colorado River at Beale's Crossing at or near Fort Mohave. The Santa Fe Railroad generally followed this route, with Kingman as one of its major stations. Highway 66 established by the National Highway Act became known as the main street of America. Interstate 40 now follows generally the same route as the Santa Fe Railroad and old Highway 66. Other lesser known roads and highways now traverse the populated areas of Mohave County. There is no record of travel, recreational or otherwise on the small and minor watercourses in Mohave County and absolutely no evidence of any commercial

enterprise or commercial fishing on any of these streams. The customary mode of transportation in Mohave County, excluding the Colorado River, was clearly not by boat. In 1912 the alternatives to boat travel in Mohave County included foot, horseback, mule or ox-drawn wagons and later, as the road network improved, automobiles and trucks, as well as the railroad.

VIII. Findings and Determination

The Commission conducted a particularized assessment of equal footing claims the State of Arizona might have to the beds and banks of the 5,145 small and minor watercourses in Mohave County, Arizona, and based on all of the historical and scientific data and information, documents, and other evidence produced, finds that none of the said small and minor watercourses were used or were susceptible to being used, in their 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 as of February 14, 1912.

The Commission also finds that none of the small and minor watercourses in Mohave County, Arizona, are or were truly perennial throughout their length and that as of February 14, 1912, and currently they flow/flowed only in direct response to precipitation and are or were dry at all other times.

The Commission also finds that there is no evidence of any historical or modern boating having occurred on any of the small and minor watercourses in Mohave County, Arizona.

The Commission also finds that there is no evidence of any fishing having occurred on the small and minor watercourses in Mohave County, Arizona.

The Commission further finds that all notices of these hearings and proceedings were properly and timely given.

In view of the foregoing, the Commission, pursuant to A.R.S. § 37-1128A, finds and determines that the small and minor watercourses in Mohave County, Arizona, were not navigable as of February 14, 1912.

DATED this ____ day of September, 2003.

Earl Eisenhower, Chairperson

Jay Brashear, Member

Cecil Miller, Member

James Hennes, Member

Dolly Echeverria, Member