BEFORE THE
ARIZONA NAVIGABLE STREAM ADJUDICATION COMMISSION

IN THE MATTER OF THE NAVIGABILITY OF SMALL AND MINOR WATERCOURSES IN PINAL COUNTY, ARIZONA, EXCLUDING THE GILA RIVER, SAN PEDRO RIVER AND SANTA CRUZ RIVER	No.: 04-007-NAV

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

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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 any small and minor watercourse in Pinal County, Arizona, excluding the Gila River, San Pedro River and Santa Cruz River, 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 2,328 documented small and minor watercourses in Pinal County, of which 2,183 are unnamed. All of these watercourses, both named and unnamed, are the subject of and included in this report. Excluded from this report the Gila River, San Pedro River and Santa Cruz River which are deemed to be major watercourses and are the subject of separate reports. Included in this report are separate stream navigability studies for Aravaipa Creek and Queen Creek which were not rejected at Level Two of the small and minor watercourses study and for which it was felt more analysis and study was required at Level Three. Attached hereto as Exhibit "A" is a list of all of the small and minor watercourses in Pinal County, Arizona, both named and unnamed, covered by this report.

I. Procedure

On January 15, 2004, the Commission gave proper prior notice of its intent to study the issue of whether small and minor watercourses in Pinal 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 Pinal 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 Pinal County, Arizona. Public notice of this hearing was given by legal advertising on February 4 and 6, 2004, 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 March 9, 2004, in the City of Florence, the county seat of Pinal 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 March 9, 2004, all parties were advised that they could file post-hearing memoranda pursuant to Rule R12-17-108. Post-hearing

memoranda were filed by Salt River Project Agriculture and Improvement District and Salt River Valley Water Users Association, Phelps Dodge Corporation and the Center for Law in the Public Interest. On September 16, 2004, 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 all small and minor watercourses in Pinal County, Arizona, were nonnavigable as of February 14, 1912.

II. Pinal County, Arizona

Pinal County, Arizona, is located in the central southeast portion of the state and is approximately 5,371 square miles in land area, with a population of 169,475 as of July 1, 2000. It borders Graham County to the east, Pima County to the south, Maricopa County to the west and northwest, and Gila County to the northeast. Pinal County lies within the following latitude and longitude ranges: 32° 30' 00" North to 33° 28' 00" North and 110° 27' 00" West to 112° 12' 00" West.

A.R.S. § 11-113 describes the boundaries of Pinal County as follows:

> Pinal County, the county seat of which is Florence, is bounded as follows:
>
> Commencing at the point where the eastern line of range one east intersects the second standard parallel south, being the southeast corner of Maricopa county; thence east on such parallel

to the point where such parallel intersects the eastern line of range eighteen east; thence north o the eastern line of range eighteen east to the point where such line intersects the Gila River; thence down the Gila River to the junction of the Gila River with the San Pedro river; thence in a direct line to a point two hundred fifty yards west of the place where the "Mineral Creek Mill" stood on February 8, 1881; thence in a direct line to a mountain known as the as the "Water Shed," which lies about a half mile east of the Pinal ranch; thence to a point where the northern line of township one north intersects a direct line between the Water Shed mountain and the mouth of Tonto creek; thence west on the north line of township one north and along the southern boundary of Maricopa county to the point where such line intersects the eastern line of range seven east to the point where such line intersects the southern line of township two south; thence west on such line to the point where such line intersects the Gila river; thence down the Gila river to the point where such river intersects the eastern line of range one east; thence south on such line to the point where such line intersects the second standard parallel south, the place of beginning.

Pinal County lies in the basin and range area of southeastern Arizona. The plains and valleys are desert, but the mountains sometimes called island mountains arising from them contain pine trees and other mountain foliage. The eastern portion of the county is characterized by mountainous terrain with elevations approaching 6,000 feet and copper mines. The western portion of the County is primarily low desert valleys and irrigated agriculture. The highest point in the county is Samaniego Ridge located in the Santa Catalina Mountains at 5,961 feet above sea level (110° 48′ 30″ West latitude and 32° 31′ 30″ North longitude). The lowest point in the county is in the Santa Cruz Wash at the border with Maricopa County at 1,000 feet above sea level (112° 12′ 0″ West latitude and 33° 16′ 0″ North longitude).

The county was established on February 1, 1875. The major population centers of Pinal County are the cities of Apache Junction, Superior, Coolidge, Casa Grande, and Florence which is also the county seat. Smaller towns or settlements located in Pinal County are Oracle, Hayden, Kearny, Winkelman, Mammoth, San Manuel, Eloy, and Maricopa. There are also a number of native American villages and settlements on the Gila River Indian Reservation and the Tohono O'odham Reservation such as Sacaton, Bapchule, Chuichu and Cuckelbur.

The major commercial industries of Pinal County are ranching, farming and mining, although tourism is also important. Interstate 8 and 10 and Highway 60 are the main east-west corridors of transportation, and Interstate 10, Highway 87, and State Highways 77 and 79 are the principal corridors running north and south. The main line of the Union Pacific/Southern Pacific Railroad runs generally parallel to Interstate 8 and 10 and traverses the county in an east-west direction. The railroad also branches north at Maricopa to Phoenix. Major areas of interest in Pinal County are Casa Grande National Monument, Boyce Thompson Arboretum near Superior, Picacho Peak State Park, Pinal Air Park, Biosphere II at Oracle, Oracle State Park, McFarland State Park in Florence, Lost Dutchman State Park, and Skydive Arizona—the world's largest skydiving drop zone.

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 Ariz. 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 nonnavigable 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

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

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 nonnavigable 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 nonnavigable 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 sate 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

[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 Sessions Law, Chapter 127.

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 37-1128.

The 1992 Act provided that the Commission would make findings of navigability or nonnavigability 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. 178 ("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 nonnavigability 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.3d 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 Santa Cruz 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 pubic 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 Pinal County, Arizona, and excludes the Gila River, San Pedro River and Santa Cruz River. 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 Pinal 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 the 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 overbears, 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 imagine 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 (2nd Cir. 1969). [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),

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[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).

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 Santa Cruz County were 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 Pinal 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 Pinal County, Arizona" prepared by Stantec Consulting Inc., in association with JE Fuller/Hydrology & Geomorphology, Inc., under supervision of the Arizona State Land Department, dated October 2000 was submitted. The Commission also considered documents, studies, and reports, submitted primarily in conjunction with the studies of the Gila, San Pedro and Santa Cruz Rivers, by the Arizona State Land Department, the Arizona Center for Law in the Public Interest, the Central Arizona Paddlers Club (Dorothy Riddle), Chicago Title Insurance Company, Arizona Audubon Council, Winkelman Natural Conservation District and several individuals, including Timothy Flood, A. Ralph Curtis and Richard Lee Duncan. The list of evidence and records, together with a summarization is attached as Exhibit "D." The Commission also heard testimony and received and considered evidence at the public hearing on small and minor watercourses located in Pinal County, Arizona, held in Florence, Arizona, on March 9, 2004. The minutes of the hearing are attached hereto as Exhibit "E".

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

1. Analysis Methods.

Due to the number of small and minor watercourses located in Pinal County, Arizona (2,328 watercourses, of which 2,183 are unnamed), it is impractical and unnecessary to consider each watercourse with the same detail that the Commission considered major watercourses. The study of small and minor watercourses developed

by Stantec Consulting Inc. and its associates provided for an evaluation using a three-level process which contained criteria that would be necessarily present for a stream to be considered navigable. 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 2,328 small and minor watercourses in Pinal County, Arizona. In addition, the database locates each segment by section, township, and range. Some of the satellite databases 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 that 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 utilized 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. These values were arrived at after much calculation, analysis and study of each stream having affirmative responses at level 1. 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.[4] 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

[4] When this procedure was first developed, a cut off value of eleven (11) was established for a stream to survive level two and pass to level three for evaluation. As the present procedure was refined, the cut off value of thirteen (13) was substituted for eleven (11) as it was felt to be more accurate.

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. Since none of the streams survived the level three analysis, no separate detailed stream navigability studies were performed on any small and minor watercourses in Pinal County.

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

The application of the level one analysis to the 2,328 small and minor watercourses located in Pinal County resulted in 2,288 watercourses or 98.3% being determined as not having any of the six characteristics listed above, and these 2,288 streams 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 Pinal

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

Only 40 watercourses, approximately 1.7%, received an affirmative response to one or more of the above characteristics or criteria and were evaluated at level two. It should be noted that only six of these 40 watercourses tested affirmatively to more than one of the level one criteria. In the value engineering analysis, it was determined that of these six streams with more than one affirmative response at level one, only two streams had a sum value of more than 11 but less than 13 when analyzed pursuant to the value engineering techniques and therefore need not be advanced for further study at level three. However, since two streams fell between the values of 11 under the earlier criteria and 13 under the refined system and the studies have already been made it was determined that they should undergo analysis at lever three. Accordingly, it was determined that 38 of the streams analyzed at level two could not be considered as susceptible of navigability and were therefore rejected at level two. Attached as Exhibit "G" is a list of the 40 watercourses that received a positive response to one or more of the characteristics listed above and were evaluated at level two. The two streams that had a value sum of between 11 and 13 under the value engineering analysis at level two and were considered at level three are Aravaipa Creek and Queen Creek.

3. Level Three Analysis of Aravaipa Creek

Aravaipa Creek. a tributary to the San Pedro River is located in the eastern portion of Pinal County and the western and southwestern portion of Graham County. It received three affirmative responses in the Level One analysis, including perennial stream flow, fish in stream, and special status.

Arivaipa Creek originates in the southwestern portion of Graham County in the upper Aravaipa Valley to the west of Ft. Grant and Bonita. It flows in a northwesterly direction past the settlement of Klondyke, then turns due west crossing the line into Pinal County and flows through the Aravaipa Canyon Wilderness Area and into the San Pedro River. It is 72 miles in length and has a drainage area or watershed of 541 square miles. The watershed is bounded by the Sulphur Springs Valley on the southeast, Mt. Graham and the Pinaleno Mountains and Santa Teresa Mountains on the north and west, and the Galiuro Mountains on the south and east. Elevations within the watershed range from 8400 feet in the Pinaleno Mountains to 2660 feet at the San Pedro River confluence. The upper reach is ephemeral or intermittent and consists of wide braided channels which are normally dry. The middle reach, through the Aravaipa Canyon Wilderness Area, is perennial and consists of sand and gravel bedded stream segments following the bottom of deep vertical walled bedrock canyons. This middle reach is one of the most beautiful desert oasis canyons in the entire west. The lower reach consists of wide shallow and slightly braided channels. Its flow is

perennial but becomes less reliable as it approaches the confluence with the San Pedro River.

The only permanent U.S. Geological Survey gauging station on this creek is located near the confluence with the San Pedro near Mammoth, Arizona. There is other gauging information available from temporary gauges that were set up during certain years to measure for specific purposes. The average annual flow is approximately 36 cubic feet per second ("cfs"), although the mean flow rate is only 17 cfs. The largest flows occur during December through March from snowfall runoff, and the lowest flows occur in May and June. The average depth is .7 feet to 1.6 feet, and the average width is 12 to 23 feet. During unusual periods of high precipitation and flooding, the stream flow is much higher and a two-year flood peak has been recorded at 3980 cfs.

Comparing the stream flow data with boating criteria, it would appear that the stream could be boated by low draft canoes or kayaks about half of the time during the months when the flow is higher than normal. Boating by larger commercial craft is highly unlikely. Field data collected by the writers of the Stantech report indicates that recreational boating would be difficult due to numerous shallow riffles and overhanging vegetation. There is no history of boating on this stream and no history of commercial fishing.

In view of the foregoing, Aravaipa Creek was considered as not being susceptible of navigability during its ordinary flow and was rejected in view of the Level Three study.

4. Level Three Analysis of Queen Creek

Queen Creek is located in the northern portion of Pinal County and in the eastern portion of Maricopa County. It received three affirmative responses in the Level One analysis, including fish in stream, special status, and impacted by dams.

Queen Creek was named after the Silver Queen Mine near the town of Superior. It originates in the mountains north of Superior and flows south to Superior where it turns west and flows near Florence Junction and crosses the Maricopa County line. It then flows into the East Maricopa Floodway near the town of Gilbert, Arizona. Queen Creek is approximately 35 miles in length and covers a drainage area or watershed of 351 square miles. It is bounded on the north by the Superstition Mountains and drains the southeastern slopes of those mountains. Elevation within the watershed ranges from 5,557 feet at Montana Mountain to 1,316 at the confluence with the East Maricopa Floodway. Vegetation in the watershed consists of creosote, burr sage and cacti in the lower elevations to oak-woodland and juniper in the upper elevations in the Superstition Mountains. Vegetation along Queen Creek itself includes cottonwood, willow, riparian species at some locations, as well as upper Sonoran Desert wash species such as palo verde, mesquite, tamarisk, and desert broom.

The upper reach of Queen Creek in the mountain area is composed mostly of bedrock and consists of a series of small steps and pools. The channel is located in the bottom of a V-shaped canyon with a small to nonexistent floodplain and sparse riparian vegetation. This reach is mostly ephemeral with short interrupted perennial reaches near small springs. After leaving the mountainous area, Queen Creek becomes a slightly sinuous sand and cobble bedded stream with bedrock outcroppings from the bed and banks along the stream segments. Channel widths vary in this area from 40 to 80 feet, and riparian vegetation is contained within a relatively broad floodplain corridor which has an average width of about 60 feet. This valley reach is ephemeral except in the small area immediately upstream of the Whitlow Ranch Dam where a spring discharges approximately 10 cfs into the channel which is soon lost by infiltration into the sand of the main channel. Further downstream in the valley reach, the main channel is straight and slightly sinuous with a sand and cobble bed approximately 40 feet wide. This reach is ephemeral, with the frequency and duration of runoff decreasing dramatically as it nears the confluence with the East Maricopa Floodway. The last several miles of Queen Creek have been rechanneled and regraded to flow between farm fields and recently constructed subdivisions.

U. S. Geological Survey stream gauges provide a historical record of stream flow at two sites on Queen Creek. The upper gauge at the Whitlow Dam site indicates an average mean flow of 4.1 cfs. The highest average flows occur during the months of

July and August as a result of the summer monsoons, with additional rises in average flow during March from winter cyclonic storms. During unusual storm periods floods have been recorded with flows as high as 24,000 cfs in a 25-year flood up to 46,000 cfs in a 100-year flood. The gauging station at Florence Junction bears out these figures but shows less of a flow due to water being absorbed into the sandy riverbed.

Whitlow Ranch Dam was built in 1960 to provide flood protection to farmland and developed areas downstream. Storm runoff in excess of the diversion capacity of this dam rarely passes the dam and usually percolates into the floodplain below the dam within a few miles downstream. The hydrologic flow data shows that Queen Creek overall is generally ephemeral and at least 50 percent of the time there is no flow at all on most portions of the creek. Comparing the stream flow data with boating criteria, it would appear that Queen Creek could not be boated even by low draft canoes or kayaks during normal months. Such boating by recreational craft during floods would be hazardous and boating by larger commercial craft is highly unlikely. There is no modern or historical account of any type of boating on Queen Creek.

In view of the foregoing, Queen Creek was considered as not being susceptible of navigability during its ordinary flow and was therefore rejected as a result of the Level Three study.

5. Summary of Results of Small and Minor Watercourses Analysis for Santa Cruz County, Arizona

All of the 2,328 small and minor watercourses in Santa Cruz County were analyzed in the three-level process developed by the State Land Department and its contractors Stantec and J.E. Fuller Hydrology. At level one, 2,288 watercourses or 98.3% were determined as not having an affirmative response to any of the six characteristics utilized at level one and were therefore rejected and eliminated at level one. Forty watercourses, approximately 1.7%, received an affirmative response to one or more of the characteristics or criteria and were evaluated at level two. Thirty-four of these watercourses received only one affirmative response at level one and further analysis disclosed that they should be rejected as not having the characteristics of navigability requiring further study. Six of the watercourses received more than one affirmative response at level one and were analyzed under the value engineering system described above. In this analysis, four of the watercourses had a sum value of less than 11 and were determined as not having the characteristics of navigability requiring further study. Only two streams had a sum value of more than 11 but less than 13 and it was determined that further study should be undertaken at Level Three. These two streams, Aravaipa Creek and Queen Creek, were thereafter evaluated at level three. The testimony and statements of individuals who appeared at the hearing and submitted written material expressing their views agreed with the results of the small and minor watercourse analysis set forth in this section and bore out the conclusion of the

Commission that the small and minor watercourses in Santa Cruz County, including Aravaipa Creek and Queen Creek, were not navigable or susceptible of navigability as of the date Arizona became a state. Testimony presented at the hearing for all small and minor watercourses in Pinal County established that the present climate and weather conditions in Pinal 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 Pinal 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 historical development of Pinal County as described in part in the studies and other documents and evidence submitted in connection with hearings on the navigability of San Pedro River, Santa Cruz County and Gila River in Pinal County.

1. Prehistoric and Pre Columbian Conditions

The archaeological evidence indicates the presence of paleoindians in Pinal County as early as 11,500 years ago.[5] At that time, the weather was much more humid due to the end of the last ice age, and the valleys of Pinal County resembled a savanna in which megafauna such as mammoth, giant bison, and giant sloth lived and were

[5] The paleoindian period is generally considered to be between 9500 B.C. or 11,500 B.P. (Before Present) to approximately 6000 B.C. or 8000 B.P. It was followed by the archaic period which lasted until approximately 300 B.C. The archaic period or archaic culture is sometimes called the Cochise or Desert culture.

hunted by the paleoindians as food. The paleoindian peoples are defined by the Clovis projectile point which is a large lithic spear tip fluted so as to be easily attached to the end of the spear. These Clovis projectile points have been found embedded in remains, particularly bones, of mammoth which lived in the area 12,000 to 8,000 years ago.

Some archaeologists believe there were paleoindian people in Arizona prior to the Clovis People, although most pre-Clovis sites that have been identified are in other parts of the americas. In Arizona, the archaeologists who propose this have named this culture the Malapai People and claim to have found sites, particularly along the lower Gila River and in southern California, evidenced by stone choppers, scrapers and other stone tools. While difficult to date, these archaeologists feel that the Malapai people lived in this area 15,000 to 20,000 years ago.

Following the paleoindian period, the archaic period or Cochise culture evolved, which was a hunting and gathering culture that looked primarily to smaller animals for food. The prime characteristic of the archaic culture is the Folsom projectile point which is much smaller than the Clovis, although fluted to be affixed to the end of short spears launched from an atl-atl or primitive spear thrower. Also the Folsom points were later found to be attached to the ends of arrows once bows and arrows were developed. The archaic culture was a hunting and gathering culture that did not build permanent buildings and many of their sites which were near the rivers have probably been obscured by flooding and later occupations. These archaic sites, as well as the

earlier paleoindian and Malapai sites, are characterized by large dense scatters of diverse lithic materials used for hunting, caring for, and processing meat and other food. They probably represent base camps or work areas. These archaic people have been characterized by various archaeologists as a desert culture and, more particularly in southern Arizona, as the Cochise culture. Folsom projectile points which are fluted but smaller than Clovis projectile points were used by the archaic peoples in hunting the great bison and smaller game and such projectile points have been found at some of these archaic sites.

Between 300 B.C. and 100 A.D. the early or pre-classic Hohokam culture began to develop in the northern part of Pinal County, along the Gila River and the northernmost portions of the Santa Cruz and San Pedro River basins.

The development from the archaic (desert or Cochise culture) to the proto Hohokam culture is not well understood, but a recent excavation known as the Eagle River site located near Roosevelt Lake on the Salt River has been determined to be the earliest documented ceramic or pottery site in the area. It provides definitive evidence for an indigenous pre-Hohokam population which used the site between 300 B.C. and 100 A.D. It contains evidence of maize (corn agriculture), wild plant gathering and hunting, and shows similarities to the later developed Hohokam, Mogollon, and Anasazi culture groups suggesting that there was an early Pan Southwestern culture at the same time the regional differentiation of the traditional cultures such as the Hohokam was

emerging. This may be evidence of the transition from the archaic to the better understood and defined pre-classical Hohokam culture.

On the middle Gila River in the northern part of Pinal County, the archaeological evidence indicates that approximately 2000 years ago a sedentary proto agricultural society arose which has been denominated the Hohokam culture. Prior to the Hohokam and existing a few hundred years contemporaneously with it was the desert or Cochise culture which was primarily hunting and gathering. Although other archaeologists dispute the early date, the foremost expert on Hohokam culture, Emil Haury, postulates that a group of people came from Mexico or Mesoamerica as early as 300 B.C. and began constructing canals and using the techniques they brought with them for irrigation agriculture. (See Emil W. Haury's Prehistory of the American Southwest, J. Jefferson Reid and David E. Doyel (Eds.), The University of Arizona Press, Tucson, 1986. They probably absorbed the local indigenous Cochise or desert culture inhabitants, although there is evidence of separate Cochise-type settlements as late as the end of the first century A.D. No doubt there were subsequent infusions of groups from Mesoamerica into the Hohokam area, but they were apparently absorbed peacefully. During the pioneer and colonial period (600-950 A.D.), the Hohokam expanded and evidence of their tradition and culture is found in the Tucson Basin, Verde Valley (where they mixed with other peoples, probably Anasazi, to form the

Sinagua tradition), and the upper Gila River in the Safford valley (where they mixed with the Mogollon peoples).

Although there is significant evidence of prehistoric irrigation, particularly in the Phoenix basin and along the Gila River between Florence and its confluence with the Salt River in Pinal County which was one of the most densely populated areas in the southwest with an estimated population of between 20,000 and 80,000 at their peak, there is no evidence whatsoever of the use of any of the rivers, including small and minor watercourses, by prehistoric cultures for boating or travel on the water. No doubt these early indigenous people followed the watercourses to assure themselves of a source of water when they traveled, but they did so by foot and not by boat. Likewise, there is no evidence of any attempted floating of logs for use in construction of pueblos, although logs that floated down during floods were probably utilized. In prehistoric times all travel was exclusively by foot. At their peak (approximately 1100-1200 A.D.), the Hohokam irrigated an estimated 140,000 acres in the Phoenix basin and the Florence and Casa Grande area, with an irrigation system of canals exceeding 315 miles in length. In the latter part of the Classic period, i.e. after 1200 A.D., a new culture or tradition known as the Salado has been identified, which is evidenced by much finer pottery, platform mounds, ball courts and a higher grade of masonry construction. The best example of this culture is the ruin at Casa Grande National Monument. Some archaeologists feel that this was a new people who came into the area, probably from

Mesoamerica, but most are of the opinion that the Salado tradition was a revitalization primarily of the Hohokam culture with some influence from other cultures or traditions.

After approximately A.D. 1450 the Hohokam culture declined and many of the major occupation sites were abandoned The cause for this decline and abandonment of major occupation sites is unknown, although explanations for the collapse of the Hohokam culture include population decimation by disease, environmental degradation, drought, soil alkalization, and overstressing of a complex and probably fragile social system. Tree ring studies have shown that the average flow of the rivers and presumably rainfall from A.D. 740 to 1370 was somewhat less than the modern average flows. There is also evidence of significant droughts during the late 1300's and early 1400's. The present Papago or Tohono O'Odham and Pima Indians are thought to be the descendants of the Hohokam in the Pinal County area.

Some time around A. D. 1500 the earlier Hohokam culture was replaced by the Yavapai culture which had moved from the Colorado River area, but the area remained very sparsely populated. In the late 1600's and early 1700's the Athabascan speaking western Apaches migrated into the area, but stayed primarily in the mountainous eastern portion of Pinal County. To an extent the Apache displaced the Yavapai, although there was intermarriage between the two peoples. Both the Yavapai and Apache were relatively nomadic, living by hunting and gathering and occupying

temporary sites consisting of brush wickiups and overhanging rocks. The Apaches exist today living on the Ft. Apache and San Carlos Indian Reservations to the north of the upper Gila River. The Yavapais are also an identified tribe living on reservations to the east of Phoenix and are somewhat intermixed with the Apache.

2. Historical Settlement in Pinal County

The earliest European explorers to enter southern Arizona were Friar Marcos de Niza and his party which was sent to explore the region in 1539 to search for the Seven Cities of Cibola. The following year, de Niza returned with a full-scale expedition led by Don Francisco de Coronado. Although the exact route is not agreed upon by all of the experts, most believe that in 1540 the Coronado Expedition crossed from Mexico into what is now Arizona west of but near the San Pedro River and followed it downstream to a point near the southern boundary of Pinal County where they turned northeast and passed between the Winchester and Galiuro Mountains into the Sulphur Springs and Aravaipa Valleys. The Expedition traveled up the Sulphur Springs Valley and turned west, passing between the Santa Teresa and Pinaleno Mountains in Graham County, to the Gila River where they crossed near Ft. Thomas.

No other western Europeans came to Pinal County until Father Eusebio Kino, a Jesuit Missionary, traveled in the area between 1691 and 1702 with a view toward extending his ministry to the Sobapuras (upland Pimas) who were living there at the time. These Indians engaged in both irrigation and dry farming. On one of his trips he

discovered the Casa Grande ruin. Other missionaries followed in Kino's steps, but no permanent missions were established in Pinal County. An expedition led by Juan Batista de Escalante in 1697 also made note of the number of Indian ruins near Casa Grande in northern Pinal County. In 1699, Father Kino traveled along the Santa Cruz River to the Gila River and visited various Pima villages and noted that "all of its inhabitants are fishermen and have many nets and other tackle with which they fish all year," presumably in the Gila River. He also noted that the Pima Indians used the river for irrigation by diverting water into canals and ditches through small diversion dams. Later visitors in the 16th Century included Padre Luis Valverde in 1716, Pedro Ignacio Xavier Keller in 1737, Father Jacobo Settlemeyer in 1744, Father Ignaz Pfefferkorn in 1763, and Father Francisco Garces in 1775, but none of them set up missions or made any permanent settlements. In 1775 a Spanish expedition led by Don Juan Batista de Anza traveled from Mexico through Tucson, past the Casa Grande ruin to the Gila River and along the Gila River to California and on to San Francisco where he established a presidio in 1776.

Mexico won its independence in 1821 and, despite attempts to discourage incursions into its territory by citizens of the United States who were beginning to trade with its citizens in Santa Fe and Taos, fur trappers began exploring the southwest in the mid-1820's. These mountain men generally rode horseback or walked through the southwest and did not use canoes, rafts or other types of boats on any of the Arizona

rivers except the Colorado. A number of these expeditions traveled along the river, trapping primarily beaver. Records indicate that some also went south along the San Pedro River. Trapping on the Gila River and its tributaries continued through the 1820's, 30's and 40's, but very few specific and definite records were left by these mountain men.

In 1846 war broke out between the United States and Mexico which ended with the Treaty of Guadalupe Hidalgo in 1848 and the cession of the American southwest above the Gila River from Mexico to the United States. A number of military expeditions passed through southern Arizona, and particularly Pinal County, during the Mexican-American War, such as the expedition of the Army of the West in 1846 led by General Stephen Watts Kearny along the Gila River through Arizona on their way to California. Also, Capt. Philip St. George Cook led the Mormon Battalion from Santa Fe down the Rio Grande River and then crossed to the headwaters of the Gila River and led that battalion down the Gila River through Pinal County, crossing the Colorado into California.

Gold was discovered in California and one of the major routes the 49ers followed was along the Gila River across Arizona through Pinal County to California. It is estimated that as many as 60,000 people used the Gila River trails to get to California and the gold fields. In addition, a number of military surveying and map making expeditions traveled along the river at this time and during the 1850's. The military

surveys were conducted primarily to locate railroad routes to cross the continent to California. None of these military surveyors or 49ers traveled by boat or raft and, in fact, there is no record of any of them opining that any of the rivers or streams in southern Arizona were navigable for commercial trade or travel.

Recognizing that the area north of the Gila River was mountainous and more difficult for railroads to traverse, the then Secretary of War, Jefferson Davis, encouraged the government to purchase from Mexico land south of the Gila River on which a transcontinental railroad could be built. The result of these efforts was the Gadsden Purchase of 1853 which added to the United States the territory south of the Gila River to the present international border with Mexico.

In the first half of the 1860's the United States military presence in the southwest was greatly reduced due to the requirement for manpower to fight the Civil War in the east. Until the Troops were again posted to the area following the Civil War, some of the settlers took matters into their own hands and conducted vigilante-type operations against the Indians. A company of Confederate soldiers from the Texas Brigade under Captain Sherrod Hunter took and held Tucson for a few months in the early part of the War but after a short battle or meeting engagement with troops from the California Column near Picacho Peak in Pinal County, Capt. Hunter retreated back into New Mexico, and the California Column marched up the Gila River from southern

the Coolidge Dam in 1929, a regulated supply of water is now available to the farmers below the dam in Pinal County, including the Indian tribes.

Irrigated land on the Pima Indian Reservation increased with the arrival of Colorado River water through the Central Arizona Project. However, a great deal of pumping has occurred and is still going on, resulting in the water table falling many feet between 1920 and today, and severe land subsidence has resulted in the Florence, Casa Grande, and Coolidge areas. In addition to farming, a large ranching industry was developed in the 1870's in Pinal County, and water for ranching was to a great extent supplied by the waters of the Gila River, Santa Cruz River, San Pedro River, and their tributaries.

During the latter part of the 1800's minerals were discovered in the mountains in the eastern portion of Pinal County, resulting in the development of major copper mines in the area of Superior, Hayden, Kearny and San Manuel, and these towns developed near the mines. Population of the county also increased during the early part of the 1900's and the towns of Florence, Casa Grande, Eloy and Coolidge provided trading markets for the farmers in those areas.

In the area of transportation, the first stage line was established in 1857 to carry passengers from San Antonio, Texas, to San Diego, California. This route ran through Pinal County. A year later the Butterfield Overland Mail & Stage Route took over this line and continued service until it was discontinued in March of 1861. Service was

reestablished in 1867. In 1877 the Southern Pacific Railroad entered the state from the west through Yuma. It generally followed the Gila River through Pinal County and reached Casa Grande in May of 1879. In March of 1880 the railroad was completed to Tucson. In 1887 the branch line from Maricopa to Phoenix was completed and another branch line connected it with the Santa Fe Railroad in northern Arizona. Yet another branch line extended up along the San Pedro River to Superior.

Roads for wagon and horseback were also built in the county, connecting the major towns and the county with Tucson, Yuma, and Phoenix. Prior to and at the time of statehood, travel was by foot, horseback, mule train, wagon and stagecoach and, after the 1880's, by train. At the time of statehood and immediately thereafter, trucks and automobiles were also used as the road system was expanded and improved. At no time was there ever transportation on any of the rivers or watercourses in Pinal County nor is there any record of flotation of logs for commercial purposes on any of these waterways. None of the small and minor watercourses in Pinal County are listed in the Rivers and Harbors Act of 1899 (33 U.S.C. § 401-467e).

In recent years Pinal County has undergone a large increase in population and construction of homes. A significant amount of farm land has been subdivided into housing developments.

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 2,328 small and minor watercourses in Pinal 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 Pinal 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 Pinal County, Arizona.

The Commission also finds that there is no evidence of any fishing having occurred on the small and minor watercourses in Pinal 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 Pinal County, Arizona, were not navigable as of February 14, 1912.

DATED this 21 day of Sept, 2005.

Earl Eisenhower, Chair

Dolly Echeverria, Vice-Chair

Jay Brashear Sept 23

Jay Brashear, Member

Cecil Miller

Cecil Miller, Member

James Henness, Member

Staff Members:

George Mehnert
Executive Director

Curtis A. Jennings

Curtis A. Jennings
Legal Counsel to the Commission

1945-0

TABLE A-1A
RL1 Watercourses for Pinal County

No. (1)	W_ID (2)	W_NAME (3)	SEGCOUNT (4)	W_COUNTIES (5)	W_MILES (6)	W_ADDRESS (7)	W_PER (8)	W_MBOAT (9)	W_HBOAT (10)	W_FISH (11)	W_DIMP (12)	W_SSTATUS (13)	HITS (14)
1	34	Alder Wash - Pinal	8	Pinal	4.0788	T10.0S,R18.0E,S21	No	No	No	No	No	No	0
2	54	Antelope Wash - Pinal	3	Pinal	8.4380	T6.0S,R3.0E,S20	No	No	No	No	No	No	0
3	75	Ash Creek - Pinal	27	Pinal	24.9411	T5.0S,R16.0E,S05	No	No	No	No	No	No	0
4	110	Bachman Wash	2	Pinal	3.6206	T10.0S,R15.0E,S04	No	No	No	No	No	No	0
5	134	Batamote Wash 2	4	Pima/Pinal	6.4217	T11.0S,R13.0E,S12	No	No	No	No	No	No	0
6	149	Bear Springs Canyon	1	Pinal	5.7425	T6.0S,R17.0E,S24	No	No	No	No	No	No	0
7	150	Bear Thicket Creek	1	Pinal	1.4204	T1.0N,R12.0E,S16	No	No	No	No	No	No	0
8	173	Big Bertha Wash	1	Pinal	1.2846	T9.0S,R14.0E,S08	No	No	No	No	No	No	0
9	185	Big O Wash	17	Pinal	26.2770	T4.0S,R11.0E,S15	No	No	No	No	No	No	0
10	192	Big Wash - Pima/Pinal	30	Pima/Pinal	26.5679	T11.0S,R14.0E,S30	No	No	No	No	No	No	0
11	214	Bitter Well Wash	10	Pinal	14.9067	T9.0S,R4.0E,S27	No	No	No	No	No	No	0
12	246	Bloodsucker Wash	8	Pinal	14.9939	T6.0S,R15.0E,S17	No	No	No	No	No	No	0
13	259	Bogart Wash	1	Pinal	1.2310	T5.0S,R9.0E,S07	No	No	No	No	No	No	0
14	269	Booger Canyon St	5	Pinal	6.7462	T6.0S,R18.0E,S10	No	No	No	No	No	No	0
15	282	Bowl Creek	1	Pinal	1.8245	T10.0S,R13.0E,S13	No	No	No	No	No	No	0
16	285	Box O Wash	7	Pinal	6.1284	T6.0S,R12.0E,S14	No	No	No	No	No	No	0
17	325	Bulldog Wash	1	Pinal	5.4050	T1.0N,R6.0E,S20	No	No	No	No	No	No	0
18	348	Buzan Canyon Stream	4	Pinal	3.8076	T6.0S,R17.0E,S14	No	No	No	No	No	No	0
19	362	Camp Grant Wash	38	Pinal	14.7001	T7.0S,R16.0E,S18	No	No	No	No	No	No	0
20	381	Capgage Wash	2	Pinal	4.6190	T7.0S,R16.0E,S26	No	No	No	No	No	No	0
21	398	Catalina Wash	17	Pinal	15.2351	T10.0S,R18.0E,S08	No	No	No	No	No	No	0
22	401	Cave Canyon Stream	2	Pinal	2.0523	T6.0S,R18.0E,S18	No	No	No	No	No	No	0
23	430	Chalk Creek	4	Pinal	6.2576	T11.0S,R14.0E,S29	No	No	No	No	No	No	0
24	454	China Wash	2	Pinal	6.8252	T4.0S,R10.0E,S11	No	No	No	No	No	No	0
25	458	Chirreon Wash	1	Pinal	8.1996	T11.0S,R14.0E,S05	No	No	No	No	No	No	0
26	477	Circle S Wash	1	Pinal	4.7994	T6.0S,R14.0E,S30	No	No	No	No	No	No	0
27	481	Clark Wash	20	Pinal	12.7440	T9.0S,R17.0E,S23	No	No	No	No	No	No	0
28	508	Comstock Wash	2	Pinal	1.2363	T1.0S,R12.0E,S23	No	No	No	No	No	No	0
29	513	Connelly Wash	14	Pinal	18.1570	T4.0S,R11.0E,S11	No	No	No	No	No	No	0
30	525	Copper Creek	17	Pinal/Graham	15.8700	T8.0S,R17.0E,S34	No	No	No	No	No	No	0
31	527	Copper Creek - Pinal	1	Pinal	2.4269	T10.0S,R14.0E,S30	No	No	No	No	No	No	0
32	531	Copper Hill Wash	3	Pinal	3.7370	T10.0S,R15.0E,S08	No	No	No	No	No	No	0
33	562	Cottonwood Wash 1 - Pinal	18	Pinal	19.7053	T5.0S,R12.0E,S28	No	No	No	No	No	No	0
34	565	Cottonwood Wash 2 - Pinal	8	Pinal	7.0476	T9.0S,R18.0E,S12	No	No	No	No	No	No	0
35	599	Cronley Wash	2	Pinal	4.8454	T7.0S,R18.0E,S35	No	No	No	No	No	No	0
36	604	Cruz Wash	2	Pinal	4.0735	T10.0S,R14.0E,S06	No	No	No	No	No	No	0
37	638	Deer Creek - Pinal	26	Pinal	21.5830	T4.0S,R18.0E,S33	No	No	No	No	No	No	0
38	642	Deer Creek 1 - Graham/Pinal	13	Graham/Pinal	15.6465	T8.0S,R18.0E,S14	No	No	No	No	No	No	0
39	669	Dodge Tank Wash	2	Pinal	2.6049	T10.0S,R15.0E,S29	No	No	No	No	No	No	0
40	670	Dodge Wash	4	Pinal	3.2751	T10.0S,R15.0E,S14	No	No	No	No	No	No	0
41	672	Dodson Wash - Pinal	8	Pinal	9.7387	T6.0S,R16.0E,S29	No	No	No	No	No	No	0
42	676	Donnelly Wash	9	Pinal	11.3344	T5.0S,R12.0E,S14	No	No	No	No	No	No	0
43	682	Drew Wash	1	Pinal	5.5905	T7.0S,R14.0E,S26	No	No	No	No	No	No	0
44	686	Dry Camp Canyon	4	Pinal	10.4129	T7.0S,R18.0E,S30	No	No	No	No	No	No	0
45	707	Eagle Wash	6	Pinal	6.6479	T5.0S,R14.0E,S20	No	No	No	No	No	No	0
46	749	Eskiminzin Wash	7	Pinal	11.8781	T5.0S,R17.0E,S30	No	No	No	No	No	No	0
47	757	Faraway Wash	6	Pinal	6.8137	T10.0S,R13.0E,S13	No	No	No	No	No	No	0
48	764	First Water Creek	5	Maricopa/Pinal	8.4521	T2.0N,R9.0E,S08	No	No	No	No	No	No	0
49	775	Flag Wash	1	Pinal	3.3570	T10.0S,R16.0E,S03	No	No	No	No	No	No	0
50	814	Garden Creek	20	Graham/Pinal	22.4809	T4.0S,R19.0E,S32	No	No	No	No	No	No	0

Ex A

TABLE A-1A
RL1 Watercourses for Pinal County

No. (1)	W_ID (2)	W_NAME (3)	SEGCOUNT (4)	W_COUNTIES (5)	W_MILES (6)	W_ADDRESS (7)	W_PER (8)	W_MBOAT (9)	W_HBOAT (10)	W_FISH (11)	W_DIMP (12)	W_SSTATUS (13)	HITS (14)
51	869	Greene Wash	10	Pinal	24.9133	T7.0S,R4.0E,S02	No	No	No	No	No	No	0
52	885	Gust James Wash	4	Pinal	7.6235	T9.0S,R18.0E,S18	No	No	No	No	No	No	0
53	37606	Hackberry Creek - Pinal	1	Pinal	3.0712	T2.0S,R13.0E,S09	No	No	No	No	No	No	0
54	37610	Hackberry Wash - Pinal	18	Pinal	9.0067	T4.0S,R14.0E,S33	No	No	No	No	No	No	0
55	37612	Hagen Canyon Stream	1	Pinal	3.0176	T6.0S,R17.0E,S26	No	No	No	No	No	No	0
56	37646	Hells Half Acre	2	Pinal	2.7814	T6.0S,R18.0E,S18	No	No	No	No	No	No	0
57	37667	Holy Joe Canyon	3	Pinal	4.1703	T7.0S,R17.0E,S03	No	No	No	No	No	No	0
58	37675	Horse Camp Canyon	2	Pinal	7.8049	T6.0S,R18.0E,S16	No	No	No	No	No	No	0
59	37680	Horse Foot Wash	5	Pinal	7.5017	T8.0S,R15.0E,S09	No	No	No	No	No	No	0
60	37714	Indian Bend Wash - Pinal	4	Pinal	6.4499	T5.0S,R14.0E,S10	No	No	No	No	No	No	0
61	37724	Indian Town Wash	3	Pima	5.1621	T11.0S,R13.0E,S01	No	No	No	No	No	No	0
62	37726	Indian Well Wash	1	Pinal	4.0467	T10.0S,R13.0E,S35	No	No	No	No	No	No	0
63	37728	Irene Wash	1	Pinal	2.2495	T10.0S,R15.0E,S10	No	No	No	No	No	No	0
64	37749	James Wash	6	Pinal	5.9338	T6.0S,R15.0E,S34	No	No	No	No	No	No	0
65	37755	Jim Thomas Wash	3	Pinal	5.1295	T5.0S,R14.0E,S08	No	No	No	No	No	No	0
66	37778	Kaka Wash	22	Pinal/Pima/Maricopa	21.7553	T10.0S,R1.0E,S14	No	No	No	No	No	No	0
67	37798	Kohatk Wash	26	Pinal/Maricopa	36.0827	T10.0S,R2.0E,S18	No	No	No	No	No	No	0
68	37801	La Barge Creek	12	Pinal/Maricopa	16.1559	T2.0N,R9.0E,S10	No	No	No	No	No	No	0
69	37843	Little Ash Creek - Pinal	3	Pinal	3.0602	T4.0S,R16.0E,S14	No	No	No	No	No	No	0
70	37857	Little Gust Jame	5	Pinal	8.7403	T9.0S,R17.0E,S25	No	No	No	No	No	No	0
71	37911	Lyons Fork	7	Gila/Pinal	6.2206	T2.0S,R13.0E,S13	No	No	No	No	No	No	0
72	37924	Margaret Wash	2	Pinal	3.1923	T10.0S,R15.0E,S08	No	No	No	No	No	No	0
73	37957	Mesa Wash - Pinal	2	Pinal	15.2665	T8.0S,R4.0E,S26	No	No	No	No	No	No	0
74	37983	Milk Ranch Creek	2	Pinal	2.7527	T1.0S,R10.0E,S01	No	No	No	No	No	No	0
75	37996	Mineral Creek - Pinal	2	Pinal	0.8883	T2.0S,R14.0E,S18	No	No	No	No	No	No	0
76	38042	Mulberry Wash - Pinal	14	Pinal	11.8755	T8.0S,R18.0E,S15	No	No	No	No	No	No	0
77	38074	North Branch San	17	Pinal	17.3941	T6.0S,R4.0E,S01	No	No	No	No	No	No	0
78	38085	North Fork Clark	2	Pinal	2.1501	T6.0S,R18.0E,S35	No	No	No	No	No	No	0
79	38112	Oak Creek - Pinal	1	Pinal	2.3847	T2.0S,R13.0E,S09	No	No	No	No	No	No	0
80	38152	Paisano Canyon Spring	1	Pinal	5.5240	T6.0S,R18.0E,S14	No	No	No	No	No	No	0
81	38156	Palmer Wash	23	Pinal	12.7001	T8.0S,R15.0E,S03	No	No	No	No	No	No	0
82	38177	Parsons Canyon Spring	5	Pinal	9.3503	T6.0S,R18.0E,S24	No	No	No	No	No	No	0
83	38197	Peters Wash	2	Pinal	7.1316	T10.0S,R18.0E,S33	No	No	No	No	No	No	0
84	38237	Piper Springs Wash	4	Pinal	4.2504	T5.0S,R16.0E,S31	No	No	No	No	No	No	0
85	38257	Polecat Wash	1	Pinal	1.8695	T6.0S,R15.0E,S32	No	No	No	No	No	No	0
86	38270	Potters Wash	1	Pinal	1.4038	T2.0S,R13.0E,S26	No	No	No	No	No	No	0
87	38286	Putman Wash - Pinal	12	Pinal	12.2813	T7.0S,R15.0E,S13	No	No	No	No	No	No	0
88	38302	Rainbows End Wash	2	Pinal	9.7738	T10.0S,R14.0E,S18	No	No	No	No	No	No	0
89	38307	Rancho Rio Creek	2	Pinal	2.8120	T2.0S,R13.0E,S05	No	No	No	No	No	No	0
90	38314	Ray Spring Wash	2	Pinal	3.4377	T9.0S,R16.0E,S26	No	No	No	No	No	No	0
91	38332	Reevis Creek	6	Maricopa/Pinal	8.3068	T2.0N,R12.0E,S06	No	No	No	No	No	No	0
92	38337	Reymert Wash	2	Pinal	3.0166	T1.0S,R11.0E,S35	No	No	No	No	No	No	0
93	38349	Ripsey Wash	19	Pinal	8.8773	T4.0S,R13.0E,S10	No	No	No	No	No	No	0
94	38351	Roach Wash	4	Pinal	6.8468	T6.0S,R16.0E,S08	No	No	No	No	No	No	0
95	38362	Rock Creek 1 - Pinal	4	Pinal	4.6568	T1.0N,R12.0E,S12	No	No	No	No	No	No	0
96	38364	Rock Creek 2 - Pinal	4	Pinal	4.1072	T4.0S,R16.0E,S23	No	No	No	No	No	No	0
97	38371	Romero Wash	2	Pinal	8.3327	T5.0S,R15.0E,S32	No	No	No	No	No	No	0
98	38394	Sahuarita Wash	2	Pima	9.0875	T11.0S,R14.0E,S17	No	No	No	No	No	No	0
99	38438	Santa Cruz Wash	19	Pinal	36.5605	T6.0S,R4.0E,S12	No	No	No	No	No	No	0
100	38448	Scanlon Wash	12	Pinal	10.1391	T9.0S,R18.0E,S06	No	No	No	No	No	No	0

TABLE A-1A
RL1 Watercourses for Pinal County

No. (1)	W_ID (2)	W_NAME (3)	SEGCOUNT (4)	W_COUNTIES (5)	W_MILES (6)	W_ADDRESS (7)	W_PER (8)	W_MBOAT (9)	W_HBOAT (10)	W_FISH (11)	W_DIMP (12)	W_SSTATUS (13)	HITS (14)
101	38505	Silver King Wash	1	Pinal	1.7624	T1.0S,R12.0E,S23	No	No	No	No	No	No	0
102	38506	Silver Reef Wash	2	Pinal	12.2692	T8.0S,R5.0E,S17	No	No	No	No	No	No	0
103	38524	Smelter Wash	10	Pinal	12.4409	T9.0S,R17.0E,S04	No	No	No	No	No	No	0
104	38528	Smith Wash - Pinal	3	Pinal	6.8050	T5.0S,R15.0E,S20	No	No	No	No	No	No	0
105	38561	South Fork Clark	4	Graham/Pinal	2.6468	T8.0S,R18.0E,S35	No	No	No	No	No	No	0
106	38587	Spencer Spring Creek	7	Pinal	4.3587	T1.0N,R12.0E,S16	No	No	No	No	No	No	0
107	38615	Steamboad Wash - Pinal	8	Pinal	7.5390	T4.0S,R14.0E,S34	No	No	No	No	No	No	0
108	38630	Stratton Wash	9	Pima	18.0719	T10.0S,R18.0E,S16	No	No	No	No	No	No	0
109	38645	Swingle Wash	5	Pinal	9.9178	T6.0S,R15.0E,S12	No	No	No	No	No	No	0
110	38646	Sycamore Canyon	2	Pinal	2.3284	T7.0S,R18.0E,S10	No	No	No	No	No	No	0
111	38674	Tar Wash	3	Pinal	6.2813	T8.0S,R16.0E,S12	No	No	No	No	No	No	0
112	38677	Tat Momoli Wash	4	Pinal	6.5676	T10.0S,R5.0E,S12	No	No	No	No	No	No	0
113	38700	Threeway Wash	1	Pinal	3.1952	T9.0S,R14.0E,S31	No	No	No	No	No	No	0
114	38708	Tillmans Wash	3	Pinal	1.4380	T2.0S,R13.0E,S26	No	No	No	No	No	No	0
115	38713	Tipperary Wash	1	Pinal	6.3330	T8.0S,R13.0E,S28	No	No	No	No	No	No	0
116	38720	Tom Mix Wash	4	Pinal	10.0600	T7.0S,R11.0E,S21	No	No	No	No	No	No	0
117	38730	Tortilla Creek	10	Maricopa/Pinal	16.3491	T2.0N,R9.0E,S10	No	No	No	No	No	No	0
118	38760	Tucson Wash	14	Pinal	16.2002	T8.0S,R17.0E,S18	No	No	No	No	No	No	0
119	38789	Twentynine Wash	1	Pinal	3.9844	T10.0S,R14.0E,S31	No	No	No	No	No	No	0
120	38790	Twentyseven Wash	1	Pinal	2.3928	T11.0S,R14.0E,S04	No	No	No	No	No	No	0
121	38809	Vekol Wash	51	Pinal/Maricopa	59.4580	T3.0S,R2.0E,S10	No	No	No	No	No	No	0
122	38851	Well Canyon Stream	3	Pinal	9.0966	T8.0S,R17.0E,S18	No	No	No	No	No	No	0
123	38866	West Fork Pinto	14	Pinal	11.8366	T1.0N,R13.0E,S02	No	No	No	No	No	No	0
124	38897	Whitewash Canyon	1	Pinal	4.6693	T6.0S,R17.0E,S24	No	No	No	No	No	No	0
125	38902	Whitlow Canyon	19	Pinal	14.7250	T1.0S,R10.0E,S34	No	No	No	No	No	No	0
126	38970	Zapata Wash	7	Pinal	9.4322	T7.0S,R18.0E,S35	No	No	No	No	No	No	0
127-2288	-	Unnamed Washes	-	Pinal	-	-	No	No	No	No	No	No	0

NOTES: The column headings are identified as follows:

W_ID:	Unique ID number given to the watercourse.
W_NAME:	Name of the watercourse.
SEGCOUNT:	Number of segments merged together to comprise the watercouse.
W_COUNTIES:	County(ies) where the watercourse is located.
W_MILES:	Length of the watercourse in miles.
W_ADDRESS:	Township, Range and Section of the mouth of the watercourse.
W_PER:	Stream classification- perennial or not.
W_MBOAT:	With modern boating or not.
W_HBOAT:	With historical boating or not.
W_FISH:	With fish or not.
W_DIMP:	Impacted by dam or not.
W_SSTATUS:	With special status designation or not.
HITS:	Number of affirmative hits based on the six attribute data.

STATE OF ARIZONA }
} ss.
COUNTY OF PINAL }

STATEMENT OF INTENT
State of Arizona
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 Gila River, the San Pedro River, and the Santa Cruz River in Pinal County, Arizona. 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 non-navigability of the Gila River, the San Pedro River and the Santa Cruz River in Pinal County. Interested parties are requested to file all documentary and other physical evidence they propose to submit to ANSAC by February 26, 2004 All evidence submitted to ANSAC will be the property of ANSAC and the State of Arizona. Evidence submitted will be available for public inspection by appointment at the ANSAC offices during regular office hours.

Pursuant to A.R.S. §37-1101, et. seq., the Arizona Navigable Stream Adjudication Commission (ANSAC) is planning to hold a watercourse navigability hearing regarding all of the small and minor watercourses in Pinal County, Arizona. 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 non-navigability of all small and minor watercourses in Pinal County. Interested parties are requested to file all documentary evidence they propose to submit to ANSAC by February 26, 2004. 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.

The list of small and minor watercourses includes:

Pinal, Cronley Wash, Cruz Wash, Deer Creek - Pinal, Deer Creek 1 - Graham/Pinal, Dodge Tank Wash, Dodge Wash, Dodson Wash - Pinal, Donnelly Wash, Drew Wash, Dripping Spring, Dry Camp Canyon, Eagle Wash, Eskiminzin Wash, Faraway Wash, First Water Creek, Flag Wash, Garden Creek, Greene Wash, Guild Wash, Gust James Wash, Hackberry Creek - Pinal, Hackberry Wash - Pinal, Hagen Canyon Stream, Haunted Canyon Creek, Hells Half Acre, Holy Joe Canyon, Horse Camp Canyon, Horse Foot Wash, Indian Bend Wash - Pinal, Indian Well Wash, Irene Wash, James Wash, Jim Thomas Wash, Kaka Wash, Kohatk Wash, La Barge Creek, Lemmon Creek, Little Ash Creek - Pinal, Little Gust Jame, Lyons Fork, Mammoth Wash, Margaret Wash, Mesa Wash - Pinal, Milk Ranch Creek, Milky Wash, Mineral Creek - Pinal, Mulberry Wash - Pinal, North Branch San, North Fork Clark, Oak Creek - Pinal, Paisano Canyon Spring, Palmer Wash, Parsons Canyon Spring, Peppersauce Wash, Peters Wash, Piper Springs Wash, Polecat Wash, Potters Wash, Putman Wash - Pinal, Queen Creek, Rainbows End Wash, Rancho Rio Creek, Ray Spring Wash, Redrock Canyon, Reevis Creek, Reymert Wash, Ripsey Wash, Roach Wash, Rock Creek 1 - Pinal, Rock Creek 2 - Pinal, Romero Wash, Santa Cruz Wash, Santa Rosa Wash, Scanlon Wash, Silver King Wash, Silver Reef Wash, Smelter Wash, Smith Wash - Pinal, South Fork Clark, Spencer Spring Creek, Steamboat Wash - Pinal, Swingle Wash, Sycamore Canyon, Tar Wash, Tat Momoli Wash, Threeway Wash, Tillmans Wash, Tipperary Wash, Tom Mix Wash, Tortilla Creek, Tucson Wash, Twentynine Wash, Twentyseven Wash, Vekol Wash, Virgus Canyon St, Weekes Wash, Well Canyon Stream, West Fork Pinto, Whitewash Canyon, Whitlow Canyon, Zapata Wash, and any other named or unnamed small and minor watercourses in Pinal County.

An unbound original plus seven bound

Affidavit of Publication

DONOVAN M. KRAMER, SR. first being duly sworn deposes and says: That he is a native born citizen of the United States of America, over 21 years of age, that he is publisher of the Casa Grande Dispatch, a daily newspaper published at Casa Grande, Pinal County, Arizona, Monday through Saturday of each week; that a notice, a full, true and complete printed copy of which is hereunto attached, was printed in the regular edition of said newspaper, and not in a supplement thereto, for THREE ~~XXXXX~~ issues the first publication thereof having been on the 15TH day of JANUARY A.D., 2004

Second publication JANUARY 22, 2004

Third publication JANUARY 29, 2004

Fourth publication _____

Fifth publication _____

Sixth publication _____

CASA GRANDE DISPATCH

By _____
DONOVAN M. KRAMER SR., Publisher

Sworn to before me this 31ST day of January A.D. 2004

Debbie L. Mumme
Notary Public in and for the County of Pinal, State of Arizona

DEBBIE L. MUMME
Notary Public - Arizona
Pinal County
My Commission Expires
October 23, 2005

Ex B

(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 nonnavigability of all watercourses in Pinal County. The hearings will be held in Pinal County on March 9, 2004 at 10:00 a.m. in an order established by the chair in the Pinal County Supervisors' Conference Room, 31 N. Pinal Street, Building "A", Florence, Arizona 85232. These are presently the only hearings scheduled for the watercourses in Pinal County.

The list of watercourses in Pinal County include the Gila River, San Pedro River, and Santa Cruz River, and the following small and minor watercourses:

Alder Wash - Pinal, Antelope Wash - Pinal, Aravaipa Creek - Pinal, Arnett Creek, Ash Creek - Pinal, Bachman Wash, Batamote Wash 2, Bear Springs Canyon, Bear Thicket Creek, Big Bertha Wash, Big O Wash, Big Wash - Pima/Pinal, Bitter Well Wash, Bloodsucker Wash, Bogart Wash, Booger Canyon St, Bowl Creek, Box O Wash, Bulldog Wash, Buzan Canyon Stream, Camp Grant Wash, Campaign Creek, Canada del Oro, Capgage Wash, Carpas Wash, Catalina Wash, Cave Canyon Stream, Chalk Creek, China Wash, Chirreon Wash, Circle S Wash, Clark Wash, Comstock Wash, Connelly Wash, Copper Creek, Copper Creek - Pinal, Copper Hill Wash, Cottonwood Wash 1 - Pinal, Cottonwood Wash 2 - Pinal, Cronley Wash, Cruz Wash, Deer Creek - Pinal, Deer Creek 1 - Graham/Pinal, Dodge Tank Wash, Dodge Wash, Dodson Wash - Pinal, Donnelly Wash, Drew Wash, Dripping Spring, Dry Camp Canyon, Eagle Wash, Eskiminzin Wash, Faraway Wash, First Water Creek, Flag Wash, Garden Creek, Greene Wash, Guild Wash, Gust James Wash, Hackberry Creek - Pinal, Hackberry Wash - Pinal, Hagen Canyon Stream, Haunted Canyon Creek, Hells Half Acre, Holy Joe Canyon, Horse Camp Canyon, Horse Foot Wash, Indian Bend Wash - Pinal, Indian Well Wash, Irene Wash, James Wash, Jim Thomas Wash, Kaka Wash, Kohatk Wash, La Barge Creek, Lemmon Creek, Little Ash Creek - Pinal, Little Gust Jame, Lyons Fork, Mammoth Wash, Margaret Wash, Mesa Wash - Pinal, Milk Ranch Creek, Milky Wash, Mineral Creek - Pinal, Mulberry Wash - Pinal, North Branch San, North Fork Clark, Oak Creek - Pinal, Paisano Canyon Spring, Palmer Wash, Parsons Canyon Spring, Peppersauce Wash, Peters Wash, Piper Springs Wash, Polecat Wash, Potters Wash, Putman Wash - Pinal, Queen Creek, Rainbows End Wash, Rancho Rio Creek, Ray Spring Wash, Redrock Canyon, Reevis Creek, Reymert Wash, Ripsey Wash, Roach Wash, Rock Creek 1 - Pinal, Rock Creek 2 - Pinal, Romero Wash, Santa Cruz Wash, Santa Rosa Wash, Scanlon Wash, Silver King Wash, Silver Reef Wash, Smelter Wash, Smith Wash - Pinal, South Fork Clark, Spencer Spring Creek, Steamboat Wash - Pinal, Swingle Wash, Sycamore Canyon, Tar Wash, Tat Momoli Wash, Threeway Wash, Tillmans Wash, Tipperary Wash, Tom Mix Wash, Tortilla Creek, Tucson Wash, Twentynine Wash, Twentyseven Wash, Vekol Wash, Virgus Canyon St, Weekes Wash, Well Canyon Stream, West Fork Pinto, Whitewash Canyon, Whitlow Canyon, Zapata Wash, and any other named or unnamed small and minor watercourses in Pinal County.

Interested parties may submit evidence to the commission office prior to the hearing. During the public hearing, the commission will receive additional evidence including testimony. 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

RECEIVED
FEB 11 2004
BY:

THE ARIZONA REPUBLIC

STATE OF ARIZONA
COUNTY OF MARICOPA } SS.

Gloria Saldivar, 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

February 6, 2004

Gloria Saldivar

Sworn to before me this
6TH day of
February A.D. 2004

OFFICIAL SEAL
MARILYN GREENWOOD
NOTARY PUBLIC-ARIZONA
MARICOPA COUNTY
My Comm. Expires May 23, 2007

EXC

Marilyn Greenwood
Notary Public

Evidence Log

Hearing No. 04-007

Arizona Navigable Stream Adjudication Commission

Pinal County Small and Minor Watercourses
March 9, 2004, Florence, Arizona

Item Number	Received Date	Source to ANSAC	Description	Entry By
1	02/28/97	Evidence on hand at ANSAC—ACLPI	Testimony relevant to all watercourses.	George Mehnert
2	September 2000	Evidence on hand at ANSAC—JE Fuller	Draft Final Report, Small & Minor Watercourses Analysis for Pinal County, Arizona.	George Mehnert
3	October 2000	Evidence on hand at ANSAC—JE Fuller	Final Report, Small & Minor Watercourses Analysis for Pinal County, Arizona.	George Mehnert
4	03/09/04	JE Fuller	PowerPoint Presentation Slides Offered at ANSAC Hearing.	George Mehnert

Ex D

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
Florence, Pinal County, March 9, 2004

COMMISSION MEMBERS PRESENT
Jay Brashear, Dolly Echeverria, Earl Eisenhower, Jim Henness, and Cecil Miller.
COMMISSION MEMBERS ABSENT
None.
STAFF PRESENT
George Mehnert, and Commission Legal Counsel Curtis Jennings.

1. **CALL TO ORDER.**
   Chair Eisenhower called the meeting to order at approximately 10:00 a.m.
2. **ROLL CALL.**
   See above.
3. **APPROVAL OF MINUTES** (discussion and action).
   A. January 27, 2004 Maricopa County.
   Motion by: Jim Henness Second by: Dolly Echeverria
   Motion: To approve the minutes of January 27, 2004. Vote: All aye.
4. **HEARING REGARDING THE NAVIGABILITY OR NON-NAVIGABILITY OF THE GILA RIVER 03-007-NAV.**
   Testimony or other information was presented by Cheryl Doyle representing the State Land Department and by Alan Gookin, Engineer and John Heston, Attorney, representing the Gila River Indian Community. Physical documentary evidence was submitted by Mr. Gookin. (Please refer to agenda item number 8 regarding the testimony of Mr. Gookin and Mr. Heston.)
5. **HEARING REGARDING THE NAVIGABILITY OR NON-NAVIGABILITY OF THE SAN PEDRO RIVER 03-004-NAV.**
   Testimony or other information was presented by Cheryl Doyle representing the State Land Department who stated her information would be the same as she had stated regarding item number 4 regarding the navigability or non-navigability of the Gila River.
   At the end of the hearing regarding this matter Chairman Eisenhower announced that the taking of testimony and other evidence was closed.
6. **HEARING REGARDING THE NAVIGABILITY OR NON-NAVIGABILITY OF THE SANTA CRUZ RIVER 03-002-NAV.**
   Testimony or other information was presented by Cheryl Doyle representing the State Land Department who stated her information would be the same as she had stated regarding item number 4 regarding the navigability or non-navigability of the Gila River.
   At the end of the hearing regarding this matter Chairman Eisenhower announced that the taking of testimony and other evidence was closed.
7. **HEARING REGARDING THE SMALL AND MINOR WATERCOURSES IN PINAL COUNTY 04-007-NAV.**
   Testimony or other information was presented by Cheryl Doyle representing the State Land Department who stated her information would be the same as she had stated regarding item number 4 regarding the navigability or non-navigability of the Gila River, and in addition discussed the small and minor watercourse report. In response to a question by Curtis Jennings Cheryl Doyle stated that the climatic and weather conditions at the time of the study were essentially the same as in 1912.
   At the end of the hearing regarding this matter Chairman Eisenhower announced that the taking of testimony and other evidence was closed.
8. **CALL FOR PUBLIC COMMENT** (comment sheets).

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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.)

Alan Gookin asked permission to speak regarding agenda item number 4, the Gila River. Mr. Gookin indicated he had arrived late and had missed the presentation regarding the Gila River. He asked the Commission's indulgence and that they return to the Gila River matter so he could provide testimony and other evidence. The chair agreed and Mr. Gookin presented testimony and documentary physical evidence.

The Chairman restated that this is the final opportunity to submit testimony or other evidence regarding the navigability or non-navigability of the San Pedro and Santa Cruz Rivers.

9. **FUTURE AGENDA ITEMS AND ESTABLISHMENT OF FUTURE HEARINGS AND OTHER MEETINGS.**

10. **ADJOURNMENT.**

Motion by: Cecil Miller Second by: Jim Henness
Motion: To adjourn. Vote: All aye.
Meeting adjourned at approximately 10:55 a.m.

Respectfully submitted,

George Mehnert, Director
March 10, 2004

Table A-1A
Watercourses in Pinal County Rejected at Level 1

No. (1)	W_ID (2)	W_NAME (3)	SEGCOUNT (4)	W_COUNTIES (5)	W_MILES (6)	W_ADDRESS (7)	W_PER (8)	W_MBOAT (9)	W_HBOAT (10)	W_FISH (11)	W_DIMP (12)	W_SSTATUS (13)	HITS (14)
1	34	Alder Wash - Pinal	8	Pinal	4.079	T10.0S,R18.0E,S21	No	No	No	No	No	No	0
2	54	Antelope Wash - Pinal	3	Pinal	8.438	T6.0S,R3.0E,S20	No	No	No	No	No	No	0
3	75	Ash Creek - Pinal	27	Pinal	24.941	T5.0S,R16.0E,S05	No	No	No	No	No	No	0
4	110	Bachman Wash	2	Pinal	3.621	T10.0S,R15.0E,S04	No	No	No	No	No	No	0
5	134	Batamote Wash 2	4	Pima/Pinal	6.422	T11.0S,R13.0E,S12	No	No	No	No	No	No	0
6	149	Bear Springs Canyon	1	Pinal	5.743	T6.0S,R17.0E,S24	No	No	No	No	No	No	0
7	150	Bear Thicket Creek	1	Pinal	1.420	T1.0N,R12.0E,S16	No	No	No	No	No	No	0
8	173	Big Bertha Wash	1	Pinal	1.285	T9.0S,R14.0E,S08	No	No	No	No	No	No	0
9	185	Big O Wash	17	Pinal	26.277	T4.0S,R11.0E,S16	No	No	No	No	No	No	0
10	192	Big Wash - Pima/Pinal	30	Pima/Pinal	28.668	T11.0S,R14.0E,S30	No	No	No	No	No	No	0
11	214	Bitter Well Wash	10	Pinal	14.907	T9.0S,R4.0E,S27	No	No	No	No	No	No	0
12	246	Bloodsucker Wash	8	Pinal	14.994	T8.0S,R15.0E,S17	No	No	No	No	No	No	0
13	259	Bogart Wash	1	Pinal	1.231	T5.0S,R9.0E,S07	No	No	No	No	No	No	0
14	269	Booger Canyon St	5	Pinal	6.746	T6.0S,R18.0E,S10	No	No	No	No	No	No	0
15	282	Bowl Creek	1	Pinal	1.826	T10.0S,R13.0E,S13	No	No	No	No	No	No	0
16	285	Box O Wash	7	Pinal	6.128	T6.0S,R12.0E,S14	No	No	No	No	No	No	0
17	325	Bulldog Wash	1	Pinal	5.405	T1.0N,R8.0E,S20	No	No	No	No	No	No	0
18	348	Buzan Canyon Stream	4	Pinal	3.608	T6.0S,R17.0E,S14	No	No	No	No	No	No	0
19	362	Camp Grant Wash	36	Pinal	14.700	T7.0S,R16.0E,S18	No	No	No	No	No	No	0
20	381	Capgage Wash	2	Pinal	4.619	T7.0S,R16.0E,S26	No	No	No	No	No	No	0
21	398	Catalina Wash	17	Pinal	15.235	T10.0S,R18.0E,S08	No	No	No	No	No	No	0
22	401	Cave Canyon Stream	2	Pinal	2.062	T6.0S,R18.0E,S18	No	No	No	No	No	No	0
23	430	Chalk Creek	4	Pinal	6.258	T11.0S,R14.0E,S29	No	No	No	No	No	No	0
24	454	China Wash	2	Pinal	6.825	T4.0S,R10.0E,S11	No	No	No	No	No	No	0
25	456	Chirreon Wash	1	Pinal	8.200	T11.0S,R14.0E,S05	No	No	No	No	No	No	0
26	477	Circle S Wash	1	Pinal	4.799	T6.0S,R14.0E,S30	No	No	No	No	No	No	0
27	481	Clark Wash	20	Pinal	12.744	T9.0S,R17.0E,S23	No	No	No	No	No	No	0
28	508	Comstock Wash	2	Pinal	1.236	T1.0S,R12.0E,S23	No	No	No	No	No	No	0
29	513	Connelly Wash	14	Pinal	16.157	T4.0S,R11.0E,S11	No	No	No	No	No	No	0
30	525	Copper Creek	17	Pinal/Graham	15.870	T8.0S,R17.0E,S34	No	No	No	No	No	No	0
31	527	Copper Creek - Pinal	1	Pinal	2.427	T10.0S,R14.0E,S30	No	No	No	No	No	No	0
32	531	Copper Hill Wash	3	Pinal	3.737	T10.0S,R15.0E,S08	No	No	No	No	No	No	0
33	562	Cottonwood Wash 1 - Pinal	16	Pinal	19.705	T5.0S,R12.0E,S26	No	No	No	No	No	No	0
34	565	Cottonwood Wash 2 - Pinal	8	Pinal	7.048	T9.0S,R16.0E,S12	No	No	No	No	No	No	0
35	599	Cronley Wash	2	Pinal	4.845	T7.0S,R16.0E,S35	No	No	No	No	No	No	0
36	604	Cruz Wash	2	Pinal	4.074	T10.0S,R14.0E,S06	No	No	No	No	No	No	0
37	636	Deer Creek - Pinal	26	Pinal	21.583	T4.0S,R16.0E,S33	No	No	No	No	No	No	0
38	642	Deer Creek 1 - Graham/Pinal	13	Graham/Pinal	15.647	T8.0S,R18.0E,S14	No	No	No	No	No	No	0
39	669	Dodge Tank Wash	2	Pinal	2.605	T10.0S,R15.0E,S29	No	No	No	No	No	No	0
40	670	Dodge Wash	4	Pinal	3.275	T10.0S,R15.0E,S14	No	No	No	No	No	No	0
41	672	Dodson Wash - Pinal	8	Pinal	9.739	T6.0S,R16.0E,S29	No	No	No	No	No	No	0
42	676	Donnelly Wash	9	Pinal	11.334	T6.0S,R12.0E,S14	No	No	No	No	No	No	0
43	682	Drew Wash	1	Pinal	5.591	T7.0S,R14.0E,S26	No	No	No	No	No	No	0
44	686	Dry Camp Canyon	4	Pinal	10.413	T7.0S,R18.0E,S30	No	No	No	No	No	No	0
45	707	Eagle Wash	6	Pinal	6.648	T6.0S,R14.0E,S20	No	No	No	No	No	No	0

NOTES: The column headings are defined as follows:

W_ID: Unique ID number given to the watercourse
W_NAME: Name of the watercourse.
SEGCOUNT: Number of segments merged together to comprise the watercourse.
W_COUNTIES: County(ies) where the watercourse is located.
W_MILES: Length of the watercourse in miles.
W_ADDRESS: Township, Range and Section of the mouth of the watercourse.
W_PER: Stream classification-perennial or not.
W_MBOAT: With modern boating or not.
W_HBOAT: With historical boating or not.
W_FISH: With fish or not
W_DIMP: Impacted by dam or not.
W_SSTATUS: With special status designations or not
HITS: Number of affirmative hits based on the six attribute data

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Table A-1A
Watercourses in Pinal County Rejected at Level 1

No. (1)	W_ID (2)	W_NAME (3)	SEGCOUNT (4)	W_COUNTIES (5)	W_MILES (6)	W_ADDRESS (7)	W_PER (8)	W_MBOAT (9)	W_HBOAT (10)	W_FISH (11)	W_DIMP (12)	W_SSTATUS (13)	HITS (14)
46	749	Eskiminzin Wash	7	Pinal	11.876	T6.0S,R17.0E,S30	No	No	No	No	No	No	0
47	757	Faraway Wash	6	Pinal	6.814	T10.0S,R13.0E,S13	No	No	No	No	No	No	0
48	764	First Water Creek	5	Maricopa/Pinal	8.452	T2.0N,R9.0E,S08	No	No	No	No	No	No	0
49	775	Flag Wash	1	Pinal	3.357	T10.0S,R16.0E,S03	No	No	No	No	No	No	0
50	814	Garden Creek	20	Graham/Pinal	22.481	T4.0S,R19.0E,S32	No	No	No	No	No	No	0
51	869	Greene Wash	10	Pinal	24.913	T7.0S,R4.0E,S02	No	No	No	No	No	No	0
52	885	Gust James Wash	4	Pinal	7.624	T9.0S,R18.0E,S18	No	No	No	No	No	No	0
53	37606	Hackberry Creek - Pinal	1	Pinal	3.071	T2.0S,R13.0E,S09	No	No	No	No	No	No	0
54	37610	Hackberry Wash - Pinal	18	Pinal	9.007	T4.0S,R14.0E,S33	No	No	No	No	No	No	0
55	37612	Hagen Canyon Stream	1	Pinal	3.018	T6.0S,R17.0E,S26	No	No	No	No	No	No	0
56	37646	Hells Hall Acre	2	Pinal	2.761	T6.0S,R18.0E,S18	No	No	No	No	No	No	0
57	37667	Holy Joe Canyon	3	Pinal	4.170	T7.0S,R17.0E,S03	No	No	No	No	No	No	0
58	37675	Horse Camp Canyon	2	Pinal	7.805	T6.0S,R18.0E,S16	No	No	No	No	No	No	0
59	37680	Horse Pool Wash	5	Pinal	7.502	T8.0S,R15.0E,S09	No	No	No	No	No	No	0
60	37714	Indian Bend Wash - Pinal	4	Pinal	6.450	T5.0S,R14.0E,S10	No	No	No	No	No	No	0
61	37724	Indian Town Wash	3	Pima	5.162	T11.0S,R13.0E,S01	No	No	No	No	No	No	0
62	37726	Indian Well Wash	1	Pinal	4.047	T10.0S,R13.0E,S35	No	No	No	No	No	No	0
63	37728	Irene Wash	1	Pinal	2.250	T10.0S,R15.0E,S10	No	No	No	No	No	No	0
64	37749	James Wash	5	Pinal	5.934	T6.0S,R15.0E,S34	No	No	No	No	No	No	0
65	37755	Jim Thomas Wash	3	Pinal	5.130	T5.0S,R14.0E,S08	No	No	No	No	No	No	0
66	37778	Kaka Wash	22	Pinal/Pima/Maricopa	21.755	T10.0S,R1.0E,S14	No	No	No	No	No	No	0
67	37798	Kohatk Wash	26	Pinal/Maricopa	38.083	T10.0S,R2.0E,S16	No	No	No	No	No	No	0
68	37801	La Barge Creek	12	Pinal/Maricopa	16.156	T2.0N,R9.0E,S10	No	No	No	No	No	No	0
69	37843	Little Ash Creek - Pinal	3	Pinal	3.060	T4.0S,R16.0E,S14	No	No	No	No	No	No	0
70	37857	Little Gust Jame	5	Pinal	8.740	T9.0S,R17.0E,S25	No	No	No	No	No	No	0
71	37911	Lyons Fork	7	Gila/Pinal	6.221	T2.0S,R13.0E,S13	No	No	No	No	No	No	0
72	37924	Margaret Wash	2	Pinal	3.192	T10.0S,R15.0E,S08	No	No	No	No	No	No	0
73	37957	Mesa Wash - Pinal	2	Pinal	15.267	T8.0S,R4.0E,S26	No	No	No	No	No	No	0
74	37983	Milk Ranch Creek	2	Pinal	2.763	T1.0S,R10.0E,S01	No	No	No	No	No	No	0
75	37996	Mineral Creek - Pinal	2	Pinal	0.866	T2.0S,R14.0E,S18	No	No	No	No	No	No	0
76	38042	Mulberry Wash - Pinal	14	Pinal	11.876	T8.0S,R18.0E,S15	No	No	No	No	No	No	0
77	38074	North Branch San	17	Pinal	17.394	T6.0S,R4.0E,S01	No	No	No	No	No	No	0
78	38085	North Fork Clark	2	Pinal	2.160	T8.0S,R18.0E,S35	No	No	No	No	No	No	0
79	38112	Oak Creek - Pinal	1	Pinal	2.385	T2.0S,R13.0E,S09	No	No	No	No	No	No	0
80	38152	Paisano Canyon Spring	1	Pinal	5.524	T6.0S,R18.0E,S14	No	No	No	No	No	No	0
81	38156	Palmer Wash	23	Pinal	12.700	T8.0S,R15.0E,S03	No	No	No	No	No	No	0
82	38177	Parsons Canyon Spring	5	Pinal	9.360	T6.0S,R18.0E,S24	No	No	No	No	No	No	0
83	38197	Peters Wash	2	Pinal	7.132	T10.0S,R18.0E,S33	No	No	No	No	No	No	0
84	38237	Piper Springs Wash	4	Pinal	4.260	T6.0S,R16.0E,S31	No	No	No	No	No	No	0
85	38267	Polecat Wash	1	Pinal	1.870	T8.0S,R15.0E,S32	No	No	No	No	No	No	0
86	38270	Potters Wash	1	Pinal	1.404	T2.0S,R13.0E,S26	No	No	No	No	No	No	0
87	38286	Putman Wash - Pinal	12	Pinal	12.281	T7.0S,R15.0E,S13	No	No	No	No	No	No	0
88	38302	Rainbows End Wash	2	Pinal	9.774	T10.0S,R14.0E,S18	No	No	No	No	No	No	0
89	38307	Rancho Rio Creek	2	Pinal	2.812	T2.0S,R13.0E,S05	No	No	No	No	No	No	0
90	38314	Ray Spring Wash	2	Pinal	3.438	T9.0S,R18.0E,S26	No	No	No	No	No	No	0

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W_HBOAT: With historical boating or not.
W_FISH: With fish or not.
W_DIMP: Impacted by dam or not.
W_SSTATUS: With special status designations or not.
HITS: Number of affirmative hits based on the six attribute data

Table A-1A
Watercourses in Pinal County Rejected at Level 1

No. (1)	W_ID (2)	W_NAME (3)	SEGCOUNT (4)	W_COUNTIES (5)	W_MILES (6)	W_ADDRESS (7)	W_PER (8)	W_MBOAT (9)	W_HBOAT (10)	W_FISH (11)	W_DIMP (12)	W_SSTATUS (13)	HITS (14)
91	38332	Reavis Creek	6	Maricopa/Pinal	6.307	T2.0N,R12.0E,S06	No	No	No	No	No	No	0
92	38337	Reymert Wash	2	Pinal	3.017	T1.0S,R11.0E,S35	No	No	No	No	No	No	0
93	38349	Ripsey Wash	19	Pinal	8.877	T4.0S,R13.0E,S10	No	No	No	No	No	No	0
94	38351	Roach Wash	4	Pinal	6.649	T6.0S,R16.0E,S08	No	No	No	No	No	No	0
95	38362	Rock Creek 1 - Pinal	4	Pinal	4.857	T1.0N,R12.0E,S12	No	No	No	No	No	No	0
96	38364	Rock Creek 2 - Pinal	4	Pinal	4.107	T4.0S,R16.0E,S23	No	No	No	No	No	No	0
97	38371	Romero Wash	2	Pinal	8.333	T5.0S,R15.0E,S32	No	No	No	No	No	No	0
98	38394	Sahuarita Wash	2	Pima	9.098	T11.0S,R14.0E,S17	No	No	No	No	No	No	0
99	38436	Santa Cruz Wash	19	Pinal	36.561	T6.0S,R4.0E,S12	No	No	No	No	No	No	0
100	38448	Scanlon Wash	12	Pinal	10.139	T9.0S,R16.0E,S06	No	No	No	No	No	No	0
101	38505	Silver King Wash	1	Pinal	1.762	T1.0S,R12.0E,S23	No	No	No	No	No	No	0
102	38506	Silver Reef Wash	2	Pinal	12.269	T8.0S,R5.0E,S17	No	No	No	No	No	No	0
103	38524	Smelter Wash	10	Pinal	12.441	T9.0S,R17.0E,S04	No	No	No	No	No	No	0
104	38528	Smith Wash - Pinal	3	Pinal	6.805	T5.0S,R15.0E,S20	No	No	No	No	No	No	0
105	38561	South Fork Clark	4	Graham/Pinal	2.647	T8.0S,R18.0E,S35	No	No	No	No	No	No	0
106	38587	Spencer Spring Creek	7	Pinal	4.359	T1.0N,R12.0E,S16	No	No	No	No	No	No	0
107	38615	Steamboad Wash - Pinal	8	Pinal	7.539	T4.0S,R14.0E,S34	No	No	No	No	No	No	0
108	38630	Stratton Wash	9	Pima	18.072	T10.0S,R18.0E,S16	No	No	No	No	No	No	0
109	38645	Swingle Wash	5	Pinal	9.918	T6.0S,R15.0E,S12	No	No	No	No	No	No	0
110	38646	Sycamore Canyon	2	Pinal	2.328	T7.0S,R18.0E,S10	No	No	No	No	No	No	0
111	38674	Tar Wash	3	Pinal	6.281	T6.0S,R16.0E,S12	No	No	No	No	No	No	0
112	38677	Tat Momoli Wash	4	Pinal	6.568	T10.0S,R5.0E,S12	No	No	No	No	No	No	0
113	38700	Threeway Wash	1	Pinal	3.195	T9.0S,R14.0E,S31	No	No	No	No	No	No	0
114	38708	Tillmans Wash	3	Pinal	1.436	T2.0S,R13.0E,S26	No	No	No	No	No	No	0
115	38713	Tipperary Wash	1	Pinal	6.333	T6.0S,R13.0E,S28	No	No	No	No	No	No	0
116	38720	Tom Mix Wash	4	Pinal	10.060	T7.0S,R11.0E,S21	No	No	No	No	No	No	0
117	38730	Tortilla Creek	10	Maricopa/Pinal	16.349	T2.0N,R9.0E,S10	No	No	No	No	No	No	0
118	38760	Tucson Wash	14	Pinal	16.200	T8.0S,R17.0E,S18	No	No	No	No	No	No	0
119	38789	Twentynine Wash	1	Pinal	3.984	T10.0S,R14.0E,S31	No	No	No	No	No	No	0
120	38790	Twentyseven Wash	1	Pinal	2.393	T11.0S,R14.0E,S04	No	No	No	No	No	No	0
121	38809	Vekol Wash	51	Pinal/Maricopa	59.458	T3.0S,R2.0E,S10	No	No	No	No	No	No	0
122	38851	Well Canyon Stream	3	Pinal	9.097	T8.0S,R17.0E,S18	No	No	No	No	No	No	0
123	38866	West Fork Pinto	14	Pinal	11.637	T1.0N,R13.0E,S02	No	No	No	No	No	No	0
124	38897	Whitewash Canyon	1	Pinal	4.669	T6.0S,R17.0E,S24	No	No	No	No	No	No	0
125	38902	Whitlow Canyon	19	Pinal	14.725	T1.0S,R10.0E,S34	No	No	No	No	No	No	0
126	38970	Zapata Wash	7	Pinal	9.432	T7.0S,R16.0E,S35	No	No	No	No	No	No	0
127-2288	-	Unnamed Washes	-	Pinal	-	-	No	No	No	No	No	No	0

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W_MBOAT: With modern boating or not.
W_HBOAT: With historical boating or not.
W_FISH: With fish or not.
W_DIMP: Impacted by dam or not.
W_SSTATUS: With special status designations or not
HITS: Number of affirmative hits based on the six attribute data

Table A-1B
Watercourses in Pinal County Not Rejected at Level 1

No. (1)	W_ID (2)	W_NAME (3)	SEGCOUNT (4)	W_COUNTIES (5)	W_MILES (6)	W_ADDRESS (7)	W_PER (8)	W_MBOAT (9)	W_HBOAT (10)	W_FISH (11)	W_SSTATUS (12)	W_DIMP (13)	HITS (14)
1	62	Aravaipa Creek - Pinal	28	Graham/Pinal	21.74	T7.0S,R16.0E,S09	Yes	No	No	Yes	Yes	No	3
2	367	Canada del Oro	49	Pima/Pinal	41.84	T10.0S,R14.0E,S35	Yes	No	No	No	Yes	Yes	3
3	38293	Queen Creek	43	Maricopa/Pinal	48.62	T1.0S,R13.0E,S17	No	No	No	Yes	Yes	Yes	3
4	383	Campaign Creek	18	Gila/Maricopa/Pinal	16.57	T3.0N,R13.0E,S10	Yes	No	No	No	Yes	No	2
5	37960	Mescal Creek - Gila/Pinal	8	Gila/Pinal	8.82	T3.0S,R17.0E,S29	Yes	No	No	No	Yes	No	2
6	37984	Milky Wash	37	Gila/Pinal	19.60	T4.0S,R13.0E,S12	Yes	No	No	No	No	Yes	2
7	65	Arnett Creek	8	Pinal	11.11	T2.0S,R11.0E,S01	No	No	No	No	Yes	No	1
8	386	Carpas Wash	3	Pinal	6.72	T10.0S,R14.0E,S18	No	No	No	No	No	Yes	1
9	683	Dripping Spring	33	Gila/Pinal	19.95	T4.0S,R16.0E,S15	Yes	No	No	No	No	No	1
10	882	Guild Wash	1	Pinal	17.63	T11.0S,R11.0E,S04	No	No	No	No	No	Yes	1
11	31151	H73_0884	1	Pinal	2.53	T1.0N,R13.0E,S35	No	No	No	No	No	Yes	1
12	32554	H77_0241	3	Pinal	8.08	T1.0S,R7.0E,S35	No	No	No	No	No	Yes	1
13	32641	H77_0449	1	Pinal	1.41	T4.0S,R9.0E,S03	No	No	No	No	No	Yes	1
14	32645	H77_0455	2	Pinal	6.20	T4.0S,R8.0E,S24	No	No	No	No	No	Yes	1
15	32802	H77_0769	1	Pinal	1.28	T6.0S,R8.0E,S25	No	No	No	No	No	Yes	1
16	32978	H77_0971	1	Pinal	4.75	T1.0N,R8.0E,S19	No	No	No	No	No	Yes	1
17	32980	H77_0972	1	Pinal	7.24	T1.0N,R7.0E,S27	No	No	No	No	No	Yes	1
18	33000	H77_1016	1	Pinal	2.54	T1.0S,R8.0E,S34	No	No	No	No	No	Yes	1
19	33385	H77_1501	1	Pinal	0.08	T4.0S,R16.0E,S01	Yes	No	No	No	No	No	1
20	33391	H77_1507	1	Pinal	0.27	T4.0S,R16.0E,S15	Yes	No	No	No	No	No	1
21	33459	H77_1578	1	Pinal	0.14	T5.0S,R16.0E,S05	Yes	No	No	No	No	No	1
22	33473	H77_1592	1	Pinal	0.11	T5.0S,R14.0E,S12	Yes	No	No	No	No	No	1
23	33479	H77_1599	1	Pinal	0.14	T4.0S,R14.0E,S34	Yes	No	No	No	No	No	1
24	33488	H77_1606	2	Pinal	1.80	T4.0S,R14.0E,S17	Yes	No	No	No	No	No	1
25	33487	H77_1607	1	Pinal	0.09	T4.0S,R14.0E,S17	Yes	No	No	No	No	No	1
26	33499	H77_1619	3	Pinal	3.66	T3.0S,R13.0E,S25	No	No	No	No	No	Yes	1
27	33530	H77_1655	11	Pinal	9.66	T2.0S,R13.0E,S35	Yes	No	No	No	No	No	1
28	33552	H77_1680	1	Pinal	0.34	T2.0S,R13.0E,S34	Yes	No	No	No	No	No	1
29	33562	H77_1691	1	Pinal	0.33	T4.0S,R13.0E,S04	Yes	No	No	No	No	No	1
30	33842	H77_1977	7	Pinal	14.06	T1.0S,R7.0E,S12	No	No	No	No	No	Yes	1
31	34831	H78_1077	1	Pinal	8.49	T6.0S,R14.0E,S36	No	No	No	No	No	Yes	1
32	37636	Haunted Canyon Creek	4	Pinal	4.77	T1.0N,R13.0E,S27	No	No	No	Yes	No	No	1
33	37829	Lemmon Creek	1	Pinal	2.13	T10.0S,R15.0E,S26	No	No	No	Yes	No	No	1
34	37898	Los Robles Wash	7	Pima	18.58	T10.0S,R9.0E,S22	No	No	No	No	No	Yes	1
35	37920	Mammoth Wash	4	Pinal	20.73	T8.0S,R17.0E,S29	No	No	No	No	No	Yes	1
36	38193	Peppersauce Wash	18	Pinal	15.34	T10.0S,R17.0E,S01	No	No	No	No	Yes	No	1
37	38329	Redrock Canyon	3	Pinal	4.68	T10.0S,R18.0E,S26	No	No	No	Yes	No	No	1
38	38440	Santa Rosa Wash	42	Pima/Pinal	71.53	T7.0S,R4.0E,S04	No	No	No	No	No	Yes	1
39	38815	Virgus Canyon St	12	Pinal	12.42	T6.0S,R18.0E,S34	No	No	No	Yes	No	No	1
40	38849	Weekes Wash	9	Pinal	13.33	T2.0N,R9.0E,S31	No	No	No	No	No	Yes	1

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Ex 6