

COCHISE COUNTY

BEFORE THE
ARIZONA NAVIGABLE STREAM ADJUDICATION COMMISSION

IN THE MATTER OF THE
NAVIGABILITY OF SMALL AND
MINOR WATERCOURSES IN
COCHISE COUNTY, ARIZONA,
EXCLUDING THE SAN PEDRO
RIVER

No.: 03-003-NAV

REPORT, FINDINGS AND DETERMINATION
REGARDING THE NAVIGABILITY OF SMALL AND
MINOR WATERCOURSES IN COCHISE 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 Cochise County, Arizona, excluding the San Pedro 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 1,739 documented small and minor watercourses in Cochise County, of which 1,618 are unnamed. All of these watercourses, both named and unnamed, are the subject of and included in this report. Excluded from this report is the San Pedro River which is deemed to be a major watercourse and is the subject of a separate report. Attached hereto as Exhibit "A" is a list of all of the small and minor watercourses in Cochise County, Arizona, both named and unnamed, covered by this report.

I. Procedure

On December 25, 2002, the Commission gave proper prior notice of its intent to study the issue of whether small and minor watercourses in Cochise 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 Cochise 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 Cochise County, Arizona. Public notice of this hearing was

given by legal advertising on January 28, 2003, 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 12, 2003, in the City of Bisbee, the county seat of Cochise 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 12, 2003, all parties were advised that they could file post-hearing memoranda pursuant to Rule R12-17-108.01. A post-hearing memorandum was filed by the Salt River Project Agricultural Improvement and Power District and the Salt River Valley Water Users' Association.

On September 23, 2003, 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 Cochise County, Arizona were nonnavigable as of February 14, 1912.

II. Cochise County, Arizona

Cochise County, Arizona, is located in the southeast corner of the state and is approximately 6,215 square miles in land area, with a population of 125,525 as of July 1, 1999. It borders the counties of Graham and Greenlee to the north, the counties of Pima and Santa Cruz to the west, the State of New Mexico to the east, and the State of Sonora, Mexico to the south. Cochise County lies within the following latitude and longitude ranges: 31°20'00" North to 32°25'30" North and 109°03'00" West to 110°27'00" West.

Cochise 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 highest point in the county is Chiricahua Peak located in the Coronado National Forest at 9,795 feet above sea level. The lowest point in the county is Lonesome Valley on the San Pedro River at 3,776 feet above sea level. The geography of the county consists of three major valleys divided by mountain ranges. Arising from the east in New Mexico is the San Simon River Valley through which the San Simon River flows until it merges with the Gila River near Safford in Graham County. The San Bernardino Valley also cuts across the southeastern portion of the county and joins the San Simon Valley in New Mexico.

To the west and southwest of the San Simon Valley are the Dos Cabezas Mountains, Chiricahua Mountains and Pedregosa Mountains, all of which are volcanic in origin. To the west and southwest of the Dos Cabezas Mountains, Chiricahua Mountains, and Pedregosa Mountains is the Sulphur Springs Valley which runs from the southeast to the northwest. The Sulphur Springs Valley is a closed valley having no river or watercourse flowing through or draining it. The valley appears as a long oblong bowl with its low point at Willcox Playa or dry lake, which in wet years collects the rain that falls in the Sulphur Springs Valley. West of the Sulphur Springs Valley, lying from north to south, are the Galiuro Mountains, Winchester Mountains, Dragoon Mountains and Mule Mountains. There are wide passes between these mountain ranges, but all of the mountains have peaks exceeding 5,000 feet in elevation and Mt. Glenn in the Dragoon Mountains reaches an altitude of 7,500 feet. To the west of this string of mountains is the San Pedro River Valley through which the San Pedro River flows from Mexico in a northwesterly direction through the county, crossing a corner of Pima County and flowing on through Pinal County into the Gila River. West of the San Pedro River Valley, from north to south, are the Santa Catalina Mountains which lie mostly in Pima County, the Whetstone Mountains which lie just south of Interstate 10, and the Huachuca Mountains which lie in the southwesterly corner of Cochise County. The Chiricahua Mountains are generally acknowledged by botanists to be the dividing line between the Sonoran Desert and the Chihuahuan Desert.

The major population centers of Cochise County are the cities of Sierra Vista, Douglas, Willcox, Benson, and Bisbee which is also the county seat. Smaller towns or settlements located in Cochise County are, Huachuca City, Tombstone, Bowie, St. David, Sunsites, Sunizona, San Simon, Paradise, Portal, Double Adobe, Hereford, Palaminas, Cascabell, Elfrida, McNeil and Pirtleville. The major commercial industry of Cochise County is ranching and farming, although tourism is also important. Interstate 10 is the main east-west corridor of transportation, and Highways 80 and 191 (old Route 666) are the principal corridors running north and south. The main line of the Union Pacific/Southern Pacific Railroad, generally running parallel to Interstate 10, also traverses the county in an east-west direction. Major areas of interest in Cochise County are Ft. Huachuca Army Base, Chiracahua National Monument in the eastern Coronado National Forest, Cochise Stronghold in the Dragoon Mountains, Coronado National Monument in the Huachuca Mountains, Tombstone State Historical Park, historic Bisbee, and Kartchner Caverns State Park.

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

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

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 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 navigate 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 state might have in such lands by the payment of a quitclaim fee of \$25.00 per acre. The Arizona Center for Law in the Public Interest filed suit against Milo J. Hassell in his capacity as State Land Commissioner, claiming that the statute was unconstitutional under the public trust doctrine and gift clause of the Arizona Constitution as no determination had been made of what interest the state had in such lands and what was the reasonable value thereof so that it could be determined that the state was getting full value for the interests it was conveying. The Superior Court entered judgment in favor of the defendants and an appeal was taken. In its decision in

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.

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.2d at 738-39.

In 2001, the Legislature again amended the underlying statute in another attempt to comply with the Court's pronouncements in *Hassell* and *Hull*. See, 2001 Arizona Session Laws, ch. 166, § 1. The 2001 legislation now governs the Commission in making its findings with respect to the small and minor watercourses in Cochise County.

IV. Issues Presented

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

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

1. Based only on evidence of navigability or nonnavigability, determine what watercourses were not navigable as of February 14, 1912.

2. Based only on evidence of navigability or nonnavigability, determine whether watercourses were navigable as of February 14, 1912.

3. In a separate, subsequent proceeding pursuant to section 37-1128, subsection B, consider evidence of public trust values and then identify and make a public report of any public trust values that are now associated with the navigable watercourses.

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

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

watercourse was navigable, the commission shall issue its determination confirming that the watercourse was nonnavigable.

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

Thus, in compliance with the statutes, the Commission is required to collect evidence, hold hearings, and determine which watercourses in existence on February 14, 1912, were navigable or nonnavigable. This report pertains to all of the small and minor watercourses in Cochise County, Arizona, and excludes the San Pedro 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 Cochise 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 Zoberica, *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).

VI. Standard for Determining Navigability

The statute defines a navigable watercourse as follows:

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

A.R.S. § 37-1101(5).

The foregoing statutory definition is taken almost verbatim from the U.S. Supreme Court decision in *The Daniel Ball*, 77 U.S. (10 Wall) 557, 19 L.Ed. 999 (1870), which is considered by most authorities as the best statement of navigability for title purposes. 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 ravel 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 Cochise 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 Cochise 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 Cochise County, Arizona" prepared by Stantec Consulting Inc., in association with JE Fuller/Hydrology & Geomorphology, Inc., under supervision of the Arizona State Land Department, dated August 1, 2000, was submitted. An earlier draft of the final report, dated June 9, 2000, was also considered by the Commission. The Commission also considered documents, studies, and reports submitted mainly in conjunction with the study on the San Pedro River by 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. In connection with the study of the San Pedro River, the State Land Department submitted two comprehensive studies, one completed in 1993 and a revised edition in 1997, prepared by CH2MHILL through a contract with Arizona State Land Department. At the public hearing a number of individuals, residents, and ranchers living in Cochise County also appeared and gave testimony and presented letters and documents to the Commission. All witnesses testified, without exception, that the small and minor watercourses in Cochise County were not navigable and never had been navigable. The list of evidence and records, together with a summarization is attached as Exhibit "D". The public hearing on small and minor watercourses located in Cochise County, Arizona, was held in Bisbee, Arizona, on March 12, 2003, and the minutes of the meeting are attached hereto as Exhibit "E".

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

1. Analysis Methods.

Due to the large number of small and minor watercourses located in Cochise County, Arizona (1,739 watercourses, of which 1,618 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 1,739 small and minor watercourses in Cochise County, Arizona. The database also 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 utilizes a refinement with value engineering techniques analyzing watercourses with more than one affirmative response at level

one and assigned values to each of the six categories mentioned above. Clearly, perennial flow, historical boating, and modern boating are more important to the issue of navigability than the categories of dam impacted, special status, or fish. Thus, for the purpose of the value engineering study, the following rough values were assigned to each of the six categories: historical boating-10, modern boating-8, perennial stream-7, dam impacted-4, fish-4, and special status-2. This system is a recognized tool used in value engineering studies, and seven qualified engineers from the state Land Department and consulting staff of the contractor participated in determining the values used for each category. This system establishes that a value in excess of 13 is required for a stream to survive the level two evaluation and pass to level three for consideration. Thus, a stream having both perennial flow and historical boating (sum value of 17), or a combination of the values set for other criteria equaling more than 13, would require that the stream pass to evaluation at level three. If a stream does not have a sum value greater than 13, it is determined to require no further study and is rejected at level two as having insufficient characteristics of navigability.

If a stream survives the evaluation at level two, it goes on to level three which uses quantitative hydrologic and hydraulic analysis procedures including any stream gauge data available, as well as engineering estimates of depth, width and velocity of any water flow in the subject watercourse and comparing the same to minimum standards required for different types of vessels. Also considered is the configuration

of the channel and whether it contains rapids, boulders or other obstacles. If a stream or watercourse is not rejected or eliminated at level three, it is removed from this process and subjected to a separate detailed study similar to that performed on a major watercourse, and a separate report will be issued on that stream or watercourse.

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

The application of the level one analysis to the 1,739 small and minor watercourses located in Cochise County resulted in 1,698 watercourses or 97.6% being determined as not having any of the six characteristics listed above, and these 1,698 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 Cochise County which were determined to have no characteristics of navigability or characteristics indicating susceptibility of navigability at level one.

Only 41 watercourses, approximately 2.4%, received an affirmative response to the above characteristics or criteria and were evaluated at level two. Attached as Exhibit "G" is a list of the 41 watercourses that received a positive response to one or more of the characteristics listed above. It should be noted that only 15 of these 41 watercourses tested affirmatively to more than one of the level one criteria. Of these 15, none had a sum value of more than 13 when analyzed under the value engineering

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technique. Accordingly, none of these small or minor watercourses in Cochise County survived level two of the analysis so none was considered or evaluated at level three.

Evidence consisting of reports, photographs, maps, statements, and oral testimony submitted by other parties and considered by the Commission agreed with and confirmed the findings contained in the Stantec report. Testimony presented to the Commission at the hearing established that the present climate and weather conditions in Cochise 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 Cochise County, Arizona

In addition to the Small and Minor Watercourses Analysis and other evidence described above, the Commission also considered evidence of the prehistoric conditions and the historic development of Cochise County as disclosed in part in the study submitted in connection with hearings on navigability of the San Pedro River.

The archaeological evidence indicates the presence of paleoindians in Cochise County as early as 11,500 years ago. At that time, the weather was much more humid due to the end of the last ice age, and the valleys of Cochise County resembled a savanna in which megafauna such as mammoth, giant bison, and giant sloth lived and were hunted by the paleoindians as food. One of the most interesting archaeological sites in North America is located at the Lehner Ranch southwest of Hereford, Arizona,

where the remains of a mammoth with clovis projectile points embedded in the spinal column were found. The conclusion is that the paleoindians had killed the mammoth and were using the site for butchering and processing the large animal. Other paleoindian sites have been found at Murray Springs and elsewhere along the upper San Pedro River and the dry lake near Willcox.

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. Following the archaic period or Cochise culture, which ended around 100 B.C. to 100 A.D., the people who occupied Cochise County were classified as a poorly understood mix of Hohokam and San Simon Mogollon cultures. Generally speaking, the Hohokam influence prevailed on the San Pedro River to the north of Benson, and the Mogollon influence prevailed in the southeastern portions of the county.

The period of A.D. 850 to 1000 was a time of population expansion, especially in the lower San Pedro River valley, with a number of sites having 25 to 30 houses and ball courts, as well as evidence of irrigation. By A.D. 1200 there was a marked population decline and many sites were abandoned. However, in 1250 A.D., a new influence described by archaeologists as the Salado culture was in evidence along the rivers with an increase in population. Likewise, there was increased population in the Chiricahua Mountain area, probably as a resurgence of the Mogollon culture.

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There is no evidence of prehistoric boating on any of the small or minor watercourses or conditions that would support navigation. The paleoindian, archaic or Cochise cultures, and other prehistoric cultures were attracted to the area because of the availability of water from springs and minor watercourses but not for navigation or boating.

Historical documentation of Cochise County began with the Spanish expeditions from Mexico, starting with Marco de Niza's journey through the region in 1539. 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 Cascabelle 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 northwest, passing between the Santa Teresa and Pinaleno Mountains in Graham County to the Gila River where they crossed near Ft. Thomas.

Father Eusebio Kino, a Jesuit missionary, traveled in the area between 1691 and 1702 with a view toward extending his ministry to the Sobaipuris (upland Pimas) who were living there at the time. These Indians engaged in both irrigation and dry farming. Other missionaries followed in Kino's steps but no permanent missions were established in Cochise County. Due to attacks by the Apache Indians who came into

the area during the early 1700's, a presidio called Santa Cruz de Terrenate was established north of the present town of Fairbank. It lasted only a short time and the garrison was evacuated to Tucson because of the danger of Apache Indian attack. In the early 1800's, settlers from the Tucson and the Santa Cruz valley established some rancherias in the San Pedro valley where they conducted farming and ranching enterprises.

Three major land grants were established by the Mexican government in Cochise County in the 1800's: San Ignacio de Babocamari, lying east and west from modern day Elgin to the San Pedro River, established in 1827, confirmed by Court Decree in 1902; San Rafael de Valles, running north and south along the San Pedro riverbed from Hereford to a few miles south of Charleston, established in 1828; and San Juan de las Boquillas de Nogales, lying in the San Pedro riverbed from Charleston north to about five miles south of St. David, established in 1833, confirmed by the Court in 1899. See *Boquillas Land & Cattle Co. v. Curtis*, ___ U.S. ___, 29 S.Ct. 493, 53 L.Ed. 822 (1969).

James Ohio Patty led a company of trappers from the Gila River up the San Pedro in 1824 and 1825, and again in 1827 and 1828, trapping beaver along the way. In 1846, during the Mexican-American War, the Mormon Battalion on its trek from Santa Fe to California, passed over and along the northern portion of Cochise County. The Treaty of Guadalupe Hidalgo, February 2, 1848, which ended the Mexican-American War, resulted in the transfer of all of modern-day Arizona north of the Gila River from

Mexico to the United States. On December 30, 1853, the Gadsden Purchase Treaty was ratified whereby the United States purchased from Mexico the land south of the Gila River to the present border with Mexico, which encompasses all of Cochise County.

After the Gadsden Purchase, military surveyors crossed the area for purposes of surveying the international boundary and establishing a railroad route to the west coast. In 1857, the Butterfield Stage Line was established from San Antonio to California, which ran from Steens Pass on the New Mexico border through Apache Pass south of Willcox to Dragoon where it crossed the San Pedro River, and on to Tucson. During the American Civil War, troops were withdrawn from Arizona to fight the war in the east and the few settlers were left at the mercy of the Apache Indians. Following the Civil War, the Army established camps and forts in southern Arizona. Camp Grant was located at the junction of Aravaipa Creek and the San Pedro River but was later moved to the base of the Pinaleno Mountains in the Sulphur Springs Valley. Ft. Huachuca was established to the west of the San Pedro River, and Camp Bowie (later Fort Bowie) was established in Apache Pass. These military establishments, together with various mines that were located and established, resulted in additional population in Cochise County. A large copper mine was established at Bisbee in 1877, and silver was discovered in Tombstone in 1878. The town of Charleston was established in 1880 on the San Pedro River to process ore from Tombstone. Douglas, Willcox and various

mining towns such as Dos Cabezas, Pearce, Gleeson and Courtland, were also established.

The Southern Pacific and El Paso and Southwest Railroads were built in southern Arizona and crossed Cochise County in the early 1880's. A number of spur lines were built from these railroads to the various mines. At the time of statehood, ranching and mining were the main commercial enterprises of Cochise County, although there was some farming along the San Pedro River. Later, farming was developed in the Sulphur Springs Valley near Kansas Settlement by pumping ground water.

To this day none of the minor rivers or watercourses were used for travel or transportation. No evidence was found of any flotation of logs or other materials on the small and minor watercourses of Cochise County. There was no evidence of any boating or commercial fishing on any of the small and minor watercourses in Cochise County before or since statehood. From the Coronado Expedition forward, all travel and transportation in Cochise County has been accomplished by methods other than boat. Prior to and at the time of statehood, travel in Cochise County was by foot, horseback, mule, or ox-drawn 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. None of the streams in Cochise County has been listed in the Rivers and Harbors Act of 1899 (33 U.S. Code § 401-467e).

C. Title Issues on Lands Covered by Mexican and Spanish Land Grants

In the course of a hearing on the Santa Cruz River, the owners of Rio Rico Properties, Inc., by and through their attorneys, filed a memorandum with the Commission claiming that the Commission and the State of Arizona had no jurisdiction to consider the navigability of that portion of the Santa Cruz River encompassed within their property. Rio Rico Properties, Inc. is the successor in interest to the heirs of Luis Maria Cabeza de Baca, who acquired a land grant from the Spanish government, later confirmed by the Mexican government in 1821, known as the "Las Vegas Grandes" near Las Vegas, New Mexico. Since this grant was in conflict with another later grant (1835—Town of Las Vegas), Congress passed an Act in June of 1860 (12 Stat. 71, c. 167) allowing the heirs of Cabeza de Baca to select an equal quantity of vacant land, not mineral, in the Territory of New Mexico, to be located by them in square bodies not exceeding five in number. In 1863, as one of the five parcels, the Baca heirs selected the tract known as Baca Float No. 3, which is the area encompassed by the property now owned by Rio Rico Properties, Inc.³

Also, in the hearing involving small and minor watercourses in Cochise County, attorney Frank C. Brophy, for and on behalf of owners of the San Ignacio del Babocamari Land Grant filed a position paper claiming that because of its status as a Mexican Land Grant, the public trust doctrine does not apply to beds and banks of

³ In American land law, particularly in the western states, a Float is a certificate authorizing the entry by the holder of a certain quantity of land not yet specifically selected or located. Black's Law Dictionary, 5th ed. 1979.

streams within the land grant. Since there are at least three Mexican Land Grants in Cochise County, it is appropriate to deal with this issue in this report.

The position of the holders of what was formerly Spanish or Mexican Land Grant land is that the original Land Grant was made prior to the Treaty of Guadalupe Hidalgo (9 U.S. Stat. 922, Feb. 2, 1848) ending the war between the United States and Mexico and also before the treaty formalizing the Gadsden Purchase (10 U.S. Stat. 1031, Dec. 30, 1853) whereby the United States bought from Mexico the area south of the Gila River to the present international border. Both of these treaties provided that the United States would honor property rights and titles in land held by Mexican citizens prior to the date of the treaties. Because there were no title restrictions under the Mexican Land Grants and there is a question whether Mexican law recognizes the public trust doctrine as we know it (whereby the title to land under tidal waters and navigable rivers and the banks thereof was held by the sovereign for the benefit of all the people), it is their position that their title to the land covered by the Spanish or Mexican Land Grants should be absolute and not subject to the public trust doctrine. In support of their position, they cite *City and County of San Francisco v. Le Roy*, 138 U.S. 656, 11 S.Ct. 364, 34 L.Ed. 1096 (1891); *Knight v. United Land Association*, 142 U.S. 161, 12 S.Ct. 258, 35 L.Ed. 974 (1891); *Shaw v. Kellogg*, 170 U.S. 312, 18 S.Ct. 632, 42 L.Ed. 1050 (1898); *United States v. Coronado Beach Co.*, 255 U.S. 472, 41 S.Ct. 378, 65 L.Ed. 735 (1921); *Lane v. Watts*, 234 U.S. 525, 34 S.Ct. 965, 58 L.Ed. 1440 (1914).

Le Roy, Knight and Coronado all dealt with tidelands, which under common law would be held to be owned by the state under the public trust doctrine, but since the land grants predated the acquisition of the land by the United States, the owner under the land grants held title from Mexico and the land was not subordinate to the state's claim of sovereignty under the public trust doctrine.

The case of *Beard v. Federy*, 70 U.S. 478, ___S.Ct.____, 18 L.Ed. 88 (1865) involved a claim by the Bishop of Monterey to church lands at the Mission of San Jose who had acquired them from Spain in 1797 against a grantee of the Governor of California in 1846. The Court confirmed the church's title holding that "... the right or title is derived from the Spanish or Mexican government, and it may in some instances rest in the general law of the land, as is the case usually with the title of municipal bodies, under the Spanish and Mexican systems, to their common lands." The Court went on to state that the acquisition of California by the United States did not affect the property rights of its inhabitants and that the grant to the church deriving from the Spanish government, which was the source of Federy's title having been confirmed by a patent from the United States, was superior to the claim of Beard whose claim derived from a deed by the governor of California.

In its decision in *City of Los Angeles v. Venice Peninsula Properties*, 31 Cal.3d 288, 644 P.2d 792, 182 Cal.Rptr. 599 (1982), the Supreme Court of California held that a Mexican land grant in 1839 which included tidelands was subject to the public trust

interest of the State of California which was acquired under the equal footing doctrine from the United States when California became a state. Two very strong dissenting opinions object to the extension of the public trust doctrine by the majority and noted that the issue of whether a public trust exists is a question of federal law and not state law, and that all of the federal cases suggest the position that the federal patent issued confirming title as a result of a land grant overrides the state's claim to the land under the public trust doctrine.

The Supreme Court of the United States overruled the above decision of the California Supreme Court in *Summa Corp. v. California*, 466 U.S. 198, 104 S.Ct. 1751, 80 L.Ed.2d 237 (1984), holding that a patent issued under the Act of 1851 to confirm titles in Mexican and Spanish land grants were "pursuant to the authority reserved to the United States to enable it to discharge its international duty with respect to lands which, although tideland, had not passed to the states" under the equal footing doctrine. Also, if California desired to submit a public trust claim, it had to do so in the original confirmation proceedings resulting in the issuance of the patent. Its failure to do so results in its claim being barred, citing *United States v. Coronado Beach Co.*, *supra*.

Based on the foregoing, it appears that the claim that the public trust doctrine does not apply to streams and watercourses encompassed in Mexican and Spanish land grants on which title has been confirmed and a patent issued has considerable merit.

However, in view of our finding and determination of nonnavigability, we need not make a specific finding as to jurisdiction.

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 1,739 small and minor watercourses in Cochise 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 Cochise 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 Cochise County, Arizona.

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

DATED this 16TH day of December, 2003.



Earl Eisenhower, Chairperson



Jay Brashear, Member



Cecil Miller, Member

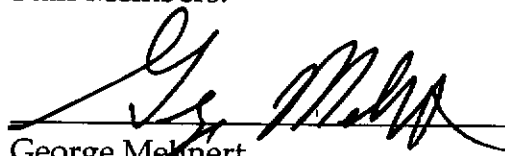


James Henness, Member




Dolly Echeverria, Member

Staff Members:



George Melnert
Executive Director



Curtis A. Jennings
Legal Counsel to the Commission

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The list of small and minor watercourses includes:

Apache Canyon Stream, Ash Creek 1, Ash Creek 2, Ash Creek Canyon, Babocomari River, Banning Creek, Bass Canyon, Bear Creek, Bear Creek 1, Bee Canyon Wash, Big Bend Creek, Big Sand Wash, Bitter Creek, Black Draw, Blacktail Wash, Box Spring Creek, Brad Creek, Brushy Creek, Buck Creek, Cadillac Wash, California Wash, Cave Creek, Cherry Spring Canyon, Clifford Wash, Collins Wash, Cottonwood Creek 1, Cottonwood Creek 2, Cottonwood Creek 3, Cottonwood Draw, Danger Wash, Deer Creek 1, Deer Creek 2, Dial Wash, Dragoon Wash, East Turkey Creek, East Whitetail Creek, Escalante Wash, Fivemile Creek, Gadwell Canyon, Garden Canyon, Glance Creek, Gold Gulch, Guadalupe Canyon, Haberstock Wash, Hackberry Wash, Happy Camp Wash, Hay Hollow Wash, Henderson Wash, Hot Springs Canyon, Indian Creek 1, Indian Creek 2, Joaquin Creek, Keating Creek, Leslie Creek, Mesa Draw, Mescal Arroyo, Mescal Creek, Middle Canyon Wash, Middle Witch Creek, Miller Canyon, Montosa Canyon S, Morse Canyon, Mud Spring Wash, Mulberry Draw, North Witch Creek, O B Draw, Oak Creek, Onion Creek, Owl Creek, Pacheco Wash, Paige Creek, Palomas Wash, Pine Creek, Pinery Creek, Pool Wash, Pridham Creek, Ramsey Canyon, Redrock Creek, Reeves Creek, Reiley Creek, Ridge, Rock Creek, Rucker Canyon, Sacaton Wash, San Simon River, Sheep Wash, Silver Creek 1, Silver Creek 2, Slaughterhouse Wash, Slavin Wash, Soldier Creek, South Fork Canyon, South Fork Cave, South Fork Keati, South Witch Creek, Soza Wash, Spring Creek, Stanford Creek, Swamp Springs Canyon, Sycamore Creek, Teran Wash, Tres Alamos Wash, Turkey Creek, Vanar Wash, Walnut Gulch, Walnut Wash, West Whitetail C, Whitewater Draw, Wildcat Wash, Willow Wash, Witch Creek, Wood Canyon Stream, Wood Canyon Wash, and any other unnamed minor watercourses.

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A



STATE OF ARIZONA
NAVIGABLE STREAM ADJUDICATION COMMISSION

1700 West Washington, Room 404, Phoenix, Arizona 85007

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

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

GEORGE MEHNERT
Executive Director

STATEMENT OF INTENT

State of Arizona

Navigable Stream Adjudication Commission

Pursuant to A.R.S. §37-1101, *et. seq.*, the Arizona Navigable Stream Adjudication Commission (ANSAC) is planning to hold a watercourse navigability hearing regarding all of the small and minor watercourses in Cochise 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 nonnavigability of all small and minor watercourses in Cochise County. Interested parties are requested to file all documentary evidence they propose to submit to ANSAC by January 24, 2003. 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:

Apache Canyon Stream, Ash Creek 1 - Cochise, Ash Creek 1 - Pima/Cochise, Ash Creek 2 - Cochise, Ash Creek 3 - Graham, Ash Creek Canyon, b - Seg 8 Cochise, Babocomari River - Cochise, Banning Creek, Bass Canyon, Bear Creek - Cochise, Bear Creek 1 - Cochise, Bee Canyon Wash, Big Bend Creek, Big Sand Wash - Cochise, Bitter Creek - Cochise, Black Draw, Blacktail Wash, Box Spring Creek, Brad Creek, Brushy Creek - Cochise, Buck Creek, Cadillac Wash, California Wash, Cave Creek - Cochise, Cherry Spring Canyon, Clifford Wash, Collins Wash, Cottonwood Creek 1 - Cochise, Cottonwood Creek 2 - Cochise, Cottonwood Creek 3 - Cochise, Cottonwood Draw, Danger Wash, Deer Creek 1 - Cochise, Deer Creek 1 - Pima/Cochise, Dial Wash, Dragoon Wash, East Turkey Creek, East Whitetail Creek, Escalante Wash, Fivemile Creek, Gadwell Canyon, Garden Canyon, Glance Creek, Gold Gulch, Guadalupe Canyon, Haberstock Wash, Hackberry Wash - Cochise, Happy Camp Wash, Hay Hollow Wash, Henderson Wash, Hot Springs Canyon, Indian Creek 1 - Cochise, Indian Creek 2 - Cochise, Joaquin Creek, Keating Creek, Leslie Creek, Mesa Draw, Mescal Arroyo, Mescal Creek - Cochise, Middle Canyon Wash, Middle Witch Creek, Miller Canyon, Montosa Canyon S, Morse Canyon, Mud Spring Wash, Mulberry Draw, North Witch Creek, O B Draw, Oak Creek - Cochise, Onion Creek, Owl Creek, Pacheco Wash, Paige Creek, Palomas Wash, Pine Creek - Cochise, Pinery Creek, Pool Wash, Pridham Creek, Ramsey Canyon, Redfield Canyon, Redrock Creek, Reeves Creek, Reiley Creek, Ridge, Rock Creek - Cochise, Rucker Canyon, Sacaton Wash, San Simon River, Sheep Wash - Cochise, Silver Creek 1 - Cochise, Silver Creek 2 - Cochise, Slaughterhouse Wash, Slavin Wash, Soldier Creek - Cochise, South Fork Canyon, South Fork Cave Creek, South Fork Keating Creek, South Witch Creek, Soza Wash, Spring Creek - Cochise, Stanford Creek, Swamp Springs Canyon, Sycamore Creek - Cochise, Teran Wash, Tres Alamos Wash, Turkey Creek - Cochise, Turkey Creek - Santa Cruz, Vanar Wash, Walnut Gulch, Walnut Wash, West Whitetail Creek, Whitewater Draw, Wildcat Wash, Willow Wash - Cochise, Witch Creek, Wood Canyon Stream, Wood Canyon Wash, and any other named or unnamed small and minor watercourses in Cochise County.

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B

An unbound original plus seven bound copies of documentary evidence is to be submitted. ANSAC offices are located at 1700 West Washington, Room 404, Phoenix, AZ 85007. The telephone number is (602) 542-9214. The web site address is <http://www.azstreambeds.com>. The e-mail address is streams@mindspring.com.

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

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STATE OF ARIZONA
NAVIGABLE STREAM ADJUDICATION COMMISSION

1700 West Washington, Room 404, Phoenix, Arizona 85007

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GEORGE MEHNERT
Executive Director

NOTICE OF PUBLIC HEARING
January 3, 2003

State of Arizona
Navigable Stream Adjudication Commission

Pursuant to A.R.S. § 37-1126 (A), notice is hereby given that the Navigable Stream Adjudication Commission will hold a public hearing to receive physical evidence and testimony relating to the navigability or nonnavigability of all small and minor watercourses in Cochise County. The hearing will be held in Cochise County on February 12, 2003. The hearing will begin at 9:00 a.m. at the Cochise County Board of Supervisors Board Room, Building B, 1415 West Melody Lane, Bisbee, Arizona 85603. This is presently the only hearing scheduled for the small and minor watercourses in Cochise County.

The list of minor watercourses includes:

Apache Canyon Stream, Ash Creek 1 - Cochise, Ash Creek 1 - Pima/Cochise, Ash Creek 2 - Cochise, Ash Creek 3 - Graham, Ash Creek Canyon, b - Seg 8 Cochise, Babocomari River - Cochise, Banning Creek, Bass Canyon, Bear Creek - Cochise, Bear Creek 1 - Cochise, Bee Canyon Wash, Big Bend Creek, Big Sand Wash - Cochise, Bitter Creek - Cochise, Black Draw, Blacktail Wash, Box Spring Creek, Brad Creek, Brushy Creek - Cochise, Buck Creek, Cadillac Wash, California Wash, Cave Creek - Cochise, Cherry Spring Canyon, Clifford Wash, Collins Wash, Cottonwood Creek 1 - Cochise, Cottonwood Creek 2 - Cochise, Cottonwood Creek 3 - Cochise, Cottonwood Draw, Danger Wash, Deer Creek 1 - Cochise, Deer Creek 1 - Pima/Cochise, Dial Wash, Dagoon Wash, East Turkey Creek, East Whitetail Creek, Escalante Wash, Fivemile Creek, Gadwell Canyon, Garden Canyon, Glance Creek, Gold Gulch, Guadalupe Canyon, Haberstock Wash, Hackberry Wash - Cochise, Happy Camp Wash, Hay Hollow Wash, Henderson Wash, Hot Springs Canyon, Indian Creek 1 - Cochise, Indian Creek 2 - Cochise, Joaquin Creek, Keating Creek, Leslie Creek, Mesa Draw, Mescal Arroyo, Mescal Creek - Cochise, Middle Canyon Wash, Middle Witch Creek, Miller Canyon, Montosa Canyon S, Morse Canyon, Mud Spring Wash, Mulberry Draw, North Witch Creek, O B Draw, Oak Creek - Cochise, Onion Creek, Owl Creek, Pacheco Wash, Paige Creek, Palomas Wash, Pine Creek - Cochise, Pinery Creek, Pool Wash, Pridham Creek, Ramsey Canyon, Redfield Canyon, Redrock Creek, Reeves Creek, Reiley Creek, Ridge, Rock Creek - Cochise, Rucker Canyon, Sacaton Wash, San Simon River, Sheep Wash - Cochise, Silver Creek 1 - Cochise, Silver Creek 2 - Cochise, Slaughterhouse Wash, Slavin Wash, Soldier Creek - Cochise, South Fork Canyon, South Fork Cave Creek, South Fork Keating Creek, South Witch Creek, Soza Wash, Spring Creek - Cochise, Stanford Creek, Swamp Springs Canyon, Sycamore Creek - Cochise, Teran Wash, Tres Alamos Wash, Turkey Creek - Cochise, Turkey Creek - Santa Cruz, Vanar Wash, Walnut Gulch, Walnut Wash, West Whitetail Creek, Whitewater Draw, Wildcat Wash, Willow Wash - Cochise, Witch Creek, Wood Canyon Stream, Wood Canyon Wash, and any other named or unnamed minor watercourses in Cochise 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

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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 at 1700 West Washington Street, Room 404, Phoenix, Arizona 85007. Please call first to review evidence at (602) 542-9214.

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

Respectfully submitted,



George Mehnert, Director

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Arizona Navigable Stream Adjudication Commission

Cochise County Small and Minor Watercourses
March 12, 2003

Item Number	Received Date	Source to ANSAC	Description	Entry By
1	6/9/00 approx	Evidence on hand at AN-SAC.	Draft Final Report Small & Minor Watercourses Analysis for Cochise County, Arizona dated June 9, 2000.	George Mehnert
2	8/1/00 approx	Evidence on hand at AN-SAC.	Final Report Small & Minor Watercourses Analysis for Cochise County, Arizona dated August 1, 2000.	George Mehnert
3	8/17/00 approx	Evidence on hand at AN-SAC.	Computer printout pages of PowerPoint slide presentation by Stantec and Jon Fuller, titled AN-SAC Public Hearing Cochise County.	George Mehnert
4	9/?/98	Evidence on hand at AN-SAC	Small and Minor Watercourse Criteria Final Report.	George Mehnert
5	9/?/99	Evidence on hand at AN-SAC	Final Report, 3 County Pilot Study.	George Mehnert
6	Received on various dates.	Evidence on hand at AN-SAC previously submitted for watercourse hearings in Santa Cruz County and included in Commission report to legislature, 1 volume.	Volume I of I. 1. Letter from David Baron dated February 18, 1997. 2. 1992 Boating Survey by Central Paddlers Club. 3. Letter from James Braselton dated September 19, 1997. 4. Letter from Virgil Mercer, Winkleman Natural Resource Conservation District. 5. Explorations and Surveys from the Mississippi River to the Pacific	George Mehnert

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Arizona Navigable Stream Adjudication Commission

Cochise County Small and Minor Watercourses
March 12, 2003

Item Number	Received Date	Source	Description	Entry By
			Ocean, and July 15, 1987 affidavit by James Slingsluff. 6. October 6, 1996 letter from Timothy Flood. 7. December 16, 1997 and December 19, 1996 letter from V. Ottozawa-Chatupron. 8. December 26, 1997 letter from Al Anderson, Arizona Audobon Council. 9. Handwritten letter received February 9, 1998 from A. Ralph Curtis. 10. February 22, 1998 comments and exhibits from Richard Lee Duncan. 11. Draft Navigability Study of the San Pedro River by SWCA Environmental Consultants received February 12, 1997. 12. Navigability study of the San Pedro River by Jon Fuller and SWCA Environmental Consultants received September 4, 1997.	
7	1/22/03	Frank C. Brophy Jr	Ltr Re: Babacomari River (Creek), Tributary of the San Pedro River.	
8	1/28/03	Wayne Klump	Letter Notice of Objection.	George Mehnert
9	3/12/03	Mary Smallhouse	Letter by Cayetano Ronquillo, 3/11/03.	George Mehnert
10	3/12/03	Amy Langenfeld	Memorandum submitted for hearing	George Mehnert
11	3/12/03	Wayne Klump	Photo of barges hitting interstate 40 bridge on Arkansas River	George Mehnert
12	3/12/03	Wayne Klump	Newspaper Article, Arizona Daily Star by Doug Kreutz entitled "A Dry and Thirsty Land".	George Mehnert
13	3/12/03	Wayne Klump	Chart, June 1964 by Institute for Atmospheric Physics at UofA	George Mehnert
14	3/12/03	Wayne Klump	Statement of Claim filed with State Land Department regarding Gold Gulch, 5/19/76	George Mehnert

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Arizona Navigable Stream Adjudication Commission

Cochise County Small and Minor Watercourses
March 12, 2003

Item Number	Received Date	Source	Description	Entry By
15	3/12/03	Wayne Klump	Earnest Money Agreement 9/16/75.	George Mehnert
16	3/12/03	Wayne Klump	Order Modifying Decision and Order, Dept of Water Resources regarding Gold Gulch.	George Mehnert
17	3/12/03	Wayne Klump	Map of portion of Arizona including Gold Gulch	George Mehnert
18	3/12/03	Wayne Klump	Miners Bucket — Photos substituted for bucket.	George Mehnert
19	3/12/03	Wayne Klump	A Treatise on the Law of Surveying and Boundaries by Frank Emerson Clark.	George Mehnert
20	3/12/03	Keith Klump	Handwritten notes of definitions of various types of watercourses.	George Mehnert
21	3/12/03	Keith Klump	Magazine, Weatherwise, March/April 2003.	George Mehnert
22	3/12/03	Shelby Bennett	Photo of fisherman in dry streambed.	George Mehnert
23	3/12/03	Susan Krentz	Letter from W. C. Kimble, father of Susan Krentz, dated 3/11/03.	George Mehnert
24	3/12/03	Susan Krentz	Letter signed by Susan Krentz dated 3/11/03.	George Mehnert
25	3/12/03	Cheryl Doyle	Letter from State Land Department dated 3/12/03.	George Mehnert
26	3/10/03	Vera Kornylak	Article Desert Plants, Special Issue, Dienegas by Dean Hendrickson and W. L. Minckley.	George Mehnert

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Meeting Minutes Bisbee, Cochise County Hearing Regarding Small and Minor Watercourses in Cochise County March 12, 2003

COMMISSION MEMBERS PRESENT

Jay Brashear, Dolly Echeverria, Earl Eisenhower, James Henness, and Cecil Miller

COMMISSION MEMBERS ABSENT

None.

STAFF PRESENT

Curtis Jennings, George Mehnert, Tom Vogt.

1. CALL TO ORDER

Chair Eisenhower called the meeting to order at approximately 9:12 a.m.

2. ROLL CALL

All Commissioners were still present.

3. COCHISE COUNTY SMALL AND MINOR WATERCOURSE HEARING (discussion and action).

Chair Eisenhower explained called on a representative of the State Land Department.

The following people appeared and gave testimony or asked questions: V. Ottozawa-Chatupron, Wayne Klump, Keith Klump, Wallace Klump, F. Shelby Bennett, Susan Krentz, Bridgette Briscoe, Andrew Smallhouse, Chuck Chambers.

CALL FOR PUBLIC COMMENT (comment sheets).

(Pursuant to Attorney General Opinion No. I99-006 [R99-002]. Public Comment: Consideration and discussion of comments and complaints from the public. Those wishing to address the Commission need not request permission in advance. Action taken as a result of public comment will be limited to directing staff to study the matter or rescheduling the matter for further consideration and decision at a later date.)

Mr. Brashear said that the Commission should not limit questions that can be asked, but that there is no obligation on the person asked the question to answer it. Mr. Brashear said he was concerned it could be construed as a matter of bias and prejudice.

Each Commissioner thanked everyone for participating and Mrs. Echeverria stated the Commissioners were well aware of every party's interests by the information they have provided. Mrs. Echeverria went on to say that in terms of the questions asked, that she was concerned that some of the questions asked yesterday were in poor taste and were taking

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advantage of the Commission, when a witness was asked how much he was being paid to do research and testify. Mr. Brashear said they were free to disagree about questions that are in poor taste.

The Chair thanked everyone and said that the Commission was statutorily obligated to hold these hearings and that they will do their best to be honest and that none of them has a bias one way or the other. We are engaged in a process and hopes everyone understands the process.

Mark McGinnis reminded the Commission that the vote on Mohave and LaPaz small and minor watercourses that had been included on the San Pedro River agenda, had not been addressed.

Motion: To adjourn session on Cochise Small and Minor Watercourses.

Motion by: Jim Henness Second by: Jay Brashear Vote: All aye

Meeting closed at 11:00 a.m.

The Chair returned to the San Pedro agenda regarding items 4 and 5 on that agenda.

Respectfully submitted,


George Mehnert, Director

Date: March 14, 2003

4.0 Results

4.1 LEVEL 1 ANALYSIS

The application of the Level 1 sorting procedure to all small and minor watercourses in Cochise County resulted into two data sets. The RL1 data set is comprised of all watercourses that test negatively for each criterion used in the Level 1 database query. This indicates that no characteristics of stream susceptibility to navigation are exhibited based upon known records and information. Level 1 analysis results indicate a significant percentage of the watercourses (97.6% or 1,698 records out of 1,739 total) test negatively to all Level 1 criteria and, therefore, do not justify further evaluation at Level 2.

The NRL1 data set is comprised of those watercourses that exhibit some characteristics of susceptibility to navigation based upon at least one affirmative response (hit) to the six criteria used in the Level 1 evaluation. Results of the analysis indicate that there are 41 watercourses (approximately 2.4%) in Cochise County, which justify analysis at Level 2.

The summary listings for RL1 and NRL1 data sets are presented in Tables A-1A and A-1B in Appendix A. Twenty-six (26) of the NRL1 watercourses are one-hitters and 15 watercourses tested affirmatively to more than one of the Level 1 criteria used in the database query.

The maps of RL1 and NRL1 data sets determined from the Level 1 sort are shown in Figure 8.

TABLE A-1A
RL1 Watercourses for Cochise 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	56	Apache Canyon Stream	2	Cochise/Pima	8.8835	T18.0S,R18.0E,S07	No	No	No	No	No	No	0
2	76	Ash Creek 1 - Cochise	6	Cochise	16.6219	T18.0S,R26.0E,S24	No	No	No	No	No	No	0
3	80	Ash Creek 1 - Pima/Cochise	5	Pima/Cochise	5.2923	T16.0S,R19.0E,S06	No	No	No	No	No	No	0
4	82	Ash Creek 2 - Cochise	17	Cochise	9.2036	T16.0S,R19.0E,S08	No	No	No	No	No	No	0
5	89	Ash Creek 3 - Graham	10	Graham/Cochise	25.3987	T10.0S,R22.0E,S36	No	No	No	No	No	No	0
6	92	Ash Creek Canyon	3	Cochise	9.9756	T13.0S,R22.0E,S26	No	No	No	No	No	No	0
7	120	Banning Creek	12	Cochise	14.1748	T22.0S,R23.0E,S21	No	No	No	No	No	No	0
8	140	Bear Creek 1 - Cochise	2	Pima/Cochise	9.0827	T14.0S,R19.0E,S29	No	No	No	No	No	No	0
9	158	Bee Canyon Wash	2	Cochise	5.9401	T13.0S,R23.0E,S09	No	No	No	No	No	No	0
10	171	Big Bend Creek	8	Cochise	10.3035	T21.0S,R28.0E,S22	No	No	No	No	No	No	0
11	188	Big Sand Wash - Cochise	2	Cochise	3.0331	T16.0S,R28.0E,S01	No	No	No	No	No	No	0
12	208	Bitler Creek - Cochise	1	Cochise	1.0858	T15.0S,R30.0E,S31	No	No	No	No	No	No	0
13	239	Blacktail Wash	3	Cochise	9.5572	T21.0S,R19.0E,S01	No	No	No	No	No	No	0
14	286	Box Spring Creek	4	Cochise/Graham	13.7030	T11.0S,R22.0E,S16	No	No	No	No	No	No	0
15	288	Brad Creek	1	Cochise	2.0607	T15.0S,R30.0E,S20	No	No	No	No	No	No	0
16	304	Brushy Creek - Cochise	3	Cochise	6.2082	T19.0S,R28.0E,S26	No	No	No	No	No	No	0
17	309	Buck Creek	2	Cochise	10.9847	T22.0S,R30.0E,S17	No	No	No	No	No	No	0
18	354	Cadillac Wash	2	Cochise	9.3191	T16.0S,R20.0E,S32	No	No	No	No	No	No	0
19	358	California Wash	1	Cochise	7.6152	..SLG	No	No	No	No	No	No	0
20	447	Cherry Spring Canyon	7	Cochise	9.6717	T12.0S,R19.0E,S23	No	No	No	No	No	No	0
21	486	Clifford Wash	9	Cochise	18.5909	..SLG	No	No	No	No	No	No	0
22	503	Collins Wash	1	Cochise	2.1712	T14.0S,R19.0E,S15	No	No	No	No	No	No	0
23	545	Cottonwood Creek 1 - Cochise	1	Cochise	2.1041	T15.0S,R30.0E,S30	No	No	No	No	No	No	0
24	549	Cottonwood Creek 2 - Cochise	5	Cochise	7.4239	T22.0S,R32.0E,S27	No	No	No	No	No	No	0
25	553	Cottonwood Creek 3 - Cochise	1	Cochise	5.6369	T19.0S,R29.0E,S27	No	No	No	No	No	No	0
26	615	Danger Wash	2	Cochise	7.6561	T22.0S,R30.0E,S19	No	No	No	No	No	No	0
27	639	Deer Creek 1 - Cochise	2	Cochise	2.5637	T20.0S,R32.0E,S27	No	No	No	No	No	No	0
28	643	Deer Creek 1 - Pima/Cochise	5	Pima/Cochise	7.7186	T14.0S,R19.0E,S20	No	No	No	No	No	No	0
29	658	Dial Wash	3	Cochise/Graham	16.3473	T17.0S,R21.0E,S31	No	No	No	No	No	No	0
30	679	Dragon Wash	16	Cochise	20.3956	T16.0S,R30.0E,S25	No	No	No	No	No	No	0
31	733	East Whitetail Creek	17	Cochise	20.2668	T18.0S,R21.0E,S18	No	No	No	No	No	No	0
32	748	Escalante Wash	2	Cochise	8.8439	T17.0S,R28.0E,S15	No	No	No	No	No	No	0
33	770	Fivemile Creek	4	Cochise	16.8082	T21.0S,R24.0E,S10	No	No	No	No	No	No	0
34	811	Gadwell Canyon	10	Cochise	19.5808	T24.0S,R25.0E,S04	No	No	No	No	No	No	0
35	829	Glance Creek	9	Cochise	10.8687	T10.0S,R28.0E,S33	No	No	No	No	No	No	0
36	831	Gold Gulch	25	Cochise/Graham	32.2825	T24.0S,R32.0E,S21	No	No	No	No	No	No	0
37	861	Guadalupe Canyon	9	Cochise	7.8690	T19.0S,R22.0E,S11	No	No	No	No	No	No	0
38	37602	Haberstock Wash	2	Cochise	6.9397	T22.0S,R29.0E,S35	No	No	No	No	No	No	0
39	37608	Hackberry Wash - Cochise	3	Cochise	6.2530	T13.0S,R28.0E,S25	No	No	No	No	No	No	0
40	37624	Happy Camp Wash	8	Cochise	16.8805	T23.0S,R31.0E,S23	No	No	No	No	No	No	0
41	37841	Hay Hollow Wash	4	Cochise	12.9276	T19.0S,R22.0E,S24	No	No	No	No	No	No	0
42	37848	Henderson Wash	2	Cochise	7.2643	T23.0S,R30.0E,S16	No	No	No	No	No	No	0
43	37717	Indian Creek 1 - Cochise	8	Cochise	16.9735	T16.0S,R30.0E,S20	No	No	No	No	No	No	0
44	37719	Indian Creek 2 - Cochise	2	Cochise	3.6409	T18.0S,R30.0E,S12	No	No	No	No	No	No	0
45	37765	Keating Creek	4	Cochise	8.6947		No	No	No	No	No	No	0

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TABLE A-1A
RL1 Watercourses for Cochise County

No.	W_ID (1)	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	37955	Mesa Draw	7	Cochise	10.3054	T21.0S,R28.0E,S22	No	No	No	No	No	No	0
47	37956	Mescal Arroyo	6	Pima/Cochise	9.2571	T17.0S,R18.0E,S03	No	No	No	No	No	No	0
48	37958	Mescal Creek - Cochise	3	Cochise	5.3028	T18.0S,R19.0E,S33	No	No	No	No	No	No	0
49	37967	Middle Canyon Wash	1	Cochise	5.0489	T18.0S,R20.0E,S32	No	No	No	No	No	No	0
50	37974	Middle Witch Creek	1	Cochise	2.0537	T17.0S,R28.0E,S19	No	No	No	No	No	No	0
51	38014	Montosa Canyon	1	Pima/Cochise	6.7310	T18.0S,R18.0E,S21	No	No	No	No	No	No	0
52	38035	Mud Spring Wash	2	Cochise/Graham	8.0779	T11.0S,R22.0E,S14	No	No	No	No	No	No	0
53	38100	North Witch Creek	2	Cochise	3.9859	T17.0S,R29.0E,S19	No	No	No	No	No	No	0
54	38105	O B Draw	3	Cochise	7.9798	T16.0S,R28.0E,S04	No	No	No	No	No	No	0
55	38109	Oak Creek - Cochise	2	Cochise	3.8614	T16.0S,R30.0E,S23	No	No	No	No	No	No	0
56	38127	Onion Creek	2	Cochise	2.8245	T17.0S,R30.0E,S25	No	No	No	No	No	No	0
57	38137	Owl Creek	2	Cochise	3.4577	T20.0S,R32.0E,S20	No	No	No	No	No	No	0
58	38143	Pacheco Wash	2	Cochise	6.9414	T18.0S,R20.0E,S06	No	No	No	No	No	No	0
59	38151	Paige Creek	27	Pima/Cochise	17.8841	T13.0S,R18.0E,S23	No	No	No	No	No	No	0
60	38160	Palomas Wash	5	Cochise	7.7640	T14.0S,R20.0E,S17	No	No	No	No	No	No	0
61	38216	Pine Creek - Cochise	5	Cochise	15.6040	T17.0S,R30.0E,S32	No	No	No	No	No	No	0
62	38230	Pinery Creek	10	Cochise	22.5847	T16.0S,R28.0E,S22	No	No	No	No	No	No	0
63	38259	Pool Wash	3	Cochise	5.6669	T13.0S,R19.0E,S25	No	No	No	No	No	No	0
64	38273	Pridham Creek	4	Cochise	13.6684	T18.0S,R27.0E,S25	No	No	No	No	No	No	0
65	38330	Redrock Creek	10	Cochise	9.8588	T15.0S,R20.0E,S04	No	No	No	No	No	No	0
66	38331	Reaves Creek	3	Cochise	9.0578	T20.0S,R23.0E,S05	No	No	No	No	No	No	0
67	38334	Reiley Creek	2	Cochise	7.7313	T11.0S,R23.0E,S32	No	No	No	No	No	No	0
68	38339	Ridge	1	Cochise	10.4132	T15.0S,R26.0E,S21	No	No	No	No	No	No	0
69	38356	Rock Creek - Cochise	3	Cochise	14.8889	T18.0S,R28.0E,S09	No	No	No	No	No	No	0
70	38390	Sacaton Wash	2	Cochise	6.3199	T12.0S,R25.0E,S09	No	No	No	No	No	No	0
71	38477	Sheep Wash - Cochise	13	Cochise	10.9688	T16.0S,R22.0E,S18	No	No	No	No	No	No	0
72	38502	Silver Creek 1 - Cochise	14	Cochise	18.0801	T24.0S,R30.0E,S17	No	No	No	No	No	No	0
73	38503	Silver Creek 2 - Cochise	3	Cochise	14.2734	T16.0S,R32.0E,S28	No	No	No	No	No	No	0
74	38518	Slaughterhouse Wash	3	Cochise	8.0780	T21.0S,R20.0E,S06	No	No	No	No	No	No	0
75	38519	Slavin Wash	8	Cochise	15.5599	T18.0S,R21.0E,S17	No	No	No	No	No	No	0
76	38540	Soldier Creek - Cochise	4	Cochise	13.3633	T22.0S,R20.0E,S04	No	No	No	No	No	No	0
77	38558	South Fork Canyon	1	Cochise	1.8877	T13.0S,R22.0E,S28	No	No	No	No	No	No	0
78	38566	South Fork Keating Creek	1	Cochise	3.0214	T16.0S,R30.0E,S14	No	No	No	No	No	No	0
79	38561	South Witch Creek	1	Cochise	4.0104	T17.0S,R28.0E,S19	No	No	No	No	No	No	0
80	38563	Soza Wash	16	Cochise	10.8167	T12.0S,R19.0E,S28	No	No	No	No	No	No	0
81	38590	Spring Creek - Cochise	4	Cochise	9.0321	T23.0S,R22.0E,S15	No	No	No	No	No	No	0
82	38612	Stanford Creek	2	Cochise	13.2640	T18.0S,R27.0E,S23	No	No	No	No	No	No	0
83	38648	Sycamore Creek - Cochise	3	Cochise	5.8937	T23.0S,R32.0E,S10	No	No	No	No	No	No	0
84	38689	Teran Wash	10	Cochise	7.0886	T13.0S,R20.0E,S31	No	No	No	No	No	No	0
85	38737	Tres Alamos Wash	29	Cochise	28.4659	T16.0S,R20.0E,S05	No	No	No	No	No	No	0
86	38808	Vanar Wash	8	Cochise	10.5214	T13.0S,R32.0E,S11	No	No	No	No	No	No	0
87	38832	Walnut Gulch	10	Cochise	12.1723	..SLG	No	No	No	No	No	No	0
88	38833	Walnut Wash	6	Cochise	10.5341	T15.0S,R24.0E,S19	No	No	No	No	No	No	0
89	38679	West Whittail Creek	7	Cochise	8.7334	T16.0S,R28.0E,S15	No	No	No	No	No	No	0
90	38912	Wildcat Wash	1	Cochise	8.5997	T24.0S,R30.0E,S08	No	No	No	No	No	No	0

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TABLE A-1A
RL1 Watercourses for Cochise 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)
91	38932	Willow Wash - Cochise	8	Cochise	19.2051	.,SLG	No	No	No	No	No	No	0
92	38937	Witch Creek	1	Cochise	2.7809	T17.0S,R28.0E,S15	No	No	No	No	No	No	0
93	38940	Wood Canyon Stream	8	Cochise	10.3409	T15.0S,R30.0E,S30	No	No	No	No	No	No	0
94	38943	Wood Canyon Wash	3	Cochise	5.2289	T12.0S,R23.0E,S28	No	No	No	No	No	No	0
95	38986	a - Seg 3 Cochise	5	Cochise	18.8128	T23.0S,R27.0E,S28	No	No	No	No	No	No	0
96	38991	a - Seg 7 Cochise	7	Cochise	17.4819	T21.0S,R21.0E,S11	No	No	No	No	No	No	0
97	39009	b - Seg 8 Cochise	5	Cochise	17.5033	T20.0S,R28.0E,S32	No	No	No	No	No	No	0
98-1698	—	1601 Unnamed watercourses	—	Cochise	Varies	Varies	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 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 designation or not.
- HITS: Number of affirmative hits based on the six attribute data.

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4.2 LEVEL 2 ANALYSIS

The NRL1 data set resulting from Level 1 analysis contains 41 watercourses. Results from the application of the Level 2 approach to the 41 watercourses are presented and discussed in the sections that follow. Employing the first-cut screening process shown in Figure 5 for the NRL1 data set leads to the classification of the watercourses as follows:

1. Stream Category B – navigation possible, not likely.
 - a. Babocomari River – Cochise
 - b. Bass Canyon
 - c. Cave Creek – Cochise
 - d. Hot Springs Canyon
 - e. Leslie Creek
 - f. Morse Canyon
 - g. Parker Canyon
 - h. Ramsey Canyon
 - i. Redfield Canyon
 - j. Rucker canyon
 - k. South Fork Cave Creek
 - l. Swamp Springs Canyon
 - m. Turkey Creek – Cochise
 - n. Turkey Creek – Cochise/Santa Cruz
 - o. Whitewater Draw

2. Stream Category C – navigation unlikely.
 - a. Bear Creek - Cochise
 - b. Black Draw
 - c. Cottonwood Draw
 - d. East Turkey Creek
 - e. Garden Canyon
 - f. Joaquin Creek
 - g. Miller Canyon
 - h. Mulberry Draw
 - i. San Simon River
 - j. 17 unnamed washes

Employing the second-cut filter screening process shown in Figure 6 and the criteria scoring matrix presented in Figure B-1 (see Appendix B) to establish a ranking system for the watercourses leads to the identification of a cut-off number that separates those watercourses rejected at Level 2 and those that are forwarded for Level 3 analysis. All watercourses with total ratings equal to or lesser than the cut-off number of 11.0 are classified under *Category C*. These watercourses comprise the RL2 data

set, which are not forwarded for Level 3 analysis. On the other hand, the watercourses with total ratings more than the cut-off number of 11.0 are classified under *Category A*. These watercourses comprise those that are potentially susceptible to navigation and hence, are forwarded for Level 3 analysis.

To illustrate the use of the numerical weights for the refined approach, the case of Morse Canyon in Cochise County is considered (see Table A-2C, Appendix A). From the database, Morse Canyon exhibits the information shown in Table 2 [column (4)] on the six criteria. The rating of 1.0 for perennial is evaluated from the fact that Morse Canyon is perennial according to ALRIS (1999) and Brown et al. (1981). The rating of 1.0 for fish is evaluated from the fact that both native and non-native fish species are documented for Morse Canyon. Weights given to fish species are: 0.75 for native fish and 0.25 for non-native species. A total weight of 1.0 for fish is evaluated from the sum of these two weights.

Table 2
Evaluation of Total Rating

Criterion	Weights	Rating	Refined Rating	Notes/Remarks
(2)	(3)	(4)	(5) = (3)x(4)	(6)
Perennial	7	1.00	7.00	Stream is perennial.
Historical Boating	10	0.00	0.00	No historical boating.
Modern Boating	8	0.00	0.00	No modern boating.
Dam-Impacted	4	0.00	0.00	Not dam-impacted.
Fish	4	1.00	4.00	Native and non-native fish species are present.
Special Status	2	0.00	0.00	No special status.
Total Rating		2.00	11.00	Cut-off number

From the analysis performed in Table 2, the total rating evaluated for Morse Canyon is 11.0 which is the cut-off number. This indicates that Morse Canyon is not forwarded for Level 3 analysis.

The listing of watercourses classified under stream *Category A* and *Category C* for the second cut filter screening process are provided as follows:

3. Stream *Category A* – potentially susceptible to navigation.

[No Category B watercourse qualifies to be classified under Category A as the maximum total rating evaluated for the watercourses is 11.0].

4. Stream Category C – navigation unlikely.
 - a. Babocomari River – Cochise
 - b. Bass Canyon
 - c. Cave Creek – Cochise
 - d. Hot Springs Canyon
 - e. Leslie Creek
 - f. Morse Canyon
 - g. Parker Canyon
 - h. Ramsey Canyon
 - i. Redfield Canyon
 - j. Rucker canyon
 - k. South Fork Cave Creek
 - l. Swamp Springs Canyon
 - m. Turkey Creek – Cochise
 - n. Turkey Creek – Cochise/Santa Cruz
 - o. Whitewater Draw

A summary listing of the RL2 data set is presented in Tables A-2A (see Appendix A). The map associated with the RL2 data set evaluated from Level 2 is shown in Figure 9.

The numerical weights assigned to the six criteria were based on the average values evaluated from the use of the criteria scoring matrix. This numerical weights are used as multipliers for the six criteria in calculating the total rating associated with each watercourse. The summary table listing the numerical weights assigned to the six criteria from a pool of seven participants is shown in Table B-1 (see Appendix B - Criteria Weight Evaluation).

TABLE A-1B
NRL1 Watercourses for Cochise 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_SSTATUS (12)	W_DIMP (13)	HITS (14)
1	37832	Leslie Creek	4	Cochise	14.0590	T22.0S,R28.0E,S11	Yes	No	No	Yes	Yes	Yes	4
2	36642	Swamp Springs Canyon	4	Cochise/Graham	5.6999	T11.0S,R20.0E,S32	Yes	No	No	Yes	Yes	No	3
3	402	Cave Creek - Cochise	13	Cochise	17.5340	T18.0S,R31.0E,S09	Yes	No	No	Yes	Yes	No	3
4	38378	Rucker Canyon	10	Cochise	10.4054	T19.0S,R28.0E,S24	No	No	No	Yes	Yes	Yes	3
5	38559	South Fork Cave Creek	6	Cochise	8.0865	T16.0S,R31.0E,S09	Yes	No	No	Yes	Yes	No	3
6	37682	Hol Springs Canyon	20	Cochise	25.9097	T13.0S,R19.0E,S23	Yes	No	No	Yes	Yes	No	3
7	107	Babocomari River - Cochise	12	Cochise	20.0908	..SLG	Yes	No	No	Yes	Yes	No	3
8	132	Bass Canyon	1	Cochise/Graham	6.1781	T12.0S,R21.0E,S08	Yes	No	No	Yes	Yes	No	3
9	38326	Redfield Canyon	22	Graham/Cochise/Pima	24.3009	T12.0S,R18.0E,S02	Yes	No	No	Yes	Yes	No	3
10	38027	Morse Canyon	4	Cochise	2.9672	T18.0S,R28.5E,S13	Yes	No	No	Yes	Yes	No	3
11	38771	Turkey Creek - Cochise	12	Cochise	35.6404	T16.0S,R25.0E,S32	Yes	No	No	Yes	No	No	2
12	38900	Whitewater Draw	35	Cochise	57.9517	T19.0S,R28.0E,S30	Yes	No	No	Yes	No	No	2
13	38774	Turkey Creek - Cochise/Santa Cruz	8	Santa Cruz/Cochise	17.2468	..SLG	Yes	No	No	Yes	No	No	2
14	37398	Ramsey Canyon	2	Cochise	13.2821	T22.0S,R22.0E,S19	Yes	No	No	Yes	Yes	No	2
15	36134	Parlier Canyon	1	Santa Cruz/Cochise	1.5568	T23.0S,R18.0E,S24	Yes	No	No	No	No	Yes	2
16	729	East Turkey Creek	8	Cochise	13.5868	T16.0S,R31.0E,S36	Yes	No	No	No	No	No	1
17	20378	H46_0854	2	Cochise	2.4674	T16.0S,R31.0E,S08	Yes	No	No	No	No	No	1
18	20384	H46_0861	2	Cochise	3.6552	T18.0S,R31.0E,S07	Yes	No	No	No	No	No	1
19	37461	H84_0470	4	Cochise	0.1757	..SLG	Yes	No	No	No	No	No	1
20	37476	H84_0485	2	Cochise	0.2080	..SLG	Yes	No	No	No	No	No	1
21	138	Bear Creek - Cochise	5	Cochise	7.0411	..S90	No	No	No	Yes	No	No	1
22	557	Cottonwood Draw	1	Cochise	10.5432	T24.0S,R30.0E,S11	No	No	No	No	No	No	1
23	22314	H54_0055	1	Cochise	4.8634	T21.0S,R28.0E,S15	No	No	No	No	No	No	1
24	22516	H54_0277	3	Cochise	7.7073	T19.0S,R28.0E,S34	No	No	No	No	No	Yes	1
25	22536	H54_0301	3	Cochise	3.2658	T19.0S,R29.0E,S19	No	No	No	No	No	Yes	1
26	37426	H84_0433	4	Cochise	6.9469	T24.0S,R24.0E,S18	No	No	No	No	No	Yes	1
27	38417	San Simon River	100	Cochise	76.2251	T13.0S,R31.0E,S32	Yes	No	No	No	No	Yes	1
28	221	Black Draw	9	Cochise/Graham	19.5372	T24.0S,R30.0E,S11	Yes	No	No	No	No	No	1
29	20375	H46_0849	2	Cochise	3.1316	T17.0S,R31.0E,S25	Yes	No	No	No	No	No	1
30	20385	H46_0862	2	Cochise	3.1030	T18.0S,R31.0E,S20	Yes	No	No	No	No	No	1
31	20390	H46_0867	3	Cochise	2.1772	T18.0S,R31.0E,S20	Yes	No	No	No	No	No	1
32	20391	H46_0868	1	Cochise	0.9289	T18.0S,R31.0E,S20	Yes	No	No	No	No	No	1
33	22525	H54_0289	5	Cochise	5.8738	T19.0S,R30.0E,S18	Yes	No	No	No	No	Yes	1
34	22529	H54_0293	2	Cochise	3.2363	T19.0S,R30.0E,S18	Yes	No	No	No	No	No	1
35	37092	H84_0040	1	Cochise	0.0784	T16.0S,R20.0E,S08	Yes	No	No	No	No	No	1
36	38040	Mulberry Draw	16	Cochise	19.9950	T23.0S,R31.0E,S18	Yes	No	No	No	No	No	1
37	37756	Joaquin Creek	2	Cochise	8.1717	T24.0S,R19.0E,S13	No	No	No	No	No	No	1
38	37988	Miller Canyon	2	Cochise	14.1268	T13.0N,R10.0E,S01	Yes	No	No	Yes	No	No	1
39	37234	Garden Canyon	7	Cochise	12.0448	T22.0S,R21.0E,S18	Yes	No	No	No	No	No	1
40	22339	H54_0081	1	Cochise	1.1287	T23.0S,R24.0E,S14	No	No	No	No	No	No	1
41	22637	H55_0105	3	Cochise	6.1509	T24.0S,R30.0E,S17	No	No	No	No	No	Yes	1

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 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 designation or not.
- HITS: Number of affirmative hits based on the six attribute data.

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G-2

Table A-2A

RL2 Watercourses for Cochise County

NO (1)	W_ID (2)	W_NAME (3)	SEGCOUNT (4)	W_COUNTIES (5)	W_MILES (6)	W_ADDRESS (7)	L1_PER (8)	L2_PER (9)	L2_MBOAT (10)	L2_HBDAT (11)	L2_DIMP (12)	L2_FISH (13)	L2_SSTATUS (14)	NEW_RAT (15)
1	38027	Morse Canyon	4	Cochise	2.9672	T18.OS,R29.0E,S13	Yes	Yes	No	No	No	Yes	No	11.00
2	38326	Redfield Canyon	22	Cochise/Graham/Pima	24.3009	T12.OS,R18.0E,S02	Yes	Yes	No	No	No	Yes	Yes	10.88
3	38642	Swamp Springs Canyon	4	Cochise/Graham	5.8999	T11.OS,R20.0E,S32	Yes	Yes	No	No	No	Yes	Yes	10.88
4	402	Cave Creek - Cochise	13	Cochise	17.5340	T18.OS,R31.0E,S09	Yes	Yes	No	No	No	Yes	Yes	10.26
5	38559	South Fork Cave	6	Cochise	8.0865	T18.OS,R31.0E,S09	Yes	Yes	No	No	No	Yes	Yes	10.26
6	38771	Turkey Creek - Cochise	12	Cochise	35.8404	T18.OS,R25.0E,S32	Yes	Yes	No	No	No	Yes	No	10.00
7	107	Babocomari River - Cochise	20	Cochise	20.0806	..SLG	No/Yes	No/Yes	No	No	No	Yes	Yes	8.38
8	37692	Hot Springs Canyon	1	Cochise	25.9097	T13.OS,R19.0E,S23	Yes	No	No	No	No	Yes	Yes	8.26
9	36134	Parker Canyon	1	Cochise/Santa Cruz	1.5566	T23.OS,R19.0E,S24	No	No/Yes	No	No	No	Yes	No	7.50
10	38900	Whitewater Draw	35	Cochise	57.9517	T19.OS,R28.0E,S30	Yes	Yes	No	No	No	Yes	No	7.00
11	728	East Turkey Creek	8	Cochise	13.5868	T16.OS,R31.0E,S36	Yes	Yes	No	No	No	No	No	7.00
12	20378	H46_0854	4	Cochise	2.4674	T18.OS,R31.0E,S08	Yes	Yes	No	No	No	No	No	7.00
13	20384	H46_0881	2	Cochise	3.8552	T18.OS,R31.0E,S07	Yes	Yes	No	No	No	No	No	7.00
14	37461	H84_0470	1	Cochise	0.1757	..SLG	Yes	Yes	No	No	No	No	No	7.00
15	37476	H84_0485	2	Cochise	0.2080	..SLG	Yes	Yes	No	No	No	No	No	7.00
16	37366	Ramsey Canyon	2	Cochise	13.2821	T22.OS,R22.0E,S18	No	No/Yes	No	No	No	No	No	7.00
17	132	Bass Canyon	1	Cochise	6.1781	T12.OS,R21.0E,S08	No	No	No	No	No	Yes	Yes	5.26
18	37632	Leslie Creek	4	Cochise	14.0590	T22.OS,R26.0E,S11	No	No	No	No	No	Yes	Yes	4.76
19	38378	Rucker Canyon	10	Cochise	10.4054	T19.OS,R28.0E,S24	No	No	No	No	No	Yes	Yes	4.26
20	138	Beaz Creek - Cochise	5	Cochise	7.0411	..S80	No	No	No	No	No	Yes	Yes	4.00
21	557	Cottonwood Draw	1	Cochise	10.5432	T24.OS,R30.0E,S11	No	No	No	No	No	Yes	No	4.00
22	22314	H54_0055	1	Cochise	4.8634	T21.OS,R26.0E,S15	No	No	No	No	No	Yes	No	4.00
23	22516	H54_0277	3	Cochise	7.7073	T19.OS,R28.0E,S34	No	No	No	No	Yes	No	No	4.00
24	22536	H54_0301	1	Cochise	3.2658	T19.OS,R29.0E,S19	No	No	No	No	Yes	No	No	4.00
25	37428	H84_0433	4	Cochise	6.9469	T24.OS,R24.0E,S18	No	No	No	No	Yes	No	No	4.00
26	38417	San Simon River	100	Cochise/Graham	78.2251	T13.OS,R31.0E,S32	No	No	No	No	Yes	No	No	4.00
27	37234	Garden Canyon	7	Cochise	12.0446	..SLG	No	No/Yes	No	No	No	No	No	4.00
28	221	Black Draw	9	Cochise	19.5372	T24.OS,R30.0E,S11	No	No/Yes	No	No	No	No	Yes	3.88
29	20375	H46_0848	2	Cochise	3.1318	T17.OS,R31.0E,S25	Yes	Yes	No	No	No	No	No	3.50
30	20385	H46_0862	2	Cochise	3.1030	T18.OS,R30.0E,S13	Yes	Yes	No	No	No	No	No	3.50
31	20390	H46_0867	3	Cochise	2.1772	T18.OS,R31.0E,S20	Yes	Yes	No	No	No	No	No	3.50
32	20391	H46_0868	1	Cochise	0.9289	T18.OS,R31.0E,S20	Yes	Yes	No	No	No	No	No	3.50
33	22525	H54_0289	5	Cochise	5.6738	T18.OS,R30.0E,S19	Yes	Yes	No	No	No	No	No	3.50
34	22529	H54_0293	2	Cochise	3.2363	T19.OS,R30.0E,S18	Yes	Yes	No	No	No	No	No	3.50
35	37092	H84_0040	1	Cochise	0.0784	T16.OS,R20.0E,S08	Yes	Yes	No	No	No	No	No	3.50
36	38040	Mulberry Draw	16	Cochise	19.9950	T23.OS,R31.0E,S18	Yes	Yes	No	No	No	No	No	3.50
37	37759	Joquin Creek	2	Cochise	8.1717	T24.OS,R19.0E,S13	Yes	Yes	No	No	No	Yes	No	3.00
38	38774	Turkey Creek - Cochise/Sia. Cruz	8	Cochise/Santa Cruz	17.2469	..SLG	No	No	No	No	No	Yes	No	3.00
39	37988	Miller Canyon	2	Cochise	14.1268	..SLG	No	No	No	No	No	Yes	No	3.00
40	22339	H54_0081	1	Cochise	1.1287	T23.OS,R24.0E,S14	No	No	No	No	No	No	Yes	0.88
41	22637	H55_0105	3	Cochise	6.1509	T24.OS,R30.0E,S17	No	No	No	No	No	No	No	0.00

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 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.
L1_PER: Level 1 stream classification - perennial or not.
L2_PER: Level 2 stream classification which includes Brown's perennial stream data.
L2_MBOAT: With or without modern boating account.
L2_HBDAT: With or without historical boating account.
L2_DIMP: Dam-impacted or not.
L2_FISH: With fish or not.
L2_SSTATUS: With special status designations or not.
NEW_RAT: Computed total rating of the watercourse based on the evaluated weights.

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Table A-2C
L2 Watercourses in Cochise County with Evaluated Ratings

No. (1)	W_ID (2)	W_NAME (3)	SEGCOUNT (4)	W_COUNTIES (5)	W_MILES (6)	PER_RAT (7)	HBOAT_RAT (8)	MBOAT_RAT (9)	DIMP_RAT (10)	FISH_RAT (11)	SS_RAT (12)	TOT_RAT (13)	REF_RAT (14)
1	38027	Morse Canyon	4	Cochise	2.97	1.0	0.0	0.0	0.0	1.00	0.000	2.00	11.00
2	38326	Redfield Canyon	22	Cochise/Graham/Pima	24.30	1.0	0.0	0.0	0.0	0.75	0.440	2.19	10.88
3	38642	Swamp Springs Canyon	4	Cochise/Graham	5.70	1.0	0.0	0.0	0.0	0.75	0.440	2.19	10.88
4	38569	South Fork Cave	6	Cochise	6.09	1.0	0.0	0.0	0.0	0.75	0.130	1.75	10.26
5	402	Cave Creek - Cochise	13	Cochise	17.53	1.0	0.0	0.0	0.0	0.75	0.130	1.88	10.26
6	38771	Turkey Creek - Cochise	12	Cochise	35.84	1.0	0.0	0.0	0.0	0.75	0.000	1.75	10.00
7	107	Babocomari River - Cochise	20	Cochise	20.08	0.5	0.0	0.0	0.0	1.00	0.440	1.94	8.38
8	37682	Hot Springs Canyon	12	Cochise	25.91	0.5	0.0	0.0	0.0	0.75	0.880	2.13	6.28
9	36134	Parker Canyon	1	Cochise/Santa Cruz	1.56	0.5	0.0	0.0	1.0	0.00	0.000	0.50	7.50
10	38900	Whitewater Draw	35	Cochise	57.95	0.5	0.0	0.0	0.0	1.00	0.000	1.50	7.50
11	729	East Turkey Creek	8	Cochise	13.69	1.0	0.0	0.0	0.0	0.00	0.000	1.00	7.00
12	20378	H46_0854	4	Cochise	2.47	1.0	0.0	0.0	0.0	0.00	0.000	1.00	7.00
13	20384	H46_0861	2	Cochise	3.66	1.0	0.0	0.0	0.0	0.00	0.000	1.00	7.00
14	37461	H84_0470	1	Cochise	0.18	1.0	0.0	0.0	0.0	0.00	0.000	1.00	7.00
15	37476	H84_0485	2	Cochise	0.21	1.0	0.0	0.0	0.0	0.00	0.000	1.00	7.00
16	37398	Ramsey Canyon	2	Cochise	13.28	0.5	0.0	0.0	0.0	0.00	0.000	1.00	7.00
17	132	Bass Canyon	1	Cochise	6.18	0.0	0.0	0.0	0.0	0.75	0.880	1.83	4.76
18	37832	Leslie Creek	4	Cochise	14.08	0.0	0.0	0.0	0.0	0.75	0.880	1.63	4.76
19	38378	Rucker Canyon	10	Cochise	10.41	0.0	0.0	0.0	0.0	1.00	0.130	1.00	4.26
20	138	Bear Creek - Cochise	5	Cochise	7.04	0.0	0.0	0.0	0.0	1.00	0.000	1.00	4.00
21	557	H54_0055	1	Cochise	10.54	0.0	0.0	0.0	0.0	1.00	0.000	1.00	4.00
22	22314	H54_0277	3	Cochise	4.86	0.0	0.0	0.0	1.0	0.00	0.000	1.00	4.00
23	22516	H54_0301	1	Cochise	7.71	0.0	0.0	0.0	1.0	0.00	0.000	1.00	4.00
24	22536	H84_0431	3	Cochise	3.27	0.0	0.0	0.0	1.0	0.00	0.000	1.00	4.00
25	37426	H84_0433	4	Cochise	6.95	0.0	0.0	0.0	1.0	0.00	0.000	1.00	4.00
26	38417	San Simon River	100	Cochise/Graham	78.23	0.0	0.0	0.0	1.0	0.00	0.000	1.00	4.00
27	37234	Garden Canyon	7	Cochise	12.04	0.5	0.0	0.0	0.0	0.00	0.190	0.50	3.88
28	221	Black Draw	9	Cochise	19.34	0.5	0.0	0.0	0.0	0.00	0.000	0.50	3.50
29	20376	H46_0849	2	Cochise	3.13	0.5	0.0	0.0	0.0	0.00	0.000	0.50	3.50
30	20385	H46_0862	2	Cochise	3.10	0.5	0.0	0.0	0.0	0.00	0.000	0.50	3.50
31	20390	H46_0867	3	Cochise	2.18	0.5	0.0	0.0	0.0	0.00	0.000	0.50	3.50
32	20381	H46_0868	1	Cochise	0.93	0.5	0.0	0.0	0.0	0.00	0.000	0.50	3.50
33	22525	H54_0289	5	Cochise	5.87	0.5	0.0	0.0	0.0	0.00	0.000	0.50	3.50
34	22528	H54_0293	2	Cochise	3.24	0.5	0.0	0.0	0.0	0.00	0.000	0.50	3.50
35	37092	H84_0040	1	Cochise	0.08	0.5	0.0	0.0	0.0	0.00	0.000	0.50	3.50
36	38040	Mulberry Draw	16	Cochise	20.00	0.5	0.0	0.0	0.0	0.00	0.000	0.50	3.50
37	37758	Joaquin Creek	2	Cochise	8.17	0.0	0.0	0.0	0.0	0.75	0.000	0.75	3.00
38	38774	Turkey Creek - Cochise/Sla. Cruz	8	Cochise/Santa Cruz	17.25	0.0	0.0	0.0	0.0	0.75	0.000	0.75	3.00
39	37988	Miller Canyon	2	Cochise	14.13	0.0	0.0	0.0	0.0	0.00	0.440	0.44	0.88
40	22339	H54_0081	1	Cochise	1.13	0.0	0.0	0.0	0.0	0.00	0.000	0.00	0.00
41	22637	H55_0105	3	Cochise	6.15	0.0	0.0	0.0	0.0	0.00	0.000	0.00	0.00

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 watercourse.
- W_COUNTIES: County(ies) where the watercourse is located.
- W_MILES: Length of the watercourse in miles.
- PER_RAT: Perennial rating evaluated for the watercourse.
- HBOAT_RAT: Historical boating rating evaluated for the watercourse.
- MBOAT_RAT: Modern boating rating evaluated for the watercourse.
- DIMP_RAT: Dam-impacted rating evaluated for the watercourse.
- FISH_RAT: Fish rating evaluated for the watercourse.
- SS_RAT: Special status rating evaluated for the watercourse.
- TOT_RAT: Total rating evaluated for the watercourse which is the sum of the six ratings assigned to the six criteria.
- REF_RAT: Refined total rating evaluated for the watercourse considering the numerical weights assigned to the six criteria.

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