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BEFORE THE ARIZONA NAVIGABLE STREAM ADJUDICATION COMMISSION

In re Determination of Navigability of the Santa Cruz River	No. 03-002-NAV **SALT RIVER PROJECT'S OPENING POST-HEARING MEMORANDUM**

The Salt River Project Agricultural Improvement and Power District and Salt River Valley Water Users' Association (collectively, "SRP") submit their opening post-hearing memorandum on the navigability of the Santa Cruz River from the Gila River confluence to the headwaters, based upon the evidence submitted to the Commission at the public hearings held on March 11, 2003, and January 22 and March 9, 2004. For the reasons set forth herein, SRP requests that the Commission find that the Santa Cruz River was non-navigable when Arizona became a state on February 14, 1912.

I. Navigability and the Public Trust Doctrine

Under the "public trust doctrine," the sovereign is generally considered to hold the beds of "navigable" watercourses in trust for the benefit of the public. See Arizona Center for Law in the Public Interest v. Hassell, 172 Ariz. 356, 359, 837 P.2d 158, 161 (App. 1991) ("Hassell"). This doctrine has origins in English common law, and when the original thirteen states gained their independence from England, they succeeded to this sovereign public trust

boundaries. Id. The United States Supreme Court has also held, under the "equal footing doctrine," that as new states were admitted to the Union, they took title to the beds of navigable watercourses within their boundaries to the same extent as the original thirteen states. Id. (citing Pollard's Lessee v. Hagan, 44 U.S. (3 How.) 212 (1845)).

In 1865, the Arizona Territorial Legislature declared the Colorado River to be "navigable." See Memorial of the Legislature of Arizona, 38th Cong. 2nd Sess., Mis. Doc. No. 17 (January 25, 1865). The Territorial Legislature, in its first session, expressly held that "the Colorado river is the only navigable water in this Territory . . . ." Id. (emphasis added). For the next 120 years, the public trust and equal footing doctrines were neither discussed nor asserted in Arizona. Then, in 1985, the State Attorney General's Office, in litigation concerning a stretch of the Verde River, asserted an equal footing ownership claim to the bed of a watercourse other than the Colorado. Land Dep't v. O'Toole, 154 Ariz. 43, 46, 739 P.2d 1360, 1363 (App. 1987). Subsequently, various State officials alleged that the State might hold title to certain lands in or near other watercourses as well. Id. at 44, 739 P.2d at 1361. The State's assertion of these claims had the predictable impact of upsetting long-held assumptions concerning private ownership of lands in or near other watercourses and cast into doubt the title to more than 40,000 separate parcels of property. Hassell, 172 Ariz. at 359, 362, 837 P.2d at 161, 164. In Maricopa County alone, the property in question was estimated to be worth "hundreds of millions, if not billions of dollars . . . ." O'Toole, 154 Ariz. at 45, 739 P.2d at 1362.

In response to the widespread uncertainty caused by the State's assertion of "public trust" claims, the Legislature enacted House Bill 2017 in 1987. 1987 Ariz. Sess. Laws, ch. 127 ("1987 Act"). Under the 1987 Act, the State issued a blanket quitclaim of any public trust interest it might have to lands in the beds of all watercourses in the state other than the Colorado, Gila, Salt, and Verde Rivers. The 1987 Act also provided a process by which the record title holders of lands in the beds of the Gila, Salt, and Verde Rivers could obtain quitclaim deeds for these lands upon payment of a small fee. See Hassell, 172 Ariz. at 360,

837 P.2d at 162.

The Arizona Center for Law in the Public Interest ("ACLPI") commenced an action challenging the constitutionality of the 1987 Act. After the trial court entered summary judgment in favor of the defendants, the Arizona Court of Appeals held that the 1987 Act violated the public trust doctrine and the Gift Clause of the Arizona Constitution. Id. at 361, 837 P.2d at 163; Ariz. Const. art. 9, § 7. The court held that the Gift Clause required a two-part test to determine whether the Legislature had acted properly in passing the 1987 Act. 172 Ariz. at 367, 837 P.2d at 169. The court stated that, to uphold the disclaimer of a potential claim by the State against a Gift Clause challenge, the reviewing court must determine: (1) that the disclaimer was designed to serve a "public purpose"; and (2) that the State has received "consideration" that is not "so inequitable and unreasonable that it amounts to an abuse of discretion, thus providing a subsidy to the private entity" that benefits from the disclaimer. Id.

The Hassell court found that the 1987 Act satisfied the first part of the test, i.e., that the enactment served a valid public purpose. Specifically, the court noted that the 1987 Act was "enacted in response to a valid legislative concern with the unsettling of record title to extensive landholdings throughout the state." Id. at 369, 837 P.2d at 171. The court found, however, that the 1987 Act failed the second part of the test because "the legislature acted without particularized information, and established no mechanism to provide particularized information, to support even an estimate of the value of those claims." Id. On this point, the court stated:

> We do not suggest that a full-blown judicial determination of historical navigability and present value must precede the relinquishment of any state claim 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 [HB 2017], however, we cannot find that the gift clause requirement of equitable and reasonable consideration has been met.

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

Following Hassell, the Legislature again addressed this issue. 1992 Ariz. Sess. Laws,

ch. 297 ("1992 Act"). Among other things, the 1992 Act established this Commission, a five-member commission appointed by the Governor. See former A.R.S. § 37-1121. The charge given to the Commission by the 1992 Act was to conduct full evidentiary public hearings across the state and to adjudicate the State's claims to ownership of lands in the beds of watercourses. See generally former A.R.S. §§ 37-1122 to -1128.

The 1992 Act provided that the Commission would make findings of navigability or non-navigability for each watercourse. See former A.R.S. § 37-1128(A). Those findings were to be based upon the "federal test" of navigability in 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), -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 Ariz. Sess. Laws, ch. 278 ("1994 Act"). Among other things, the 1994 Act provided that the Commission would make a recommendation to the Legislature, which would then hold additional hearings and make a final determination of navigability by passing a statute with respect to each watercourse. See id. The 1994 Act also established certain presumptions of non-navigability and exclusions of some types of evidence. See id.

Based upon the 1994 Act, the Commission went forward 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 ("SLD") 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. See id. 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. at 427-28, 18 P.3d at 738-39.

In 2001, the Legislature again amended the underlying statute in another attempt to comply with the court's pronouncements in Hassell and Hull. See 2001 Ariz. Sess. Laws, ch. 166, § 1. The 2001 legislation now governs the Commission in making its findings with respect to the Santa Cruz River.

II. This Commission's Role in Determining Navigability and Public Trust Values

This Commission has an important job to do. Under the applicable statutes, the Commission has the exclusive jurisdiction to determine which, if any, Arizona watercourses were "navigable" on February 14, 1912 and, for any watercourses deemed navigable, to identify "public trust" values. See A.R.S. § 37-1123(G). The statutes direct the Commission to make a finding of navigability or non-navigability for each watercourse "[b]ased only on evidence of navigability or non-navigability." Id. § 37-1123(A).

This Commission's decision is no longer subject to review by the Legislature. Instead, the Commission's decision will be final, subject only to appeal to the courts. Id. § 37-1129. Thus, it is especially important that the Commission carefully examine all of the evidence presented on each watercourse, consider the weight of the evidence and the legal precedent, and come to a well-reasoned decision on each issue. To further this goal, the statutes provide for extensive public input and opportunity to submit evidence. See id. §§ 37-1123(A), -1123(D), -1126, -1128(D).

III. Standard for Determining Navigability: The "Federal Test"

The Commission's statutory obligation for determining navigability, as amended in 2001, is relatively succinct:

> 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 in question was nonnavigable.

A.R.S. § 37-1128(A). The statute defines "navigable" or "navigable watercourse" as:

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

Id. § 37-1101(5). "Highway for commerce" is defined as "a corridor or conduit within which the exchange of goods, commodities or property or the transportation of persons may be conducted." Id. § 37-1101(3).

The Arizona statutory definition is a codification of the "federal test" of navigability first articulated by the United States Supreme Court in 1870 and applied by over one hundred courts in the last 130 years:

> 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.

The Daniel Ball, 77 U.S. (10 Wall.) 557, 563, 19 L.Ed. 999 (1870).

A. Burden of proof: "Preponderance of the evidence"

The statute establishes the burden of proof as the "preponderance of the evidence" and puts that burden on the proponents of navigability. See A.R.S. § 37-1128(A). This allocation of the burden of proof is consistent with the pronouncements of the Arizona courts. See Hassell, 156 Ariz. at 363 n. 10, 837 P.2d at 165 n.10; O'Toole, 154 Ariz. at 46 n.2, 739 P.2d at 1363 n.2; Hull, 199 Ariz. at 420, 18 P.2d at 731.

Thus, if sufficient evidence is not presented to show navigability for a particular watercourse, the Commission must find the watercourse non-navigable. The "preponderance of the evidence" standard is commonly used in Arizona civil litigation, as opposed to the higher burdens of proof imposed on the prosecution in criminal cases. The Revised Arizona Jury Instructions (Civil), for example, contain a suggested statement to jurors regarding how they should view this standard:

> Burden of proof means burden of persuasion. On any claim, a party who has the burden of proof must persuade you, by the evidence, that the claim is

> probably more true than not true. This means that the evidence that favors that party outweighs the opposing evidence. In determining whether a party has met this burden, consider all the evidence that bears on that claim, regardless of which party produced it.

RAJI (Civil) Standard 9 (1997).

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

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

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

The "preponderance of the evidence" standard is sometimes referred to as requiring "fifty percent plus one" in favor of the party with the burden of proof. One could 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 (2d Cir. 1979), cert. denied, 444 U.S. 1073 (1980); United States v. Schipani, 289 F. Supp. 43, 56 (E.D.N.Y. 1968), aff'd, 414 F.2d 1262 (2d Cir. 1969).

Thus, the Commission should carefully weigh the evidence presented. If the evidence is of even weight or if the scales tip in favor of non-navigability, the Commission should find the watercourse non-navigable. If the scales tip in favor of navigability, the Commission should find the watercourse navigable.

B. Applying the "federal test" in A.R.S. § 37-1101(5)

The Commission must examine all of the evidence submitted on a particular watercourse and determine, based upon the preponderance of the evidence: (1) Whether the watercourse was in existence on February 14, 1912; and (2) whether, as of February 14, 1912, the evidence establishes that the watercourse "was used or was susceptible to being used, in its ordinary and natural condition, as a highway for commerce, over which trade and travel were or could have been conducted in the customary mode of trade and travel on water." A.R.S. § 37-1101(5).

IV. Evidence in the Record

The SLD hired technical consultants to perform a detailed and comprehensive study of the Santa Cruz River. See SFC Engineering Company, Arizona Stream Navigability Study for the Santa Cruz River: Gila River Confluence to the Headwaters (November 1996) ("SFC Report"). This study focused on two questions: (1) Was the Santa Cruz River ever used for navigation? and (2) Was the river susceptible to being used for navigation? Id. § 1, at 8. As discussed below, both questions must be answered in the negative–i.e., the Santa Cruz River neither was actually used nor was susceptible to being used as a "highway" for commerce on February 14, 1912.

A. History of the Santa Cruz River

None of the historical evidence supports a finding of navigability. To the contrary, all of the evidence weighs in favor of non-navigability.

1. The Santa Cruz River during prehistoric times

Archaeological evidence demonstrates occupation near the Santa Cruz River in the period before settlement by non-natives. The area has been occupied since 9500 B.C., over 11,000 years ago. SFC Report, supra, § 2, at 10. Native populations who settled along the Santa Cruz River during prehistoric times used the water for crop irrigation and caught fish in the river. Id. Executive Summary, at 3. During the Hohokam prehistoric stages, water from the Santa Cruz River was used for agriculture, through floodwater farming of maize. Id. § 2,

at 12. However, there is no evidence that Hohokam or O'odham people used boats on the Santa Cruz River for transportation or trade. Id. Executive Summary, at 11; see id. § 1, at 12. Although the archeological research indicates there was trade along the Santa Cruz River, "no evidence was found to suggest that the early inhabitants of the valley used boats on the river." Id. Executive Summary, at 3.

Native populations lived along the upper, middle and lower Santa Cruz River. Id. § 2, at 29. The Santa Cruz River was used for agricultural purposes, but "no archaeological evidence of navigation along the Santa Cruz River has been found." Id. at 30. Further, studies of environmental reconstruction showing likely river conditions during prehistoric times indicate that over thousands of years the Santa Cruz River underwent periods of channel downcutting and filling. Id. § 2, at 25. Despite substantial human presence in the Santa Cruz River Valley and along the river for thousands of years, no evidence exists that any of those communities ever used or even tried to use the Santa Cruz River as a "highway for commerce."

2. Early exploration and settlement of the Santa Cruz River Valley

In the eighteenth and nineteenth centuries, Spanish missionaries and American travelers, settlers, miners and farmers flocked to the Santa Cruz River Valley and traveled along the river, but none used the Santa Cruz River as a means of transportation or commerce.

a. Spanish missionaries in the Santa Cruz River Valley

Dating back to 1701, Spanish missionary Father Eusebio Francisco Kino first built a mission on the Santa Cruz River. SFC Report, supra, § 2, at 18. Other missionaries followed, and also established missions in the Santa Cruz River Valley. Id. § 3, at 23. There is evidence of expeditions along the river by the missionaries, but no suggestion that the Santa Cruz River itself was ever traveled via boat. Id. at 24.

With the settlement of missions came the planting of new crops and a continued reliance on the Santa Cruz River as a source for agricultural subsistence. See id. For example, the missions "relied on irrigation from Santa Cruz River surface water flowing

through irrigation canals." Id. at 24. Thus, the Santa Cruz River continued to serve a central role for agriculture, yet was not used for travel or trade.

During the time of settlement by Spanish missionaries, the Santa Cruz River reportedly had perennial reaches from its headwaters to Tubac. Id. at 28. The river then disappeared and reappeared up through Tucson, and finally went underground north of Tucson at the county line to its confluence with the Gila River. Id. One observer of the Santa Cruz River in 1804 commented: "Only in the rainy season does it enjoy a steady flow. During the rest of the year it sinks into the sand in many places." Leonard C. Halpenny and Philip C. Halpenny, Review of the Hydrogeology of the Santa Cruz Basin in the Vicinity of the Santa Cruz-Pima County Line, at 3-1 (1997) ("Halpenny Report") [Evidence Item ("EI") No. 7]. Thus, even at this early time period in history, the Santa Cruz River was not continuous nor was it used as a "highway for commerce."

b. The Territorial Period: 1850-1912

The Santa Cruz River was used as a travel route for those crossing through Arizona on the way to strike it rich in California's gold rush; however, travel was alongside the river, rather than on it. SFC Report, supra, § 3, at 30. Travelers heading north from Tucson made their way along the Santa Cruz River, though it was referred to as the "Ninety Mile Desert." Id. at 12. Many travelers recorded the lack of water in their journals and travelogues, as noted in this narrative: "An Indian came into camp last night and reported 'no water until we get to the Gila' and as proof drank until he made himself sick . . . ." Id. at 32.

Historic findings also indicate mining sites in the area from the 1850s through the early 1900s. Id. § 2, at 22; § 3, at 36. Ranches, farms and homesteads began to emerge along the Santa Cruz River during the same time as well. Id. § 2, at 23. Agriculture continued to flourish and was boosted by the advent of groundwater pumping in 1890. Id. § 3, at 34-35. The Santa Cruz River was not always a reliable water source, as illustrated in one description about a group of Mormons in 1851 who were given land for farming, yet lost the land and crops because "' . . . the spring and summer came without rain; the river dried up; their fields

could not be irrigated . . . .'" Id. at 35 (quoting Bartlett, J. R., Personal Narrative of Explorations and Incidents in Texas, New Mexico, California, Sonora, and Chihuahua, Connected With the United States and Mexican Boundary Commission, During the Years 1850, '51, '52, and '53 (1965)).

During the late nineteenth century, the towns around the Santa Cruz River developed into important population centers. In 1878, an opportunistic developer purchased land in Calabasas and sought to attract settlers. Id. § 3, at 36. The developer, Col. Charles Sykes, created a pamphlet portraying the banks of the Santa Cruz River as populated and busy, and also included a fleet of steamboats in his depiction. Id. However, the SLD consultant stated in the report that the portrayal by Sykes was "pure fiction." Id. Executive Summary, at 5. In addition, the pamphlet that Sykes created "was soon found to be a ridiculous exaggeration." Id. § 3, at 36. Further, the land claim by Sykes was "found to be invalid by the Court of Private Land Claims." Id.

Near Tucson, two lakes were created by damming the Santa Cruz River for grain and ore mills. Id. § 3, at 39. In the 1860s, Silver Lake was formed by damming the river in downtown Tucson. Id. The second lake, Warner's Lake, was created in the 1880s, by building a dam "far enough north to catch the water seeping from the cienegas around the base of Sentinel Hill" because "all of the water from the Santa Cruz was impounded and diverted" for Silver Lake already. Id. The lakes became a source of recreation for Tucson. Id. On Silver Lake, there was also a paddleboat and accounts of rowboats and sailboats. Id. at 62. There is evidence at least one flat-bottomed boat operated on Warner's Lake that also went "'up the river.'" Id. at 39. However, there is no further substantiating evidence as to how often the flat-bottomed boat operated on the river or how far from the lakes it ventured. Warner, the owner of the mills used to create the lake, received a legal notice in July 1884 that his mills was "'. . . interfering with the water in the Santa Cruz and [was] obstructing the free and continuous passage of the same . . . .'" Id. at 41. Thus, the creation of the mills served as an obstacle to the free flow of water in the Santa Cruz River.

The two lakes were short-lived because of the flood and drought cycles in the late 1880s that oftentimes washed out the dams. Id. at 43. Although the dams were rebuilt frequently, the 1890 flood permanently ruined the dams, and they were never reconstructed. Id. The evidence of these man-made lakes exists in the record in no way supports a finding of navigability. In fact, it shows that the only way to float a boat on water from the Santa Cruz River was to dam it and store water in a man-made creation. Evidence of man-made lakes does not make it more likely than not that the Santa Cruz River was navigable.

The increase in population, agricultural use of water, and groundwater pumping coupled with the drought and flooding cycles strained streamflow in the Santa Cruz River. It is reported that, "[b]y 1912, the U.S. Geological Survey reported that the entire low flow of the river was diverted at both the Nogales and Tucson gages, making navigability highly unlikely in low flow conditions." Id. Executive Summary, at 11. Parts of the upper Santa Cruz River remained perennial, while the middle section had reaches that went subsurface. Id. § 3, at 48-49. The lower Santa Cruz River never had regular surface flow throughout its history and "was depicted on several old maps as discontinuous, stopping entirely, then starting again." Id. It is this section of the river that was referred to as the "Ninety-Mile Desert" by travelers, indicating its lack of any streamflow. Id. Thus, by the time of statehood, settlement in the area and increased population noticeably affected the Santa Cruz River.

Indeed, the Santa Cruz River area attracted settlers and travelers. In fact, the river was called "a well established route from the south and the east into present-day Arizona as far as Tucson, providing water, forage, and food for the traveler." Id. § 6, at 1. However, that route was used on foot, on horseback, or by wagon. Despite increased population in communities and travelers along the Santa Cruz River, no evidence exists that the river itself ever was a "highway for commerce."

3. Boating attempts on the Santa Cruz River

There are some isolated accounts of attempted boating, other than in the two lakes created by dams, on the Santa Cruz River; however, most of the attempts were thwarted due to

the inability of the river to support navigation and Mother Nature herself. Each of these boating events further proves that the Santa Cruz River is and was non-navigable.

One description of a supposed occurrence of boating was recorded by John Spring, a traveler during the Territorial Period. SFC Report, supra, § 3, at 32. As the story goes, Spring stayed at a place on the upper Santa Cruz River called "La Canoa," where a Mexican settler had purportedly built a canoe and used it cross the river during the summer when flooding was too high to cross the road. Id. However, there is no other record confirming this anecdotal tale. Id. at 1.

The flood in 1914 brought about two unsuccessful boating attempts. During the flood, the National Guard was called in to rescue a group of people stranded near Sahuarita. Id. § 3, at 20. The National Guard first used a collapsible boat for the rescue, but failed in that attempt because the flood current was too strong, and instead the stranded were rescued by horseback. Id. The unsuccessful rescue by boat shows that during flooding, when there was high streamflow on the river, it was not navigable due to the violent nature of the current. Secondly, a group of daring adventurers attempted to boat the Santa Cruz River from Nogales to Tucson during that same 1914 flood. Id. They used a small wooden boat that "went aground south of Tubac, and the trip was never completed." Id. Their boat was later found buried in the mud. Id. at 62. Once again, this failed attempt confirms that the Santa Cruz River was non-navigable.

Modern records and stories indicate that there has been infrequent recreational boating on the Santa Cruz River. There are occasional reports of a tuber, canoer, or rafter floating the river during periods of flooding since the 1970s. Id. at 62. In July 1990, there was a story in the Tucson Weekly about a canoer on the effluent stretch of the river. Id. There are also accounts of canoers traveling the Santa Cruz River in the winter of 1989-1990 and the following summer. Id.

Although there have been isolated boating events on the Santa Cruz River, the overwhelming weight of the evidence suggests that the river is not and was not "navigable."

There is no evidence of travel in the river or using the river for commerce, such as transporting goods, prior to statehood. SFC Report, supra, § 3, at 63. Nor was the Santa Cruz River "susceptible" to navigation. A failed rescue attempt by the National Guard's inflatable boat and a grounded boat in the years following statehood show that the river could not support navigation. A handful of intermittent boating accounts in recent history during periods of flooding or the monsoon season does not make it more likely than not that the Santa Cruz River was navigable or susceptible to navigation on February 14, 1912.

B. Climate, hydrology, and geomorphology

The other evidence presented to the Commission is similarly insufficient to constitute a preponderance of the evidence in favor of navigability. The climate of the Santa Cruz Valley is typical of a desert climate, with violent summer thunderstorms and sporadic rain in the winter, rather than the type of weather that would produce a regularly flowing stream. The hydrologic data demonstrates that the Santa Cruz River could not be relied upon for regular streamflow to support a "highway for commerce." Finally, the geomorphologic evidence indicates that the river had widening channels in its upper and lower reaches due to natural and man-made activities.

Precipitation falls in the Santa Cruz River Valley during the fierce summer monsoon rains and during erratic winter rains. SFC Report, supra, § 4, at 5. In the upper reaches of the Santa Cruz River, rainfall during the monsoon season is usually "greater than the total for the remaining eight months of the year." Id. at 6. The majority of the flooding on the Santa Cruz River also occurs during these summer rains. Id. at 8. However, the 30-year precipitation averages show that at no place along the Santa Cruz River was the rainfall average greater than 22 inches. Halpenny Report, supra, at 4-4.

The hydrologic character of the Santa Cruz River precludes it from being susceptible to navigation. Data gathered from environmental reconstruction studies indicate, "prior to 1890, the Santa Cruz River was an intermittent stream with occasional marshlands or cienegas." SFC Report, supra, § 2, at 29. During the Territorial Period, one traveler observed the Santa

Cruz River north of Tubac finding that " . . . strange as it may appear, notwithstanding all the rain that had fallen, the river, such is the uncertainty of the streams in this country, was quite dry." Halpenny Report, supra, at 3-3.

At the time of statehood, the Tucson gage averaged about 12 cubic feet per second ("cfs") during the fall and winter of 1912-1913, about the time of statehood, "and during the April to September period there were only five days with recorded flow in that reach." SFC Report, supra, § 4, at 20. In the winter of 1912, streamflow averaged about 15 cfs at the Nogales gage, but a rainfall event brought streamflows that ranged from 35 cfs to 174 cfs. Id.

Following statehood, streamflow data is more reliable and documented, as there are six USGS streamgages on the Santa Cruz River. Nevertheless, there is no more indication that streamflows were any greater. Monthly average flow characteristics show a high frequency of days with absolutely no streamflow in the Santa Cruz River. Id. at 26. Further, average annual discharge is greatest during the summer monsoon months of July and August, a direct result of precipitation. Id. at 28.

The upper Santa Cruz River is intermittent, and the lower Santa Cruz River is ephemeral. Id. at 14. In fact, the lower Santa Cruz River has never had perennial flow, except during a rare period of flooding from the upper reaches. Id. Executive Summary, at 7. The lower part flows only in direct response to precipitation. Id. Historically, the Santa Cruz River was perennial from its source to Tubac, but with the climate change at the end of the nineteenth century and increased groundwater pumping, by the time of statehood the gage data from the Nogales gage shows the river was no longer perennial. Id. at 57. Since 1972, a wastewater treatment plant has discharged sewage effluent into the river near Nogales. Id.

Flooding also has affected the Santa Cruz River. In the 1890s, there was flooding in the fall and winter that "wrecked buildings, washed out dams, and initiated the deep entrenchment of the Santa Cruz River that is characteristic today." Id. § 3, at 34. The 1914 flood event damaged property along the river, including bridges. Id. § 3, at 21. Instead of navigating the Santa Cruz River during these times, most often "people waited out the floods

until they could cross the river on horseback or wagon." Id. Thus, even during times of actual flow in the river, it was not navigated.

The geomorphologic data further indicates that the Santa River was not navigable, nor susceptible to navigability. Following statehood, on the upper Santa Cruz River there has been "meander migration and cutoff, channel widening, arroyo widening, channelization and the vegetational effects of sewage effluent discharge." Id. § 4, at 59. The lower Santa Cruz River also underwent changes. Following the construction of Greene's Canal in 1910, the lower Santa Cruz River became "a broad, flat, extensive alluvial plain" near Chuichu, Arizona. Id.

Modern geomorphologic characteristics demonstrate that the Santa Cruz River is not susceptible to navigability. In its upper reach, the Santa Cruz River "has a well-defined, often entrenched, channel," but the lower reach can be described as an "ill-defined system of braided channels." Id. § 4, at 58. The geomorphologic descriptions of the river highlight characteristics not conducive to navigation.

V. Legal Argument

The Commission must review all of the evidence and determine whether the Santa Cruz River was "navigable" on February 14, 1912. No evidence supports a finding that the Santa Cruz River is or ever was used or susceptible to being used as a "highway for commerce."

A. Based upon the evidence in the record, the Santa Cruz River is not "navigable" as defined in A.R.S. § 37-1101(5).

"[I]t is not . . . every small creek in which a fishing skiff or gunning canoe can be made to float at high water which is deemed navigable." Hassell, 172 Ariz. at 363, 837 P.2d at 165 (quoting The Montello, 87 U.S. (20 Wall.) 430, 22 L.Ed. 391 (1874)). "[T]he vital and essential point is whether the natural navigation of the river is such that it affords a channel for useful commerce." Id. When the Commission reviews the evidence submitted, and considers the totality of the evidence, it must determine that the Santa Cruz River never was used or susceptible to being used as a "highway for commerce."

1. The Santa Cruz River was not actually used as a "highway for commerce."

There are no indications that the Santa Cruz River was ever used as a "highway for commerce." Prehistoric research found evidence of human populations in the area for over 11,000 years, yet no evidence of boating on the Santa Cruz River during the early history of inhabitation of the area. See Section IV(A)(1), supra. Likewise, none of the historical research revealed that missionaries, farmers, or travelers in the Santa Cruz River Valley ever used the river for boating or for commerce. See Section IV(A)(2)(a)-(b), supra. Although there is limited evidence of fishing on the river during prehistoric times, there is no evidence that documents the use of boats. See Section IV(A)(1), supra.

The only evidence in the SFC Report regarding boating of any kind on the Santa Cruz River prior to statehood does not establish that the river was used for any regular trade or travel. Two accounts about boating on the Santa Cruz River were based entirely on unsubstantiated stories. In 1878, steamboats were pictured on the river in a pamphlet that was immediately and widely recognized as a misrepresentation of the area by a developer. See Section IV(A)(2)(b), supra. The SLD consultant dismissed the portrayal as an entirely fictional description. Id. Another story of boating was based wholly on an anecdotal tale about a Mexican settler who had a boat that he used to cross the river during flooding. See Section IV(A)(3), supra. The tale was not supported by any other record in the report and, furthermore, even the legend does not involve the man traveling up or down the river—just across it. Id.

Other evidence of boating on the Santa Cruz River before statehood relates to two lakes that were created by damming the river for industrial purposes. See Section IV(A)(2)(b). The lakes were short-lived because the dams were washed out by a flood in 1890 and never rebuilt. See id. This evidence of occasional boating on Warner and Silver Lakes does not adequately demonstrate the Santa Cruz River was a "highway for commerce." Most of the evidence in the SFC Report focuses on Warner and Silver Lakes as recreational gathering places where nineteenth century residents swam and picnicked. See Section

IV(A)(2)(b). Further, sporadic evidence of boating on a lake is not enough to support a finding of navigability. See United States v. Oregon, 295 U.S. 1, 23 (1935) ("At most, the evidence shows such an occasional use of boats, sporadic and ineffective, as has been observed on lakes, streams, or ponds large enough to float a boat, but which nevertheless were held to lack navigable capacity."). Although there were some accounts of boating on these temporary, man-made lakes, that evidence does not make it more likely that the Santa Cruz River itself was navigable at statehood.

Boating on the Santa Cruz River following statehood does not offer any more proof that the river was used as a "highway for commerce." There were two utterly unsuccessful boating attempts during the 1914 flood, just following statehood. See Section IV(A)(3). The failure of the National Guard in its endeavor to rescue people via inflatable boat on the river and a boat grounded by adventurers aiming to navigate the river demonstrated that the river simply was not navigable. See id. Other isolated accounts of boating since the 1970s do not indicate that the Santa Cruz River is navigable. Occasional use during exceptional times does not support a finding of navigability. United States v. Crow, Pope & Land Ents., Inc., 340 F.Supp. 25, 32 (N.D. Ga. 1972) ("The water must be susceptible for use as a channel of useful commerce and not merely capable of exceptional transportation during periods of high water.") (citing Brewer-Elliott Oil & Gas Co. v. United States, 260 U.S. 77 (1922)). Most of the modern accounts of boating in the SFC Report occurred during flooding or summer monsoon season when streamflows are typically higher due to the precipitation.

No evidence exists to show that the Santa Cruz River was ever used as a "highway for commerce," over which trade and travel were conducted in the customary mode of trade and travel on the water. See A.R.S. § 37-1101(5). Thus, any determination of navigability would need to be based upon a finding that the river was "susceptible" for such use. See id.

2. The Santa Cruz River was not susceptible to being used as a "highway for commerce."

Because insufficient evidence exists to show that the Santa Cruz River was actually used as a "highway for commerce," any party seeking to argue that the Santa Cruz River was navigable at statehood will need to show by a preponderance of the evidence that the river was "susceptible" to such use. There is no evidence in the record to satisfy that standard. Evidence from the Santa Cruz River's long history demonstrates it was not "a corridor or conduit within which the exchange of goods, commodities, or property or the transportation of persons may be conducted." A.R.S. § 37-1103(3) (definition of "highway for commerce").

Historical descriptions and stream data lead to the conclusion that the Santa Cruz River was not susceptible to navigation. On its lower, middle and upper reaches, streamflow in the Santa Cruz River fluctuates greatly. See Section IV(B). It could hardly have been relied upon as a continuous source of travel or trade due to its variable nature, from its mostly perennial section near the headwaters to going underground and reappearing in its middle section in Pima County to finally going underground in the lower section in Pinal County. See SFC Report, supra, § 3, 4-6. For centuries, communities developed along the Santa Cruz River, yet none took advantage of it as a source for travel or trade. See Section IV. If the Santa Cruz River were boatable, surely some individual would have capitalized on the nearby river.

Close to the time of statehood, the Santa Cruz River had dry stretches with no streamflow. See section IV(B). Water from the river was primarily used for agriculture by irrigation and groundwater pumping. See id. On average, at the time of statehood streamflow was less than 15 cfs as measured at two stream gages on the river. See id. Modern geomorphologic data indicate that the channel is entrenched in its upper reaches and braided in its lower reaches. See id.

The Santa Cruz River's flow is not continuous on its reaches or reliable throughout the year; thus, it is not "susceptible" to navigation. Given the weight of the data and evidence, it does not support a finding that the Santa Cruz River was "susceptible" to being used as a "highway for commerce" on February 14, 1912.

B. Summary of Santa Cruz River evidence

In making its decision on the Santa Cruz River, the Commission should carefully consider the elements of the federal test. The burden of proof (by the preponderance of the evidence) is on those parties contending that any particular watercourse was navigable. The Commission must consider not only the actual uses at statehood, but also whether the watercourse was susceptible to being used as a "highway for commerce." Even so, however, no evidence exists in the record to support a finding that the Santa Cruz River, in its "ordinary and natural condition," was or could have been used as a "highway for commerce." The Santa Cruz River was not "navigable" on February 14, 1912.

VI. Summary and Requested Action

For the reasons set forth herein, and based upon the evidence introduced before and during the three hearings, SRP requests that the Commission find that Santa Cruz River was not "navigable" when Arizona became a state on February 14, 1912.

DATED this 8th day of April, 2004.

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