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6 **BEFORE THE ARIZONA NAVIGABILITY STREAM**

7 **ADJUDICATION COMMISSION**

8 IN RE:) **GILA RIVER INDIAN**
) **COMMUNITY'S OPENING**
9 Determination of the Navigability of the) **POST-HEARING**
Gila River in Maricopa County) **MEMORANDUM**
10)

11 The Gila River Indian Community respectfully submits its Opening Post-Hearing
12 Memorandum regarding this Commission's determination of whether the reach of the Gila
13 River in Maricopa County was navigable, within the meaning of A.R.S. § 37-1101.

14 **I. THE LANDS BENEATH THE HIGH WATER MARK OF THE GILA RIVER,**
15 **WITHIN OR ADJACENT TO THE GILA RIVER INDIAN RESERVATION,**
16 **BELONG TO THE GILA RIVER INDIAN COMMUNITY WITHOUT**
17 **REGARD TO WHETHER THE GILA RIVER IS NAVIGABLE**

18 **A. The General Rule Of Ownership Of Lands Below A Navigable Stream**

19 The Federal Government acquired ownership of the lands of the western United States
20 through treaty, purchase and/or conquest. The United States adopted different rules for the
21 disposition of land and water in the public domain, prior to and on the date of statehood,
22 depending on whether the waters incident to the lands are navigable or non-navigable.

23 As owner of the public domain, the United States separated the ownership of the land
24 from the ownership of the adjoining waters when they were not navigable. The United States
kept ownership of the land (either subject to withdrawal from the public domain and sale or
grant to a non-federal party, or reserved by the United States for a federal purpose such as an

1 Indian reservation, a military reservation, or a national forest). The United States generally
2 gave the individual states and territories the ownership of/regulatory authority over non-
3 navigable waters.¹ See the Desert Land Act 43 U.S.C.A. § 661 *et seq.* and *California-Oregon*
4 *Power Co. v. Beaver Portland Cement Co.*, 295 U.S. 142, 55 S. Ct. 725, 79 L. Ed. 1356
5 (1935). Owners of land riparian (bordering) to non-navigable streams may own the adjacent
6 riverbed. *Montana v. United States*, 450 U.S. 544, 551, 101 S. Ct. 1245, 1251, 67 L. Ed. 2d
7 493 (1981).

8 As owner of the public domain, the United States also separated the ownership of
9 the land from the ownership of the adjoining waters when they were navigable. In the case
10 of navigable streams, the United States kept the ownership of and regulatory authority over
11 the water. “Due to the public importance of navigable waterways, ownership of the land
12 underlying such waters is strongly identified with the sovereign power of the government.”
13 *Idaho v. United States*, 533 U.S. 262, 273, 121 S. Ct. 2135, 2143, 150 L. Ed. 2d 26 (2001).
14 Early on, the United States adopted a general policy of granting/gifting the ownership of
15 lands beneath navigable waters (below the high water mark) to the states on the date of
16 statehood. *Holt State Bank*, 270 U.S. 49, 55, 46 S. Ct. 197, 199, 70 L. Ed. 465 (1926).
17 “[T]he default rule is that title to land under navigable waters passes from the United States
18 to a newly admitted State.” *Idaho*, 533 U.S. at 273, 121 S. Ct. at 2143. If the land beneath
19 navigable waters was transferred to the state at statehood, then the owner of land that is
20 riparian to the navigable stream has no interest in the riverbed. *Montana, supra*.

21 **B. Exception To The General Rule**

22 The general rule, that land beneath navigable waters transfers to state ownership at
23 statehood, is subject to exceptions. There is no doubt that Congress had the power to

24 ¹ The state’s ownership of or control over the non-navigable waters was subject to any waters reserved by the United States, to fulfill the federal purpose of a federal reservation, and the waters remaining in the ownership of Indian tribes through aboriginal title.

1 reserve the ownership of lands riparian to navigable streams for its own purposes because
2 the lands “were the property of the United States and within a district where the entire
3 dominion and sovereignty rested in the United States and over which Congress had
4 complete legislative authority.” *Alaska Pacific Fisheries v. United States*, 248 U.S. 78, 87,
5 39 S. Ct. 40, 42 63 L. Ed. 138 (1918). The Property Clause gives Congress the power to
6 grant “submerged lands to private parties, and thereby [defeat] a future State’s equal footing
7 title to carry out public purposes appropriate to the objects for which the United States
8 hold[s] the Territory. . . . Congress can also reserve submerged lands under federal control
9 for an appropriate public purpose.” *United States v. Alaska*, 521 U.S. 1, 33-34, 117 S. Ct.
10 1888, 1906, 138 L. Ed. 2d 231 (1997).

11 As noted in *Montana*, 450 U.S. at 552, 101 S. Ct. at 1251:

12 It is now established, however, that Congress may sometimes convey lands
13 below the high water mark of a navigable water, “[and so defeat the title of a
14 new State,] in order to perform international obligations, or to effect the
15 improvement of such lands for the promotion and convenience of commerce
16 with foreign nations and among the several states, or to carry out such other
17 public purposes appropriate to the objects for which the United States hold the
18 Territory.” *Shively v. Bowlby*, 152 U.S. 1, 48, 14 S. Ct. 548, 566, 38 L. Ed.
19 331 (1894).

20 The United States may reserve the lands beneath navigable waters for its own purposes
21 such as “international duty or public exigency” [citing *Shively v. Bowlby*, 152 U.S. at 58, 14
22 S. Ct. at 570] or to promote international or interstate commerce. *Montana*, 450 U.S. at 552,
23 101 S. Ct. at 1251. *United States v. Alaska* explained that the Shively requirement of an
24 international duty or public exigency was based on “a congressional policy, not a
constitutional obligation. [Citation omitted.] *The only constitutional limitation on a
conveyance or reservation of submerged lands is that it serve an appropriate public
purpose.*” 521 U.S. at 41, 117 S. Ct. at 1922 [emphasis added]. See also *Utah Division of
State Lands v. United States*, 482 U.S. 193, 196-197, 107 S. Ct. 2318, 2320-2321, 96 L. Ed.

1 2d 162 (1987) (the United States has the power to withhold the beds of navigable waters from
2 transfer at statehood “to carry out other public purposes appropriate to the objects for which
3 the United States hold the Territory”). Whether the United States reserved the land beneath
4 navigable waters for its own purposes, or transferred ownership of the land to the state, is “a
5 matter of federal intent.” *Idaho*, 533 U.S. at 273, 121 S. Ct. at 2142.

6 **C. The Test To Determine Federal Intent To Reserve Ownership Of Lands**
7 **Beneath Navigable Waters**

8 “The Federal Government can overcome the presumption and defeat a future State’s
9 title to submerged lands by setting them aside before statehood in a way that shows the intent
10 to retain title.” *Alaska v. United States*, ___ U.S. ___, 125 S. Ct. 2137, 2144, 162 L. Ed. 2d 57
11 (2005). Congress has the absolute power to prevent lands beneath navigable waters from
12 passing to the state at statehood. “The issue of congressional intent is refined somewhat when
13 submerged lands are located within a tract that the National Government has dealt with in
14 some special way before statehood, as by reserving lands for a particular national purpose
15 such as a wildlife refuge or, as here, an Indian reservation.” *Idaho*, 533 U.S. at 273, 121 S.
16 Ct. at 2142.

17 “Disposals by the United States during the territorial period are not lightly to be
18 inferred, and should not be regarded as intended unless the intention was definitely declared
19 or otherwise made very plain.” *Holt State Bank*, 270 U.S. at 55, 46 S. Ct. at 199. The
20 congressional intention will be “in clear and especial words [citation omitted] or unless the
21 claim confirmed in terms embraces the land under the waters of the stream.” *Montana*, 450
22 U.S. at 552, 101 S. Ct. at 1252.

23 Federal reservation of “submerged lands does not necessarily imply the intent to defeat
24 a future State’s title to the land.” *Idaho*, 533 U.S. at 273, 121 S. Ct. at 2143. There is a two
step inquiry, in reservation cases, to determine whether the United States withheld title

1 beneath navigable lands from state ownership. “We ask whether Congress intended to include
2 land under navigable waters within the federal reservation and, if so, whether Congress
3 intended to defeat the future State’s title to the submerged lands.” *Id.*

4 **D. The United States Reserved The Lands Beneath The Gila And Salt Rivers**
5 **For The Ownership And Control Of The *Akimel O’odham* (Pima) And**
6 ***Peeposh* (Maricopa) Indians, Thereby Defeating Any Right The State Of**
7 **Arizona Would Have Had At Statehood**

8 “The mere fact that the bed of a navigable water lies within the boundaries described
9 in the treaty does not make the riverbed part of the conveyed land, especially when there is no
10 express reference to the riverbed that might overcome the presumption against its
11 conveyance.” *Montana v. United States*, 450 U.S. at 554, 101 S. Ct. at 1252-1253. In
12 *Montana*, the dispute revolved around whether the United States reserved the bed of the Big
13 Horn River, a navigable river within the Crow Indian Reservation, from the State of Montana
14 at statehood. The Supreme Court observed that the treaty with the Crow Tribe “in no way
15 expressly referred to the riverbed [citation omitted] nor was an intention to convey the
16 riverbed expressed in clear and especial words [citation omitted] or definitely declared or
17 otherwise made very plain.” 450 U.S. at 554, 101 S. Ct. at 1252.

18 The creation and expansion of the Gila River Indian Reservation demonstrates a clear
19 and unequivocal intention by the United States to reserve the beds of the Gila and Salt Rivers
20 (without regard to whether either river was navigable through this reach), that bisected or
21 adjoined the Reservation for the exclusive beneficial ownership and control of the Pima and
22 Maricopa Indians.

23 The Gila River Indian Reservation was created in 1859 (Act of Congress, February 28,
24 1859, 11 Stat. 401). The Gila River Indian Reservation was expanded by executive order on
June 14, 1872. That Executive Order specifically included the bed of the Salt and Gila Rivers,

1 to the mid-point of the respective rivers. The 1872 Executive Order directed the withdrawal
2 and reservation for the Pima and Maricopa Indians of

3 all the land in said Territory bounded and described as follows, viz:
4 Beginning at the northwest corner of the old Gila Reservation; thence by a
5 direct line running northwesterly until it strikes Salt River 4 miles east from the
6 intersection of said river with the Gila River; *thence down and along the middle
7 of said Salt River to the mouth of the Gila River; thence up and along the
8 middle of said Gila River* to its intersection with the northwesterly boundary
9 line of the old Gila Reservation; thence northwesterly along said last-described
10 boundary line to the point of beginning. [Emphasis added.]

11 The Gila River Indian Reservation was expanded again through an Executive Order of
12 May 5, 1882. The United States withdrew land, in the Territory of Arizona, from sale and
13 settlement and “set [it] apart for the use of the Pima and Maricopa Indians, in addition to their
14 present reservation in said Territory.” The description of the lands reserved for the exclusive
15 beneficial ownership and use of the Pima and Maricopa Indians stated, in pertinent part:
16 “thence north along the Gila River meridian to the middle of the Gila River; thence with the
17 boundary of the present reservation *along and up the middle of the Gila River* to a point where
18 the said boundary leaves the said river.” [Emphasis added.]

19 The 1879 Executive Order reserved land to the middle of the Gila River for the
20 exclusive beneficial ownership and control of the Pima and Maricopa Indians. The 1882
21 Executive Order reserved the land on the other side of the river to the middle of the Gila River
22 for the exclusive beneficial ownership and control of the Pima and Maricopa Indians. The
23 two Executive Orders expressly referred to the river bed, expressly stated the United States’
24 intention to convey the riverbed to the Pima and Maricopa Indians, and definitely declared
that the riverbed was to be withdrawn from the public domain and reserved for the beneficial
ownership and use of the Pima and Maricopa Indians.

In *Choctaw Nation v. Oklahoma*, 397 U.S. 620, 628, 90 S. Ct. 1328, 1333, 25 L.
Ed. 2d 615 (1970), the United States Supreme Court observed that “[p]art of the Arkansas

1 River here in question is surrounded on both sides by land granted to the Cherokees, and
2 with regard to it the argument [that the beds of the river were not included in the
3 reservation] is at the least strained.” The Court went on to discuss the earlier decision of
4 *Brewer-Elliott Oil & Gas Co. v. United States*, 260 U.S. 77, 87, 43 S. Ct. 60, 64, 67 L. Ed.
5 140 (1922). *Brewer-Elliott* dealt with whether the Osage had been granted title to the bed
6 of a non-navigable region of the Arkansas River, concluding that “the title of the Osages as
7 granted certainly included the bed of the river as far as the main channel, because the words
8 of the grant expressly carry the title to that line.” *Choctaw Nation*, 397 U.S. at 635, 90 S.
9 Ct. at 1336. Noting that it was indisputable that “the United States can dispose of lands
10 underlying navigable waters just as it can dispose of other public lands,” the *Choctaw*
11 *Nation* Court explained that “the question is whether the United States intended to convey
12 title to the river bed to petitioners.” *Id.* While discussing federal reservations with specific
13 boundary descriptions, the Court stated: “The natural inference from those grants is that all
14 the land within their metes and bounds was conveyed, including the banks and bed of
15 rivers.” 397 U.S. at 634, 90 S. Ct. at 1336. *Choctaw Nation* determined that the United
16 States had reserved the bed of the Arkansas River (which was navigable in that reach)
17 within the reservation for the Choctaw Indians, with the intent of denying those river beds
18 to Oklahoma at statehood.

19 In *Idaho v. United States*, after observing that the boundaries of the Coeur d’Alene
20 Reservation encompassed part (but not all) of the Coeur d’Alene Lake, the Supreme Court
21 determined that the Coeur d’Alene Indian Reservation included the bed to the parts of the
22 St. Joe River and the Coeur d’Alene Lake² that were within the exterior boundaries of the
23 reservation.

² The *Idaho* Court recognized that the Coeur d’Alene Lake and St. Joe River were navigable.

1 Like the boundaries of the Choctaw Indian Reservation in *Choctaw Nation*, and the
2 boundaries of the Coeur d'Alene Indian Reservation in *Idaho*, the legal descriptions of the
3 1879 and 1882 Executive Orders were a clear and unambiguous grant of exclusive beneficial
4 ownership and control of the lands underlying the Gila and Salt Rivers for the Pima and
5 Maricopa Indians, whether the rivers were navigable in this reach or not.

6 **E. The United States Intended To Defeat The Territory Of Arizona's Future**
7 **Title To The Submerged Lands Of The Gila And Salt Rivers That Passed**
8 **Through Or Adjoined The Gila River Indian Reservation**

9 "[T]he establishment of an Indian Reservation can be an 'appropriate public purpose'
10 within the meaning of *Shively v. Bowlby*, 152 U.S., at 48, 14 S. Ct., at 566, justifying a
11 congressional conveyance of a riverbed." *Montana*, 450 U.S. at 556, 101 S. Ct. at 1253.
12 "[S]afe-guarding and advancing a dependent Indian people dwelling within the United States"
13 constitutes an appropriate public purpose that would prevent the transfer of previously
14 reserved beds of navigable rivers to the state at statehood. *Alaska Pacific Fisheries*, 248 U.S.
15 at 88, 39 S. Ct. at 41. *See also Idaho, supra*.

16 *Montana* concluded that the United States did not reserve the riverbed of the navigable
17 Big Horn River for the beneficial ownership of the Crow Indians, so as to defeat the State of
18 Montana's claim to ownership arising at statehood. The Court determined that, when the
19 United States created a reservation for the Crow Indians, "the effect of what was done was to
20 reserve in a general way for the continued occupation of the Indians what remained of their
21 aboriginal territory." 450 U.S. at 553, 101 S. Ct. at 1252, citing *United States v. Holt State*
22 *Bank*, 270 U.S. at 58, 46 S. Ct. at 200. The *Montana* Court concluded that

23 even though the establishment of an Indian reservation can be an "appropriate
24 public purpose" within the meaning of *Shively v. Bowlby*, 152 U.S., at 48, 14 S.
25 Ct., at 566, justifying a congressional conveyance of a riverbed, see, e. g.,
26 *Alaska Pacific Fisheries v. United States*, 248 U.S. 78, 85, 39 S. Ct. 40, 63 L.
27 Ed. 138, the situation of the Crow Indians at the time of the treaties presented
28 no 'public exigency' which would have required Congress to depart from its

1 policy of reserving ownership of beds under navigable waters for the future
2 States. [citation omitted] As the record in this case shows, at the time of the
3 treaty the Crows were a nomadic tribe dependent chiefly on buffalo, and
4 fishing was not important to their diet or way of life.

5 450 U.S. 556, 101 S. Ct. 1253-1254.

6 However, the United States Supreme Court comes to a radically different conclusion,
7 as to the ownership of the beds of navigable waters, when the beds of the waters are important
8 to the Indian diet and way of life. In *Idaho v. United States*, the United States Supreme Court
9 noted the importance of the Coeur d'Alene Lake and the St. Joe River (and their beds) to the
10 Coeur d'Alene Tribe:

11 Tribal members traditionally used the lake and its related water ways for
12 food, fiber, transportation, recreation, and cultural activities. [Citation omitted.]
13 The Tribe depended on submerged lands for everything from water potatoes
14 harvested from the lake to fish weirs and traps anchored in riverbeds and banks.

15 533 U.S. at 265, 121 S. Ct. at 2139.

16 The Court went on to state: "A right to control the lakebed and adjacent waters was
17 traditionally important to the Tribe, which emphasized in its petition to the Government that it
18 continued to depend on fishing." 533 U.S. at 274, 121 S. Ct. at 2143. The *Idaho* Court
19 concluded that the beds of the Coeur d'Alene Lake and St. Joe River, located within or
20 adjacent to the reservation, had been withdrawn from the public domain and reserved by the
21 United States for the benefit of the Coeur d'Alene Tribe--thereby preventing them from being
22 available to pass to the State of Idaho at statehood. "Where the purpose (of providing for the
23 economic self sufficiency of the Lake Coeur d'Alene Tribe) would have been undermined, . . .
24 '[i]t is simply not plausible that the United States sought to reserve only the upland portions of
the area.'" 533 U.S. 274, 121 S. Ct. 2143, citing *United States v. Alaska*, 521 U.S. at 39-40,
117 S. Ct. at 1888.

1 *Alaska Pacific Fisheries* involved the question of navigable waters around the Annette
2 Islands, a Metlakahtla Indian Reservation in Alaska, and the ability of the Metlakahtla Tribe
3 and the United States to protect the navigable waters around the Islands from intrusion from
4 private fisheries. Reaching the same result as in *Idaho*, *Alaska Pacific Fisheries* declared that
5 fishing was vital to the diet, way of life, and economic survival of the Metlakahtla Indians.

6 The Court recognized that “[t]he Indians could not sustain themselves from the use of
7 the upland alone. The use of the adjacent fishing grounds was equally essential. Without this
8 the colony could not prosper in that location.” 248 U.S. at 89, 39 S. Ct. at 42. “The purpose
9 of creating the reservation was to encourage, assist and protect the Indians in their effort to
10 train themselves to habits of industry, become self-sustaining and advance to the ways of
11 civilized life.” *Id.* The Court then determined that the United States had reserved the land
12 underlying the navigable waters around the Annette Islands for the beneficial ownership and
13 control of the Metlakahtla Indians, and that these submerged lands did not pass to Alaska at
14 statehood.³

15 When we apply the principles declared in *Idaho* and *Alaska Pacific Fisheries* to the
16 question of the Gila River Indian Community’s exclusive beneficial ownership and control of
17 the lands underlying the Gila and Salt Rivers, it becomes clear that the United States intended
18 to reserve these submerged lands from transfer to Arizona’s ownership at statehood, without
19 regard to whether the Gila and Salt Rivers were navigable in these reaches.

20 Unlike the Crow Indians involved in Montana, the *Akimel O’odham* (Pima) Indians
21 and the *Peeposh* (Maricopa) Indians were agrarian people who practiced irrigated agriculture
22

23 ³ In *Choctaw Nation*, the United States Supreme Court reached the same result, determining that the
24 submerged lands on the Choctaw Indian Reservation, affiliated with the navigable waters of the Arkansas
River, were reserved for the beneficial ownership and control of the Choctaw Indians and that these lands did
not transfer to Oklahoma at statehood. It reached its conclusion based on the clear language of the documents
creating the reservation and did not need to examine whether the diet, way of life and economic circumstances
of the Choctaw Indians demonstrated clear intent to reserve the submerged lands.

1 since time immemorial. See the *Globe Equity Decree*. The *Akimel O'odham* Indians and
2 their ancestors, the Huhugum, had exclusive use of the waters of the Gila and Salt Rivers in
3 central Arizona for over two thousand years. *Akimel O'odham*, the Pima Indians' name for
4 themselves in their own language, translates to the "River People"--and it was the Gila and
5 Salt Rivers that the Pima Indians were the people of.

6 The *Akimel O'odham* depended on their ability to build diversion dams in the beds of
7 the Gila and Salt Rivers. Without these diversion dams, the Pima and Maricopa Indians
8 would have been unable to farm their irrigated crops. The *Akimel O'odham* and *Peeposh*
9 Indians relied on the Gila and Salt Rivers for the essential elements of their diets, including
10 fish and irrigated crops such as corn, wheat, and melons. These irrigated crops were the basis
11 for their trade with other Indian tribes, the Spanish and the Mexicans, and the Euro-Americans
12 when they arrived. The River People's culture was centered around the Gila and Salt Rivers.
13 See the Testimony of Allen Gookin.

14 The United States recognized that the Pima and Maricopa Indians were accomplished
15 farmers, whose agriculture provided them with a high standard of living (compared to the
16 neighboring Indian tribes and the Spanish and Mexican settlers) that ensured they always had
17 enough food to provide for themselves and to trade for other items. Indeed, the Pima and
18 Maricopa Indians always had a sufficient surplus of food, which allowed them to provide
19 "foreign aid" to the *Tohono O'odham* (Desert People) and Mexican settlers during times of
20 drought and famine.

21 The United States intended to maintain the Pima and Maricopa Indians' ability to
22 practice irrigated agriculture. Undeniably, the purpose of the 1879 and 1882 Reservation
23 expansions was to provide the Pima and Maricopa Indians with additional sites from which
24 they could divert water for their farms. The United States also recognized its obligation of

1 gratitude to the Pima and Maricopa Indians, who had allied with the United States in the
2 Mexican War and in combat with hostile Indian tribes. Indeed, during the Civil War, the
3 Pima-Maricopa Confederation army provided the only real defense for Euro-American settlers
4 against hostile Indian tribes.

5 Unlike the Crow Indians and the Big Horn River, in *Montana v. United States*, the
6 waters and beds of the Gila and Salt Rivers were essential to the diet and way of life of the
7 *Akimel O'odham*, the River People. The United States recognized how vital the water and
8 beds of these rivers were to the Pima and Maricopa Indians. Consequently, the United States
9 provided beneficial ownership and control of the beds of the Gila and Salt Rivers (where they
10 bisected or adjoined the Gila River Indian Reservation) through documents that specifically
11 included reference to and reservation of the riverbeds.

12 Failing to give the Pima and Maricopa exclusive beneficial ownership and control of
13 the beds of the Gila and Salt Rivers would have undermined the purpose for the creation and
14 expansion of the Gila River Indian Reservation, which was to allow and facilitate irrigated
15 agriculture and, thereby, provide for the economic self-sufficiency of the Indians of the Pima-
16 Maricopa Confederation. If the State of Arizona owned and controlled the beds of the Gila
17 and Salt Rivers, where they bisected or adjoined the Gila River Indian Reservation, the State
18 would have been able to prevent the Pima-Maricopa Indians from building their diversion
19 dams in the bed and banks of the rivers as well as the irrigation canals leading from these
20 diversion dams.

21 The initial boundaries of the Gila River Indian Reservation were set by Congress in
22 1859 (Act of Congress, February 28, 1859, 11 Stat. 401). The United States recognized that
23 the aboriginal territory of the Pima-Maricopa Confederation was much larger, and promised
24 the Pima and Maricopa Indians that the Reservation would be expanded in the future. The

1 subsequent expansions to the Gila River Indian Community in 1879, 1882, 1883, 1911, 1913,
2 and 1915 were through Executive Orders.

3 In the late 1800s, the United States stopped creating Indian reservations through
4 treaties ratified by Congress or Congressional statutes. Thereafter, Indian reservations were
5 created or expanded by Executive Order. Federal obligations to Indian tribes, and the rights
6 of tribes and their reservations, do not depend on whether the reservation was created or
7 expanded by Congressional or Executive action. The United States Supreme Court has
8 explained:

9 In our view, these reservations [Executive Order], like those created directly by
10 Congress, were not limited to land, but included waters as well. Congress and
11 the Executive have ever since recognized these as Indian Reservations.
12 Numerous appropriations, including appropriations for irrigation projects, have
13 been made by Congress. They have been uniformly and universally treated as
14 reservations by map makers, surveyors, and the public. We can give but short
15 shrift at this late date to the argument that the reservations either of land or water
16 are invalid because they were originally set apart by the Executive.

17 *Arizona v. California*, 373 U.S. 546, 598, 83 S. Ct. 1468, 1497, 10 L. Ed. 2d 542 (1963).

18 *Idaho, supra*, recognized that the United States withdrew and reserved the beds of the
19 navigable Coeur d'Alene Lake and St. Joe River (within the boundaries of the Coeur
20 d'Alene Indian Reservation) and, thereby, prevented these submerged lands from
21 transferring to Idaho at statehood. That Indian reservation was also created by Executive
22 Order. The Court noted that "Congress was on notice that the Executive Order reservation
23 included submerged lands." 533 U.S. at 275, 121 S. Ct. at 2143.

24 Even though Executive Action, with regard to an Indian tribe, may have exceeded
the authority delegated by Congress, Congress has repeatedly recognized the validity of the
executive action by enacting appropriation statutes. *Holden v. Joy*, 17 Wall. 211, 247, 21 L.
Ed. 523 (1872). The *Idaho* Court explained that Congressional action, taken after the
Executive Order reservation was created but before statehood, would provide clear and

1 plain evidence of Congressional intent to defeat transfer of the bed of navigable waters to
2 the state at statehood. In recognizing that an Executive Order reservation could reserve
3 submerged lands from future transfer to the states, *United States v. Alaska* explained:

4 The conclusion that Congress was aware when it passed the Alaska Statehood
5 Act that the Reserve encompassed submerged lands is reinforced by other
6 legislation, enacted just before Alaska's admission to the Union, granting certain
7 offshore lands to the Territory of Alaska.

8 521 U.S. at 43, 117 S. Ct. at 1910.

9 “Contemporaneous interpretation” is important to a determination as to the purpose of
10 the Indian reservation, and the determination as to whether the United States intended to
11 reserve the submerged lands and, thereby, prevent transfer to the new state. *Choctaw Nation*,
12 397 U.S. at 631, 90 S. Ct. at 1335. *Alaska Pacific Fisheries*, 248 U.S. at 89, 39 S. Ct. at 42,
13 noted the importance of how the submerged lands were treated by the Indians and the United
14 States from the time of the enactment of the reservation. The Pima and Maricopa Indians and
15 the United States of America always treated the lands submerged below the Gila River as
16 being subject to the exclusive beneficial ownership and control of the Pima-Maricopa Indians.

17 There are numerous statutes demonstrating Congress' awareness that the creation and
18 expansion of the Gila River Indian Reservation reserved the submerged lands for the
19 exclusive beneficial ownership and control of the Pima-Maricopa Indians, and Congress'
20 intent that Arizona not receive these submerged lands at statehood. In the Act of Congress
21 February 28, 1859, 11 Stat. 401, which created the Gila River Indian Reservation, Congress
22 appropriated money for the purchase of tools that would assist the Pima-Maricopa Indians in
23 their irrigated agriculture. In the period prior to Arizona's admission into the Union,
24 Congress enacted numerous appropriations to encourage and facilitate the irrigated agriculture
of the Pima-Maricopa Indians, including the 1907 Sacaton Act. Congress approved and paid
for the construction of Sacaton Dam which was located within the bed of the Gila River

1 within the Gila River Indian Reservation and allowed for the diversion of water onto the farms
2 of the Pima-Maricopa Indians. This, and other acts of Congress, also authorized and paid for
3 the construction of canal works to distribute Gila River water for use in irrigated agriculture.

4 Sacaton Dam crossed and blocked the bed of the Gila River. Irrigation canals and
5 other structures entered the submerged lands so as to allow the flow of water diverted by
6 Sacaton Dam and the brush diversion dams of the Pima-Maricopa Indians to their fields. If
7 the State of Arizona gained ownership and control of the submerged lands, within and
8 adjacent to the Gila River Indian Reservation, it could have prevented the Pima-Maricopa
9 Indians from using the bed of the Gila River. Without control of the bed of the Gila River, the
10 Pima-Maricopa Indians would not have been able to divert water onto their crops. Congress
11 was aware that, without beneficial ownership and control of the submerged lands of the Gila
12 and Salt Rivers, the purpose of providing for Pima-Maricopa self-sufficiency through irrigated
13 agriculture would be undermined or even defeated. Acts of Congress that authorized and paid
14 for structures that facilitated irrigated agriculture demonstrated Congress' intent to preserve
15 the submerged lands for the Pima-Maricopa Indians and deny its transfer at statehood.

16 In *Idaho*, the Supreme Court noted that Congress cannot, after statehood, reserve or
17 convey submerged land that have already been bestowed upon a State." 533 U.S. at 280 n. 9,
18 121 S. Ct. at 2146 n. 9. However, the Court noted,

19 Congress's actions after statehood . . . merely . . . confirm what Congress's
20 prestatehood actions already make clear; that the lands at issue here were not
21 bestowed upon Idaho at statehood, because Congress intended that they remain
22 tribal reservation lands.

21 *Id.*

22 The United States intended to prevent the State of Arizona from ever undermining or
23 defeating the ability of the Pima-Maricopa Indians to practice irrigated agriculture. Because
24 of the important federal policy of honoring the trust obligation to the Indians of the Pima-

1 Maricopa Confederation, the United States withdrew and reserved the beds of the Gila and
2 Salt Rivers for the beneficial ownership and control of the Pima-Maricopa Indians--and did
3 not transfer the beds the of these rivers (within the boundaries of the Gila River Indian
4 Reservation) to the State of Arizona, without regard to whether these rivers were navigable
5 within the applicable reaches.

6 **II. THE LANDS BENEATH THE HIGH WATER MARK OF THE GILA RIVER,**
7 **IN MARICOPA COUNTY, WERE NOT NAVIGABLE ON FEBRUARY 14,**
8 **1912**

8 **A. Overview**

9 The standard by which navigability is to be determined is: "On February 14, 1912, the
10 water course, in its natural and ordinary condition, either was used or was susceptible to being
11 used for travel or trade in any customary mode used on water." *Defenders of Wildlife v. Hull*,
12 199 Ariz. 411, 426, 18 P.3d 722, 737 (2001). in *Defenders of Wildlife*, the Court of Appeals
13 determined that S.B. 1126 established an excessive burden of proof (clear and convincing
14 evidence), set up presumptions that virtually required a determination of non-navigability, and
15 prohibited the consideration of certain types of evidence. The net result was that, rather than
16 utilizing the *Daniel Ball*⁴ test, to make an objective factual decision based upon all of the
17 available evidence and legal standards, the Legislature had mandated a determination of non-
18 navigability.

19 The Court of Appeals did not order the Arizona State Stream Adjudication
20 Commission to decide that the watercourses in Arizona were navigable as of statehood.
21 Basically, all the Court of Appeals did was reject the provisions of S.B. 1126 that imposed
22
23

24 ⁴ *The Daniel Ball*, 77 U.S. 557, 19 L. Ed. 999, 10 Wall. 557 (1870), is the United States Supreme Court decision first enunciating the standards to be used in determining whether a watercourse was navigable for purposes of federal admiralty jurisdiction. It has become the touchstone for determining navigability for purpose of title.

1 evidentiary “presumptions and limitations [that] directly contradict the *Daniel Ball* test’s
2 intent that all relevant facts be considered.” 199 Ariz. at 425, 18 P.3d at 736.

3 “The question whether a watercourse is navigable is one of fact. The burden rests on
4 the party asserting navigability unless the court takes judicial notice of the status of the
5 watercourse.” *Arizona Center for Law in the Public Interest v. Hassell*, 172 Ariz. 356, 837
6 P.2d 158 (1991). See also *State of North Dakota ex rel. Board of University and Schools*, 770
7 F. Supp. 506 (D.N.D. 1991); and *Mundy v. United States*, 22 Cl. Ct. 33 (1990).

8 *Defenders of Wildlife* confirmed that the burden of proof rests with the party asserting
9 navigability for title. 199 Ariz. at 426, 18 P.3d at 737. The Arizona Court of Appeals noted
10 that “a preponderance of the evidence appears to be the standard used by the courts” in
11 determining navigability. 199 Ariz. at 420, 18 P.3d at 731. To that end, the Arizona
12 Legislature amended A.R.S. § 37-1128(A) to require:

13 If the preponderance of the evidence establishes that the watercourse was
14 navigable, the Commission shall issue its determination confirming the
15 watercourse was navigable. If the preponderance of the evidence fails to
16 establish that the watercourse was navigable, the commission shall issue its
17 determine confirming that the watercourse was nonnavigable.

18 “The equal footing doctrine ensures that each state shares those attributes essential to
19 its equality in dignity and power with other states.” *Nevada v. Walkins*, 914 F.2d 1545 (9th
20 Cir. 1990). The original thirteen states entered the Union owning the land beneath their
21 navigable waterways. Unless it reserved the territorial land beneath navigable waters for
22 other purposes, the United States held the submerged lands for the eventual benefit of the new
23 states and transferred title on the day of statehood. *Idaho, supra*. At statehood, all of the
24 remaining federally owned land (public domain and federal reservations) were retained by the
United States, including the land beneath non-navigable waters. *United States v. Nye County*,
920 F. Supp. 1108 (D. Nev. 1996).

1 As with many legal issues, the definition of navigability is simple, until you have to
2 actually apply it. Because *The Daniel Ball* was the genesis of the American doctrine of
3 navigability, it is the starting place for any contemporary analysis of navigability. Two basic
4 standards arise out of *The Daniel Ball*:

- 5 • “Those rivers must be regarded as public navigable rivers in law which are
6 navigable in fact.”
- 7 • “And they are navigable in fact when they are used, or are susceptible of being
8 used, in their ordinary condition, as highways of commerce, over which trade
and travel are or may be conducted in the customary modes of trade and travel
on water.”

9 77 U.S. at 563.

10 The concept of navigability is used in a variety of different legal settings. Navigability
11 of watercourses is critical to the determination of state title to riverbeds. Navigability is a
12 precondition for the United States to have admiralty jurisdiction over shipping. Navigability
13 has serious implications on federal power under the Commerce Clause. Navigability is an
14 important issue under miscellaneous statutory schemes, such as the Rivers and Harbors Act
15 and the Federal Power Authority Act. It is not surprising that the definition of navigability
16 can vary, depending on the purpose for which it is being determined.

17 There is no “formula which fits every type of stream under all circumstances and at all
18 times.” *United States v. Appalachian Electric Power Company*, 311 U.S. 377, 404, 61 S. Ct.
19 291, 85 L. Ed. 245 (1940). *Defenders of Wildlife* suggested caution when analyzing
20 navigability for title:

21 Because of the various circumstances in which navigability is raised the cases
22 interpreting navigability “cannot be ‘simply lumped into one basket.’”
23 [Citations omitted.] Indeed, when discussing navigability, any reliance on
24 judicial precedent should be predicated on a careful appraisal of the purpose
for which the concept of navigability is invoked. For the present purpose,
navigability is being used to determine the extent of land the State of Arizona
received by virtue of the equal footing doctrine.

1 199 Ariz. at 418-419, 18 P.3d at 729-730.

2 The test of navigability, against which the Commission must measure the evidence,
3 has three distinct elements--each of which must be present before a watercourse can be held
4 navigable for purposes of title. The watercourse must be

- 5 • in its natural and ordinary condition on February 14, 1912,
- 6 • either was used or susceptible to being used for travel or trade,
- 7 • in any customary mode used on water.

8 This hearing has the limited scope of determining whether the reach of the Gila River in
9 Maricopa County was navigable as of February 14, 1912. Most of the evidence submitted, to
10 claim that this reach of the Gila River was navigable, related to different reaches of the Gila
11 River or different rivers such as the Salt River. Courts routinely find one reach of a
12 watercourse to be navigable while other reaches of the same river are not navigable. Mr.
13 Huckleberry testified that "each reach . . . has its own unique characteristics." Transcript, Day
14 One, page 54. Thus, evidence concerning other reaches of the Gila River is meaningless in an
15 analysis of the navigability of the Gila River in Maricopa County.

16 In addition, it is important to recognize that the portion of the Gila River located in
17 Maricopa County is actually part of two distinct identified reaches. The Middle Gila River is
18 the reach from the Ashurst-Diversion Dam, located upstream from Florence, to the confluence
19 with the Salt River. See Testimony of Mr. Huckleberry, Transcript, Day One, page 54. The
20 Lower Gila River is the reach between the confluence of the Gila and Salt Rivers and the
21 USGS gage at Dome, Arizona. The fact that the portion of the Lower Gila River located in
22 Maricopa County might be navigable would not render the portion of the Middle Gila River
23 located in Maricopa County navigable.

1 **B. Ordinary and Natural Condition On February 14, 1912**

2 Federal courts have provided useful guidance for interpreting what is meant by the
3 ordinary and natural condition of a river as of the date of statehood. While *Appalachian*
4 *Electric Company, supra*, was a federal power navigability case, it provided a straightforward
5 definition: “Natural or ordinary conditions refers to the volume of water, the gradients and
6 the regularity of the flow.” 311 U.S. at 407. The physical characteristics useful in
7 determining navigability include:

- 8 • The continuous or dependable volume of water;
- 9 • The amount of and timing of rain;
- 10 • How often the river bed was dry;
- 11 • The water level shallow or the water level swift and turbulent;
- 12 • Whether there was a permanent or stable channel;
- 13 • The amount of water provided by tributaries and the timing of that waters
14 arrival;
- 15 • Whether there was an extreme variation between high and low flow;
- 16 • The gradient of the river;
- 17 • The extent and stability of natural barriers such as sand bars.

18 *State of Oklahoma v. State of Texas*, 258 U.S. 574, 42 S. Ct. 406, 66 L. Ed. 771 (1922). It is
19 wrong “to emphasize the exceptional conditions in times of temporary high water and to
20 disregard the ordinary conditions prevailing throughout the greater part of the year.” 258 at
21 587. See also *United States v. Crow, Pope & Land Enterprises, Inc.*, 340 F. Supp. 25, 35 (D.
22 Ga. 1972) (the natural and ordinary condition of the river, *i.e.*, volume of water, gradient, and
23 regularity of flow); and *State of Alaska v. United States*, 662 F. Supp. 455, 463 (D. Alaska
24 1987) (consider the location and general physical characteristics such as water volume,
gradients, geology, and general weather and water level conditions). In *State of North*

1 *Dakota, ex rel. Board of University and School Lands v. United States*, 972 F.2d 235, 240 (8th
2 Cir. 1992), an examination of the ordinary and natural condition of the Little Missouri River
3 noted that the “channel of flowing water may shift in its course from day-to-day within the
4 river bed. . . . [T]he pattern of creation and destruction takes place from day to day from week
5 to week and even from hour to hour.”

6 Among the most significant differences between the various navigability tests are the
7 temporal requirements. Navigability, for purpose of admiralty jurisdiction, is based on current
8 conditions because the United States is seeking to enforce matters that directly affect
9 navigation contemporaneously or in the near future. Navigability, for purposes of the
10 Commerce Clause, is based on the past: Basically, if the watercourse was ever navigable, it
11 remains navigable and the United States can exercise its control over interstate commerce.
12 Navigability, for purposes of the Rivers and Harbors Act or the Federal Power Act, is
13 connected to the present and the future: Is the watercourse navigable now or can it be altered
14 to make it navigable?

15 Navigability, for title, “must exist at the time the State is admitted into the Union.”
16 *State of Oregon v. Riverfront Protection Association*, 62 F.2d 792, 794 (9th Cir. 1982). “We
17 must bear in mind that the issue is one of potential commerce use and hence navigability at
18 the time of statehood, not in the present day.” *Alaska v. United States*, 662 F.2d. at 455.
19 “Under the Equal Footing Doctrine, title to the beds of those rivers which were navigable at
20 the time of statehood passes to the state upon admission to the union. Title to the beds of
21 rivers that were not navigable at the time of statehood remains in the United States.” *State of*
22 *North Dakota*, 770 F. Supp. at 507. The watercourse must have been “navigable in fact at the
23 time of the admission of the state.” *United States v. Utah*, 283 U.S. 64, 83, 51 S. Ct. 438, 443,

1 75 L. Ed. 844 (1931). *See also United States v. Oregon*, 295 U.S. 1, 18, 55 S. Ct. 610, 617
2 (1935).

3 The evidence presented during this hearing establishes that the reach of the Gila River
4 in Maricopa County was not navigable in its ordinary and natural condition on February 14,
5 1912. Evidence that this stretch of the Gila River *might* be navigable in 2005 is meaningless
6 in a title case. Claims concerning the ordinary and natural condition of this stretch of the Gila
7 River in 100 B.C. or 1850 A.D. are worthless to this Commission's determination.

8 The Community agrees with the parties who argue that the "ordinary and natural"
9 condition of the Gila River in Maricopa County must be measured by the conditions as they
10 actually existed in 1912, without concern about the effect of human activities. During
11 territorial days, the United States owned the lands submerged below both navigable and non-
12 navigable rivers. The United States had the power to transfer/gift the submerged lands
13 affiliated with navigable rivers to Arizona, on the date of statehood, or to withhold these lands
14 for its own purposes.

15 The United States had the power to determine the rules by which navigability would
16 be determined. The United States was aware of the fact that the Salt and Gila Rivers were
17 being used by humans as of 1912. Indeed, the United States spent a great deal of its own
18 money to build Roosevelt Dam to facilitate this human activity. The United States set the
19 requirement that a watercourse had to be navigable, in its ordinary and natural condition, as of
20 the date of statehood (February 14, 1912)--not at a time fifty years before or fifty years after
21 statehood. In requiring that navigability be determined based on the ordinary and natural
22 conditions on February 14, 1912, with full knowledge of and extensive efforts toward
23 encouraging human activities in the watershed, the United States established the requirement
24

1 that ordinary and natural conditions were based on what *was*, not what *might have been* if no
2 humans lived near the Gila and Salt Rivers.

3 The concerted actions of the State of Arizona, before and at statehood, also mandate
4 the decision that ordinary and natural conditions were those that really existed as of February
5 14, 1912, without concern about the effect of human activities. The Territory of Arizona
6 eagerly engaged in intensive efforts to encourage and facilitate the use of the waters of the
7 Gila and Salt Rivers for domestic, municipal, agricultural, mining, and industrial purposes.
8 The first legislature of the Territory of Arizona enthusiastically embraced prior appropriation
9 declaring, in Section 1 of Chapter 55 of the 1864 Howell's Code, that "[a]ll rivers, creeks and
10 streams of running water in the Territory of Arizona are hereby declared public, and
11 applicable to the purposes of irrigation and mining, as hereinafter provided." The Territorial
12 Legislature enacted Session Law No. 86 in 1893, authorizing the construction and
13 maintenance of reservoirs and dams to be used to appropriate the waters of Arizona, including
14 the waters of the Gila and Salt Rivers.

15 Article 17 Section 1 of the Arizona Constitution again repudiated the common law
16 riparian doctrine and, at Article 17 Section 2, it confirmed all of the prior appropriation rights
17 that had been acquired during territorial days. In *Pima Farms v. Proctor*, 30 Ariz. 96, 102
18 245 P. 369, 371 (1926), the Arizona Supreme Court declared:

19 It is, and has ever been, the policy of this state to make the largest possible
20 use of the comparatively limited quantity of water within its boundaries. In
21 order to do that, . . . the territory at an early date, and the state upon its
22 organization, . . . adopted the doctrine of prior appropriation.

23 The Arizona Court of Appeals reiterated this policy in *West Maricopa Combine,*
24 *Inc. v. Arizona Department of Public Resources*, 200 Ariz. 400, 404, 26 P.3d 1171, 1175
(2001): "Arizona is an arid desert and we have a policy predating statehood that encourages
the full and beneficial use of scarce water resources." It would take incredible audacity for

1 the State of Arizona, having zealously encouraged citizens and entities to use the waters of
2 the Gila and Salt Rivers prior to statehood, to now argue that the determination of the
3 ordinary and natural condition of these rivers, in a navigability for title case, should be
4 determined without concern about the effect of human activities.

5 The parties advocating navigability ignore the requirement that determination of the
6 ordinary and natural condition must be made as of February 14, 1912. Instead, they
7 substitute a speculative mishmash of misapplied engineering formulae, using trumped up
8 data, in order to concoct an artificial, self-serving mock account of river flow at some
9 unknown time in the past, which is at complete odds with historic reality.

10 The determination of ordinary and natural should be based on conditions as they
11 actually existed, including the effect of human activities, on February 14, 1912. However,
12 if the Commission determines that the effect of human activities should be separated out
13 from its determination of the ordinary and natural condition of the Gila River in Maricopa
14 County, then the determination has to be made based on what the conditions would have
15 been in 1912, in an undeveloped state, without human interference--not what the conditions
16 might have been in 1492.

17 The evidence establishes conclusively that, without regard to anything humans
18 might do, the Gila River is extremely erratic and flashy. It regularly fluctuates, with little
19 consistency or predictability, from extremely low flows (verging on a dry river) to
20 extremely high flows that create massive destructive floods and turbulent flows. There are
21 court decisions indicating that a watercourse does not have to be capable of floating a boat
22 every day of the year. However, these cases also indicate that the ordinary and natural
23 condition of the watercourse has to provide for practical use in a predictable pattern. A
24 river that regularly flows at a steady, safe level every spring, could very well be held to be

1 navigable. However, a river on which it might be possible to float a boat, on average, three
2 unpredictable days out of a year would not be navigable. Because an intrepid potential
3 traveler would never know in advance that the river flow might be perfect on January 15,
4 August 20, and September 1, the traveler could not use the river as a means of transporting
5 goods or traveling.

6 Although there are general seasons in which the Gila River Watershed might receive
7 rain, there is never a predictable pattern of when it will rain, how much it will rain, and how
8 much water the rain will cause to flow down the Gila River.⁵ There is no continuous or
9 dependable volume of water.

10 The physical characteristics of riverbeds have an enormous effect on whether a
11 particular reach of a river is navigable. The absence of a permanent stable channel is of
12 vital importance. The hearing evidence established that, absent unusual conditions such as
13 a river as immense as the Nile, a braided river channel is not navigable. A braided river is
14 one with two or more intertwined channels. In a braided river, the water is divided between
15 multiple pathways, thereby reducing the amount of water in any given conduit. Even if
16 there might have been enough water to float a boat in a single stable channel, the division of
17 the waters among the various corridors reduces all of them to a non-useful level.

18 The evidence establishes conclusively that the Gila River in Maricopa County, both
19 in the Middle Gila Reach and the Lower Gila Reach, was braided on February 14, 1912.

20 The Gila River, in both the Middle Gila Reach and the Lower Gila Reach, experienced
21 enormous floods in 1891 and in 1905. Following these floods, the Gila River was a braided
22 channel. See Testimony of Mr. Huckleberry, Transcript, Day One, page 58; and Testimony
23 of Dr. Schuum, Transcript, Day Two, page 2.

24 ⁵ Consider, for example, our current monsoon season--during which we have not had measurable rain for over
109 days. Contrast this drought with the times when the Gila and/or Salt River have had 200-year floods
within five years of each other.

1 No evidence was presented that human activity caused or exacerbated these floods.
2 Indeed, to the extent that there were any human-created diversion facilities, these structures
3 would have lessened rather than intensified the flood. See Testimony of Mr. Fuller,
4 Transcript, Day One, page 89. Dr. Schumm (Transcript, Day Two, page 46) and Mr.
5 Huckleberry (Transcript, Day One, page 95) both testified that the flooding was caused by
6 nature, not humanity. The floods of 1891 and 1905 caused a braided river channel that was
7 the ordinary and natural condition of the Gila River on February 14, 1912. The braided
8 river channel represented the undeveloped condition of the river as of 1912, because the
9 river became braided without regard to any human activity.

10 Human activity did not cause the braiding, and human activity did not interfere with
11 the rechanneling of the river. Mr. Hjalmarson claimed that the river would have healed, but
12 for the upstream diversions. Mr. Hjalmarson's own sources belie his claim. Mr.
13 Osterkamp, who wrote USGS Professional Paper 1288, was the primary source for Mr.
14 Hjalmarson's report. Professional Paper 1288 discussed the process through which a
15 riverbed heals from a flood. At page 14, Mr. Osterkamp wrote:

16 Most natural alluvial stream channels do not have constant discharge, but
17 show variations of at least several orders of magnitude. *A channel* that is
18 *widened by the excessive shear stresses of an erosive flood*, therefore, is not
19 adjusted to the conditions of the mean discharge following the flood.
20 Generally, the channel *requires an extended period of normal flow*
21 *conditions* and shear stresses *before accretion and deposition of fine*
22 *sediment are sufficient to affect channel narrowing* and an essential adjusted
23 geometry. If the sediment available for fluvial transport is principally of
24 sand sizes, the rate of narrowing may be slow due to a lack of fine cohesive
material to form a stable channel section. [Emphasis added.]

21 In an article published in *Ecology Magazine* (October 1996, coauthored with Friedman and
22 Lewis), Mr. Osterkamp wrote: "In arid regions in smaller watersheds, flow variability is
23 higher and extreme events can cause channel changes that persist for decades or centuries."
24 Osterkamp and his coauthors went on to write: "Along sand bed streams in dry regions,

1 floods can increase channel width by as much as an order of magnitude [by a factor of 10].
2 *Increased width may persist for decades.*” [Emphasis added.] With major floods in 1891
3 and 1905, the braiding of the Gila River would not have healed by 1912, no matter how
4 much human activity took place.

5 In coming to his conclusion that the Lower Gila River was navigable, Mr.
6 Hjalmarson assumed that a smooth parabolic represents the state of the river bed under
7 steady state conditions down the entire reach of the river. Transcript, Day Two, page 27.
8 Mr. Hjalmarson also assumed that the natural Gila River was a single meandering channel.
9 *Id.* Mr. Hjalmarson concluded, “By golly, that’s the kind of channel (smooth parabolic)
10 that the river wanted to be under its natural conditions.” Transcript, Day Two, pages 27-28.
11 Mr. Hjalmarson admitted that the 1891 and 1905 floods would have changed the river.
12 Transcript, Day Two, page 49. He admitted that he based his computations as to the river
13 bed width and configuration on a reconstruction of “what the natural flow was, which
14 occurred roughly 1860 to 1760.” Transcript, Day Two, page 50. Mr. Hjalmarson admitted
15 that he did not base his conclusions as to the effect of the width and configuration of the
16 riverbed would have on navigability on the 1912 channel conditions. Transcript, Day Two,
17 page 50.

18 Mr. Hjalmarson is the only person to testify that the stretch of the Lower Gila River
19 in Maricopa County was navigable in its ordinary and natural condition.⁶ Mr. Hjalmarson
20 stated that he separated his conclusions as to navigability from actual navigation. “When
21 you’re thinking navigability, you’ve got--at least the way I think about it--I separate it from
22 navigation. Navigability is just a susceptibility to it. So when you start getting specific,
23 you know, like is grading more difficult, well, you have to--at that point, you start thinking

24 ⁶ Mr. Hjalmarson admitted that he presented no evidence and rendered no opinion about the navigability of the Gila River upstream from the confluence with the Salt. Transcript, Day Two, page 39. Mr. Hjalmarson did not allege that the Middle Gila River in Maricopa County was ever navigable.

1 of watercraft and all that, now you're, to me, into navigation." Transcript, Day Two, page
2 28. His conclusions were not based on any real world application but were, at best, purely
3 theoretical. Mr. Hjalmarson was not actually interested in whether there was ever enough
4 real water in a sufficient channel to float a real boat.

5 Mr. Hjalmarson's procedures and conclusions are flawed. The actual historical
6 evidence confirms that Mr. Hjalmarson's errors of process render his conclusions
7 unreliable. Mr. Hjalmarson admitted that, to have any validity, scientific analysis for any
8 scientific conclusion must be capable of repetition and independent verification.
9 Transcript, Day Two, page 40. Mr. Hjalmarson did not provide the information that would
10 have allowed verification of his conclusions. Mr. Hjalmarson did not include, in his report,
11 all of the data that he claimed to have used in making his conclusions. Instead, he
12 suggested that someone could call him and he would then provide them with the
13 information. Testimony, Day Two, page 41, lines 2-8. Mr. Hjalmarson admitted that he
14 did not list all of the computations that he made in coming to his conclusions and only
15 provided a summary of the steps he followed. Testimony, Day Two, page 42.

16 It is standard practice for an engineer, hydrologist, or scientist to calibrate his
17 models and formulae. Calibration involves use of already quantified data (such as reported
18 stream flows) to determine if the model or formula is producing reliable results. In
19 response to a question as to whether he included information about all of his calibration
20 efforts, made with regard to his computations, Mr. Hjalmarson stated: "I don't think I
21 really calibrated as such. I did some comparison, but I didn't do any recomputation as
22 such, no." Transcript, Day Two, page 43. At a request by Mr. Hjalmarson, Mr. Hestand
23 gave an explanation of calibration: "Calibration is taking independent data and using--
24 plugging it into the formula to confirm whether or not you were coming to the proper

1 results in a formula, computer model, something of that nature.” Mr. Hjalmarson
2 responded: “I don’t recall doing it in that fashion, no.” Transcript, Day Two, page 44.

3 Even if Mr. Hjalmarson had wanted to calibrate his formula, he could not have done
4 so. He did not have historic measurements. He did not independently search for historic
5 measurements. He decided not to use historic measurements. He concluded that what
6 historical observations he did use were not important to what he did.⁷

7 Mr. Hjalmarson combined unrelated formula, fed assumed data into the formula,
8 failed to calibrate the formula, and then used the result to declare his empirical
9 computations that the Gila River, below the confluence of the Salt, was susceptible to
10 navigation most of the days of the year. Transcript, Day Two, page 48. Leopold and
11 Maddock developed a set of formula to be used in the channel discharge technique. See
12 page 19 of Mr. Hjalmarson’s report. That technique required the consideration of the three
13 components of runoff, the width, the hydraulic depth, and the velocity. Three equations are
14 required to utilize the channel discharge technique: $w = aQ^b$; $d=cQ^f$; and $v=kQ^m$. The three
15 exponents (b, f, and m) must add up to 1.0. The three constants (a, c, and k), when
16 multiplied by each other, must equal 1.0.⁸ One equation by itself does not provide useful or
17 reliable information. Mr. Hjalmarson only used the first equation from the channel
18 discharge technique and ignored the two other required equations.

19 Mr. Hjalmarson then used an equation from a different source (Burkham) to
20 compute the depth in velocity, in combination with the one equation from the channel
21 discharge technique, to demonstrate his assumption that the natural channel of the Gila
22

23 ⁷ Q: And you didn’t have that--those historic measurements, did you?

24 A: I didn’t have anything that, you know, that was furnished to me or whatever. And I did make the decision basically not to use it. Now, I did incorporate some historic observations that are produced in the final--that are shown in the final report. But that’s really not very critical information in regard to what I did. Transcript, Day Two, page 36.

⁸ See Leopold and Maddock, 8, 16, 25, and 28. See also Osterkamp Professional Paper 1288, page 2.

1 River was parabolic throughout its length. It is not surprising that, when Mr. Hjalmarson
2 failed to follow the requirements of the channel discharge technique, added in a completely
3 different and inconsistent equation from a different technique, inserted assumed data with
4 no regard for the actual historic data, he was able to produce a conclusion that supported the
5 position his employer seeks. We know that his conclusions are defective because historical
6 records and first person accounts establish that the bed of the Lower Gila River was not
7 parabolic. In reality, the bed of the Gila River had different widths and depths throughout
8 its reach and was often braided rather than a single channel. Additionally, the actual daily
9 flow of the Lower Gila River varied widely and seldom matched the base flow that Mr.
10 Hjalmarson assumed.

11 Mr. Hjalmarson used the Bert Thompson hydrologic reports on the Gila River
12 Indian Community and the Salt River Pima-Maricopa Indian Community as sources for his
13 report. The Thompson Salt River report, at page 32, identified the base flow from the Salt
14 River at Tempe Buttes as 9,700 acre-feet per year. The Thompson Gila River report, at
15 page 38, identified the return flow from groundwater to the western third of the reservation
16 as 29,000 acre-feet per year. These reports show a base flow at the confluence of the Salt
17 and Gila Rivers of approximately 38,800 acre-feet or a constant flow of 53 cfs. The data
18 provided by Thompson was far smaller than the 213,000 acre-feet and 290 cfs of base flow
19 claimed by Mr. Hjalmarson.

20 Apparently unsatisfied with a base flow that low, Mr. Hjalmarson turned to a map
21 graph developed by Freethey and Anderson, in 1996, as the basis for his claim that the base
22 flow of the Gila River, at the confluence with the Salt River, was 290 cubic feet per second
23 cfs. The area represented on the map is divided into basins, and water quantities are written
24 on the map. The map estimated the outflow, from the aquifer feeding that part of the Salt

1 River that joins with the Gila River, was 68,000 acre-feet--of which 40% existed as subflow
2 and 60% was consumptively used by vegetation. Mr. Hjalmarson misinterpreted the
3 Freethey and Anderson data in a way that greatly benefited his contention that the Lower
4 Gila River in Maricopa County was navigable. The Freethey and Anderson data
5 demonstrated that zero cfs emerged as surface flow, at the confluence of the Salt and Gila
6 Rivers, not the 290 cfs claimed by Mr. Hjalmarson.

7 Mr. Hjalmarson's report and testimony do not give the Commission any reliable
8 information. Mr. Hjalmarson simply determined the answer that he wanted and then
9 assumed data, mixed unrelated formulae, and misused formulae to support that
10 preconceived answer.

11 There is an evidentiary dispute as to whether the reach of the Lower Gila River in
12 Maricopa County was navigable in its 1912 developed condition, a 1912 undeveloped
13 condition, or a speculative 1776 condition. There is no dispute as to the portion of the
14 Middle Gila River in Maricopa County. Several witnesses, including Mr. Gookin
15 (Transcript, Day One, pages 229-231) and Mr. August (Transcript, Day One, pages 166 and
16 190), testified that the portion of the Middle Gila River located in Maricopa County was not
17 navigable. No witness testified that the portion of the Middle Gila River located in
18 Maricopa County was ever navigable. No evidence was submitted that would support a
19 claim that the portion of the Middle Gila River in Maricopa County had ever been
20 navigable.

21 The evidence is conclusive that the reach of the Middle Gila, located in Maricopa
22 County, and the reach of the Lower Gila, located in Maricopa County, were not navigable
23 on February 14, 1912, without regard to whether the ordinary and natural condition is
24 determined including the effects of human interaction or in an undeveloped state.

1 **C. Used Or Susceptible to Being Used For Travel Or Trade**

2 To be navigable, the reach of the Gila River in Maricopa County had to be navigable
3 in fact on February 14, 1912. If, in fact, it could not have been used to transport people or
4 goods on February 14, 1912, then the reach must be identified as non-navigable. *The Daniel*
5 *Ball* held that watercourses “are navigable in fact when they are used, or are susceptible of
6 being used, in their ordinary condition, as *highways of commerce*, over which trade and travel
7 are or may be conducted.” 77 U.S. at 563 [emphasis added]. *Defenders of Wildlife* approved
8 the “permissive ‘highway for commerce’ language of Daniel Ball” as opposed to the standard
9 of S.B. 1126 that the watercourse be “used for both commercial trade and travel before being
10 navigable for title purposes.” 199 Ariz. at 421, 18 P.3d at 732.

11 *Highway* is defined as “[a] main road or thoroughfare; hence a road or way open to
12 the use by the public, including in the broadest sense of the term ways upon water as well as
13 upon land. . . .In its general sense, however, it is used to include any way, of whatever nature,
14 which the law makes open to the use of all to pass, whether a carriageway, horseway,
15 footway, or water way.” *Websters New International Dictionary of the English Language*,
16 page 1017 (1932). Before a watercourse can be deemed to be navigable, it must actually be
17 capable of being used as a highway or a thoroughfare--a means of getting people or items
18 from one location to another over the water.

19 While travel on a watercourse does not have to be for profit, the waterway must have
20 the “capacity for practical and beneficial use.” *Okalahoma v. Texas*, 258 U.S. at 589.
21 Factors to be considered in determining navigability include “the manner and extent of actual
22 use of the waterway; and the ease or difficulty of navigation, including but not limited to, the
23 extent of any serious impediments to navigation.” *Hagan v. Delaware Anglers’ & Gunners’*
24 *Club*, 655 A.2d 292, 293 (Del. 1995).

1 A watercourse has to be capable of being used more than once in order to be
2 navigable. Random and sporadic use of a watercourse does not constitute navigability. *Puget*
3 *Sound Power & Light Company v. Federal Energy Regulatory Commission*, 644 F.2d 785,
4 787 (9th Cir. 1981), explained:

5 If the waterway is merely capable of exceptional transportation during periods
6 of high water, it is not navigable. “The mere fact that logs, poles, and rafts are
7 floated down a stream occasionally and in times of high water does not make it
8 a navigable river.” *United States v. Rio Grande Dam & Irrigation Co.*, 174
9 U.S. 690, 698, 19 S. Ct. 770, 773, 43 L. Ed. 1136 (1899).

10 *Crow, Pope & Land Enterprise, Inc.*, 340 F. Supp. 25, 32 (D. Ga. 1972), agreed that “it is not
11 however, as Chief Justice Shaw said (*Rowe v. [Granite] Bridge Co.*, 21 Pick., 344), ‘every
12 small creek in which a fishing skiff or gunning canoe can be made to float at high water,
13 which is deemed navigable, but, in order to give it the character of a navigable stream, it must
14 be generally and commonly useful to some purpose.’”

15 Other cases, establishing that random and sporadic use of a watercourse does not
16 establish navigability, include *North Dakota, supra*, where the court found that isolated tie
17 drives (conducted with difficulty at times of high water) and isolated use of the river by
18 Indians in the 1700s did not prove that the river was used as a highway of commerce. In
19 *United States v. Oregon*, 295 U.S. at 22, the Supreme Court found that using only four
20 motorboats, to a limited extent, when conditions were favorable, did not establish
21 navigability. “At most, the evidence shows such an occasional use of boats, sporadic and
22 ineffective, as has been observed on lakes, streams, or ponds big enough to float a boat, but
23 which nevertheless were held to lack navigable capacity.” The record was “replete with
24 evidence showing that many difficulties were customarily encountered in the use of boats.”

Id.

1 *United States v. Utah*, 283 U.S. at 88, found that a watercourse was not navigable
2 when “[t]here was no practical susceptibility to use a highway of trade or travel.” The *Daniel*
3 *Ball/Defenders of Wildlife* statement that a watercourse was navigable if it was susceptible of
4 being used as a highway of commerce requires that the watercourse actually could have been
5 used for trade or travel. *Black’s Law Dictionary*, Sixth Edition (1990), defines “susceptible”
6 as “capable.” The *American Heritage Dictionary of the English Language*, Fourth Edition
7 (2000), defines “susceptible” as “permitting an action to be performed; capable of
8 undergoing.”

9 The acid test for navigability is whether the watercourse was actually used to transport
10 people or items for trade or travel, on February 14, 1912, in a practical and repeatable fashion.
11 If the watercourse was not actually used for trade or travel on February 14, 1912, it was not
12 navigable. The only exception to actual use is when the watercourse was susceptible of being
13 used. Lack of actual use is compelling that a watercourse was not susceptible of being used,
14 unless there is some reasonable grounds that the watercourse was not being used. The
15 recognized reason for determining that a watercourse, that was not actually used, was
16 nonetheless susceptible of being used is that there were no people around at the date of
17 statehood to actually use the watercourse. In determining that a watercourse that was seldom
18 used was susceptible of actual use and, therefore, navigable, the United States Supreme Court
19 explained: “True, the navigation was limited, but this was because trade and travel in that
20 vicinity were limited.” *Holt State Bank*, 270 U.S. at 57, 46 S. Ct. at 199.

21 *United States v. Utah*, 283 U.S. at 81, 51 S. Ct. at 443, discussed the fact that the
22 allegedly navigable Green, Colorado, and San Juan Rivers had not actually been used as a
23 means of trade or travel, as of the date of Utah’s statehood, did not foreclose a determination
24 of navigability:

1 The evidence of the actual use of streams, especially of extensive and
2 continued use for commercial purposes may be most persuasive, but *where*
3 *conditions of exploration and settlement explain the infrequency or limited*
 nature of such use, the susceptibility to use as a highway of commerce may
 still be satisfactorily proved. [Emphasis added.]

4 There are a multiplicity of cases with varied and diverse examples of what constitutes
5 a navigable watercourse. It is vital that the Commission keep sight of its responsibility: Was
6 the reach of the Gila River in Maricopa County actually used in a reasonable, practical, and
7 repeatable fashion on January 14, 1912, or was it practically susceptible of reasonable,
8 productive, and repeatable use on January 14, 1912? It important to avoid “straining at gnats
9 and swallowing camels.” An isolated instance where someone put a boat in the river, which
10 quickly broke apart stranding the passengers, hardly establishes the existence of a highway of
11 commerce.

12 The evidence presented during this hearing establishes that the reach of the Gila River
13 in Maricopa County was not used, nor was it susceptible of being used, as a highway of
14 commerce for trade or travel on February 14, 1912. The fact that the proponents of
15 navigability can find only a few isolated examples where people even attempted to navigate
16 the Gila River is compelling evidence that the Gila River was not used or susceptible of use as
17 of 1912. Few of these limited examples actually took place on the Gila River in Maricopa
18 County. None of these isolated examples were successful; and most were spectacular failures,
19 as evidenced by the destruction of the boats, the grounding of the passengers, and the
20 occasional death arising from the difficult and impractical efforts. Unsuccessful, impractical,
21 random, and sporadic attempts to use a river as a highway of commerce do not constitute use
22 as required by *The Daniel Ball* and *Defenders of Wildlife*.

23 The segment of the Middle Gila and the segment of the Lower Gila within Maricopa
24 County were not actually used as a highway of commerce for trade or travel on February 14,

1 1912. The next question is whether these segments of the Gila River were susceptible of use
2 for trade or travel. Absent unusual circumstances, if a watercourse is susceptible of use, it
3 will experience actual use. A perfectly navigable watercourse may not be used for trade or
4 travel if there are no people in the area. This was not the case with the Gila River in Maricopa
5 County.

6 If the Gila River in Maricopa County could have been used as a highway of commerce
7 for trade and travel, it would have been. By 1912, central Arizona had a significant
8 population with a great deal of agriculture and a fair amount of manufacturing. The
9 inhabitants of central Arizona needed to get their products to market and to receive goods
10 from other parts of the state and country. These early citizens of the territory and the new
11 state had practical incentives to use any technique that would work in order to achieve their
12 need for trade and travel.

13 More compelling evidence, that the Gila River was not susceptible of being used for
14 trade and travel, is found in the absolute lack of evidence that the *Akimel O'odham* (the River
15 People), the *Peeposh*, or the Huhugum ever used the Gila River for trade or travel. The
16 *Akimel O'odham* have a tradition of making extensive and beneficial use of the waters of the
17 Gila River. The Gila River was their lifeblood. It provided the irrigation water for their
18 crops, provided the subflow that allowed the mesquite forests to flourish, provided fish and
19 attracted game, and was an essential part of their daily life, their culture, and their traditions.
20 Ms. Tellman stated that “[n]ative tribes from South America all the way up to Alaska all had
21 some kind of boating if they lived anywhere near water.” Transcript, Day One, page 103.
22 Ms. Tellman’s statement is correct, if you add the qualifier that they lived near water that was
23 navigable.
24

1 None of the non-Indians who dealt with the Pima and Maricopa Indians, from the
2 earliest Spanish priests to contemporary historians and anthropologists, ever documented a
3 single reference to boats or navigation. Many of the early explorers wrote exhaustive reports
4 concerning all aspects of Pima culture, agriculture, trade, travel, and military prowess.
5 Several distinguished anthropologists have conducted extensive studies of the historic lifestyle
6 of the Pima Indians. None of these detailed studies mention boats or navigation.

7 The proponents of navigability regularly refer to the refrain that the absence of
8 evidence is not evidence of absence. This statement is nonsensical in the context of the issues
9 presented in this case. First, the absence of evidence by the proponents of navigability is most
10 definitely a failure to meet their burden of proof. It is silly for the proponents to argue that
11 because there are few, if any, records of the use of boats, that meant boating was so common
12 that it did not even need to be referred to. Automobiles are ubiquitous in our society and you
13 cannot open a paper or magazine without finding some reference to cars.

14 The only time that an absence of evidence might not constitute evidence of absence is
15 when there would be no reason for the witnesses to have knowledge about the particular
16 subject. By way of example, the absence of any record by the early Spanish explorers
17 concerning *Akimel O'odham* living along the Salt River, is not evidence that no *Akimel*
18 *O'odham* lived along the Salt River in the 1500s. The early Spanish explorers did not go up
19 the Salt River. Therefore, they had no opportunity to determine whether there was evidence
20 of *Akimel O'odham* presence.

21 In the case at hand, the history of the use of the Gila River by the Pima and Maricopa
22 Indians and by the myriad of Spanish explorers, citizens of Mexico, and Euro-American
23 explorers, military, and settlers is extensively documented. When the river is important to the
24 Indians and non-Indians alike, use of boats, log drives or other uses of the river for trade or

1 travel would not have passed unnoticed and undocumented. The absence of evidence of
2 navigation on the Gila River is conclusive proof that the Gila River was neither used, nor
3 susceptible of use, as a highway of commerce for trade or travel.

4 **D. In Any Customary Mode Used On Water**

5 Wading through the water on foot does not make a watercourse navigable.

6 Transporting a boat on the land adjoining a watercourse does not make the watercourse
7 navigable. If that were the case, Interstate 10 would be navigable since people can move
8 boats between Phoenix and Tucson on that highway of commerce for trade and travel. The
9 customary modes of trade and travel on the water encompasses the “transportation methods in
10 use at the time of statehood.” *State of Alaska v. United States*, 754 F.2d 851, 854 (9th Cir.
11 1985). The Community does not dispute that the vehicles used by the Euro-American settlers,
12 in their attempts at navigation in the late 1800s and early 1900s, were customary modes of
13 trade and travel on the water--they just were not successful. The failed attempts conclusively
14 establish that travel and trade could not be conducted through the customary modes on the
15 Lower Gila River in 1912. Common sense limits the qualification of a means of
16 transportation as a “customary mode of travel” to those modes that existed in 1912. The
17 contemporary existence of hovercraft, which can glide over a dry river bed on a cushion of
18 air, does not justify a determination that the Gila River was navigable in 1912.

19 **III. CONCLUSION**

20 The proponents of navigability are required to prove every element of the *Daniel*
21 *Ball/Defenders of Wildlife* test of navigability, by a preponderance of the evidence. The
22 proponents of navigability have failed to meet their burden of proof. The Community
23 respectfully requests the Arizona Navigable Stream Adjudication Commission to determine
24 that

- 1 • the Gila River Indian Community has exclusive beneficial ownership of and
- 2 control over the submerged lands within or adjacent to the Gila River Indian
- 3 Reservation;
- 4 • the State of Arizona did not receive title, as of the date of statehood, or
- 5 thereafter, to the submerged lands within or adjacent to the Gila River Indian
- 6 Reservation;
- 7 • the portion of the Middle Gila River that is located within Maricopa County
- 8 was not navigable in fact or in law on February 14, 1912; and,
- 9 • the portion of the Lower Gila River that is located within Maricopa County
- 10 was not navigable in fact or in law on February 14, 1912.

11 RESPECTFULLY SUBMITTED this 6th day of February, 2006.

12
13 GILA RIVER INDIAN COMMUNITY

14 
15 John T. Hestand
16 Attorney for the Gila River Indian Community

17 ORIGINAL AND TEN COPY of the foregoing
18 hand-delivered the 6th day of February, 2006, to:

19 George Mehnert, Director
20 Navigable Stream Adjudication Commission
21 1700 West Washington
22 Room 304
23 Phoenix, Arizona 85007

24 AND A COPY of the foregoing mailed the
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