

find no improper classification or discrimination. The judgment is

Affirmed.

MR. JUSTICE BUTLER took no part in the consideration or decision of this case.

UNITED STATES *v.* UTAH.

No. 14, original. Argued February 25, 26, 1931.—Decided April 13, 1931.

1. The United States sued the State of Utah to quiet title to land forming the beds of certain sections of the Colorado River and tributaries thereof within the State. Utah claimed title upon the ground that the streams, at the places in question, are navigable waters of the State. *Held:*

(1) In accordance with the constitutional principle of the equality of States, the title to the beds of rivers in Utah passed to that State when it was admitted to the Union, January 4, 1896, if the rivers were then navigable; and, if they were not then navigable, it remained in the United States. P. 75.

(2) The question of navigability is a federal question. *Id.*

(3) This is so, although it is undisputed that the portions of the rivers under consideration are not navigable waters of the United States, that is, they are not navigable in interstate or foreign commerce, and the question is whether they are navigable waters of the State of Utah. *Id.*

(4) In view of the physical characteristics of the rivers in question, findings and conclusions as to navigability are properly confined to the particular sections to which the controversy relates. P. 77.

(5) The crucial question—a question of fact—is whether these stretches of river in their ordinary condition and at the time of the admission of the State, were susceptible of use as highways of commerce. P. 82.

(6) To this question, evidence of actual navigation, after as well as before the admission of the State, is relevant. *Id.*

(7) But where the actual navigation of a stream has been infrequent and of limited nature, and this is explained by conditions

of exploration and settlement, its navigable capacity may be shown by its physical characteristics and by experimentation, as well as by the uses to which it has been put. P. 82.

(8) The State is not to be denied title to the beds of such of its rivers as were navigable in fact at the time of its admission, either because the location of the rivers and the circumstances of the exploration and settlement of the country through which they flowed had made recourse to navigation a late adventure, or because commercial utilization on a large scale awaits future demands. P. 83.

(9) The evidence sustains the master's conclusion that certain sections of the Grand, Green and Colorado Rivers, despite impediments such as sand-bars, floods, driftwood, etc., are navigable; and his conclusion that another section of the Colorado River is non-navigable, is likewise sustained, except as to a small part of that section, which is shown to be navigable. Pp. 84, 89.

2. The inclusion of part of the Colorado River in Utah within the boundaries of an Indian reservation by an Executive Order which was made, and *pro tanto* revoked, before the admission of the State, is not proof that the river there was non-navigable. P. 88.
3. Where a decree in a suit to quiet title brought by the United States against a State adjudges that certain stretches of river are navigable and that their beds belong to the State, and that other stretches are non-navigable and that their beds belong to the United States, it is proper, though not necessary, to insert a proviso that the United States shall in no wise be prevented from taking any such action in relation to said rivers or any of them as may be necessary to protect and preserve the navigability of any navigable waters of the United States. P. 90.

THIS was an original suit by the United States to quiet title to land constituting the beds of described portions of the Colorado River and its tributaries the San Juan, Green and Grand Rivers, where they flow in Utah. The hearing was upon exceptions to the findings of the Special Master with respect to the Green, Grand and Colorado. His finding that the San Juan is non-navigable, as claimed by the Government, was not challenged here by the State. Another finding of non-navigability, covering a stretch of

the Colorado below the union of the Grand and Green, was also acquiesced in by the State save for a length of 4.35 miles immediately below that confluence. (The Grand River has been re-designated, as the Colorado, by Congress.)

Mr. Charles M. Blackmar, with whom *Solicitor General Thacher* and *Messrs. Randolph S. Collins* and *Samuel H. Moyer* were on the brief, for the United States.

The State of Utah was admitted into the Union on January 4, 1896. If the rivers were not then navigable, the title to the beds remained in the United States.

The question whether the rivers were navigable is federal.

In determining the issue of navigability, the history of a river as to early use by fur traders, emigrants, merchants, etc., is entitled to great weight. The San Juan, Green, and Colorado Rivers, in Utah, were not used by the pioneers as highways. Such lack of use in the days of difficult overland travel is weighty evidence of non-navigability. The head of navigation of the Colorado was far below Lees Ferry, Arizona. For the legal tests of navigability, see *The Daniel Ball*, 10 Wall. 557-563; *The Montello*, 11 Wall. 411-414; s. c., 20 Wall. 430, 441-442; *Packer v. Bird*, 137 U. S. 601; *United States v. Cress*, 243 U. S. 316; *St. Anthony Falls W. P. Co. v. Board of Commissioners*, 168 U. S. 349; *Economy Light & Power Co. v. United States*, 256 U. S. 113; *United States v. Holt State Bank*, 270 U. S. 49; *United States v. Rio Grande D. & I. Co.*, 174 U. S. 690; *Leovy v. United States*, 177 U. S. 621; *Donnelly v. United States*, 228 U. S. 708; s. c., 228 U. S. 243; *Harrison v. Fite*, 148 Fed. 781, 784; *North American Dredging Co. v. Mintzer*, 245 Fed. 297; *Mintzer v. North American Dredging Co.*, 242 Fed. 553; *Toledo Liberal Shooting Co. v. Erie Shooting Club*, 90 Fed. 680;

Gulf & I. Ry. Co. v. Davis, 26 F. (2d) 930, affirmed, 31 F. (2d) 109; *Oklahoma v. Texas*, 258 U. S. 574; *Brewer-Elliott Oil Co. v. United States*, 260 U. S. 77.

The rule of navigability for rivers is the same whether the question is one of navigable waters of the United States, or one of title. This Court has cited the cases interchangeably, without distinction when the issue was navigability.

No lake or stream has been declared navigable by this Court unless it appeared from the evidence that the stream or lake had actually supported a substantial waterborne commerce. The outstanding thought in all of these cases was the use of the stream or lake as a highway of commerce.

In all such cases before this Court there was evidence of varying degrees of actual operation of boats both privately and for profit. This Court has never held that the mere operation of small boats, although commercially in some cases, was sufficient evidence to constitute a river a highway of commerce. So of decisions of the lower federal courts.

Physical characteristics of a river are given great weight and must be considered in determining its navigability. These rivers can not be used as highways of commerce in Utah. During most months of the year their stream-flow changes greatly from day to day; they carry a large amount of sand and silt which form sand bars; and the tortuous courses of the rivers, and their changing velocity and volume, cause the bars to change in size and shape from day to day. Because of these and other conditions, these streams are not navigable within the State.

The words "commerce" and "useful commerce," as used in cases where navigability was the issue, must be interpreted as meaning the exchange and transportation of goods and a use of travel by the general public for com-

mercial purposes. Personal use without the commercial element does not satisfy the test. The test can only be met by showing navigation of such proportions that the river may be truly said to be a highway of commerce.

Cases arising under the commerce clause of the Constitution and statutes passed pursuant thereto are not helpful in understanding the word "commerce" when used as a test of navigability. The shipment of goods from one State to another partly by use of an impracticable river may be interstate commerce, but considering the difficulties under which it is accomplished, it may not be "useful commerce," when navigability is the issue.

Distinguishing: *Gloucester Ferry Co. v. Pennsylvania*, 114 U. S. 196, 204; *United States v. Hill*, 248 U. S. 420, 423; *Thornton v. United States*, 271 U. S. 414, 424; *Federal Trade Comm. v. Pacific States Paper Assn.*, 273 U. S. 52.

On the rivers in question the uses have been more of a private nature than of a public commercial one.

Cases decided by this Court, holding rivers to be navigable, may be summarized with the statement that in no case has a river been held navigable where commercial navigation by the public upon a substantial scale was not shown.

On the other hand, no decision suggests or intimates that proof of navigability may rest upon evidence that the river was used for floatage for noncommercial purposes, or for pleasure boats, or by a limited use of small boats commercially or semi-commercially. In every one of the cases where the courts have held the streams or lakes to be non-navigable there has been proof of noncommercial navigation, and in many of them proof of a limited commercial navigation.

The evidence amply establishes that the commercial experiments upon the river have resulted in failure and abandonment. Commerce in boats can hardly be said to

be "practical," "useful," or of "any service," unless attended with some degree of profit. A river can not become a "highway of commerce," unless those who operate boats can accomplish trips with sufficient profit to themselves to warrant continuance; and this is especially true when the rivers possess characteristics which will in the future interfere with river traffic as much as they have in the past.

This Court did not speculate on future commerce in *Oklahoma v. Texas*, *supra*; or in *Brewer-Elliott Oil Co. v. United States*, *supra*. And see *Gulf & I. Ry. Co. v. Davis*, 26 F. (2d) 930, 933, affirmed, 31 F. (2d) 109; *United States v. Holt State Bank*, 270 U. S. 49, 55; *Mintzer v. North American Dredging Co.*, 242 Fed. 553, 560, 561.

Mr. P. T. Farnsworth, Jr., with whom *Messrs. George P. Parker*, Attorney General of Utah, *Waldemar Van Cott*, *George D. Parkinson*, and *William A. Hilton* were on the brief, for the State of Utah.

The United States seeks to avoid the clear and unambiguous statement of the law in *The Daniel Ball*, 10 Wall. 557, and in succeeding cases by construing cases like *United States v. Rio Grande D. & I. Co.*, 174 U. S. 690, and *Oklahoma v. Texas*, 258 U. S. 574, as in effect holding that, in order that a river may be navigable, its actual use in commerce must be frequent—that if navigation is only occasional, it is not navigable. Those cases stand for no such proposition. As construed by the United States, the words "or susceptible of being used," which are always found in this Court's definition of navigability, are surplusage. An analysis of any decision rendered by this Court, wherein a river has been declared non-navigable because of the nature of its use in commerce, will reveal that the conclusion was based upon the fact that the river's susceptibility to such use was "exceptional" or only "occasional."

The evidence conclusively establishes the navigability in fact and in law of all stretches of river flowing over the

beds here in controversy outside Cataract Canyon. The witnesses have testified without contradiction that they navigated these streams at all seasons of the year, at flood and at normal stage, at high and at low water. Some describe difficulties encountered, but they reached their destination. Women and children have successfully and without mishap piloted boats along stretches of the rivers where some of the plaintiff's witnesses say they encountered most trouble in navigating.

The Red, Arkansas and Rio Grande were held to be non-navigable because, and only because, the periods during which they were susceptible to navigation were exceptional, temporary periods of high water.

We find no language in any decision of this Court intimating that the only "public" use of a stream is that by one engaged in transportation for hire, or that the only commerce on a stream is from a use of the stream which directly involves barter and sale. Cf. *Railroad Co. v. Fuller*, 17 Wall. 560.

The fact that they constitute a present or potential highway for the "public" gives to them their public status. The farmer, artisan, fisherman, lumberman, etc., have navigation rights equal to those of one engaged in barter and sale. No single trade has a monopoly of the use of navigable waters, nor is it necessary that people engaged in any particular trade use such waters, in order to make them navigable in law. *The Montello*, 20 Wall. 430; *The Nymph*, 18 Fed. Cas. 506; *Beall v. Beck*, 2 Fed. Cas. 111.

The most important industry of "trade" in Utah is and has been mining. In the case at bar we have uncontradicted evidence of the actual use of all three of the rivers in question in mining, beginning at a time long prior to statehood, and thereafter. There is uncontradicted evidence of like use of the rivers by trappers engaged in the fur trade. There is evidence of use of certain

sections in the lumber, oil and other trades. Others have engaged in the trade or vocation of hauling freight and passengers for compensation. From the viewpoint of those living in this sparsely settled section, the use of these rivers in trade and travel has been very considerable.

Obviously each of the various uses to which these rivers have been put, is "commerce." We can think of no lawful commerce that is not "useful commerce."

Even if it appeared from the evidence that the stretches of river here involved had never been navigated at any point during all of their history, we submit that those sections would be navigable in law and the beds thereof would belong to the State of Utah.

MR. CHIEF JUSTICE HUGHES delivered the opinion of the Court.

The United States brought this suit to quiet its title to certain portions of the beds of the Green, Colorado and San Juan Rivers within the State of Utah, as follows:

The Green River, from a point where the river crosses the line between townships 23 and 24 South, Range 17 East, Salt Lake Base and Meridian (approximately the mouth of the San Rafael River) down to the confluence of the Green River with the Colorado River, 95 miles;

The Colorado River from the mouth of Castle Creek (about 14 miles above the town of Moab) to the boundary line between Utah and Arizona, 296 miles (including the portion of the Colorado River above the mouth of the Green River which had formerly been known as the Grand River);

The San Juan River from the mouth of Chinle Creek (5 miles below the town of Bluff) to its confluence with the Colorado River, 133 miles.

The complaint alleges that by the Guadalupe-Hidalgo Treaty of February 2, 1848,¹ the United States acquired

¹9 Stat. 922.

from the Republic of Mexico the title to all the lands riparian to these rivers, together with the river beds, within the State of Utah, and that the United States remains the owner of these lands, with certain stated exceptions of lands granted by it; that the Green, Colorado and San Juan Rivers throughout their entire length within the State of Utah are not and never have been navigable, and that they have not been used, nor are they susceptible of being used, in their natural and ordinary condition as permanent highways or channels for useful commerce within the State of Utah or between States or with any foreign nation; that the United States, as proprietor, has executed and delivered numerous prospecting permits covering portions of the river beds in question, giving to the permittees the exclusive right of prospecting for petroleum, oil and gas minerals, and that the permittees have entered upon development work; that the State of Utah claims title adverse to the United States in these river beds, asserting that the rivers always have been and are navigable and that title to the river beds vested in the State when it was admitted to the Union; and that Utah, without the consent or authority of the United States, has executed and delivered numerous oil and gas leases covering portions of these river beds and purporting to give exclusive rights and privileges. The United States asks that the claim of Utah to any right, title, or interest in the river beds in question be adjudged to be null and void, that it be determined that the United States has full and exclusive title thereto, and that injunction issue accordingly.

By its answer, Utah denies ownership by the United States of the river beds described in the complaint and sets up title in the State, alleging the navigability of the rivers.

The Court referred the case to Charles Warren as Special Master to take the evidence and to report it with his findings of fact, conclusions of law, and recommendations for decree. Hearings have been had before the Master, voluminous evidence has been received, and the Master

has filed his report. The report gives a comprehensive statement of the facts adduced with respect to the topography of the rivers, their history, impediments to navigation, and the use, and susceptibility to use, of the rivers as highways of commerce.

A distinction in descriptive terms should be noted. When Utah became a State, the Grand River, rising in Colorado and flowing through that State and within Utah to the junction with the Green River, was designated on all government maps and reports as separate from the Colorado River, and the name Colorado River was applied only to the river formed by the confluence of the Green River and the Grand River. The Congress, by the Act of July 25, 1921,² provided that the river theretofore known as the Grand River, from its source in Colorado to the point where it joined the Green River in Utah and formed the Colorado River, should thereafter be designated as the Colorado River. Considering that this Act had no retroactive effect, and as it expressly provided that the change in name should not affect the rights of Colorado and Utah, the Master has followed in his report the earlier designations and thus has dealt with four rivers, the beds of which are in question instead of three; that is, the Green River, the Grand River, the Colorado River (below the junction of the Green and Grand) and the San Juan River.

The Master has made his findings as to navigability as of January 4, 1896, the date of the admission of Utah to the Union.³ The Master finds that at that time the following streams in question were navigable waters of Utah: the Green River, from a point where the river crossed the township line between townships 23 and 24 South, Range 17 East, Salt Lake Base and Meridian down to its confluence with the Grand River (about 95 miles); the Grand River, from the mouth of Castle Creek down to the confluence of the Grand River with the Green

² 42 Stat. 146.

³ 29 Stat. 876.

River (about 79 miles); and the Colorado River, from Mile 176 above Lees Ferry south to the Utah-Arizona boundary (about 150 miles); and that the following streams were non-navigable waters of Utah: the Colorado River, south from the confluence of the Green and the Grand Rivers down to the end of Cataract Canyon at Mile 176 above Lees Ferry (about 40 miles); and the San Juan River from the mouth of Chinle Creek at Mile 133 above the confluence of the San Juan River and the Colorado River down to the mouth of San Juan River.

On these findings, the Master has concluded that the title to the beds of the rivers, where the rivers were found to be navigable, as above stated, was in the State of Utah, and, where the rivers were found to be non-navigable, was in the United States. Accordingly, the Master has recommended that the Court enter a decree dismissing the complaint so far as it relates to the bed of the Green River, to that portion of the bed of the Colorado River which in 1896 constituted the Grand River, and to that portion of the bed of the Colorado River from Mile 176 above Lees Ferry south to the Utah-Arizona boundary; and that the Court decree that the title to the bed of the Colorado River, from the confluence of the Green River with the Grand River down to the end of Cataract Canyon at Mile 176 above Lees Ferry, and to the bed of the San Juan River, was vested in the United States on January 4, 1896 (except so far as theretofore granted by the United States), and that Utah be enjoined from asserting title or interest therein.

Both parties have filed exceptions to the Master's report.

Neither party excepts to the finding and conclusion with respect to the non-navigability of the San Juan River, or of the Colorado River from the first rapid or cataract at Mile 212.15 above Lees Ferry down to the end of Cataract Canyon at Mile 176 above Lees Ferry.

The United States has a large number of exceptions to the findings and conclusions of the Master as to the navi-

gability of the Green River, and of the Grand River down to its junction with the Green River, and of the Colorado River from Mile 176 above Lees Ferry to the Utah-Arizona boundary.

Utah excepts to the findings and conclusion of the Master as to the non-navigability of the Colorado River from the confluence of the Green River and the Grand River at Mile 216.5 above Lees Ferry down to the first rapid or cataract at Mile 212.15 above Lees Ferry.

The controversy is with respect to certain facts, and the sufficiency of the basis of fact for a finding of navigability, rather than in relation to the general principles of law that are applicable. In accordance with the constitutional principle of the equality of States, the title to the beds of rivers within Utah passed to that State when it was admitted to the Union, if the rivers were then navigable; and, if they were not then navigable, the title to the river beds remained in the United States.⁴ The question of navigability is thus determinative of the controversy, and that is a federal question. This is so, although it is undisputed that none of the portions of the rivers under consideration constitute navigable waters of the United States, that is, they are not navigable in interstate or foreign commerce, and the question is whether they are navigable waters of the State of Utah.⁵ State laws⁶ cannot affect titles vested in the United States.⁷

⁴ *Shively v. Bowlby*, 152 U. S. 1, 26, 27; *Scott v. Lattig*, 227 U. S. 229, 242, 243; *Donnelly v. United States*, 228 U. S. 243, 260; *Oklahoma v. Texas*, 258 U. S. 574, 583; *United States v. Holt State Bank*, 270 U. S. 49, 55; *Massachusetts v. New York*, 271 U. S. 65, 89.

⁵ See *The Daniel Ball*, 10 Wall. 557, 563; *The Montello*, 11 Wall. 411, 415.

⁶ In 1927, the Utah legislature passed an act declaring "the Colorado River in Utah and the Green River in Utah" to be navigable streams. Laws of Utah, 1927, p. 8.

⁷ *Brewer-Elliott Oil & Gas Co. v. United States*, 260 U. S. 77, 87; *United States v. Holt State Bank*, 270 U. S. 49, 55, 56.

The test of navigability has frequently been stated by this Court. In *The Daniel Ball*, 10 Wall. 557, 563, the Court said: "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." In *The Montello*, 20 Wall. 430, 441, 442, it was pointed out that "the true test of the navigability of a stream does not depend on the mode by which commerce is, or may be, conducted, nor the difficulties attending navigation," and that "it would be a narrow rule to hold that in this country, unless a river was capable of being navigated by steam or sail vessels, it could not be treated as a public highway." The principles thus laid down have recently been restated in *United States v. Holt State Bank*, 270 U. S. 49, 56, where the Court said:

"The rule long since approved by this Court in applying the Constitution and laws of the United States is that streams or lakes which are navigable in fact must be regarded as navigable in law; that they are navigable in fact when they are used, or are susceptible of being used, in their natural and ordinary condition, as highways for commerce, over which trade and travel are or may be conducted in the customary modes of trade and travel on water; and further that navigability does not depend on the particular mode in which such use is or may be had—whether by steamboats, sailing vessels or flat-boats—nor on an absence of occasional difficulties in navigation, but on the fact, if it be a fact, that the stream in its natural and ordinary condition affords a channel for useful commerce."⁸

⁸ See also *Packer v. Bird*, 137 U. S. 661, 667; *St. Anthony Falls Water Power Co. v. St. Paul Water Commissioners*, 168 U. S. 349, 359; *United States v. Rio Grande Dam & Irrigation Co.*, 174 U. S.

In the present instance, the controversy relates only to the sections of the rivers which are described in the complaint, and the Master has limited his findings and conclusions as to navigability accordingly. The propriety of this course, in view of the physical characteristics of the streams, is apparent. Even where the navigability of a river, speaking generally, is a matter of common knowledge, and hence one of which judicial notice may be taken, it may yet be a question, to be determined upon evidence, how far navigability extends.⁹ The question here is not with respect to a short interruption of navigability in a stream otherwise navigable,¹⁰ or of a negligible part, which boats may use, of a stream otherwise non-navigable. We are concerned with long reaches with particular characteristics of navigability or non-navigability, which the Master's report fully describes.

The Green River has its source in the mountains of western Wyoming and has a total length of about 700 miles. After passing through a series of canyons, the rock walls of which are of great height, it enters the Green River valley in which the town of Green River, Utah, is situated, about 117 miles above the river's mouth. The drop in elevation between the town of Green River, Wyoming, and Green River, Utah, is from 6067 to 4046 feet,—2021 feet in 387 miles, causing many difficult and dangerous rapids. For the first 23 miles below the town of Green River, Utah, to the point where the San Rafael River enters from the west, the country is more or less open. From

690, 698; *Leovy v. United States*, 177 U. S. 621, 627; *Donnelly v. United States*, 228 U. S. 243, 260, 708, 709; *United States v. Cress*, 243 U. S. 316, 321; *Economy Light & Power Co. v. United States*, 256 U. S. 113, 122, 123; *Oklahoma v. Texas*, *supra*; *Brewer-Elliott Oil & Gas Co. v. United States*, *supra*.

⁹ *United States v. Rio Grande Dam & Irrigation Co.*, 174 U. S. 690, 698.

¹⁰ *St. Anthony Falls Water Power Co. v. St. Paul Water Commissioners*, *supra*; *Economy Light & Power Co. v. United States*, *supra*.

the mouth of the San Rafael River (approximately the beginning of the section to which the controversy relates) to the junction of the Green and Grand Rivers, there is a very gradual slope, there being a drop of 111 feet in the 94 miles. In this section the river flows through Labyrinth and Stillwater Canyons, the rock walls of which in many places rise almost vertically from the water's edge, and in other places are over a thousand feet apart, with heights of 600 to 1300 feet. The average width of the river is from 500 to 700 feet. In four or five places there are bottom lands along the side in the Canyons. The course of the river is tortuous, the distance (in this section) in a straight line being less than one-half that by the river. The Government maintains gauging stations to measure the depth, the velocity and the amount of discharge of water. On the Green River the gauge was located at or near the town of Green River, Utah. From these measurements the Master finds that the depth of the Green River ranged from between $1\frac{1}{2}$ and 3 feet for 53 days in the year to between 7 and 12 feet for 60 days, and that for 312 days in the year there was a depth of 3 feet or over. For 290 days in the year there was a discharge of over 2000 cubic feet per second, and, for 149 days, of over 4200 cubic feet per second.

The Grand River rises in north-central Colorado and flows to its junction with the Green River in Utah, approximately about 423 miles. Its course is through a succession of long, narrow, fertile valleys, alternating with deep canyons, with walls, in places, of over 2,000 feet in height. There are many difficult and dangerous rapids. The total drop from Grand Junction, Colorado, to Castle Creek, Utah (where the section in controversy begins) is from 4,552 feet in elevation to 3,993 feet, a drop of 559 feet in 94 miles. From Castle Creek to the town of Moab, 14 miles, the slope averages 3.5 feet per mile, and there are slight rapids or riffles and rocks in the stream. At

Moab there is an open valley, leaving which the Grand River flows 65½ miles largely through rock canyons having walls 600 to 2,100 feet in height. The course of the Grand River in this section is slightly more tortuous than that of the Green River; the width of the river averages about 500 feet and the slope below Moab is only a little over 1 foot per mile. The Government's gauge was located at Cisco, about 17 miles above Castle Creek. From readings at that point the Master finds that the depths of the river vary from 2.9 to 3 feet for 16 days in the year to over 7 feet for 61 days, and that for 349 days in the year there is a depth of 3 feet or over. There is a discharge of over 2,000 cubic feet per second for 351 days in the year, and for 169 days of over 4,200 cubic feet per second.

The Master finds that on the Grand River, in the 79 miles between Castle Creek and the junction with the Green River, there is a stretch of about three miles out of the first fourteen miles between Castle Creek and Moab Bridge in which there are three small rapids, and that, in this stretch, the river is less susceptible of practical navigation for commercial purposes than in the remainder of the river. But the Master finds that, even in this three mile stretch, the river is susceptible of being used for the transportation of lumber rafts and that there has been in the past considerable use of the river for that purpose.

The Colorado River, that is, treating the river as beginning at the junction of the Green and Grand Rivers, flows southwesterly and finally reaches the Gulf of California. The distance from the confluence of the Green and Grand Rivers in Utah to the Utah-Arizona boundary, is about 189 miles, the boundary being about 27 miles above the point known as Lees Ferry in Arizona. The table of distances gives the junction of the Green and the Grand Rivers as being 216.5 miles above Lees Ferry. The Master finds that the Colorado River is non-navigable from this junction down to the end of Cataract Canyon at Mile

176 above Lees Ferry. The State of Utah contests the finding of the Master with respect to the first 4.35 miles of this stretch of the river, that is, to a point 212.15 miles above Lees Ferry (a question to which we shall return in dealing with Utah's exceptions), where it is said that the first rapid or cataract of Cataract Canyon begins. But there is no controversy as to the non-navigability of the stream from this point through Cataract Canyon down to Mile 176 above Lees Ferry. Through this canyon, with rock walls from 1500 to 2700 feet in height, the river has a rapid descent or slope of about 399 feet, a drop of 11 feet per mile, with a long series of high and dangerous rapids.

The Master's finding of navigability relates to the section of the river from Cataract Canyon to the Utah-Arizona boundary. At the end of Cataract Canyon (the end of the portion of it known as Dark Canyon), the country becomes more open, the river somewhat wider, and the canyon walls not over 600 feet in height, this stretch being known as Glen Canyon. Two rivers enter from the west, the Fremont and the Escalante, and one from the east, the San Juan. As the Colorado River approaches the Utah-Arizona boundary, the canyon walls increase in height and average 1300 to 1600 feet. There are various points at which bottom lands are cultivated in the river beds. The width of the river averages from 600 to 700 feet. Its slope through this section is gentle, being less than 2 feet per mile. As to the 90 miles of Glen Canyon, that is, from Mile 176 above Lees Ferry to the mouth of the San Juan River, the Master states that there are no gauging station figures of any discharge, flow and depth which are applicable, but the Master finds that as the waters of the Green and the Grand Rivers join and form the Colorado River, there must be a discharge of water in the Glen Canyon stretch equal to the combined discharge of the other two rivers and hence at

all times sufficient water for navigation so far as discharge alone is concerned. As to depth, the Master finds that the Colorado River in this stretch should have a depth at least equal to that of the Green or the Grand River. Between the mouth of the San Juan River and the Utah-Arizona boundary, figures were obtained from the Lees Ferry gauging station from which it appears that the average depths range from between 3 and 4 feet for 17 days in the year to over 8 feet for 124 days in the year, and that the discharge varies from less than 4000 cubic feet per second for 13 days in the year to over 6000 feet per second for 352 days in the year.

The question thus comes to the use, and the susceptibility to use, for commerce of the sections of these rivers which the Master has found to be navigable.

The United States, in support of its exceptions, stresses the absence of historical data showing the early navigation of these waters by Indians, fur traders, and early explorers, that is, uses of the sort to which this Court has had occasion to refer in considering the navigability of certain other streams.¹¹ The Master has made an elaborate review of the history of the rivers from the year 1540 to 1869, and reaches the conclusion that neither "the limited historical facts put in evidence by the Government [nor] the more comprehensive investigation into the history of these regions" tend to support the contention that the non-use of these rivers in this historical period "is weighty evidence that they were non-navigable in 1896 in fact and in law." The Master points out that the non-settlement of eastern Utah in these years, the fact that none of the trails to western Utah or to California were usable to advantage in connection with these rivers, and many other facts, are to be considered in connection with that of non-use.

¹¹ E. g., *The Montello*, *supra*; *Economy Light & Power Co. v. United States*, *supra*.

Coming to the later period, that is, since 1869, the Master has set forth with much detail the actual navigation of the rivers with full description of the size and character of boats, and the circumstances of use. It appears that navigation began in 1869 with the expedition of Major John W. Powell down the Green and the Colorado Rivers, and this was followed by his second trip in 1871. It is said that there were no further attempts at navigation for seventeen years. There was a survey by Robert Brewster Stanton in 1889, and in the succeeding years there were a large number of enterprises, with boats of various sorts, including row-boats, flat-boats, steam-boats, motor-boats, a barge and scows, some being used for exploration, some for pleasure, some to carry passengers and supplies, and others in connection with prospecting, surveying and mining operations. Much of this evidence as to actual navigation relates to the period after 1896, but the evidence was properly received and is reviewed by the Master as being relevant upon the issue of the susceptibility of the rivers to use as highways of commerce at the time Utah was admitted to the Union.

The question of that susceptibility in the ordinary condition of the rivers, rather than of the mere manner or extent of actual use, is the crucial question. The Government insists that the uses of the rivers have been more of a private nature than of a public, commercial sort. But, assuming this to be the fact, it cannot be regarded as controlling when the rivers are shown to be capable of commercial use. The extent of existing commerce is not the test. The evidence of the actual use of streams, and especially of extensive and continued use for commercial purposes, may be most persuasive, but where 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. As the Court said, in *Packer v. Bird*, 137 U. S. 661, 667: "It

is, indeed, the susceptibility to use as highways of commerce which gives sanction to the public right of control over navigation upon them, and consequently to the exclusion of private ownership either of the waters or soils under them." In *Economy Light & Power Co. v. United States*, 256 U. S. 113, 122, 123, the Court quoted with approval the statement in *The Montello, supra*, that "the capability of use by the public for purposes of transportation and commerce affords the true criterion of the navigability of a river, rather than the extent and manner of that use."

It is true that the region through which the rivers flow is sparsely settled. The towns of Green River and Moab are small, and otherwise the country in the vicinity of the streams has but few inhabitants. In view of past conditions, the Government urges that the consideration of future commerce is too speculative to be entertained. Rather is it true that, as the title of a State depends upon the issue, the possibilities of growth and future profitable use are not to be ignored. Utah, with its equality of right as a State of the Union, is not to be denied title to the beds of such of its rivers as were navigable in fact at the time of the admission of the State either because the location of the rivers and the circumstances of the exploration and settlement of the country through which they flowed had made recourse to navigation a late adventure, or because commercial utilization on a large scale awaits future demands. The question remains one of fact as to the capacity of the rivers in their ordinary condition to meet the needs of commerce as these may arise in connection with the growth of the population, the multiplication of activities and the development of natural resources. And this capacity may be shown by physical characteristics and experimentation as well as by the uses to which the streams have been put.

The controversy as to navigability is largely with respect to impediments to navigation in the portions of the rivers found by the Master to be navigable, and as to these impediments there is much testimony and a sharp conflict in inferences and argument. The Government describes these impediments as being logs and debris, ice, floods, rapids and riffles in certain parts, rapid velocities with sudden changes in the water level, sand and sediment which combined with the tortuous course of the rivers produce a succession of shifting sand bars, shallow depths, and instability of channel.

The Master states that while there is testimony that in floods and periods of high water these rivers carry a considerable quantity of logs and driftwood, the evidence as to actual trips made by witnesses discloses little danger thereby incurred except in the case of paddle-wheel boats. The Master's finding, which the evidence supports, is that this condition does not constitute a serious obstacle to navigation. With respect to ice, it is sufficient to say, as the Master finds, that ice periods on these rivers do not prevail in every winter and that they are shorter than on most of the rivers in the northern and northeastern States of the country. As to floods, it appears that there are months of extreme high water caused by the melting of snows in the mountains and also local floods of short duration caused by rain-storms. From the testimony of the witnesses who have actually boated on these rivers, the Master is unable to find that this element of variation in flow, or of rapidity of variation, has constituted any marked impediment to the operation of boats except possibly in one or two instances. In relation to rapids, riffles, rapid water and velocity of current, the Master uses the classifications of an engineer presented by the Government and finds that in the portions of the Green River involved in this suit there are no rapids, riffles or rapid water, and that the slope of the bed is only a little over

one foot per mile; that there is a stretch on the Grand River (above Moab Bridge) where there are three small rapids, already mentioned, and also two and one-half miles of rapid water, but that this is a stretch of only six miles in all and is not characteristic of the whole section of the Grand River here in controversy. It appears that neither the current nor the velocity of the Green and Grand Rivers impedes navigation to any great extent except in the days of extreme or sudden flood, and that motor boats of proper construction, power and draft can navigate upstream without trouble, so far as current or velocity alone is concerned. The slope of the section of the Colorado River which the Master has found to be navigable is for the most part slight, as already stated; there are four drops in elevation which may be called small rapids, but it appears that these do not ordinarily make necessary any portage of boat or cargo.

The principal impediment to navigation is found in shifting sandbars. As the rivers carry large amounts of fine silt, sandbars of various types are formed. The Master's report deals with this matter at length. Referring to the Green and the Grand Rivers, the Master states that the most constant type of sandbar forms on the sides of the rivers on the convex curves or inside of the bends; that changes in discharge and in velocity, and floods caused by sudden heavy rains, may affect the size, shape and height of these side sandbars, but, in general, after the spring high-water has receded, these sandbars have constant and fixed locations. There is a second type of bar which forms at the mouth of tributary streams, creeks or washes, usually at times of sudden floods caused by heavy summer rains, and these generally are of short duration. A third type consists of what is termed "crossing bars" which are formed below the places where the rivers cross from one side to the other in following the curves or bends; wherever these crossing bars occur there

is generally more or less difficulty in ascertaining the course of the channel, as the stream may divide into several channels, or it may distribute itself over the full length of the bar so as greatly to lessen the depth of the water from that prevailing in the well-defined channels which follow the bends. There are frequent and sudden variations in these bars resulting in changes in the course of the channel. The bed of the Colorado River above the mouth of the San Juan is found to be more gravelly than that of the Green and Grand Rivers. There are, however, long high side-bars of sand and gravel on which placer mining has been done and also a few sandbars or bottoms which have been cultivated. Crossing bars occur, but not as frequently as on the Green and Grand Rivers, and they cause less trouble. After the recession of the water at the end of the high water season, the channel remains more or less stable during the rest of the year, although there are temporary changes. In general the channel is less shifting than on the Green and Grand Rivers, and the river is less tortuous.

Recognizing the difficulties which are thus created, the Master is plainly right in his conclusion that the mere fact of the presence of such sandbars causing impediments to navigation does not make a river non-navigable. It is sufficient to refer to the well-known conditions on the Missouri River and the Mississippi River. The presence of sandbars must be taken in connection with other factors making for navigability. In *The Montello, supra*, the Court said [p. 443]: "Indeed, there are but few of our fresh-water rivers which did not originally present serious obstructions to an uninterrupted navigation. In some cases, like the Fox River, they may be so great while they last as to prevent the use of the best instrumentalities for carrying on commerce, but the vital and essential point is whether the natural navigation of the river is such that it affords a channel for useful commerce. If this be so the river is navigable in fact, although its navigation may be encompassed with difficul-

ties by reason of natural barriers such as rapids and sandbars.”

The Government invites a comparison with the conditions found to exist on the Rio Grande in New Mexico, and the Red River and the Arkansas River, above the mouth of the Grand River, in Oklahoma, which were held to be non-navigable, but the comparison does not aid the Government's contention. Each determination as to navigability must stand on its own facts. In each of the cases to which the Government refers it was found that the use of the stream for purposes of transportation was exceptional, being practicable only in times of temporary highwater.¹² In the present instance, with respect to each of the sections of the rivers found to be navigable, the Master has determined upon adequate evidence that “its susceptibility of use as a highway for commerce was not confined to exceptional conditions or short periods of temporary high water, but that during at least nine months of each year the river ordinarily was susceptible of such use as a highway for commerce.”

¹²In the case of the Rio Grande in New Mexico, the Court said (*United States v. Rio Grande Dam & Irrigation Co.*, 174 U. S. 690, 699): “Its use for any purposes of transportation has been and is exceptional, and only in times of temporary high water. The ordinary flow of water is insufficient. It is not like the Fox River, which was considered in *The Montello*, in which was an abundant flow of water and a general capacity for navigation along its entire length, and although it was obstructed at certain places by rapids and rocks, yet these difficulties could be overcome by canals and locks, and when so overcome would leave the stream in its ordinary condition susceptible of use for general navigation purposes.” In *Oklahoma v. Texas*, 258 U. S. 574, 587, the Court, describing the Red River in the western part of Oklahoma, said that “Only for short intervals, when the rain-fall is running off, are the volume and depth of the water such that even very small boats could be operated therein. . . . The rises usually last from one to seven days and in the aggregate seldom cover as much as forty days in the year”; and, in relation to the eastern part of the river, it was found (*id.* p. 591)

The Government invokes an Executive Order of May 17, 1884, withdrawing lands from sale and settlement in order to provide a reservation for Indian purposes in Utah, in which the boundary of the reservation was described as running "up and along the middle of the channel" of the Colorado and San Juan Rivers. This is said to have included the Colorado River from the Utah-Arizona boundary to the mouth of the San Juan River. This Executive Order was revoked by another Executive Order of November 19, 1892, so far as it affected lands west of the 110th degree of west longitude and within the Territory of Utah, thus excluding the lands in question along the Colorado River. The earlier Executive Order did not constitute a grant such as that which was under consideration in *Brewer-Elliott Oil & Gas Co. v. United States*, 260 U. S. 77, 80, 85, and it does not appear that the question of the navigability of the rivers was considered when that order was made. The Government also refers to proceedings since Utah became a State, with respect to governmental investigations, operations under placer claims, and withdrawals for power and reservoir sites. It is not necessary to review these transactions in detail, as nothing that has been done alters the essential facts with respect to the navigability of the streams, and the United States could

that "Its characteristics are such that its use for transportation has been and must be exceptional, and confined to the irregular and short periods of temporary highwater." In *Brewer-Elliott Oil & Gas Co. v. United States*, 260 U. S. 77, 86, the Court accepted the findings of the two courts below as to the non-navigability of the Arkansas River above the mouth of the Grand River in Oklahoma, and the District Court, to whose findings the Circuit Court of Appeals referred, had said that "The use of that portion of the river for transportation boats has been exceptional and necessarily on high water, was found impractical and was abandoned. The rafting of logs or freight has been attended with difficulties precluding utility. There was no practical susceptibility to use as a highway of trade or travel." 249 Fed. 609, 623; 270 Fed. 100, 103.

not, without the consent of Utah, divest that State of title to the beds of the rivers which the State had acquired. Nor has Utah taken any action which could be deemed to estop the State from asserting title.

We conclude that the findings of the Master, so far as they relate to the sections of the Green, the Grand, and the Colorado Rivers, found by him to be navigable, are justified by the evidence and that the title to the beds of these sections of the rivers vested in Utah when that State was admitted to the Union. The exceptions of the Government are overruled.

The State of Utah excepts to the finding of the Master as to non-navigability so far as it relates to the first 4.35 miles of the stretch of the Colorado River south from the confluence of the Green River with the Grand River. In the Master's report, this short stretch is included, without separate or particular characterization, in the section of the Colorado River found to be non-navigable through Cataract Canyon to Mile 176 above Lees Ferry. Utah contends that the portion of the Colorado River immediately below the junction of the Green and the Grand Rivers, at Mile 216.5 above Lees Ferry, does not differ in its characteristics, with respect to navigability, from these streams as they reach the point of confluence, save that there is more water and a slightly increased gradient, and that no difficulties in navigation appear until the first rapid in Cataract Canyon is reached at Mile 212.15 above Lees Ferry. In the classification made by the government engineer with respect to rapids and rapid water, to which reference has been made, 4.2 miles of this stretch (to Mile 212.3 above Lees Ferry) are described as quiet water, and the Government has not called our attention to any facts which would substantially differentiate this portion of the Colorado River, immediately below the confluence of the Green and Grand Rivers, from those parts of these rivers found by the Master to be navigable.

On the assumption that there is no basis for such a differentiation as to navigability in fact, the exception of Utah in this respect should be sustained. In this view, however, the exact point at which navigability may be deemed to end, in the approach to Cataract Canyon, should be determined precisely. This determination may be left, for the present, to the agreement of the parties and, if they are unable to agree, they may submit their views in connection with the settlement of the decree.

Utah also excepts to the recommendation of the Master that the decree contain a proviso that the United States "shall in no wise be prevented from taking any such action in relation to said rivers or any of them as may be necessary to protect and preserve the navigability of any navigable waters of the United States." While a statement to that effect is not necessary, as the United States would have this authority in any event, the provision is not inappropriate in a decree determining the right, title or interest of the United States and of Utah, respectively, in relation to the beds of the rivers in question, and its inclusion may avoid misapprehension of the effect of the decree. This exception and the remaining exception of Utah, which does not require separate examination, are overruled.

Decree will be entered dismissing the complaint of the United States so far as it relates to the beds of the portions of the Green, Grand and Colorado Rivers found to be navigable, as above stated, and adjudging that title to such beds was vested in Utah on January 4, 1896, except so far as the United States may theretofore have made grants thereof; and also adjudging that, on that date, (except as to lands theretofore granted) title to the beds of the portion of the Colorado River and of the San Juan River, where these rivers are found to be non-navigable, was vested in the United States. The decree shall also contain the proviso above mentioned. Each party will

pay its own costs, one-half of the expenses incurred by the Master, and one-half of the amount to be fixed by the Court as his compensation.

The Government will prepare a form of decree in accordance with this decision, and furnish a copy to the State of Utah within fifteen days; and within ten days after such submission, the draft decree, together with suggestions on behalf of the State of Utah, if any, will be submitted to the Court.

HERRON *v.* SOUTHERN PACIFIC COMPANY.

CERTIFICATE FROM THE CIRCUIT COURT OF APPEALS FOR THE NINTH CIRCUIT.

No. 131. Submitted March 2, 1931.—Decided April 13, 1931.

1. The provision of the constitution of Arizona (Art. 18, § 5) that "The defense of contributory negligence . . . shall, in all cases whatsoever, be a question of fact and shall, at all times, be left to the jury," is not binding on the federal court sitting in that State. P. 92.

So *held* in an ordinary common law action for personal injuries suffered in a railway crossing accident.

2. The function of the trial judge in a federal court is not a local matter, and state statutes or constitutional provisions which would interfere with the appropriate exercise of that function are not binding, either under the Conformity Act or the Rules of Decision Act, U. S. C., Title 28, §§ 724, 725. P. 94.

ANSWERS to questions certified by the court below upon an appeal from a judgment on a directed verdict, in a personal injury case.

Messrs. P. H. Hayes, M. J. Dougherty, and J. A. Walsh were on the brief for Herron.

Messrs. Charles H. Bates, Alexander B. Baker, and Louis B. Whitney were on the brief for the Southern Pacific Co.