

TEXAS *v.* NEW MEXICO

ON EXCEPTIONS TO REPORT OF SPECIAL MASTER

No. 65, Orig. Argued March 30, 1983—Decided June 17, 1983

The Pecos River Compact was entered into by Texas and New Mexico (and approved by Congress) to govern allocation of the waters of the Pecos River, which rises in New Mexico and flows into Texas. Article III(a) of the Compact requires that New Mexico “not deplete by man’s activities the flow of the Pecos River at the New Mexico-Texas state line below an amount which will give to Texas a quantity of water equivalent to that available to Texas under the 1947 condition.” The Compact establishes the Pecos River Commission (Commission)—consisting of one Commissioner from each State and a nonvoting representative of the United States—and empowers it to make all findings of fact necessary to administer the Compact. The two voting Commissioners were unable to agree when a dispute arose between the States concerning the methods for determining annual shortfalls of state-line water flow with regard to Texas’ right to receive as much water as it would have received under the consumption conditions prevailing in New Mexico in 1947. Texas filed this action against New Mexico (the United States intervened to protect its claims on the waters of the river), alleging that New Mexico had breached its obligations under Art. III(a) of the Compact and seeking a decree commanding New Mexico to deliver water in accordance with the Compact. This Court appointed a Special Master, who ultimately filed the report involved here, and the parties filed various exceptions thereto.

Held:

1. Exceptions of the Government and New Mexico to the Master’s recommendation that either the United States Commissioner or some other third party be given a vote on the Commission and be empowered to participate in all Commission deliberations are sustained. Once congressional consent is given to an interstate compact as required by the Compact Clause, the compact is transformed into a law of the United States, and unless the compact is unconstitutional, no court may order relief inconsistent with its express terms. Here, the Compact provides that the Government Commissioner shall not have the right to vote, and no other third party is given the right to vote on matters before the Commission. This Court cannot rewrite the Compact so as to provide for a third, tie-breaking vote. Moreover, the Court’s equitable powers have never been exercised so as to appoint quasi-administrative offi-

cial to control the division of interstate waters on a day-to-day basis. Pp. 564–566.

2. New Mexico's exception to the Master's alternative recommendation to continue the suit as presently postured is overruled, and the recommendation is accepted. There is no merit to New Mexico's contention that this Court may do nothing more than review the Commission's official actions, and that the case should be dismissed if it is found either that there is no Commission action to review or that actions taken by the Commission were not arbitrary or capricious. This Court's original jurisdiction to resolve controversies between two States extends to a suit by one State to enforce its compact with another State or to declare rights under a compact. Here, fundamental structural considerations of the Compact militate against New Mexico's theory, since if all questions under the Compact had to be decided by the Commission in the first instance, New Mexico could indefinitely prevent authoritative Commission action solely by exercising its veto on the Commission. Nor do the Compact's express terms constitute the Commission as the sole arbiter of disputes over New Mexico's Art. III obligations. Moreover, if authorized representatives of the compacting States have reached an agreement on action to be taken by the Commission, this Court will not review the Commission's action at the behest of one of the States absent extraordinary cause or a precise mandate from Congress. Pp. 566–571.

3. Texas' exception to the Master's recommendation against approval of Texas' motion to adopt a so-called "Double Mass Analysis" method for determining when a shortfall in state-line flows has occurred is overruled. The Compact provides that until the Commission adopts a more feasible method, an "inflow-outflow method" shall be used to measure state-line shortfalls. The "Double Mass Analysis" is not close enough to what the Compact terms an "inflow-outflow method, as described in the Report of the Engineering Advisory Committee" to make it acceptable for use in determining New Mexico's compliance with its Art. III obligations. While the Compact leaves the Commission free to adopt the "Double Mass Analysis," this Court may not apply it against New Mexico in the absence of Commission action. Pp. 571–574.

Exceptions to Special Master's report sustained in part and overruled in part.

BRENNAN, J., delivered the opinion for a unanimous Court.

R. Lambeth Townsend, Assistant Attorney General of Texas, argued the cause for plaintiff. With him on the briefs were *Mark White*, Attorney General, *John W. Fainter, Jr.*,

First Assistant Attorney General, *Richard E. Gray III*, Executive Assistant Attorney General, and *Frank R. Booth*.

Charlotte Uram, Special Assistant Attorney General of New Mexico, argued the cause for defendant. With her on the briefs were *Paul G. Bardacke*, Attorney General, *Jeff Bingaman*, former Attorney General, and *Peter Thomas White*, Special Assistant Attorney General.

Solicitor General Lee, *Deputy Solicitor General Claiborne*, and *John H. Garvey* filed a brief for the United States.

JUSTICE BRENNAN delivered the opinion of the Court.

For the second time we consider exceptions to a report of the Special Master in this case. The States of Texas and New Mexico and the United States have filed exceptions to a report submitted by the Special Master on September 10, 1982 (1982 Report). We sustain an exception in which both New Mexico and the United States concur, overrule all other exceptions, and return the case to the Special Master for a final decision on the basic issue in dispute—whether New Mexico is in compliance with obligations imposed by the Pecos River Compact.

I

The Pecos River rises in north-central New Mexico and flows in a southerly direction into Texas until it joins the Rio Grande near Langtry, Tex.¹ It is the principal river in eastern New Mexico, draining roughly one-fifth of the State, and it is a major tributary of the Rio Grande.

¹ From north to south, the Pecos River flows past Pecos and Santa Rosa, N. M., and then into the Alamogordo Reservoir above Alamogordo (or Sumner) Dam. It then passes Fort Sumner and traverses a relatively desolate region in the central part of the State. From Acme to Artesia, in the area around Roswell, the river is fed by a large, slowly flowing aquifer. Below Artesia, the river passes through a set of deltas and lakes formed by the now-deteriorated McMillan and Avalon Dams, then flows past Carlsbad and into the Red Bluff Reservoir, which straddles the state line and is used to regulate the river in Texas.

Due in large part to many natural difficulties,² the Pecos barely supports a level of development reached in the first third of this century. If development in New Mexico were not restricted, especially the groundwater pumping near Roswell, no water at all might reach Texas in many years. As things stand, the amount of water Texas receives in any year varies with a number of factors besides beneficial consumption in New Mexico. These factors include, primarily, precipitation in the Pecos Basin over the preceding several years, evaporation in the McMillan and Alamogordo Reservoirs, and nonbeneficial consumption of water by salt cedars and other riverbed vegetation.

A

After 20 years of false starts,³ in 1945 Texas and New Mexico commenced negotiations on a compact to allocate the

² In its natural state, the Pecos may dry up completely for weeks at a time over fairly long reaches in central New Mexico. Much of its annual flow comes in flash floods, carrying with them great quantities of topsoil that both progressively destroy reservoirs, by silting, and render the river's waters quite saline. The nonflood "base" flow of the Pecos below Alamogordo Dam is supplied to a large part by groundwater aquifers that empty into the river in the reach between Acme and Artesia, N. M. The operation of these aquifers is little understood. They are depleted by pumping from wells in the Roswell area, and there is some suggestion that at times heavy groundwater pumping in the area around Roswell may actually reverse the direction of flow of the underground aquifer, so that water flows away from the river. See Texas' Brief on the 1947 Condition (filed Aug. 21, 1978), p. 34. In addition, a steady stream of underground brine enters the river at Malaga Bend, some 10 miles above the Texas border, severely impairing the quality of water that reaches Texas when the river is low. Salt cedars, which consume large amounts of water, proliferate along its channel and in the silt deposits at the heads of its reservoirs.

³ In 1925, the States negotiated a compact for regulating the river. It was approved by both state legislatures, but the Governor of New Mexico vetoed its bill. In the early 1930's, the Texas congressional delegation succeeded in holding up federal funding for construction of the Alamogordo Dam until New Mexico agreed to ensure that Texas received the same portion of flood flows originating above Avalon Dam that it had received during the period from 1905 to 1935. This agreement was signed in 1935 by

waters of the Pecos Basin. A Compact Commission was formed, consisting of three Commissioners, representing the two States and the United States. In January 1948, the Compact Commission's engineering advisory committee submitted a lengthy report (1947 Study), the central portion of which was a set of river routing studies describing six "conditions" of the Pecos, one of which consisted of the actual conditions as of the beginning of 1947.⁴ Each of the studies was embodied in a 41-column table accounting for all known inflows and outflows of water on the river during each of the years between 1905 and 1946.⁵ The engineering advisory committee also drafted a Manual of Inflow-Outflow Methods

the Secretary of the Interior, the United States Senators from both States, and representatives of the irrigation districts concerned, and it was formally ratified by the Texas Legislature but never by the New Mexico Legislature. New Mexico did, however, sharply restrict groundwater pumping in the Roswell area in 1937, thus restoring to some extent the base flow of the river.

⁴The six "conditions" studied by the engineering committee represented various combinations of historical facts from different periods and hypothetical assumptions about the existence, condition, and operation of the dams and irrigation projects that had been built since 1905. See S. Doc. No. 109, 81st Cong., 1st Sess., 9-11 (1949) (S. Doc. 109). The only one material to the Compact as adopted is the "1947 condition," which assumed actual conditions as of 1947, with some additional use by the Carlsbad and Fort Sumner projects.

⁵For instance, on each table column 14 showed depletion by pumps between Acme and Artesia, column 15 showed inflows from aquifers in the same reach, and column 16 showed depletion by salt cedars. Some of the entries in the tables could be inferred more or less easily from observed data—*e. g.*, the flow of the river past specific gauges, or diversions to irrigation projects. Others, such as the entries for salt-cedar depletions or evaporation from each reservoir, could only be estimated, albeit with some degree of reliability. However, many entries—*e. g.*, the three columns showing "flood inflows" and the two columns entitled "channel losses"—required a great deal of speculation, and to some extent they may have been used as residual categories to "balance the books." See S. Doc. 109, at 41-42; Report of Review of Basic Data to Engineering Advisory Committee, Pecos River Commission 24 (1960) (stipulated exhibit No. 8) (Review of Basic Data).

of *Measuring Changes in Stream-Flow Depletion* (1948) (Inflow-Outflow Manual), which contained charts and tables, derived from data in the 1947 Study, to be used in determining how much water Texas should expect to receive over any particular period for any particular levels of precipitation, under the consumption conditions prevailing in New Mexico in 1947.

On the basis of the 1947 Study and the Inflow-Outflow Manual, the two States successfully negotiated the Pecos River Compact. It was signed by the Commissioners from both States on December 3, 1948, and thereafter ratified by both state legislatures and—as required under the Compact Clause of the Constitution⁶—approved by Congress. Ch. 184, 63 Stat. 159. The 1947 Study and the Inflow-Outflow Manual were incorporated into S. Doc. 109, and they unquestionably provided the basis upon which Congress approved the Compact, see S. Rep. No. 409, 81st Cong., 1st Sess. (1949).

The crucial substantive provision of the Pecos River Compact is found at Art. III(a): “New Mexico shall not deplete by man’s activities the flow of the Pecos River at the New Mexico-Texas state line below an amount which will give to Texas a quantity of water equivalent to that available to Texas under the 1947 condition.” The term “1947 condition” was expressly defined as “that situation in the Pecos River Basin as described and defined in the Report of the Engineering Advisory Committee.” Art. II(g). In turn, the Report was defined to include “basic data, processes, and analyses utilized in preparing that report,” Art. II(f), and “deplete by man’s activities” was defined to include any “beneficial consumptive uses of water within the Pecos River Basin,” but to exclude diminutions of flow due to “encroachment of

⁶“No State shall, without the Consent of Congress, . . . Compact with another State, or with a foreign Power” U. S. Const., Art. I, § 10, cl. 3.

salt cedars” or “deterioration of the channel of the stream,” Art. II(e).

The Compact also established the Pecos River Commission as a permanent body, in more or less the same form that it had during the negotiations on the Compact. It was to have three Commissioners, one from each State and one representing the United States, but the United States representative could not vote. Art. V(a). Accordingly, the Commission could take official action only with the concurrence of both state Commissioners. The Commission was given broad powers to make all findings of fact necessary to administer the Compact, Arts. V(d)(5)–(10), as well as to “[e]ngage in studies of water supplies of the Pecos River” and to “[c]ollect, analyze, correlate, preserve and report on data as to the stream flows, storage, diversions, salvage, and use of the waters of the Pecos River and its tributaries,” Arts. V(d)(3), (4).⁷

For roughly 15 years, the Pecos River Commission functioned more or less as had been contemplated in the Compact. It met regularly, passed resolutions, and undertook studies of various questions of importance to those who use the waters of the Pecos. The apparent harmony that characterized the Commission in those years, however, seems largely to have been the result of a tacit agreement to defer disagreement on a problem of serious magnitude. For it became clear soon after the Compact went into effect that the 1947 Study and, more importantly, the tables in the Inflow-Outflow Manual did not describe the actual state of the river. In almost every year following adoption of the Compact, state-line flows were significantly below the amount that one would have predicted on the basis of the Inflow-Outflow Manual, with no obvious change either in natural conditions along the river or in “man’s activities.”

The initial response of the Commission to this problem was to authorize, in 1957, an ambitious “Review of Basic Data,”

⁷ Further relevant provisions in Arts. V and VI are discussed *infra*, at 568, n. 14, 571–572.

which would essentially retrace the steps of the engineering committee's 1947 Study to provide a more accurate description of the "1947 condition." The Review of Basic Data was presented to the Commission in 1960; it essentially duplicated the 1947 Study, but using different periods of time, revised records, a number of different assumptions, and different hydrological and mathematical procedures. The Commission took no action on the Review of Basic Data until two years later, when it directed the engineering committee to proceed with a draft of a new Inflow-Outflow Manual, and adopted as findings of fact a set of figures derived from the new study showing that the cumulative shortfall of state-line flows for the years 1950-1961 was approximately 53,000 acre-feet.⁸

This was essentially the Commission's last action with respect to the all-important question of Texas' right under the Compact to receive as much water as it would have received under the "1947 condition."⁹ Disputes that had been deferred and avoided in the past now surfaced. They came to a head at a special meeting of the Commission in July 1970, at which the Texas Commissioner stated his position that, calculated according to the original Inflow-Outflow Manual, there had been a cumulative shortfall in state-line flows of 1.1 mil-

⁸This figure was far less than the shortfall that would have been found had the tables in the original Inflow-Outflow Manual been used. The Commission did not determine whether any difference between expected flows and actual flows was due to "man's activities" in New Mexico, and later engineering committee reports indicated that adjustments to the 1950-1961 figures were contemplated.

⁹The Commission did not meet at all between January 1967 and November 1968, during which period the identities of four key persons changed. Both the Texas Commissioner (first appointed immediately after the Compact was ratified) and the Engineering Advisor to the United States Commissioner (also chairman of the engineering committee and principal author of the 1947 Study and Inflow-Outflow Manual) died. The New Mexico and United States Commissioners (the latter an important force in the original compact negotiations) retired. Thus, by late 1968, administration of the Compact was largely in the hands of people with no personal connection to the Commission's early work.

lion acre-feet for the years 1950–1969, that the Review of Basic Data was “incomplete and replete with errors,” and that Texas had a right to an annual determination of departures in state-line flows under the original assumptions of the 1947 Study until the Commission adopted a different method. Thereafter, the Texas and New Mexico staffs prepared different reports in 1971 and 1974 on cumulative shortfalls under the “1947 condition,” with Texas relying on the original Inflow-Outflow Manual and New Mexico on the Review of Basic Data. Attempts to mediate between the two positions failed, and the Commission took no action for lack of agreement between the two voting Commissioners.

B

In June 1974, Texas invoked the original jurisdiction of this Court under Art. III, § 2, cl. 2, of the United States Constitution and 28 U. S. C. § 1251. Its bill of complaint alleged that New Mexico had breached its obligations under Art. III(a) of the Compact “by countenancing and permitting depletions by man’s activities within New Mexico to the extent that from 1950 through 1972 there has occurred a cumulative departure of the quantity of water available from the flow of the Pecos River at the Texas-New Mexico State Line in excess of 1,200,000 acre-feet from the equivalent available under the 1947 condition” Texas sought a decree commanding New Mexico to deliver water in accordance with the Compact. The United States intervened to protect its own claims on the waters of the Pecos River, which had been preserved in Arts. XI–XII of the Compact. We granted leave to file the complaint, 421 U. S. 927 (1975), and appointed a Special Master, 423 U. S. 942 (1975).

In 1979, the Special Master made his first report to this Court. In that report, he recommended that we reject Texas’ position that the phrase “1947 condition” in Art. III(a) of the Compact should be taken to mean an artificial condition

as described by the 1947 Study embodied in S. Doc. 109, however erroneous the data in that study might have been. Instead, he concluded that “[t]he 1947 condition is that situation in the Pecos River Basin which produced in New Mexico the man-made depletions resulting from the stage of development existing at the beginning of the year 1947 . . . ,” and that a new Inflow-Outflow Manual was required. 1979 Report 41. We approved the report in full. 446 U. S. 540 (1980).

Over the following two years, the Special Master received evidence on the question of what corrections to the 1947 Study and the Inflow-Outflow Manual were required to produce an accurate description of the 1947 condition, and thus of New Mexico’s obligations under Art. III(a) of the Compact. In his 1982 Report, however, he concluded that resolution of these issues would require that we “exercise administrative powers delegated to the [Pecos River Commission]” and that “such exercise of administrative power is beyond the judicial function.” 1982 Report 27. Recognizing that the Commission would be unlikely to act by unanimous vote of both State Commissioners, and that continued impasse favored the upstream State, the Special Master recommended:

“[T]he equity powers of the Court are adequate to provide a remedy. If within a reasonable time . . . the States do not agree on a tie-breaking procedure, the Court would be justified in ordering . . . that either the representative of the United States, or some other third-party, be designated and empowered to participate in all Commission deliberations and act decisively when the States are not in agreement. The order should provide that the decision of the tie-breaker is final, subject only to appropriate review by the Court. Upon the selection of a tie-breaker, the States should be ordered to return to the Commission for determination of this long-standing controversy.” *Id.*, at 26.

At the same time, the Special Master rejected two pending motions, one by New Mexico for dismissal of the case altogether, and one by Texas to adopt a simpler method than the Inflow-Outflow Manual provides for determining the extent of shortfalls in state-line water deliveries.

II

Both the United States and New Mexico have filed exceptions to the Special Master's key recommendation—that either the United States Commissioner or some other third party be given a vote on the Pecos River Commission and empowered to participate in all Commission deliberations. We sustain their exceptions.

Under the Compact Clause, two States may not conclude an agreement such as the Pecos River Compact without the consent of the United States Congress. However, once given, “congressional consent transforms an interstate compact within this Clause into a law of the United States.” *Cuyler v. Adams*, 449 U. S. 433, 438 (1981); see *Pennsylvania v. Wheeling & Belmont Bridge Co.*, 13 How. 518, 566 (1852). One consequence of this metamorphosis is that, unless the compact to which Congress has consented is somehow unconstitutional, no court may order relief inconsistent with its express terms. Yet that is precisely what the Special Master has recommended. The Pecos River Compact clearly delimits the role of the United State Commissioner. Although the United States Commissioner must be present at a Commission meeting in order to provide a quorum and serves as its presiding officer, and although the engineering advisers to the United States Commissioner have consistently participated fully in the work of the various engineering committees and subcommittees, Art. V(a) of the Compact specifies that “the Commissioner representing the United States . . . shall not have the right to vote in any of the deliberations of the Commission.” No other third party is given the right to vote on matters before the Commission. To

provide a third, tie-breaking vote on regular Commission business would be to alter fundamentally the structure of the Commission.

Congress may vest a federal official with the responsibility to administer the division of interstate streams. See *Arizona v. California*, 373 U. S. 546, 564-567 (1963). Other interstate compacts, approved by Congress contemporaneously with the Pecos River Compact, allow federal representatives a vote on compact-created commissions, or expressly provide for arbitration by federal officials of commission disputes. *E. g.*, Upper Colorado Basin Compact, 63 Stat. 31, 35-37; Arkansas River Compact, 63 Stat. 145, 149-151; Yellowstone River Compact, 65 Stat. 663, 665-666. The Pecos River Compact clearly lacks the features of these other compacts, and we are not free to rewrite it.

Without doubt, the structural likelihood of impasse on the Pecos River Commission is a serious matter. In light of other States' experience, Texas and New Mexico might well consider amending their Compact to provide for some mutually acceptable method for resolving paralyzing impasses such as the one that gave rise to this suit. Nevertheless, the States' failure to agree on one issue, however important, does not render the Compact void, nor does it provide a justification for altering its structure by judicial decree. The Commission *has* acted on many matters by unanimous vote.¹⁰ We cannot say whether unanimity would have been achieved had a tie breaker stood ready to endorse one State's position over the other's. Under the Compact as it now stands, the solution for impasse is judicial resolution of such disputes as are amenable to judicial resolution, and further negotiation for those disputes that are not. See *infra*, at 569-571.

¹⁰ For instance, the Commission has taken a number of concrete actions with regard to salt-cedar eradication and salinity alleviation, especially at Malaga Bend. Furthermore, it has participated in and coordinated studies of various features of the river, and it has maintained the numerous gauges and other equipment used in such studies.

Texas, in support of the Special Master's recommendation, argues that reformation of the Compact is within this Court's equitable powers. Indeed, in its complaint Texas specifically requested that we appoint a Master "to control the diversion, storage and use of [the] Pecos River Basin waters within the State of New Mexico"; given the scope of the Commission's mandate, a tie breaker on the Commission would be the functional equivalent of such a Master. Texas has not, however, identified a single instance where we have granted similar relief.¹¹ We have expressly refused to make indefinite appointments of quasi-administrative officials to control the division of interstate waters on a day-to-day basis, even with the consent of the States involved. *E. g.*, *Vermont v. New York*, 417 U. S. 270 (1974); *Wisconsin v. Illinois*, 289 U. S. 710, 711 (1933). Continuing supervision by this Court of water decrees would test the limits of proper judicial functions, and we have thought it wise not to undertake such a project. *Vermont v. New York*, *supra*, at 277.

III

In the alternative, the Special Master recommends "continuance of [this] suit as presently postured." 1982 Report 28. New Mexico excepts to this recommendation insofar as it embodies a certain conception of this Court's role in resolving the present dispute. It contends that this Court may do nothing more than review official actions of the Pecos River Commission, on the deferential model of judicial review of administrative action by a federal agency, and that this case

¹¹ On occasion in the past, before the device of appointing special masters in original jurisdiction cases became common, we have gone so far as to appoint a commission with broad powers to resolve factual questions in a controversy between two States, see *Iowa v. Illinois*, 147 U. S. 1 (1893), but even then we declined to accept the commission's decisions without providing the States an opportunity to challenge them, see *Iowa v. Illinois*, 151 U. S. 238 (1894). We have, however, been willing to appoint a River Master solely to perform ministerial tasks. *New Jersey v. New York*, 347 U. S. 995, 1002-1004 (1954).

should be dismissed if we find either that there is no Commission action to review or that the actions the Commission has taken were not arbitrary or capricious. Thus, in New Mexico's view, this suit may be maintained only as one for judicial review of the Commission's quantification of the 1950-1961 shortfall, and the implied acceptance of the Review of Basic Data which, New Mexico argues, that entailed.¹² According to New Mexico, "[this] Court has no authority to act *de novo* or assume the powers of the Pecos River Commission." Motion of New Mexico to Recommend Final Decree (filed Feb. 19, 1982), p. 2. We disagree.

There is no doubt that this Court's jurisdiction to resolve controversies between two States, U. S. Const., Art. III, § 2, cl. 1; 28 U. S. C. § 1251(a)(1), extends to a properly framed suit to apportion the waters of an interstate stream between States through which it flows, *e. g.*, *Kansas v. Colorado*, 185 U. S. 125, 145 (1902), or to a suit to enforce a prior apportionment, *e. g.*, *Wyoming v. Colorado*, 298 U. S. 573 (1936).¹³ It also extends to a suit by one State to enforce its compact with another State or to declare rights under a compact. *Virginia v. West Virginia*, 206 U. S. 290, 317-319 (1907); *cf. West Virginia ex rel. Dyer v. Sims*, 341 U. S. 22, 30 (1951) (jurisdiction to interpret a compact on writ of certiorari); *Green v. Biddle*, 8 Wheat. 1, 91 (1823). If there is a compact, it is a law of the United States, see *supra*, at 564, and our first and last order of business is interpreting the

¹² We note that the Special Master's 1979 Report, which we approved, decisively rejected New Mexico's argument that the Pecos River Commission in fact adopted the Review of Basic Data, but that same report did not suggest that we dismiss this action. See 1979 Report 40-41, 44. Thus, at least by implication, the argument New Mexico now advances was also rejected. New Mexico did not object to those portions of the Special Master's Report, although it did object to others. New Mexico's Objections to the Report of the Special Master and Brief (filed Nov. 29, 1979).

¹³ That jurisdiction exists even though litigation of such disputes is obviously a poor alternative to negotiation between the interested States. See *Vermont v. New York*, 417 U. S. 270, 277-278 (1974); *infra*, at 575-576.

compact. "Where Congress has so exercised its constitutional power over waters, courts have no power to substitute their own notions of an 'equitable apportionment' for the apportionment chosen by Congress." *Arizona v. California*, 373 U. S., at 565-566. Nevertheless, as *Virginia v. West Virginia* proves, the mere existence of a compact does not foreclose the possibility that we will be required to resolve a dispute between the compacting States.

The question for decision, therefore, is what role the Pecos River Compact leaves to this Court. The Compact itself does not expressly address the rights of the States to seek relief in the Supreme Court, although it clearly contemplates some independent exercise of judicial authority.¹⁴ Fundamental structural considerations, however, militate against New Mexico's theory. First, if all questions under the Compact had to be decided by the Commission in the first instance, New Mexico could indefinitely prevent authoritative Commission action solely by exercising its veto on the Commission. As New Mexico is the upstream State, with effec-

¹⁴ Article V(f) provides: "Findings of fact made by the Commission shall not be conclusive in any court, or before any agency or tribunal, but shall constitute prima facie evidence of the facts found." That language is ambiguous as to the role of the Supreme Court, but an earlier version of Art. V(f)—one that was proposed by New Mexico—sheds further light: "The findings of the Commission shall not be conclusive in any court or tribunal which may be called upon to interpret or enforce this Compact." Minutes of Meeting of the Pecos River Compact Commission, Sept. 28, 1943, p. 11 (proposed Art. XII, ¶4). Since the only parties with rights and duties to be enforced under any draft of the Compact were the United States and the two signatory States, it is clear that the New Mexico draft reflected the assumption that this Court might be called upon to enforce the Compact. Article V(f) assumed its present form at a late stage in the negotiations and with no discussion on the record; its change was most likely due to the efforts of a federal drafting expert brought in after all significant disputes had been resolved, see Pecos River Compact Commission Meeting, Nov. 8-13, 1948, p. 61, reprinted in S. Doc. 109, at 101. In the light of the other factors discussed in text, we need not consider whether, standing alone, this history would be dispositive.

tive power to deny water altogether to Texas except under extreme flood conditions, the Commission's failure to take action to enforce New Mexico's obligations under Art. III(a) would invariably work to New Mexico's benefit.¹⁵ Under New Mexico's interpretation, this Court would be powerless to grant Texas relief on its claim under the Compact.

If it were clear that the Pecos River Commission was intended to be the exclusive forum for disputes between the States, then we would withdraw. But the express terms of the Pecos River Compact do not constitute the Commission as the sole arbiter of disputes between the States over New Mexico's Art. III obligations. Our equitable power to apportion interstate streams and the power of the States and Congress acting in concert to accomplish the same result are to a large extent complementary. See Frankfurter & Landis, *The Compact Clause of the Constitution—A Study in Interstate Adjustments*, 34 *Yale L. J.* 685, 705–708 (1925). Texas' right to invoke the original jurisdiction of this Court was an important part of the context in which the Compact was framed; indeed, the threat of such litigation undoubtedly contributed to New Mexico's willingness to enter into a compact. It is difficult to conceive that Texas would trade away its right to seek an equitable apportionment of the river in return for a promise that New Mexico could, for all practical purposes, avoid at will.¹⁶ In the absence of an explicit provision or other clear indications that a bargain to that effect was made, we shall not construe a compact to preclude a

¹⁵ Cf. *Kansas v. Colorado*, 206 U. S. 46, 117 (1907). See also Frankfurter & Landis, *The Compact Clause of the Constitution—A Study in Interstate Adjustments*, 34 *Yale L. J.* 685, 701 (1925) (“[O]ne answer is clear: no one State can control the power to feed or to starve, possessed by a river flowing through several States”); Bannister, *Interstate Rights in Interstate Streams in the Arid West*, 36 *Harv. L. Rev.* 960, 979–980 (1923) (describing practice in international law).

¹⁶ Note that under Art. XIV of the Compact Texas may withdraw from the Compact only with the concurrence of the New Mexico State Legislature.

State from seeking judicial relief when the compact does not provide an equivalent method of vindicating the State's rights. Cf. *Green v. Biddle*, 8 Wheat., at 91.¹⁷

Considerations outside the Compact itself also render New Mexico's theory of the role of this Court untenable. According to New Mexico, Texas *may* seek judicial review in this Court of decisions actually made by the Commission—presumably on the votes of both States' Commissioners. That is not the proper function of our original jurisdiction to decide controversies between two States. In recent years, we have consistently interpreted 28 U. S. C. § 1251(a) as providing us with substantial discretion to make case-by-case judgments as to the practical necessity of an original forum in this Court for particular disputes within our constitutional original jurisdiction. See *Maryland v. Louisiana*, 451 U. S. 725, 743 (1981); *Ohio v. Wyandotte Chemicals Corp.*, 401 U. S. 493, 499 (1971). We exercise that discretion with an eye to promoting the most effective functioning of this Court within the overall federal system. See *ibid.* If authorized representatives of the compacting States have reached an agreement

¹⁷ In *Green v. Biddle*, the owners of certain lands in Kentucky sued their tenant to recover the lands. The tenant relied on two Kentucky statutes which gave him a good defense to the action, and the owners responded that the statutes were invalid as violations of a compact between Kentucky and Virginia, ratified by Congress, which provided that "all private rights, and interests of lands within [Kentucky] derived from the laws of Virginia prior to [the separation of Kentucky from Virginia], shall remain valid and secure under the laws of [Kentucky], and shall be determined by the laws now existing in [Virginia]." 8 Wheat., at 3. An argument was made—similar to New Mexico's argument in this case—that disputes concerning the compact could only be resolved by a commission to be appointed under the terms of the agreement, and not by the courts that would ordinarily resolve questions of title to land. We rejected the argument because the possibility that one State could defeat the rights of the other's citizens or allow the occupants of the land to enrich themselves without title simply by refusing to appoint commissioners "is too monstrous to be for a moment entertained. The best feelings of our nature revolt against a construction which leads to it." *Id.*, at 91.

within the scope of their congressionally ratified powers, recourse to this Court when one State has second thoughts is hardly "necessary for the State's protection," *Massachusetts v. Missouri*, 308 U. S. 1, 18 (1939).¹⁸ Absent extraordinary cause, we shall not review the Pecos River Commission's actions without a more precise mandate from Congress than either the Compact or 28 U. S. C. § 1251 provides.

Therefore, we accept the Special Master's alternative recommendation that this suit continue as presently framed.

IV

The Special Master also recommends that we deny a motion made by Texas—apparently at the Special Master's invitation—to adopt what it calls a "Double Mass Analysis" as the method for determining when a shortfall in state-line flows has occurred. 1982 Report 21. Texas excepts to that recommendation. We overrule the exception.

Once again, we turn to the provisions of the Compact. Article VI provides:

"The following principles shall govern in regard to the apportionment made by Article III of this Compact:

"(c) Unless and until a more feasible method is devised and adopted by the Commission the inflow-outflow method, as described in the Report of the Engineering Advisory Committee, shall be used to:

¹⁸ Cf. *Illinois v. Milwaukee*, 406 U. S. 91, 93 (1972) (original jurisdiction will not be taken where there is an adequate alternative forum for resolution of the dispute). The model case for invocation of this Court's original jurisdiction is a dispute between States of such seriousness that it would amount to *casus belli* if the States were fully sovereign. *North Dakota v. Minnesota*, 263 U. S. 365, 372-374 (1923); *Missouri v. Illinois*, 200 U. S. 496, 519-521 (1906). When it is able to act, the Commission is a completely adequate means for vindicating either State's interests. The need for burdensome original jurisdiction litigation, which prevents this Court from attending to its appellate docket, would seem slight.

“(i) Determine the effect on the state-line flow of any change in depletions by man’s activities or otherwise, of the waters of the Pecos River in New Mexico.”

It is clear that the Commission has not adopted “a more feasible method,” so the question is whether Texas’ “Double Mass Analysis” fairly comes within the Compact phrase “inflow-outflow method, as described in the Report of the Engineering Advisory Committee.” If it does not, then we may not use it to measure state-line shortfalls in enforcing the Compact.

As an illustration of the method,¹⁹ and to permit administration of the Compact to begin, the Inflow-Outflow Manual provides a correlation curve and set of tables for the critical reach of the river between Alamogordo Dam and the state line. See Appendix to this opinion. Plotted along the horizontal axis are overlapping 3-year averages of the sums of four “index inflows”—the actual, measured flow into Alamogordo Reservoir, and unmeasured estimates of “flood inflows,” see n. 5, *supra*, in three sub-reaches between Ala-

¹⁹The Inflow-Outflow Manual appended to the engineering committee’s 1947 Study describes the inflow-outflow method as follows:

“The inflow-outflow method involves the determination of the correlation between an index of the inflow to a basin as measured at certain gaging stations and the outflow from the basin. It is obviously impossible to measure all of the inflow. The gaging stations which are utilized to measure a part of the inflow are termed index inflow stations because the amount of water measured at those stations is an acceptable index of the inflow to the basin. From the plotting by years of the sum of the index inflows against the outflow there is developed a correlation curve showing the relationship between inflow and outflow. Any changes thereafter in the basin which occur between the points of inflow and the point of outflow and which affect the water supply of the basin can be measured by the change in correlation between the inflow and outflow from that indicated by the correlation curve previously developed. For example, if over a period of years additional depletions occur between the inflow points and the outflow point, the correlation between the inflow and the outflow will change: With a given inflow into the basin there will be less outflow.” S. Doc. 109, at 149.

mogordo Dam and the state line. The vertical axis measures corresponding 3-year averages of the measured "outflow" at the state line. The data points form a smooth curve that, according to the Manual, "fairly accurately cover[s] the entire range of expected water supply so far as such a supply is affected by meteorological factors" under the "1947 condition" as described in the 1947 Study. S. Doc. 109, at 149.

At this point in the litigation, it has been decided that the actual curve provided by the original Inflow-Outflow Manual does not accurately describe the correlation between inflows and the state-line outflow under the 1947 condition. The parties' evidence now must be directed to drawing a new curve, like the old one but using more accurate data, and the disputes between them involve questions of which inflows should be "index inflows" and how the historic values of those inflows should be deduced and incorporated into the curve. See n. 21, *infra*. Texas' motion to substitute its "Double Mass Analysis" represents a bold effort to simplify this initial process by reducing the number of index inflows to one, directly measurable value—the measured flow past Alamo-gordo Dam. In essence, Texas' position is that this single inflow provides an adequate index for all the inflows into the river that are more difficult (if not impossible) to measure. If so, the correlation curve described by plotting 3-year averages of the single inflow against the state-line outflow would furnish an adequate benchmark to which post-Compact flows could be compared to determine whether Texas is receiving the water it may expect to receive under the Compact.²⁰

²⁰ It deserves emphasis that neither the Inflow-Outflow Manual in any of its past or projected versions nor the Texas "Double Mass Analysis" has anything to say about whether a particular shortfall in state-line water deliveries is due to "man's activities," a critical qualification on New Mexico's obligation to deliver water under Art. III(a) of the Compact. At best, correlation curves for sub-reaches of the river can be helpful in identifying *where* a shortfall seems to originate.

Although simplification would be desirable, and the question is a close one, on balance we conclude that the "Double Mass Analysis" is not close enough to what the Compact terms an "inflow-outflow method, as described in the Report of the Engineering Advisory Committee" to make it acceptable for use in determining New Mexico's compliance with its Art. III obligations. The flows past Alamogordo Dam do not always bear a physical relationship to the state-line outflow. In its natural state, the Pecos actually dries up for long periods of time between Alamogordo and the state line, so the water that crosses the state line is not the same water that passes the dam, except in periods of extreme flood. The Compact, by reference to the 1947 Study, clearly contemplates that the adequacy of state-line flows can be determined without taking into account *all* inflows into the Pecos, but the intent of the Compact's framers was clearly to use as much information as possible rather than relying on a single index inflow, even if that inflow reflects the same meteorological factors that produce the other inflows. The Inflow-Outflow Manual expressly indicates that the engineering committee intended to develop more precise correlation curves for smaller sub-reaches of the river, taking into account inflows not incorporated into the curve it provided. See S. Doc. 109, at 150-151. The "Double Mass Analysis" represents a sharply different approach to how to go about measuring shortfalls at the state line, an approach which the Compact leaves the Commission free to adopt, but which this Court may not apply against New Mexico in the absence of Commission action.

V

In a pretrial order dated October 31, 1977, the Special Master identified four broad questions to be resolved. The first was settled by our approval of his 1979 Report, 446 U. S. 540 (1980). See *supra*, at 563. The crucial question that remains to be decided is the fourth: "[H]as New Mexico fulfilled her obligations under Article III(a) of the Pecos River Com-

pact?" Pretrial Order 6. That question necessarily involves two subsidiary questions. First, under the proper definition of the "1947 condition," see *supra*, at 563, what is the difference between the quantity of water Texas could have expected to receive in each year and the quantity it actually received? For the 1950–1961 period, that difference has been determined by unanimous vote of the Commission; for 1962 to the present, determining the extent of the shortfall will require adjudicating disputes between the States as to specific issues raised by the 1947 Study, the Review of Basic Data, and the Inflow-Outflow Manual. The States have fully briefed their positions, however, and the Special Master has already heard extensive evidence on these questions.²¹ Second, to what extent were the shortfalls due to "man's activities in New Mexico"?

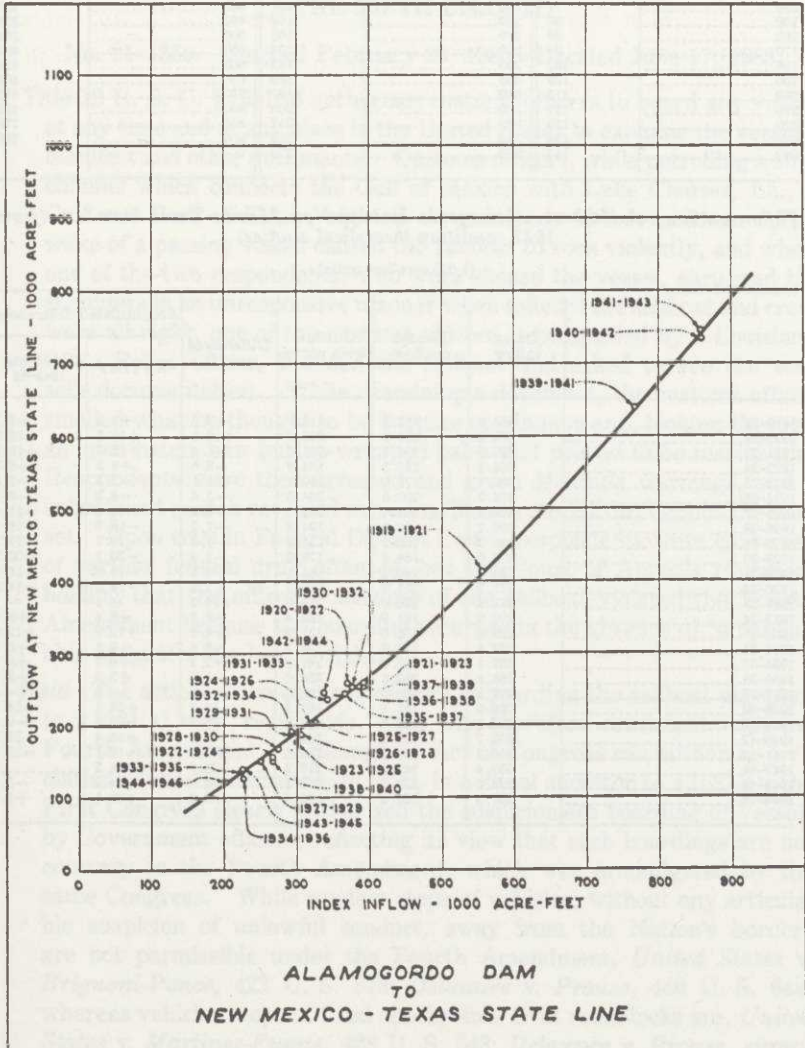
Time and again we have counseled States engaged in litigation with one another before this Court that their dispute "is one more likely to be wisely solved by co-operative study and by conference and mutual concession on the part of representatives of the States so vitally interested in it than by proceedings in any court however constituted." *New York v. New Jersey*, 256 U. S. 296, 313 (1921); cf. *Vermont v. New York*, 417 U. S., at 277–278; *Minnesota v. Wisconsin*, 252 U. S. 273, 283 (1920); *Washington v. Oregon*, 214 U. S. 205, 218 (1909). It is within this Court's power to determine whether New Mexico is in compliance with Art. III(a) of the

²¹ New Mexico has generally relied on the Review of Basic Data. Texas has submitted a document entitled "Texas 'Workability' Statement," filed Nov. 18, 1981, which identifies nine "[q]uestions which must be resolved in connection with the flood inflow computation." *Id.*, at 4–5. Not all of them involve large quantities of water. At this stage of the litigation, there seems to be no more than three or four issues upon which the Special Master will have to resolve difficult questions of fact or of hydrological method. We leave to the Special Master's discretion whether these issues should be considered as framed in § 4(b) of his original pretrial order or whether a revised formulation would be more appropriate. See Order of Dec. 29, 1981, pp. 5–7; 1982 Report 10–11.

Pecos River Compact, but it is difficult to believe that the bona fide differences in the two States' views of how much water Texas is entitled to receive justify the expense and time necessary to obtain a judicial resolution of this controversy. With that observation, we return this case to the Special Master for determination of the unresolved issues framed in his pretrial order, in a manner consistent with this opinion.

It is so ordered.

APPENDIX TO OPINION OF THE COURT
Inflow-Outflow Manual Plate No. 2 and tables
S. Doc. 109, at 154-155



Appendix to Opinion of the Court

462 U. S.

Inflow-outflow relationships, Alamogordo Dam to New Mexico-Texas State line

[1,000 acre-feet units]

Index inflow	Outflow relationship	Index inflow	Outflow relationship	Index inflow	Outflow relationship
140	77	250	181	400	267
150	83	260	159	450	307
160	89	270	166	500	352
170	96	280	174	550	402
180	102	290	182	600	454
190	109	300	189	650	506
200	115	310	197	750	615
210	122	320	205	800	671
220	129	330	212	850	728
230	136	340	220	900	796
240	143	350	228		

Inflow-outflow calculations, Alamogordo Dam to New Mexico-Texas State line (from 1947 condition theoretical studies)

[1,000 acre-feet units]

	Index inflow	Routed outflow	Outflow from curve	Differences	Accumulated differences	
					All years	Omitting 1942-44
1919-21	557.8	412.3	410.1	+2.2	+2.2	+2.2
1920-22	370.3	259.9	243.8	+16.1	+18.3	+18.3
1921-23	392.3	259.6	261.0	-1.4	+16.9	+16.9
1922-24	268.4	156.3	164.9	-8.6	+8.3	+8.3
1923-25	300.1	178.0	189.1	-11.1	-2.8	-2.8
1924-26	318.7	200.6	204.0	-3.4	-6.2	-6.2
1925-27	325.9	203.9	209.1	-6.2	-11.4	-11.4
1926-28	307.2	187.5	194.8	-7.3	-18.7	-18.7
1927-29	250.2	150.2	151.2	-1.0	-19.7	-19.7
1928-30	275.0	168.8	170.0	-1.2	-20.7	-20.7
1929-31	294.4	189.2	185.1	+4.1	-16.8	-16.8
1930-32	377.2	251.7	249.2	+2.5	-14.3	-14.3
1931-33	342.2	236.0	221.8	+14.2	-1	-1
1932-34	292.0	191.9	183.4	+8.5	+8.4	+8.4
1933-35	223.6	136.0	131.5	+4.5	+12.9	+12.9
1934-36	227.4	127.8	134.2	-6.4	+6.5	+6.5
1935-37	367.1	243.5	241.3	+2.2	+8.7	+8.7
1936-38	398.5	253.1	258.0	-4.9	+3.8	+3.8
1937-39	392.2	256.3	161.0	-4.7	-9	-9
1938-40	269.0	151.1	165.3	-14.2	-15.1	-15.1
1939-41	267.1	639.8	634.2	+5.6	-9.5	-9.5
1940-42	859.7	732.3	739.2	-6.9	-16.4	-16.4
1941-43	850.3	746.2	738.8	+6.4	-10.1	-10.0
1942-44	337.4	246.2	217.9	+28.3	+18.3	
1943-45	224.8	139.0	132.4	+6.6	+24.9	-3.4
1944-46	201.2	121.0	115.8	+5.2	+30.1	+1.8