The Colorado River provides water to 40 million people and about 5.5 million acres of irrigated farmland. There's only so much water to go around, so how to divide up the water has been hotly disputed for over a century. The previous agreement has come unstuck, but finding a replacement has proved devilishly difficult.

A century ago, we thought we had the answer.. The 1922 Colorado River Compact was negotiated under the aegis of Herbert Hoover, who was then a cabinet secretary. It allocated water among the seven states that rely on the river. It requires the upper basin states (New Mexico, Utah, and Wyoming) to leave at least 7.5 million acre-feet (maf) in the river (averaged over ten years). That would have been a roughly equal split between Upper and Lower Basin states based on recent experience at the time of the Compact. Congress approved the Compact immediately, although Arizona waited years before ratifying.

I had always assumed that the Compact was the same as the "Law of the River," which is the law governing the Colorado. It turns out, however, there were a lot of issue left unsettled (or at least disputed). The result is a complex body including later agreements, further federal legislation, U.S. Supreme Court cases, and water allocations to Mexico and to tribes (who were left out of the original agreement). Knowing that makes me feel like my lack of full understanding of the legal situation is a bit more excusable.

There seem to have been two big problems under the Compac (plus a bunch of smaller ones). First, while the seven basin states may have been roughly comparable in 1922, they grew at very uneven rates. California, with its swelling population, grabbed whatever water was left in the river, while Arizona's use of irrigation grew rapidly. When the Upper Basin states started growing too, there were growing disputes over water allocation. Second, the Compact assumed an average flow of about 15 maf per year. But later studies showed that this estimate was too high. On top of that, the Southwest has been in a mega-drought since the turn of the century, which climate change is contributing to. Water levels in the Lake Mead reservoir have been falling, endangering hydropower.

By rights, the water shortage should lead to big water cuts for California and Arizona, but that would put major agricultural production and burgeoning urban populations at risk. It's a godawful mess, in other words. In 2007, the Secretary of the Interior established rules for water use during shortages, set to last through 2026, and states entered into two temporary agreements to reduce allocations. With the 2007 guidelines about to expire, the Feds are due to roll out new

requirements. Given that the water allocation is an intensely conflictual issue, the Feds would rather that the states come to an agreement, but so far that hasn't happened.

There's a strong zero-sum aspect to the situation, given the existence of a finite amount of water in the river. It's not an entirely zero-sum situation since there are some ways to reduce demand through water conservation and recycling, which would effectively augment the amount of use that could be made of the water. Still, it seems inevitable that some states will not be happy with the outcome, even if it's the best they can manage. So far, negotiation between the states has gotten nowhere.

This being the Trump Administration, you might expect an effort to disfavor Blue States, but that would be a bit tricky. Of the Upper Basin states, two are Red and two are Blue. Deep-Blue California is the biggest Lower Basin user, but the other Lower Basin states are Nevada and Arizona (both Purple). It's not obvious how to set allocation rules that systematically favor one party. I suspect that the Feds would rather avoid this political hot-potato through a state agreement. So far, however, state negotiations haven't been successful. Maybe the threat of a federal mandate will light a fire under the negotiations. Otherwise, we are probably guaranteed years of litigation while the river runs dry.