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### **How does Colorado water rights administration affect oil shale production?**

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The Green River Formation in western Colorado, eastern Utah, and western Wyoming has been identified as the largest oil shale deposit in the world. The production of oil from these kerogen-rich sedimentary beds will require the use of the State of Colorado's water resources. Recent demand estimates indicate a potential increase in demand for water between 40,000 and 100,000 acre-feet per year. The use of the State's water resources will be administered by the State of Colorado under existing state law. The geology, hydrology, existing water rights, interstate compacts, storage considerations and current water rights administration will all impact the use of water. Due to Colorado's arid climate, seasonal water supply fluctuations and the competition for water resources, many of Colorado's river basins are "over-appropriated" and the demand for water resources is typically greater than the water availability. Colorado has adopted a prior appropriation system of water rights ownership and administration where the "first in time, first in right" philosophy rules. Well defined water rights are assigned and the oldest water rights have seniority over junior rights. During times of water shortage, junior water users may be required to forgo diversions in favor of senior water users. Water rights are decreed with the Colorado Water Courts and specify the priority, rate, amount, location, uses and conditions of use for all non-exempt water use in the State. There are many existing water appropriations intended for oil shale development and the eventual use of these water rights will require unprecedented administration of local and regional water supplies.