

Chapter 10 Highlights

1. Economic theory suggests that efficiency in water use—defined as attaining the maximum aggregate net benefits—can be achieved by allocating water so that marginal net benefits are equal across different users (and across different time periods, after discounting). However, water is usually not allocated efficiently, in part because it is often a *common-pool resource* that is subject to the *tragedy of the commons*.
2. Economic efficiency is not our only goal for water use. We also want our water allocation systems to be fair, sustainable, and clear, and to find the right balance between stability and adaptability.
3. Three approaches are commonly used to avoid the tragedy of the commons: government regulation of water use; allocation of private property rights in water; and community management of water as *common property*. Successful common-property management of irrigation systems often follows certain principles, such as well-defined user boundaries, effective monitoring, and proportional sharing.
4. Water allocation law in the US is complex, opaque, and multi-layered, and consequently water rights are often unclear and subject to litigation. This complexity also creates room for manipulation by powerful insiders.
5. Surface water allocation under state law tends to rely on the *riparian doctrine* in eastern states and *prior appropriation* in the drier western states.
6. Riparianism ties water rights to land ownership and relies on the sharing of water as common property based on reasonable use. Urbanization, economic development, and increased consumptive use have driven a shift to the greater clarity provided by the permit system known as *regulated riparianism*.
7. Prior appropriation allocates limited private rights in water use based on the concepts of *beneficial use*, seniority, “use it or lose it,” and transferability (under certain conditions). Prior appropriation has been criticized for its rigidity and its failure to achieve efficiency, justice, sustainability, and clarity.
8. Groundwater allocation doctrines vary by state and can include elements of *rule of capture*, correlative rights, and prior appropriation. A sensible groundwater law should distinguish between aquifers that are connected to surface water and those that aren’t. Groundwater “water grabs” are happening with increasing frequency, driven by water scarcity and lack of regulation. At the same time, sustainable, cooperative groundwater management is emerging in some places.
9. Indian reservations and tribal fisheries have *reserved water rights* under federal law that supersede claims under state law, but these rights are often poorly quantified and enforced.
10. In response to changing economies and values, there is a need to re-allocate some water from senior agricultural users to tribes, rivers, and cities.
11. In the US and other federal countries, interstate basins and aquifers present complex, multi-scale coordination problems. Interstate water allocation is best achieved by negotiation of a compact, but can also be worked out in the Supreme Court.