cause harm to others. Elimination of a flood threat downstream may require reservoirs upstream which flood other land. An individual landowner cannot ordinarily protect his land from flooding by building a levee only on that part of the riverbank which he may own; in fact, flood protection by levees will fail if even one riparian landowner in the area of flood danger refuses to build or permit the building of a levee on his land. How should the free society take care of these problems?

Vast and complex systems of law, common and statute, have been developed dealing with questions of who has the right to the use of water and how it may or must be used. Throughout the world and down through the ages water resource utilization has been one of the most highly regulated of economic activities. I am endeavoring to determine the extent to which the laws and customs relative to water in the United States contribute to or hamper the efficient use of water. If the best method of securing efficient use of water is free consumer choice under a system of private ownership and competitive markets, as the libertarian believes is the case, evaluation of the legal framework involves ascertaining the extent to which it promotes or inhibits such a system.

In order to present some of these problems in more concrete form, I have summarized below a few of the legal principles governing allocation of water in the United States, and I have posed some questions concerning the compatibility of these principles with the libertarian philosophy. I would appreciate your thoughts on these questions.

American law commonly recognizes two kinds of water supplies — surface and underground. Surface water may occur in streams or lakes, or it may be diffused such as that running over fields on its way to lakes and streams. Most underground water percolates down from the surface into reservoirs of relatively stationary waters or into flowing underground streams or some of both.

Basically, one of two common-law systems of allocating surface water (other than diffused) for private use is followed in this country. Statutes have codified and modified both. The first is called the riparian system, which still governs in most of the eastern states. According to this rule of law, the owner of land through which or along the boundaries of which streams flow has rights to the continued, undiminished, and unpolluted flow of the stream past his land. No one upstream, even another riparian landowner, can use the water so as to interfere with the flow to downstream riparian owners. This rule of law is usually qualified to permit reasonable domestic uses and stock watering by riparian owners even if such uses diminish the flow. The riparian owner can insist on maintenance of flow even though he is making no use of the water himself and does not even contemplate doing so. The riparian water right thus is attached to the riparian lands and is a right to use as long as the natural condition of the stream or lake is not appreciably altered.

The other doctrine, which prevails in most western states, is called the appropriation doctrine. According to it, water rights may be acquired by either riparian or nonriparian landowners on a "first-come, first-served" basis. The first to make "beneficial" use of water acquires the right thereto, and in case of water shortage the rights acquired later in time have to give way first. This is not a system of pro rata distribution but a system of priorities in which prior (in time) water rights are entitled to be fully satisfied before subordinate rights can claim any water at all. These appropriation rights are rights to use certain amounts of water during specific periods of time for certain purposes. The holder of the right cannot ordinarily change the use without losing the right and cannot sell the water to someone else to use for any other purpose at any other place. The continuance of the right is dependent on exercise of it. Failure to use the water for a period of time results in forfeiture of the right.

The law on underground water traditionally has been similar to the petroleum resources law. The surface landowner owns the subsoil rights to water and can pump as much water from sources under his land as he wishes to and is able to. His neighbors can do likewise. If he takes all of the water, his neighbors have no claim against him — the water belongs to the owners of overlying land who capture it. This common-law rule has been modified in many states both by statute and court decisions in a number of ways. Rights to water in underground streams and/or reservoirs are sometimes treated in the same manner as surface water rights. In some cases the water in underground reservoirs is divided among overlying landowners, legal limits on pumping being imposed on each landowner so as to provide for equitable (not necessarily equal) apportionment, particularly in times of shortage, and to prevent excessive pumping which greatly lowers the wa-