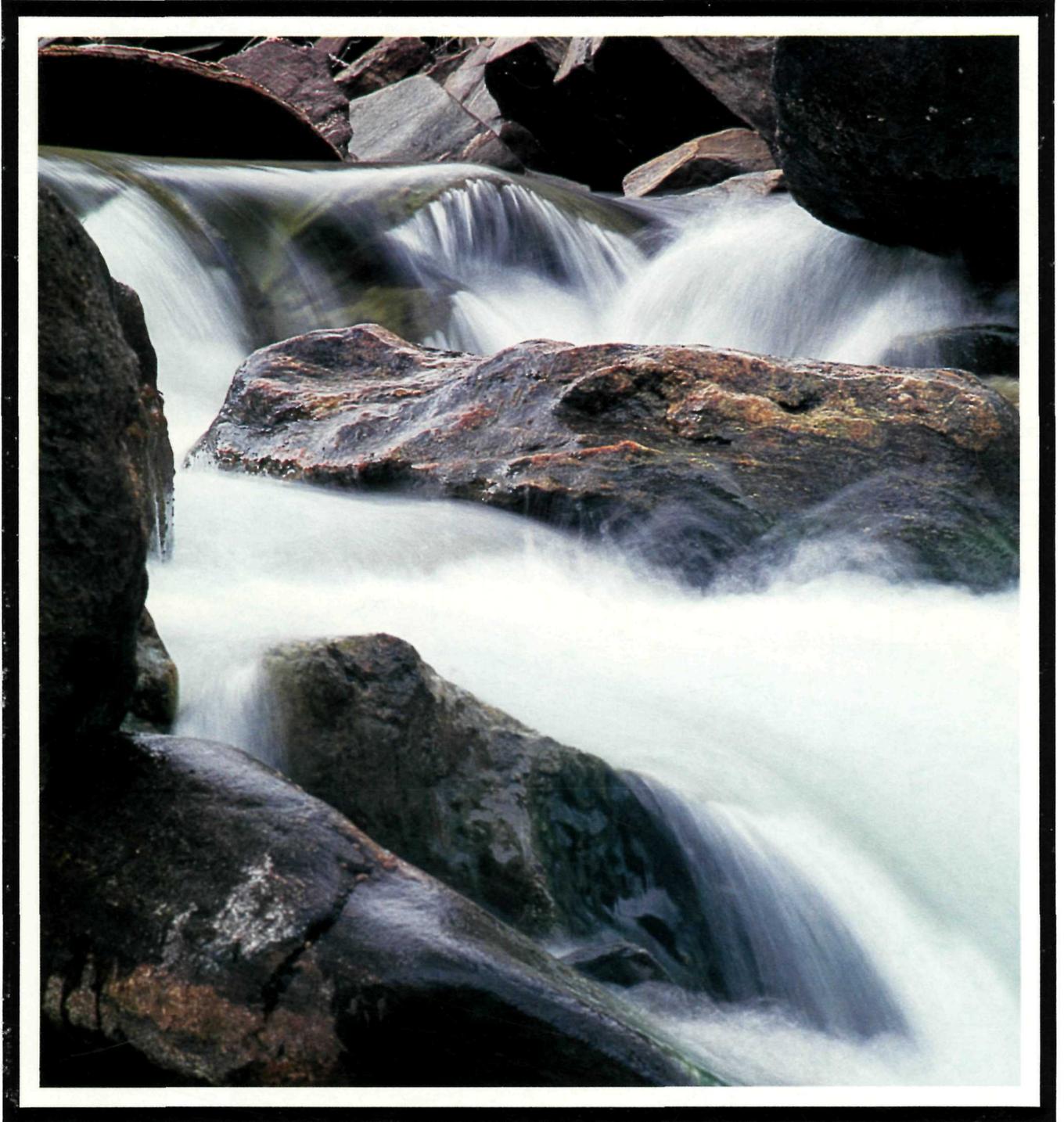


LIQUID TREASURE



Water Rights and the National Park Service



Written by Denise L. Newberry, former graduate student, Department of Rangeland Ecosystem Science, Colorado State University, Fort Collins, CO, 80523.

Photography by Douglas B. Newberry.

The opinions expressed are those of the author and do not necessarily reflect those of the Department of the Interior or the National Park Service.

To Whom It May Concern:

As a Water Rights Specialist, for the Water Resources Division, I frequently encounter questions concerning water resource legislation and its influence of National Park Service management decisions.

Aside from my full time job, I am currently completing my Master's degree requirements at Colorado State University. I have chosen to produce a booklet that will provide a primer on water rights and law policy, pertinent to the National Park Service.

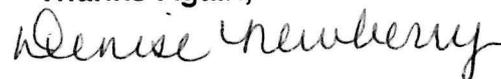
It is my goal to provide the reader with an easily understood reference source of the major water laws that will influence National Park Service management in the years ahead.

The enclosed questionnaire will be used to incorporate your ideas and suggestions, along with those of other park staff throughout National Park Service Units. I appreciate you taking the time to complete and return the questionnaire to me no later than *December 17, 1993*.

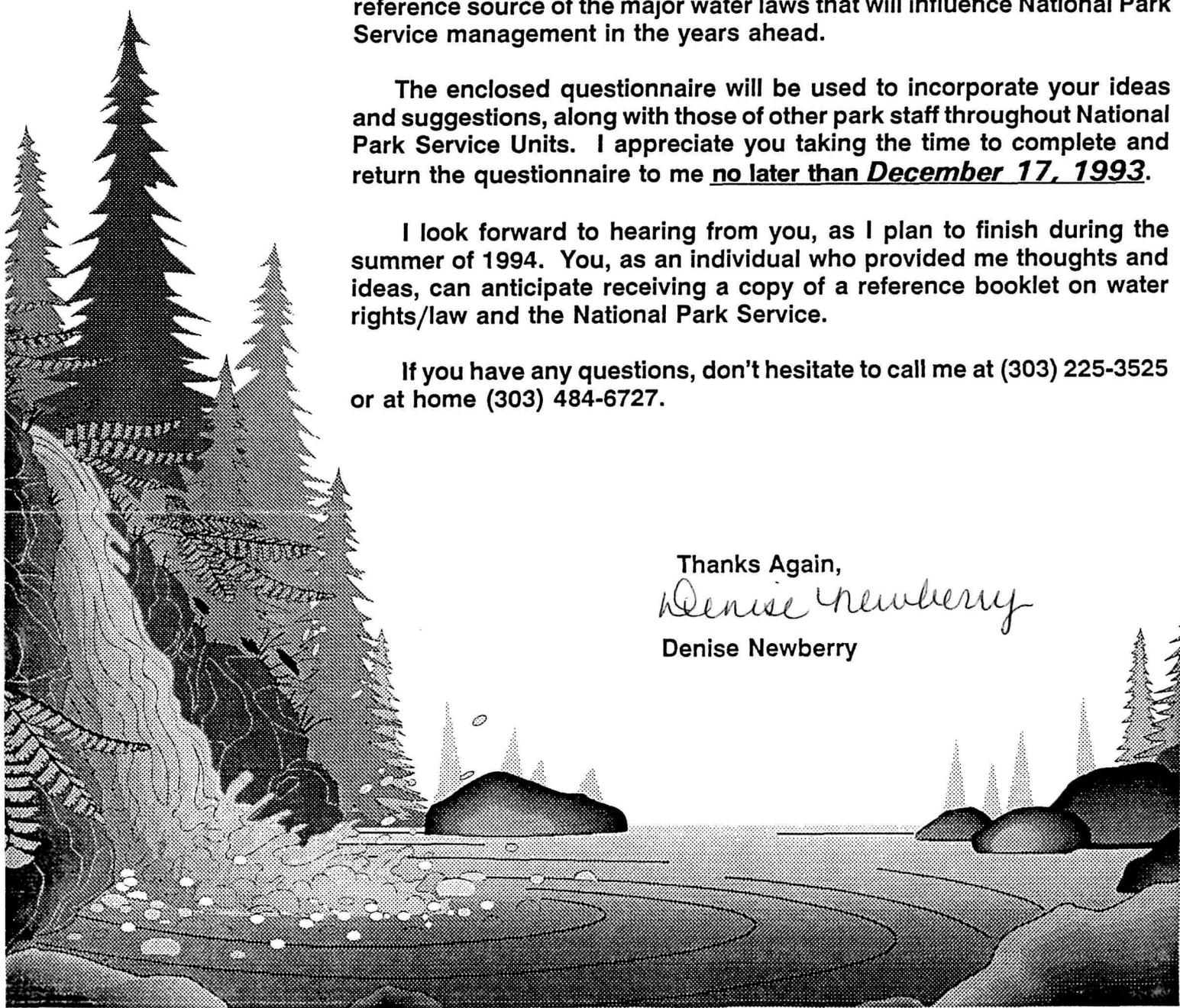
I look forward to hearing from you, as I plan to finish during the summer of 1994. You, as an individual who provided me thoughts and ideas, can anticipate receiving a copy of a reference booklet on water rights/law and the National Park Service.

If you have any questions, don't hesitate to call me at (303) 225-3525 or at home (303) 484-6727.

Thanks Again,

A handwritten signature in cursive script that reads "Denise Newberry".

Denise Newberry





PREFACE

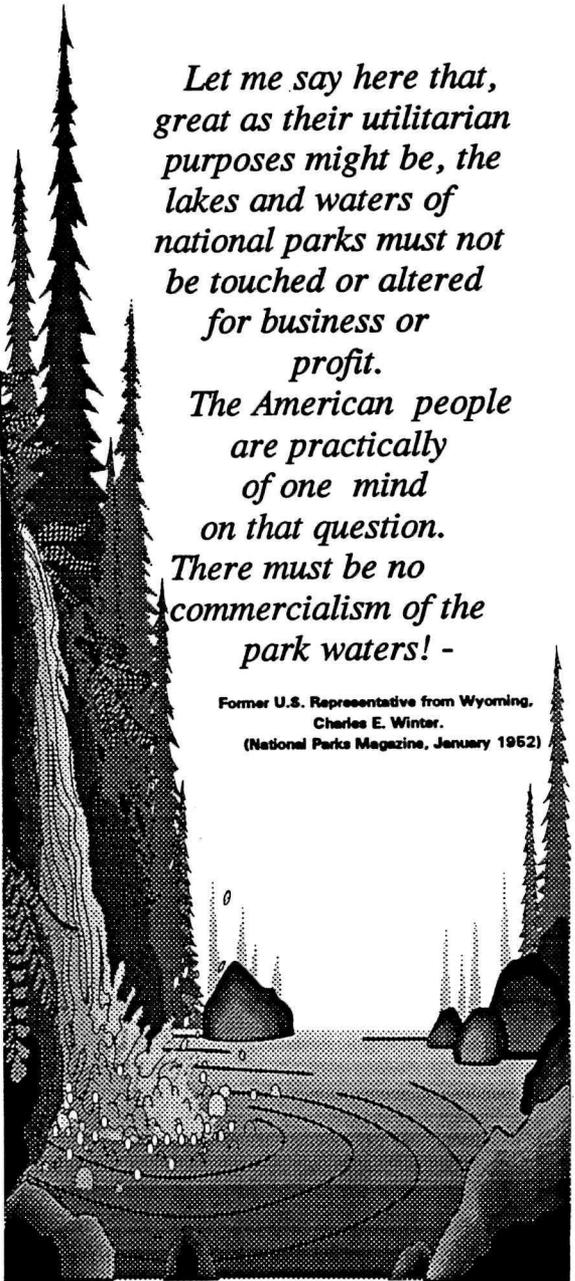
This water rights booklet is a *primer*, a source that will provide a *brief overview* of the various systems under which rights to groundwater and surface water are allocated throughout the United States and its relationship and possible affects to the National Park Service. The purposes of the booklet are first, to allow park managers, resource management specialists, interpretation staff, or other National Park Service personnel to understand the elements and vocabulary of water law and more important, enable the manager and/or staff to competently address possible questions the public may have on matters involving water rights.

As with any overview of water rights, a discussion of the statutes and legal decisions on which the law is built should be included as a basic framework for understanding, such is the case with this booklet. Taking into account responses to initial questionnaires, considerable effort has been made to keep the topics readable and interesting, rather than overly technical and legal.

It is my hope that this booklet will serve to reduce the mystique that surrounds the subject of water rights. By referring to this booklet, National Park Service managers and field

personnel throughout park units can use it as a *personal education tool* and should be able to deal with basic water issues or know where and who to contact next at the National Park Service Division of Water Resources.

Denise L. Newberry, M.S. 1994
Colorado State University
Department of Rangeland Ecosystem Science



Let me say here that, great as their utilitarian purposes might be, the lakes and waters of national parks must not be touched or altered for business or profit.

The American people are practically of one mind on that question. There must be no commercialism of the park waters! -

Former U.S. Representative from Wyoming,
Charles E. Winter.
(National Parks Magazine, January 1962)



ACKNOWLEDGEMENTS

I never paid too much attention to the acknowledgments section before I wrote this booklet. Perhaps I looked to see if I knew anyone that an author had thanked for help, encouragement, and so on, but that was about all. After completing this project, I think I know much better what such a section means.

Thanks go first to the National Park Service Employee Development Division, for approval and awarding of a FY-95 Horace M. Albright-Conrad L. Wirth grant. Secondly, to members of my graduate committee while attending Colorado State University, my advisor, Tom Bartlett, was an advisor in the best and most complete sense of the term. To the rest of my committee, Harold Goetz, Denny Lynch, and for a brief time, Sarah Bates, go thanks as well.

I would also like to acknowledge the help, criticism, and advice received on this booklet from various National Park Service employees by completing my initial questionnaire. And to Jacquie Nolan for her help in editing.

Thanks go to Oly Olson, who always had a few moments to listen to the thoughts of a very concerned seasonal ranger at Grand Canyon years ago, and for offering me my first National Park Service job. And to Rick Nichols, Jim Schlinkmann, and Barb Sharrow, who believed in my potential enough to hire me for some exciting jobs. Co-parkies Annie Phillips, Glen Bessonette, Laura Seager, Fran Gruchy, Greg Russell, Bruce and Jan Pferdeort, Randy and Sharon Waltrip, Vicki Kellerman and Tux, have been a part of my experiences in the parks, accompanying me on adventures and keeping in touch with me over the years.

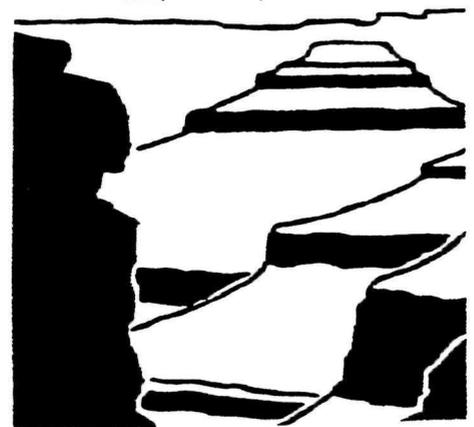
Finally, even my husband Doug was coerced into the service of this booklet. His photographic ability, along with his assistants,

Jasper and Bailey, was truly a special added touch. Thank you for your understanding and most of all, for putting up with it all.

To all, this is dedicated to you, and your love and understanding of our National Parks, I hope the result has proven worth the time and encouragement.

Ideals are like stars; you will not succeed in touching them with your hands. But like the seafaring man on the desert of waters, you choose them as your guides, and following them you will reach your destiny.....

--- CARL SCHURZ



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CHAPTER 1

Introduction

This booklet contains information of use by National Park Service employees throughout all National Park Service units. Various chapters describe the types of water rights including the appropriation doctrine, the riparian doctrine, and federal reserved water rights. A series of graphics and charts are included to condense water rights law, regulation, and administration specific to states and National Park Service units in each state.

A glossary is included to help define common terms. Citations to the statutes and legal cases are included to help anyone who wants to go beyond what this booklet has to offer and seek further information on a topic.

OVERVIEW

There are two basic systems for the allocation of surface streams in the United States - the riparian doctrine, which prevails in the humid East, and the appropriation doctrine, which prevails in the arid West (Freeman, 1990).

Chapter 2 will provide a framework of water rights issues and also a foundation for discussions that will take place in later chapters. Included in this overview of each system is a historical development.

Chapter 3 explains the elements of the riparian doctrine. The riparian doctrine, sometimes called the rule of reasonable sharing, is the accepted system in what is generally perceived to be the humid part of the United States. The basic theory of this doctrine is that the owner of land contiguous to a watercourse has the right to the use of that water on that land. The riparian right is not created by use nor is it lost solely by disuse; substantial differences among states and how they define and apply riparian law exist. As explained in chapter 3, the riparian right is the right to share water with all other riparian landowners. It is not a right to a specific volume of water or rate of water flow. Subject to certain limitations, each riparian may

use as much of the water as desired for any reasonable purpose, provided that the water use does not interfere with the reasonable use of water by other riparian users. Thus, at times of water shortage, no riparian user has priority over any other; each must accept a reduction in supply. Riparian rights are not improved by a longer period of use. Likewise, they are not limited or lost by reason of nonuse or reduced use (Freeman, 1990).

Chapter 4 takes an in-depth look at the doctrine of prior appropriation. The appropriation system did not spring full blown from some lawyer's or miner's or legislator's brain, although a major feature of later legislation, the permit system, was the product of collaboration between an engineer, Elwood Mead (Elwood Mead, 1858-1936. Lake Mead bears the name of this pioneer in western water law.), and an anonymous lawyer or two (Clark, 1967 to 1990).

The appropriation doctrine had its beginnings and was shaped in response to the topography, climate, and practicalities of the West. The chapter looks at the history and how California miners devised rules for recognizing senior and junior water claims as they did for mining claims. These early rules and customs were not law, but they helped keep the peace as the miners removed the precious metals from the United States public domain. Finally, chapter 4 will explain the idea of: first in time of beneficial use is the first in right, and how that right is maintained only by use (Thomas, 1959).

Chapter 5 will address the federal reserved water right, sometimes referred to as the Winters doctrine, and its relationship to the National Park Service.

Appendix A is designed as a quick reference on water rights in the fifty states and National Park Service units. The information for each state is displayed in easy to understand tables and diagrams for quick reference and comparison. Information will identify water right agencies, type of water system, any permit requirements for the use of ground and surface water, existence of compacts and treaties, and key elements of the water rights system.

Appendix B is a chronological summary of water resources legislation and litigation that has taken place throughout United States history.

CONCLUSION

There is no possibility of adequately covering the subject of water rights in a few pages; information is abundant, volumes have been written on the subject, and much more is being added with every court decision, statute, compact or treaty pertaining to water.

This booklet on water rights contains basic information which will suffice for most National Park Service employees; for those who may seek further information, you will find ample references and citations throughout this booklet. The booklet has been put together in such a way to provide the reader with a *broad introduction* and *basic framework* to water rights law established by custom, regulation, and statutes, with further definition by our court system. *Specific questions should be directed to the National Park Service, Water Resources Division (refer to Appendix C).*

Few phases of park resources management present greater challenges than those relating to the management of our water resource. Water is essential to meet human needs and the requirements of our natural environment and ecosystems. *This booklet is intended to give the reader a broader perspective; to help in the understanding that without water and without its proper management as a resource, all of our efforts to conserve park resources, to make them available for human benefit and enjoyment, and to preserve them unimpaired for the benefit and enjoyment of the people today and of the future, will be to no avail.*

Civilization is built on a tripod of geography, history, and law, and is made up largely of limitations.
—Wallace Stegner, in *Wolf Willow*





CHAPTER 2

Water Rights Systems

This chapter looks at the various water rights systems in use throughout the United States. The law of surface streams and the law of groundwater are both examined. The purpose of the chapter is to describe broad principles that will provide the reader with a framework and foundation for more detailed and specific topics to be found in later chapters. Private water rights are almost exclusively a matter of state law, not federal law (Trelease and Gould, 1986). Numerous groundwater problems on this topic will not be discussed here. *These problems in relationship to the National Park Service are complex and beyond the scope of this booklet.*

BACKGROUND

Since the dawn of civilization, the use of water by one individual or group has meant the denial of its use by others. Customs, policies, regulations, and law governing the allocation and uses of water today have evolved from efforts to resolve these conflicts which have existed for centuries. It is obvious, therefore, that water should never be taken for granted -- even in localities where, for the time being at least, the supply seems to be abundant or inexhaustible.

Property rights mark boundaries; they define what an owner can and cannot do with regard to the thing which is owned (Gould, 1990). The water law systems discussed in this booklet are property rights systems.

The term water right typically refers to the initial right to use water from some natural source, such as a stream or underground aquifer (Gould, 1990). In most states, particularly in the western United States, the unallocated water is considered to be the property of the people. A water right legally permits use of a portion of this water by

allocating it to the one or more persons in whose names the water right has been obtained.

Two broad classes of water rights systems prevail for surface streams in the United States: one of which is known as the riparian doctrine, which prevails in the humid East, and the other is the appropriation doctrine, which prevails in the arid West. A third class of rights which combines various aspects of the riparian and appropriative doctrines is used in California, known, not surprisingly, as the California doctrine.

For groundwater, the system forms a somewhat different pattern. Groundwater, usable water under the surface of the earth, is found in aquifers, porous earth formations such as gravel, sandstone or fractured limestone, which hold a substantial amount of water and permit it to move through the formation (Trelease and Gould, 1986). Aquifers are usually fed by seepage from the surface, and often discharge water into springs and streams (Trelease and Gould, 1986).

Three water rights systems exist for groundwater: the rule of absolute ownership, the rule of reasonable use, and the appropriation or permit system. A fourth rule, the rule of correlative rights, may be viewed as an extension of the rule of reasonable use (Gould, 1990).

SURFACE WATERS

In general, two basic systems for surface water govern the right to water use in the United States. They are the riparian doctrine and the prior appropriation doctrine. Each type of right is a property interest created by or obtained under state law, but they have very different characteristics (Trelease and Gould, 1986). Keeping this in mind, you will see that the particular elements of each system reflects the philosophy on which they are based.

RIPARIAN DOCTRINE

Prevailing in the eastern United States¹, the water law system is known as the riparian doctrine. Riparian rights are governed by the common law (Trelease and Gould, 1986), meaning they are created through court decisions in individual cases, rather than statutory law enacted by a legislative body.

The riparian rights doctrine was introduced into America from the Roman law by several lines of descent via Spain, France and

England. It was after the riparian law from French sources became established in America that England adopted it as a part of English common law (Bill, 1967). Then as English common law was adopted, state by state, the riparian doctrine became the basis of the water law system of those states. This doctrine was unanimously adopted by the Eastern states, which happen to be the states which enjoy humid climate and relatively abundant rainfall.

The word *riparian* derives from the Latin and means "banks"; Blacks Law Dictionary² states "riparian is belonging or relating to the bank of a river." The riparian water right evolves from the fact of physical contact of the land and the water source. This doctrine conveys to the owner of land contiguous to a waterway a right for water use.

Two fundamental principles of the doctrine are (1) land along a stream creates ownership which is essential to the existence of the water right and (2) that each riparian owner has an equal right to make use of the stream, even if that right remains unexercised; the use of water is not required to initiate riparian rights and they are not lost by nonuse. As stated by Trelease and Gould³, "the use must usually be made on the riparian land and within the watershed of the stream. A non-riparian who uses water is liable to any riparian he injures and conversely a riparian who initiates a use which interferes with a prior non-riparian use is subject to no liability."

The riparian doctrine and eastern water law is continuously evolving. Water use in the eastern states is increasing. Increased use has resulted in more frequent shortages and degradation of water quality, leading a number of riparian states to enact legislation to remedy perceived weaknesses in the riparian doctrine (Gould, 1990). Some suggest the trend toward the adoption of a permit system is moving the eastern states closer to the appropriation doctrine.

PRIOR APPROPRIATION DOCTRINE

The prior appropriation doctrine has its roots in the discovery of gold in California in 1846 (Boyst, 1990). Water was an essential element in extracting gold from placer mines by diverting it through their sluice boxes, and miners quickly developed rules to protect their mining claims. The rule "first in time is first in right" became the cornerstone of western water law.

The 1866 mining law was the first act of

Congress to validate water rights acquired by local custom or law. This policy was continued in legislation of 1870 and in the Mining Law of 1872, which remains the law today, and was enacted in stronger language in the Desert Land Act of 1877 (Clark, 1967 to 1990). The effect of this legislation is the recognition by the United States of appropriative and other water rights acquired under state law. This policy is contained in the Reclamation Act of 1902 (refer to Appendix B, Chronological Summary).

According to *Webster's New World Dictionary*, the word *appropriate* means "to take for one's own or exclusive use," and this accurately describes the basics of the doctrine (Gould, 1990). The source of the appropriation right is in (1) priority and (2) beneficial use, the diversion of water and its application to beneficial use for beneficial purposes. In recent years recreation, ecosystem preservation, and scenic beauty have also been identified as a *beneficial purpose* under state law. Appropriation quantifies the amount of water taken, establishes a priority date based on the time of the initial diversion, and rarely separates water rights from land ownership rights. Because senior appropriators have the oldest priority dates, during times of drought their allocations are met completely before any water is allotted to junior appropriators (Boyst, 1990). Senior appropriators wishing to make changes in the point of diversion, place of use, or time of use must ensure that no downstream junior appropriators will be harmed (Reisner and Bates, 1990).

Comparisons can be made between the riparian and appropriation water system, but remember the conditions under which each originated. The East is humid and has generous water supplies; the West is arid, with water shortages and conflicts.

Vranesh (1987) (Boyst, 1990) compares five elements of the riparian and appropriative doctrines:

1. Both the riparian and appropriative doctrines recognize that no one other than the state or the public owns an interest in the corpus of the water as it flows free in the stream. The property interest one does have is in the use of the water - a usufructuary right.
2. Central to the riparian doctrine is the concept of appurtenance; that is, water rights arise from the ownership of land abutting the stream and require use of the water to occur on

that land. In contrast, appropriative rights do not depend upon land ownership but rather upon the actual use of the water.

3. The primary test for measuring and limiting the use of water by a riparian right is reasonable use, whereas the test for an appropriative right is beneficial use: Reasonable use requires an examination of the type of use, the efficiency, and the comparative value of the use. Beneficial use is the application of a resource to a purpose that produces benefits, tangible or intangible, economic or otherwise; examples are: employment of water for domestic supply, irrigation, industrial supply, power generation or recreation. Preferred uses are defined by state constitutions to be more beneficial than other uses. The typical ranking of preferred uses (from highest to lowest) is as follows: domestic, agricultural, industrial and power, fish and wildlife, and recreation (Goldfarb, 1989 as cited in Boyst, 1990).

4. In terms of competing with others claiming rights to the water in a stream, a riparian right to a share of the water is correlative to the rights of other riparians on the stream and an appropriator's right is dependent upon the temporal priority of the appropriation.

5. A riparian right can not be lost by failure to use the water; whereas nonuse of an appropriative right may result in its loss by abandonment or forfeiture (except by the Federal government. Appendix A summarizes the water rights of the fifty states and territories in the United States.

GROUNDWATER

As mentioned earlier three water rights systems exist for groundwater: the rule of absolute ownership, the rule of reasonable use and correlative rights, and the appropriation-permit systems.

ABSOLUTE OWNERSHIP

The rule of absolute ownership, the "English rule"⁴, is the oldest of the groundwater doctrines. It was first stated in cases in which the basic conflict was between competing land uses, and not between water users competing for supply (Trelease and Gould, 1986).

The case of *Acton v. Blundell*, 1843⁵ involved a lowering of the water table as a result of pumping water from mines so that mining operations could carry on; the plaintiff was deprived of well or spring water for use in manufacturing (Trelease and Gould, 1986).

The rule stems from the principle that land ownership encompasses everything beneath the land to the center of the earth (Gould, 1990). Practically, the rule of absolute ownership is a rule of capture; a landowner may use all groundwater that can be captured from beneath the owner's land (Gould, 1990).

Chapter 5, Federal Reserved Water Rights, will discuss the *Cappaert* case and how it sets precedence different than the rule of absolute ownership which imposes few restrictions, such as the landowner not being liable if pumping causes a neighboring well to go dry or reduces the water pressure.

REASONABLE USE

Like the rule of absolute ownership, the rule of reasonable use holds that groundwater rights are incident of land ownership. If a landowner's use interferes with groundwater uses by neighboring landowners, he is privileged to continue only if his use is reasonable. Generally, any nonwasteful use of water for a purpose associated with the use of land from which the water is withdrawn (an overlying use) is reasonable. Conversely, a person is liable for harm caused to others by unreasonable use of groundwater. Thus, a landowner has only a qualified right, rather than an absolute right, to use groundwater.

Like the rule of absolute ownership, the reasonable use rule becomes a rule of capture: the person with the deepest well and the biggest pump gets the water.

CORRELATIVE RIGHTS

Stated simply, the rule of correlative rights holds that the right to make an overlying use of water is not absolute but is relative to the rights of other overlying users. The rule is used primarily when the groundwater supply is insufficient to satisfy the needs of all overlying users. In such a case, the correlative rights rule requires sharing.

APPROPRIATION-PERMIT SYSTEM

In terms of security, the permit system is clearly superior to the other groundwater systems.

The distinguishing feature of the permit system is administrative regulation and management of groundwater. This contrasts greatly with the relatively unregulated nature of groundwater use under the previous discussed

doctrines. In some states, the permit system has been imposed by applying the appropriation statutes for surface streams to groundwater. In others, it has been achieved by enacting separate groundwater codes.

Refer to Appendix A, Water Rights of the Fifty States and Territories, for a compilation of groundwater information and a state by state summary of water rights.



Footnotes

- 1 An excellent summary of eastern permit systems in Richard Ausness, "Water Rights Legislation in the East: A Program for Reform," *William and Mary Law Review*, 24 (Summer 1983): 547.
- 2 *Blacks Law Dictionary*, 5th ed. (St. Paul, Minn.: West Publishing Co., 1979).
- 3 See Frank J. Trelease and George Gould, *Cases and Materials on Water Law*, 4th ed. (St. Paul, Minn.: West Publishing Co., 1986), 303.
- 4 152 Eng. Rep. 1223 (1843). Because of its origins, the rule is sometimes known as the "English" rule of ownership.
- 5 *Acton v. Blundell*, 12 Mees. & W. 324, 152 Eng. Rep. 1223 (1843).

No reservoir should ever be built to satisfy selfish personal or local interests; but only in accordance with the advice of trained experts, after long investigation has shown the locality where all the conditions combine to make the work most needed and fraught with greatest usefulness to the community as a whole. There should be no extravagance, and the believers in the need of irrigation will most benefit their cause by seeing to it that it is free from the least taint of excessive or reckless expenditure of public moneys.

---Theodore Roosevelt, in his message to Congress, December 1901. (National Parks Magazine, 1/51).



CHAPTER 3

Riparian Doctrine

The riparian doctrine, sometimes called the rule of reasonable sharing, has become the accepted system of allocating surface water rights in the eastern states, although it has been modified in several of those states (MacDonald, 1990). Rights based upon ownership of land include riparian rights of land bordering streams or lakes, and equivalent rights to springs or to water walls that are located upon the landowner's property. The water right is appurtenant to the land and exists whether the landowner uses the water or not; thus, he is entitled to water whenever he chooses to use it.

HISTORY

As the riparian doctrine was originally conceived, no limitation was placed upon the quantity that could be used, other than the capabilities of the stream, spring, or well. As might be expected, this doctrine of water rights developed at places where, and in times when, water supplies were more than enough to meet the requirements of the people. It developed chiefly in England and the humid regions of the eastern United States (Thomas, 1959).

In the early English common law there was little litigation over the private use of water (Trelease and Gould, 1986). According to Trelease, "many early cases were concerned with the effects of grants by landowners of privileges to operate mills, and many involved problems of prescription and ancient rights that had existed years before hand." Early court cases resulted in increased litigation concerning the underlying principle; it was brought forth and clearly stated: each riparian proprietor has a right to use the stream as it passes his property, but no riparian proprietor has a right to use water to

the injury of another (Trelease and Gould, 1986).

The consumption of water increased as steam power freed the mills from the river banks, irrigation expanded and railroads and other industries multiplied. The use, not the stream, came to be the thing protected by law, and injury to a reasonable use became the tort (Trelease and Gould, 1986). The doctrine then split into two different theories described below:

(1) natural flow theory - the primary or fundamental right of each riparian proprietor of a watercourse is to have the body of water flow freely and to make limited uses of the water.

(2) reasonable use theory - each riparian must make his use in a manner that will accommodate as many other uses as possible. The major advantage of this theory is that it tends to promote the beneficial use of water resources.

CASE LAW

The riparian doctrine was first enunciated in the United States in the case of *Tyler v. Wilkinson*¹ in 1827. Simply stated, the issue was competing needs for water power of a number of mill owners along the Pawtucket River, which forms the boundary between Massachusetts and Rhode Island. The court held that all riparian owners have a reasonable right to use the water and no one gains a greater right through prior use.

The court stated:

Every proprietor upon each bank of a river is entitled to the land, covered with water, in front of his bank, to the middle thread of the stream. In virtue of this ownership he has a right to the use of the water flowing over it in its natural current, without diminution or obstruction. But, strictly speaking, he has no property in the water itself; but a simple use of it, while it passes along. The consequence of this principle is, that no proprietor has a right to use the water to the prejudice of another. It is wholly immaterial, whether the party be a proprietor above or below, in the course of the river; the right being common to all the proprietors on the river, no one has a right to diminish the quantity which will, according to the natural current, flow to a proprietor below, or to throw it back upon a proprietor above. This is the necessary result of the

perfect equality of right among all proprietors of that, which is common to all. There may be, and there must be allowed of that, which is common to all, a reasonable use.

The typical expression of the reasonable use rule omits any reference to priority of uses and the *Tyler v. Wilkinson* case expressly says it is immaterial.

Other early cases evolved. Unusual conflicts and problems associated with groundwater removal arose such as mine dewatering; a process of pumping out groundwater to get at mineral deposits lying at or below the water table. The case of *Acton v. Blundell, 1843*² involved such a situation and resulted in the rule of absolute ownership. The principle of absolute ownership is one that is extended to the ownership of the land that overlies an underground stream or the underflow of a surface stream. In each case, the riparian water right evolves from the fact of physical contact of the land and the water source.

While the basic theory of equal sharing among riparians is common to all states that follow the riparian doctrine (refer to Appendix A, Water Rights of the Fifty States and Territories), there are substantial differences between states in how they define and apply riparian law that will not be addressed in this booklet. State legislatures in a number of riparian-law states are considering and have adopted statutes requiring permits for some uses of surface water (MacDonald, 1990). This possible trend may be heading toward a permit system which will be similar to the appropriation doctrine.

The more important provisions of the riparian right doctrine are summarized as follows:

- (1) Riparian rights exist by virtue of the ownership of the land abutting against a natural stream or containing such a stream.
- (2) Water may be used for any reasonable purpose.
- (3) No priority of right accrues by virtue of priority of use and riparian rights are neither created by use nor lost by nonuse.
- (4) If insufficient water is available for beneficial use by all having riparian rights to a particular supply or source, the available supply must be shared equitably.
- (5) A riparian may use the water

whenever it is available.

(6) Riparian rights on lands which are riparian with respect to a given stream are nontransferable to other lands.

(7) Riparian rights do not apply to water flowing within one drainage but originating in another watershed.

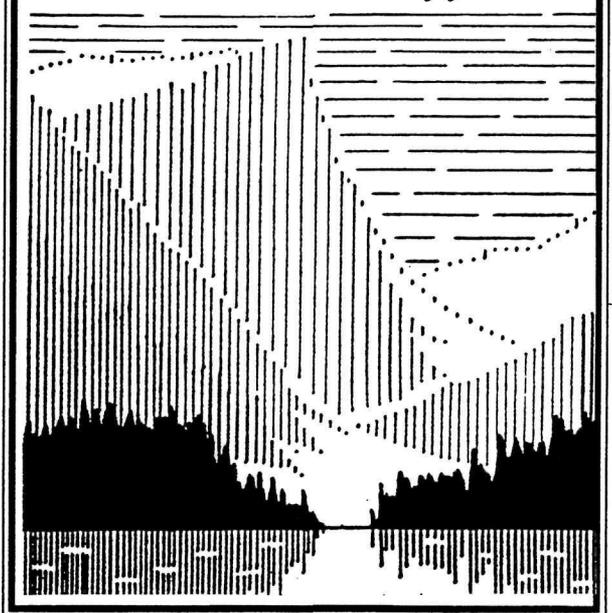
(8) Except for domestic uses, riparians on a watercourse are cosharers and have an equal right to make a reasonable use of the water.

Footnotes

- 1 *Tyler v. Wilkinson*, 4 Mason 397 (1827). 24 FED. CAS. 472.
 - 2 *Acton v. Blundell*, 12 Mees. & W. 324, 152 Eng. Rep. 1223 (1843).
-
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*Thousands of tired,
nerve-shaken, overcivilized people
are beginning to find out
that going to the mountains is
going home; that wilderness is a
necessity; and that mountain
parks and reservations are useful
not only as fountains of timber
and irrigating rivers, but as
fountains of life.*

---John Muir (National Parks Magazine, 7/66).





CHAPTER 4

Appropriation Doctrine

Riparian rights were implanted successfully in the East because the climate, circumstances, and experience allowed it. However, as trappers, miners, and settlers migrated to the West, they encountered a quite different environment. Early explorers referred to the Great Plains as the Great American Desert, and not all believed that it could be settled. It was obvious that most of the land would require artificial irrigation. Limiting use of streams only to adjoining landowners was simply not practical. It would drastically curtail the settlement and development of the new lands, because nonriparian lands would be practically useless.¹

HISTORY

Prior appropriation as it developed in the West did not come from the civil law of Europe via the Spaniards; nor did the Indians provide the system, although they had practiced irrigation for a thousand years or more in the river valleys of the Southwest. Prior appropriation did not begin with the Mormon settlement of Utah, although they established a rational allocation system for streams into the Great Salt Lake (Hutchins, 1971).

The appropriation system originated in trespass and circumstances unique to American history (Clark, 1976). Appropriation is the legacy of trespassing miners in California. Perhaps the 49ers had seen the acequias constructed by the California missions or the ancient canals of the Hohokam Indians of the Salt River and Gila River basins in Arizona (Clark, 1976). They may have seen the diversions in New Mexico used to irrigate fields along the Rio Grande. But these miners were not interested in

agriculture; they wanted to divert water through sluice boxes. They devised rules for recognizing senior and junior water claims as they did for mining claims. These early rules and customs were not law, but they helped keep the peace as the miners removed the precious metals from the United States public domain.

Since the miners of the early days were trespassers (or "tenants at will") with no rights to the land, they could not claim rights as riparians. They also had no authority in law to remove the minerals or acquire mining claims because there was no national mining law until 1866 (refer to Appendix B). After the Civil War, Congress passed the first national mining law, which recognized water rights on the public domain in the following language:²

Whenever, by priority of possession, rights to the use of water for mining, agriculture, manufacturing, or other purposes have vested and accrued, and the same are recognized and acknowledged by the local customs, laws, and decisions of courts, the possessors and owners of such land rights shall be maintained and protected in the same... (and pending further for protection in rights of ways for canals and ditches).

Finally, as the lands were organized into territories and then into states, the custom became law through express recognition by court decisions, constitutional provision, and state statutes. What emerged was a flexible and useful concept designed for western conditions, created from experience, known as the doctrine of prior appropriation. The federal government promoted development of this concept by enacting legislation that encouraged settlement of the West in conformity with each state's water rights laws. The result was that no western state adopted completely the riparian doctrine. All of the 17 contiguous western states and Alaska embrace the main principles of the appropriation doctrine (Fischer and Fischer, 1990). Hence, the appropriation doctrine is firmly established as the principal rule relating to the water resources in the West.

Appropriative rights have a priority in time in which the principle of "first in time, first in right" is respected. The first to appropriate the water for beneficial use has the first right to the water and his right must be completely supplied prior to any other

water use. As stated by Clark and Viessman (1965) in referring to the legal considerations involved, "Each appropriator is entitled to use of all the water he needs up to the limit of his appropriation prior to any one lower in line receiving any water. This is true regardless of his geographic position on the waterway. In periods of short water supply, water might be flowing in the stream crossing a person's property, but because of his appropriation in point of time he might not be allowed to divert any of the water for any purpose."

The appropriation doctrine gives no preference to the use of the water on land solely because of contact between the land and the water supply.

PUEBLO RIGHTS AND THE "ACEQUIA"

Coexisting with the appropriation doctrine an institution exists in New Mexico known as the "community acequia" or "public acequia", this is the concept of pueblo water rights and has its origin in the acquisition of the region by the United States. This concept of Mexican law, established by the King of Spain, granted pueblos (cities and towns) a preferential right to the use of waters on the streams on which the pueblos were located (Fischer and Fischer, 1990). This institution with its strong appropriative doctrine overtones is essentially an irrigation ditch organization which was brought from Spain. Continued recognition of pueblo rights was a result of the Treaty of Guadalupe Hildago, the acquisition of Texas, and the Gadsden Purchase (Fischer and Fischer, 1990).

There are also certain cities in New Mexico and California (Santa Fe and San Diego, for example) which are successors to original Spanish or Mexican pueblos or municipalities. Legislation has been enacted in New Mexico which gives special consideration to the retention of water rights by these irrigation ditch organizations. In both New Mexico and California, the water rights of these municipalities are also respected by law. *If the water rights of certain parks should become involved with these old acequia and pueblo rights, the Water Resources Division should be called upon to resolve any complications (Refer to Appendix C).*

ELEMENTS OF THE DOCTRINE

The appropriation doctrine involves several interrelated concepts. The two major concepts are:

(1) A water right is a right to use of water; the right is acquired by appropriation.

(2) An appropriation is the act of diverting water from its source and applying it to a beneficial use. The priority of an appropriative water right is the superiority of the right over all rights of other appropriators of later priority when the available water supply is not enough for all. In other words, the oldest rights prevail.

The basic concept, then, is that a water right is acquired by appropriation - that is, taking water from the natural stream (or, perhaps, the tributary aquifer) and applying the water to a beneficial use; and that the chronological order in which water is taken creates a preference, which, together with the continued right of use, constitutes the water right. It is, therefore, often known as the Doctrine of Priority of Appropriation or the Doctrine of Prior Appropriation.

An appropriative water right is a vested real property right. The owner can be deprived of it only by his or her own voluntary act in conveying it to others or by abandonment or forfeiture as later discussed. The right is a right of use, a usufructuary right. The actual title to the flowing stream itself is always considered as belonging to the people, or public, or to the state for the use of the people.

A fundamental philosophy expressed in western law is that the use of public waters must be for a useful or beneficial purpose. Once the water has served the beneficial use of the appropriator, any waste or return flow water resulting from his use must likewise be allowed to return to the stream. This protects not only the public but other appropriators as well. Beneficial use includes: domestic, irrigation, industrial, municipal, and aesthetic.

In summary, the characteristics of appropriative rights are these:

(1) water that is acquired through appropriative rights procedures may be used on lands having no riparian ownership relation to the stream or other source from which the

water is obtained,

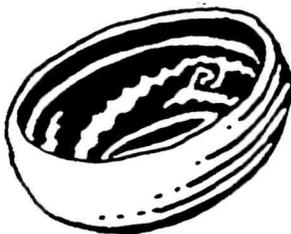
(2) priority in time with respect to successive appropriations, properly acquired through established legal procedure, is recognized in the adjudication of appropriative rights, and

(3) an appropriative right is based on a specific quantity of water -- a quantity limited to that which can be put to reasonable, beneficial use.

Footnotes

- 1 William R. Fischer & Ward H. Fischer, *Water Rights of the Fifty States and Territories*, (American Water Works Association, 1990), p.23.
- 2 Robert Emmet Clark. *Federal - State Water - Rights Conflicts*, Journal AWWA., March 1976, pp. 123 - 128.

Those ancient villages . . . stand as visible reminders of an enlightened, though primitive, people who played a most important part in the conquest of our arid Southwest centuries before European mariners dreamed of a New World; they merit restoration and protection as an irreplaceable inheritance of our nation from its prehistoric predecessors.



---Neil Merton Judd (*National Parks Magazine*, 7/47).



CHAPTER 5

Federal Reserved Water Rights

Since the subject is Federal Reserved Water Rights, it would be well to define what a Federal Reserved Right is. The federal reserved water rights doctrine, also referred to as the Winters doctrine after Winters v. United States¹, holds that when the United States sets aside or reserves a part of its lands for particular uses or purposes, it reserves by implication the right to enough of the unappropriated waters on or adjacent to the lands to meet the uses and purposes. This implied reservation takes priority as of the time the lands were reserved.

HISTORY

Superimposed on the state systems of appropriative and riparian rights are federal reserved water rights (Boyst, 1990). The rights exist by virtue of a common law doctrine resulting from the 1908 ruling on *Winters v. United States*.

The United States Supreme Court foreshadowed the doctrine of federal reserved water rights in *United States v. Rio Grande Dam & Irrigation Co.*, 1899.² The issue in *Rio Grande* was whether an irrigation company under state authorization could divert water in a manner that disrupted the navigability of a waterway (Lee, 1990). The Court recognized Congress' power under the commerce clause to regulate the navigability of waters and thereby reserve an adequate flow of water for the beneficial uses of federal property. By asserting that the federal government's superior power over navigable waterways limits state water law, *United States v. Rio Grande* laid the groundwork for the federal reserved rights doctrine. Relying on *United States v. Rio Grande*, the Court held that the federal government has authority to claim

water apart from state law, and that the federal government implicitly had reserved water for lands withdrawn from the public domain for Native American use (Lee, 1990).

WINTERS V. UNITED STATES

This case, *Winters v. United States*, 1908, created what came to be known as the Winters Doctrine or Winters Right. The tension between the Doctrine of Prior Appropriation and federal "Reservations" culminated in this court case that changed the face of western water law. In 1874 Congress set apart and reserved for the occupation of the Gros Ventre, Peigan, Blood, Blackfeet and River Crow Indians a very large area of land in Montana (Trelease and Gould, 1986). Large portions of the lands within the reservation were suitable for pasture and the feeding and grazing of livestock, although they required irrigation. The Fort Belknap Indian Reservation in Montana was part of a large tract which had been set aside for the Indians by an act of Congress approved April 15, 1874 (Vassallo, 1986). It was argued that under this act the Indians had the absolute right to use the waters of the river for any purpose.

They had relinquished part of these lands by an agreement dated May 1, 1888. The case turned on the question of whether the Indians had also released the water. The Supreme Court of the United States held that while there may be an implication that such was their intent, it was more reasonable to hold that they had not. The Supreme Court said:

The power of the Government to reserve the waters and exempt them from appropriation under the state laws is not denied, and could not be. United States v. Rio Grande Dam & Irrigation Co., 174 U.S. 690, 702, 43 L. Ed. 1141, 19 Supt. Ct. Rep. 770; . . . That the Government did reserve them we have decided, and for a use which would be necessarily continued through (the) years. This was done May 1, 1888, and it would be extreme to believe that within a year Congress destroyed the reservation and took from the Indians the consideration of their grant, leaving them a barren waste.

The government contended that, incident to the establishment of the reservation, sufficient water had been

reserved by implication to satisfy the requirements of the reservation. Regardless of the showing made by the settlers that their economy would be severely damaged or destroyed by sustaining the Indians' water rights, the Supreme Court affirmed the lower courts' decrees preventing the settlers from interfering in any way with the Indians' use of 5000 inches of water from the river. The Court found the reservation of water to be implicit in the circumstances surrounding the establishment of the reservation and stated, citing *Rio Grande*, "[t]he power of the government to reserve the waters and exempt them from appropriation under the state law is not denied, and could not be".¹

These rights may apply to all types of federal reservations, specifically national parks, monuments, recreation areas, historic sites, and battlefields administered by the National Park Service. Other federal reservations such as National Forests, Indian Reservations and military bases also are permitted to apply federally reserved water rights.

The reserved right differs from the appropriative right in three important respects. First, its quantity is defined by the purpose of the reservation, they need not be quantified at the time the reservation is established or within any particular period of time. Second, it acquires the priority date of the initial land reservation and does not require beneficial use to be perfected (Boyst, 1990). Third, they are not subject to loss by nonuse or abandonment. Federal reserved rights not asserted in state or federal adjudications of which the United States is a party may be forfeited (Boyst, 1990).

Thirty years after the *Winters* decision, in *United States v. Walker River Irrigation District*,⁴ 1935, the Court of Appeals for the Ninth Circuit stated that the issue of whether a reservation of water rights is implied is one of intent, to be determined "by taking account of the circumstances, the situation and needs of the Indians and the purpose for which the lands [were] reserved" (Weinberg and Allan, 1990). It held that such rights may be reserved in connection with the establishment of a reservation by executive order, statute, or agreement, as well as by treaty.

For years many thought that the

"*Winters* doctrine" was limited to Native American water law. In *Federal Power Commission v. Oregon* (1955, the *Pelton Dam* case)⁵ the Supreme Court dispelled this assumption, holding that a state could not deny a federal licensee's request to build a dam on lands reserved for that purpose. Although the case did not address water rights, the Court implied that the licensee was exercising a right that the federal government simultaneously reserved with the dam site. The Court thus found the federal right superior to the rights of subsequent state law appropriators (Lee, 1990).

The *Winters* doctrine was extended to other federal agencies in *Arizona v. California*⁶ and despite westerners concerns, reaffirmed its *Pelton Dam* holding.

ARIZONA V. CALIFORNIA

Regardless of its enforcement after 1908 in a number of lower court decisions, many state water officials appear to have doubted that the *Winter* doctrine was real or meaningful until after the decision of *Arizona v. California* in 1963. This case reaffirmed the US Supreme Court's decision in *Winters* and expanded the reserved-rights doctrine in two ways. First, it allowed for reserved rights on federal reservations other than Indian reservations. Second, it allowed for a change of use, as long as the new use was not more consumptive than the original use for which the reserved rights were made.

In *Arizona v. California*, the master appointed by the US Supreme Court found in favor of claims by the United States that it had, by implication, reserved rights to use water from the mainstream of the Colorado River, a navigable waterway, incident to setting aside lands for five Indian reservations, for national forests, for recreational and wildlife areas, and for other government purposes (Weinberg and Allan, 1990). With respect to the Indian reservations, the master held that they were entitled to sufficient water to satisfy their future as well as present needs and proposed that they be awarded enough water to irrigate all of the approximately 135,000 irrigable acres they comprised, or about one million acre-feet.

Arizona challenged on the grounds that the United States had no power to

reserve waters from a navigable river after Arizona became a state; that water rights could not be reserved by executive order; that there was no evidence that the executive intended to reserve water rights when it issued the orders establishing the reserve; that the rights of the Indian reservations should be measured by the foreseeable needs of the Indians based on their number rather than by the number of irrigable acres on the reservations; and that the doctrine of reserved rights did not apply to any reservations except Indian reservation (Weinberg and Allan, 1990).

The US Supreme Court held against the state on every point and ordered a decree prepared in accordance with the holdings of the master. Having measured the Indian reservation entitlements by the quantity of water required to irrigate the reservation's irrigable acres, the court went on the say:

The foregoing reference to a quantity of water necessary to supply consumptive use required for irrigation . . . shall constitute the means of determining quantity of adjudicated water rights but shall not constitute a restriction of the usage of them to irrigation or other agricultural application. If all or part of the adjudicated water rights of any of the five Indian Reservations is used other than for irrigation or other agricultural application, the total consumptive use . . . for said Reservation shall not exceed the consumptive use that would have resulted if the diversions [specified in the decree] and the equivalent portions of any supplement thereto had been used for irrigation of the number of acres specified for that Reservation . . . and for the satisfaction of related uses.⁷

CAPPAERT V. UNITED STATES

The best and most recent statement of the reserved rights doctrine by the Supreme Court is found in *Cappaert v. United States*⁸, 1976. In 1952, President Truman added the Devil's Hole Cavern to Death Valley National Monument. Devil's Hole is a limestone cavern in Nevada containing a pool that is the home of a unique species of subterranean fish -- the desert pupfish (*Cyprinodon diabolis*). The purpose of the withdrawal was to preserve the cavern, the subterranean pool, and the fish (Weinberg and Allan, 1990).

In 1968, the Cappaerts, who own a 12,000 acre ranch near Devil's Hole, where alfalfa, wheat and barley are grown and cattle grazed, began substantial groundwater pumping from wells located within three miles of Devil's Hole. The Cappaerts were the first persons to use the groundwater and they were the first to appropriate groundwater in the area (Little and Canaday, 1982). The pumping resulted in a decrease of water level of the pool in Devil's Hole that is required for its unique fish to spawn.

In *Cappaert v. United States*, an injunction against the adjacent landowner's pumping was sustained by the Supreme Court. The landowner argued that the President did not have the authority to reserve water by withdrawing the land around the cavern to preserve the cavern, pool, and fish; that the doctrine of reserved rights did not apply to underground waters; and that, in conformity with the Desert Land Act of 1877, which severed nonnavigable water from public lands, the United States could not obtain water rights except in compliance with state law.

Cappaert contains perhaps the best encapsulation of the reserved rights doctrine (Weinberg and Allan, 1990).

. . . when the Federal Government withdraws its land from the public domain and reserves it for a federal purpose, the Government, by implication, reserves appurtenant water then unappropriated to the extent needed to accomplish the purpose of the reservation. In so doing the United States acquires a reserved right in unappropriated water which vests on the date of the reservation and is superior to the rights of future appropriators.. Reservation of water rights is empowered by the Commerce Clause, Art I, Sect. 8, which permits federal regulation of navigable streams, and the Property Clause, Art. IV, Sect. 3, which permits federal regulation of federal lands. The doctrine applies to Indian reservations and other federal enclaves, encompassing water rights in navigable and nonnavigable streams.

* * *

In determining whether there is a federal reserved water right implicit in a federal reservation of public land, the issue is whether the Government intended to reserve unappropriated and thus available water.

Intent is inferred if the previously unappropriated waters are necessary to accomplish the purposes for which the reservation was created.²

UNITED STATES V. NEW MEXICO

In 1978, the court decided *United States v. New Mexico*⁹. This case involved claims for reserved rights for the Gila National Forest. In *United States v. New Mexico*, the state brought suit under what is popularly known as the McCarran Act. This act authorizes the United States to be joined as a defendant in any suit for the adjudication of water rights on an entire river system, including reserved rights of the United States. New Mexico sought a general adjudication of water rights in the Mimbres River system.

The United States claimed reserved water rights for the Gila National Forest, not only for the purposes set forth in the Organic Act of 1907 but also for the purposes added by the Multiple-Use Sustained-Yield Act of 1960. The United States contended that the reserved rights for all of these purposes took priority as the date of creation of the Gila National Forest in 1899.

The United States lost. The US Supreme Court agreed with the New Mexico state courts that, while the United States had reserved rights for the purposes specified in the 1897 Act, the government had no rights, at least not with an 1899 priority, for what the Court termed the "secondary purposes" specified in the 1960 Act. The Court also agreed that rights for stock watering should be sought under state law by the individual stockmen concerned.

Under some circumstances, reserved rights may be secured for later purposes as of the time the later purposes are adopted. In *United States v. New Mexico*, the US Supreme Court did not foreclose the possibility that the United States might successfully claim reserved rights for secondary purposes with priority as of the time of their specification.

CALIFORNIA V. UNITED STATES

The United States has never surrendered ultimate dominion over the unappropriated waters on federal lands (Weinberg and Allan, 1990). When Congress wanted to subject the United States to state law, it did, according to *California v. United States*¹⁰, 1978, by Sec. 8 of the Reclamation Act of 1902, Sec. 8 states:

Nothing in this act shall be construed as affecting or intended to affect or to in any way interfere with the laws of any State or Territory relating to the control, appropriation, use, or distribution of water used in irrigation, or any vested right acquired thereunder, and the Secretary of the Interior, in carrying out the provisions of the act, shall proceed in conformity with such laws, and nothing herein shall in any way affect any right of any State or of the federal Government or of any landowner, appropriator, or user of water in, to, or from any interstate stream or the waters thereof: Provided, that the right to the use of water acquired under the provisions of this act shall be appurtenant to the land irrigated and beneficial use shall be the basis, the measure, and the limit of the right.¹¹

Even under this provision, the US Supreme Court in *California v. United States*, held that the Secretary of the Interior must comply with state law only so far as it is consistent with Congress' objectives in relation to the project. Lands administered by the National Park Service are, of course, formal reserves and entitled to use water to serve the purposes for which they were established under the classical reserved right doctrine.

SUMMARY

It is important to keep in mind that the United States not only retains dominion over unappropriated waters on its lands, but acting within its constitutional sphere, it is the supreme sovereign. Regardless of the controversy over the "federal nonreserved water rights doctrine," Congress has the power to authorize the use of unappropriated water for federal purposes on federal land, whether such land is otherwise reserved or unreserved (*United States v. Rio Grande Dam and Irrigation Co.*).

While Congress, to whatever extent it chooses, may require the government, in connection with the construction and

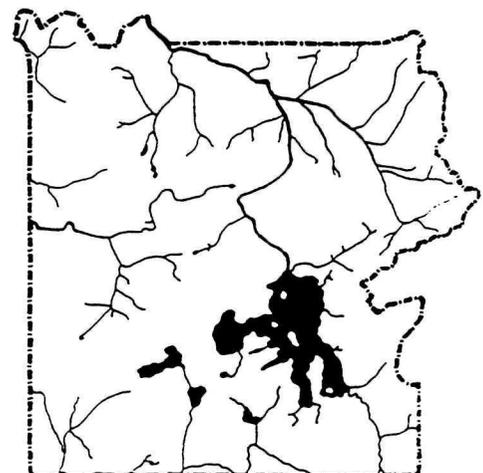
operation of a reclamation project, to observe state water laws (*California v. United States*), it may also totally exempt the government from such laws (*Arizona v. California*). Federal compliance with state water law is not a constitutional, but a statutory issue. Subject to future modification by case law of acts of Congress, the Federal Reserved Water Rights Doctrine has the following characteristics:

- ▶ when land is set aside from the Public Domain for a specific purpose requiring water, water sufficient to accomplish that purpose is reserved from the watersunappropriated at the time of the reservation;
- ▶ the amount of water reserved is that minimum amount necessary to prevent the defeat of the purpose of the reservation;
- ▶ reserved rights exist only where water is necessary for primary reservation purposes;
- ▶ the right is not constrained by state law (for example, it is not lost due to non-use, and purposes need not be recognized as beneficial by the state); and
- ▶ the right is to meet present and future needs.

One way to quantify and secure recognition of a federal reserved water right is by participating in a basin-wide general adjudication of water rights. This was made possible in 1952 by the passage of the McCarran Amendment which granted a limited waiver of Sovereign Immunity to allow suit of the United States for the purpose of adjudicating water rights. Thus, to secure its rights to water in Parks and Monuments, the National Park Service must develop evidence designed to convince the court that (1) the United States is entitled to water (water necessary for the purpose of the reservation), and (2) the amount claimed is the minimum amount necessary to prevent defeat of the reservation purpose (Williams, 1992). But such suits must involve the determination of all water rights on an entire river system. This process is usually massive, extremely costly, and slow to resolve.

Footnotes

- 1 *Winters v. United States*, 207 U. S. 564, 28 S. Ct. 207, 50 L. Ed. 340 (1908).
- 2 *United States v. Rio Grande Dam and Irrigation Co.*, 174 U. S. 690, 703 (1899).
- 3 Act of July 10, 1952, Ch. 560, Sec. 208, 66 Stat. 560 (1952) (43 U. S. C. Sec. 666 [1976]).
- 4 *United States v. Walker River Irrigation District*, 104 F. 2d 334, 336 (9th Cir. 1939).
- 5 *Federal Power Commission v. Oregon*, 349 U. S. 435 (1955).
- 6 *Arizona v. California*, 373 U. S. 546, 597-600 (1963), decree entered 376 U.S. 340 (1964).
- 7 *Arizona v. California*, 439 U. S. 419, 422 (1979) (Supplemental decree).
- 8 *Cappaert v. United States*, 426 U. S. 128, 138-39 (1976).
- 9 *United States v. New Mexico*, 438 U. S. 696 (1978).
- 10 *California v. United States*, 438 U. S. 645 (1978).
- 11 Reclamation Act of June 17, 1902, Sec. 8, 32 Stat. 390 (43 U. S. C., 383, 372).





CHAPTER 6

Summary of National Park Service Water Rights Today

In the final chapter of a booklet of this kind it may be traditional to speculate about the future welfare of the parks and the relationship of water. It might prove helpful to repeat the familiar statute which directs the Department of the Interior to manage the National Park System:

*"By such means and measures as conform to the fundamental purpose of the said parks. . . which purpose is to conserve the scenery and the national and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."*¹

This statement is the foundation on which the National Park Service has been constructed. Each individual National Park Service unit is created by executive order or by legislation when the land is set aside from the Public Domain. These proclamations, state the purpose of the withdrawal. Of major importance (*but may not always be present in the enabling legislation*) among the natural resources to be protected and preserved are the waters on which each park is dependent to maintain scenery, the natural interrelationship of plant and animal life, and for service connected municipal water supply.

It would appear that the land areas administered by the National Park Service are, by virtue of their designation, protected from impairment and that, reasonably, similar protection is afforded to streams, rivers, lakes, and other bodies of water. While land areas do enjoy this protection, water bodies in western National Park Service units do not enjoy

the same guarantees.

To insure that waters are protected, the National Park Service must identify any activity that will irreversibly alter the hydrologic regime on which each park is dependent, and must actively work to resolve these conflicts.

EXAMPLE:

In October 1989, Las Vegas Valley Water District filed with the State Engineer 146 water right applications to appropriate about 800,000 acre-feet of ground water and 60,000 acre-feet of surface water in four Nevada counties (NPS Annual Report 1990). This water would be diverted from a complex interbasin regional flow system which extends into Utah and California. Withdrawals of this quantity of water could reduce or eliminate discharge points such as wetlands and springs located at Death Valley National Monument (including Devil's Hole, for which Federal reserved water rights have been decreed) Lake Mead National Recreation Area, and Lehman Caves in Great Basin National Park. Under the direction of legal counsel, the National Park Service is actively working to resolve this potential conflict by preparing for upcoming hearings to be held by the Nevada State Engineer.

In eastern states the use of water is governed by the Doctrine of Riparian rights, which was largely imported from Great Britain with the settlement of the New World. The right to use water is based on ownership of land that is adjacent to water bodies and the "reasonableness" of the use. To date, many eastern states have embraced some form of a permit system and the trend is towards increased use of rules adopted from the appropriation doctrine (Williams 1992). Some key points to consider in Riparian states could be: the efficiency during times of water shortage and that environmental protection may be uncertain.

EXAMPLE:

An investigation of possible impacts of water withdrawals on the maritime forests, wetlands, and marshes located in Cape Hatteras National Seashore is underway. Increasing permanent and vacation populations and coastal development along North Carolina's Outer Banks foretells of increasing demands for freshwater and increased aquifer withdrawals which may imperil the fragile ecosystem of this barrier island (Gregory et al. 1991). The Hatteras Island ecosystem is dependent on the balance between recharge and discharge of the islands's freshwater aquifer (Gregory et al. 1991).

The existing and proposed water withdrawals and associated potential resource impacts pose unique and intriguing legal and scientific questions for the National Park Service. North Carolina is a "riparian rights" jurisdiction, as a result, water use (at least with regard to surface waters) is governed by the doctrine of riparian rights. Riparian right holders have common rights to the stream and must make such use of the water as is reasonable (under all circumstances) without unreasonably interfering with the uses of other holders (Radosevich et al. 1976).

The National Park Service recognizes that adjacent landowners have a right to withdraw and use ground water from Hatteras Island's freshwater aquifer; however we must be prepared to demonstrate that point at which Cape Hatteras National Seashore resources are or will be impacted by water withdrawals (NPS Annual Report 1993). These islands and their natural communities are becoming increasingly subject to extensive human disturbances, so efficiency during times of water shortage is needed now and in the future.

In contrast, western states embrace the Doctrine of Prior Appropriation. In this doctrine the right

to use water is based upon its diversion out of its natural course for "beneficial use" and priority in use as determined by time of first use. Prior Appropriation varies a little from state to state, but certain elements of the doctrine are shared by all states that embrace it. Specifically:

- ▶ persons have the right to appropriate and use water through an act to divert and apply it to beneficial use;
- ▶ the only uses deemed beneficial are those specified by the state, usually by statute;
- ▶ once made, an appropriation creates a right to the use of water, not to the corpus (body) of the water; and
- ▶ the right enjoys as its priority the date upon which appropriation was made (in some cases - application for permission to appropriate) and is superior to subsequent and inferior to prior appropriations (Williams 1992).

The reserved rights doctrine may not apply to all National Park Service areas because some have not come from the Public Domain, but rather from state or private ownership. Furthermore, many National Park Service reservations are of fairly recent vintage. Thus, while the doctrine might apply, the priority date may be so junior as to be ineffective in providing protection against impact from other water users. This led to the Winters Doctrine or Federal Reserved Water Rights Doctrine.

While Congress was ignoring the developing western water law, it continued to encourage settlement and sought to "pacify" the Indian. The high hopes of westerners that the Winters Doctrine would apply only to Indians was soon gone, as the Court generalized its applicability to all "federal enclaves". Over time a series of decisions by the U.S. Supreme Court gave the doctrine substance and form.

EXAMPLE:

In January 1952, Presidential Proclamation 2961 added Devil's Hole to Death Valley National Monument as a detached 40-acre unit (NPS Annual Report 1992). The proclamation recognized: 1) the scientific importance of the pupfish and the cavern; and 2) the importance of preserving the pool and pupfish. The United States acquired a Federal reserved water right for Devil's Hole for unappropriated water and vested on the date of the reservation; this right is superior to the rights of future appropriators. In this case, it was proven in the Supreme Court by *Cappaert v. United States*, 1976, that unappropriated waters are necessary to accomplish the purposes for which the reservation was created.

The National Park Service employs both the Federal Reserved Water Rights Doctrine and the Doctrine of Prior Appropriation to accomplish its mission in the West. The process of securing and protecting water rights is demanding, requiring in-depth scientific investigations and compels legal argument. However, even though the investment to protect water rights may be high, the cost of not protecting them likely would be higher (Williams 1992).

EXAMPLE:

In 1992 the National Park Service completed negotiated settlements with the state of Idaho for reserved water rights at Craters of the Moon national Monument and the Idaho portion of Yellowstone National Park. While the rights are not yet decreed by the court, the conditions meet the respective needs of both parties while avoiding a major clash between advocates of the appropriation and federal reserved water rights systems (Petree 1994). The agreements establish the United States' right to: 1) use a small but sufficient amount of surface and ground water for present and future visitor, administrative, and concessioner use; and 2) maintain all remaining surface water rights to protect park water-related resource values. The Idaho

settlements involved park units that were relatively free of water use conflicts because surface streams headwater within the parks. However, these settlements may be just the tip of the iceberg.

EXAMPLE:

The State of Montana commenced a general adjudication of the rights to the use of water within the state in 1979 and also created a Reserved Water Rights Compact Commission charged with the responsibility of negotiating settlement agreements, or Compacts, with agencies of the United States to resolve federal reserved water rights within the structure of the state-wide water rights adjudication. Compact negotiations between the National Park Service and the State of Montana Commission began in the early 1980's and, in 1993, achieved a major milestone when agreement was reached on water rights at three of the five Montana National Park Service units with reserved lands (Petree 1994).

A Compact defining federal reserved water rights for Glacier National Park, Big Hole National Battlefield, and the Montana portion of Yellowstone National park was recommended by the Compact Commission and received the required state and federal administrative approvals. Abstracts specifying water rights as they are defined in the Compact will be entered as National Park Service claims in the adjudication process and supported by all parties. Under the terms of the Compact, the amount of water use in watersheds upstream from the parks will be limited to existing use plus a small amount of future use, in most cases, while all remaining water is left in the park streams (Petree 1994).

Negotiators hope to complete a Compact for Little Bighorn Battlefield National Monument and Bighorn Canyon National Recreation Area sometime in 1995. The Compact concept is a milestone in the protection of park resources, the level of expenditure will be greatly smaller than it would have been had the issue been resolved through litigation.

In all cases where activities might threaten the park's water resources, it is incumbent upon us to identify those threats at the earliest opportunity, preferably at the planning stage. With the help of this booklet as a reference, a park employee will have the basic understanding of water rights, will be able to offer practicable alternatives to avert those threats and will know where to seek knowledgeable assistance.

This booklet is meant to aid and improve the communication between National Park Service field personnel and other water resource managers and professionals. Implementing a program to define park water resource needs, detect water resources changes and to understand the importance of a long-term water resources record, when it is necessary to legally validate the status quo, is easier to understand, by using this booklet to become familiar with water rights terminology and history.

Thus, the job of preserving and protecting park water is expected to be increasingly more difficult as non-National Park Service activities put further demands on national water resources. In the not too distant future, the competition for water is expected to become more intense and future pressure on park water will increase, requiring well directed National Park Service initiatives to protect park waters from intrusions occurring beyond park boundaries.

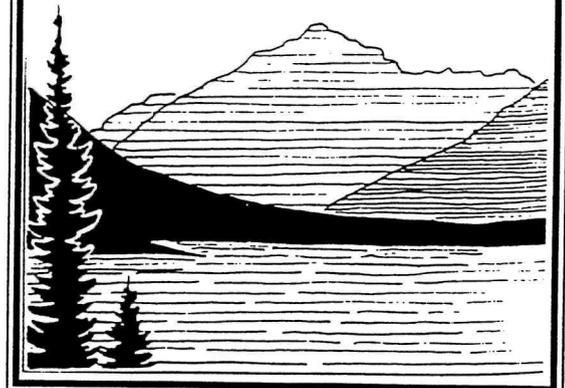
The readers of this booklet will be able to assist the National Park Service to initiate new positive steps to assure that parks continue to have adequate water to protect the resources. Environmental, social, and economic consequences of water development become more alarming every year (NPS Annual Report 1990). Awareness of the unique water resources requirements of these areas will go a long way toward their planned protection.

Footnotes

- 1 National Park Service Organic Act of August 25, 1916 (39 Stat. 535).
-
-

If there is
magic on this
planet, it is
contained in
water.

---Loren Eiseley



APPENDIX A*

Table 1 Summary of Water Rights of the Fifty States and Territories

Figure 1 Surface Water Rights Systems

Figure 2 Surface Water Permit Requirement

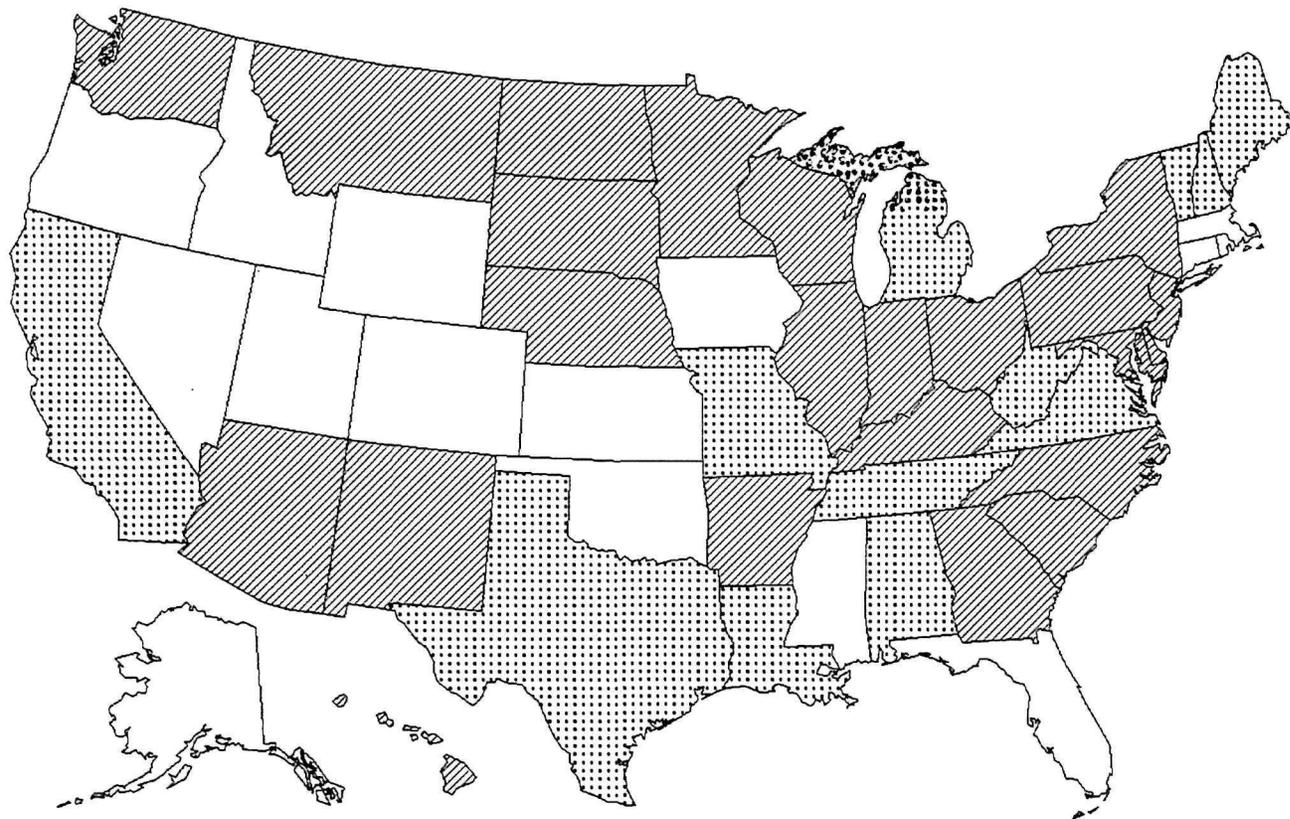
Figure 3 Groundwater Permit Requirement

***Source: Water Rights of the Fifty States and Territories, American Water Works Association, 1990.**

Table 1 Summary of Water Rights of the Fifty States and Territories

State or Territory	Surface Water Right System*	Permit Required		Number of Compacts	Number of Treaties	Administering Agency
		Surface Water	Ground-water			
Alabama	R	No	No	0	0	None
Alaska	A	Yes	Yes	0	0	Dept. of Natural Resources
Arizona	A	Yes	Yes	2	1	Dept. of Water Resources
Arkansas	R	No	No	0	0	None
California	O	Yes	No	3	1	Water Resources Control Board
Colorado	A	No	Yes	11	1	Div. of Water Resources
Connecticut	R	Yes	Yes	2	0	Dept. of Environmental Protection
Delaware	R	Yes	Yes	4	0	Dept. of Natural Resources
Florida	O	Yes	Yes	0	0	Regional Water Management District
Georgia	R	Yes	Yes	0	0	Dept. of Natural Resources
Hawaii	O	Yes	Yes	0	0	State Water Commission
Idaho	A	Yes	Yes	2	0	Dept. of Natural Resources
Illinois	R	No	No	0	1	Div. of Water Resources
Indiana	R	No	No	0	1	Dept. of Natural Resources
Iowa	O	Yes	Yes	0	0	Dept. of Natural Resources
Kansas	A	Yes	Yes	4	0	Div. of Water Resources
Kentucky	R	Yes	Yes	2	0	Div. of Water
Louisiana	R	No	No	2	0	None
Maine	R	No	No	0	1	None
Maryland	R	Yes	Yes	3	0	Water Resources Administration
Massachusetts	R	Yes	Yes	0	0	Div. of Water Supply
Michigan	R	No	No	1	1	Dept. of Natural Resources
Minnesota	R	Yes	Yes	1	1	Dept. of Natural Resources
Mississippi	O	Yes	Yes	0	0	Dept. of Natural Resources
Missouri	R	No	No	0	0	None
Montana	A	Yes	Yes	1	3	Water Resources Div.
Nebraska	A	Yes	No	5	0	Dept. of Water Resources
Nevada	A	Yes	Yes	1	0	Div. of Water Resources
New Hampshire	R	No	No	0	0	Water Resources Div.
New Jersey	R	Yes	Yes	1	0	Div. of Water Resources
New Mexico	A	Yes	Yes	8	3	State Engineer's Office
New York	R	Yes	Yes	3	1	Dept. of Environmental Conservation
North Carolina	R	Yes	Yes	0	0	Div. of Water Resources
North Dakota	A	Yes	Yes	1	1	State Water Commission
Ohio	R	Yes	Yes	3	1	Dept. of Natural Resources
Oklahoma	A	Yes	Yes	3	0	Water Resources Board
Oregon	A	Yes	Yes	2	0	Dept. of Natural Resources
Pennsylvania	R	Yes	No	5	2	Dept. of Environmental Resources
Rhode Island	R	No	No	0	0	Water Resources Board
South Carolina	R	Yes	Yes	0	0	Water Resources Commission
South Dakota	A	Yes	Yes	1	0	Dept. of Water & Natural Resources
Tennessee	R	No	No	2	0	Dept. of Health & Environment
Texas	A	Yes	No	5	3	State Water Commission
Utah	A	Yes	Yes	3	1	Dept. of Natural Resources
Vermont	R	No	No	1	1	None
Virginia	R	No	Yes	4	0	State Water Control Board
Washington	A	Yes	Yes	0	2	Dept. of Ecology
West Virginia	R	No	No	3	0	Div. of Natural Resources
Wisconsin	R	Yes	Yes	3	2	Dept. of Natural Resources
Wyoming	A	Yes	Yes	9	1	State Engineer's Office
<i>Territories:</i>						
American Samoa	O	No	Yes	0	0	Dept. of Public Works
Guam	R	No	No	0	0	Environmental Protection Agency
N. Mariana Island	O	No	No	0	0	None
Puerto Rico	O	Yes	Yes	0	0	Dept. of Natural Resources
Virgin Islands	O	Yes	Yes	0	0	Dept. of Public Works

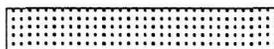
*A--Appropriation; R--Riparian; O--Other



Is a permit required for groundwater ?



Yes



No



Sometimes

Figure 3 Groundwater permit requirement

APPENDIX B

**Table 1 Chronological Summary of Water Resource Legislation and
Litigation**

Appendix B Chronological Summary of Water Resource Legislation and Litigation

- 1866 Mining Act of 1866 (43 U.S.C.A. 661). First mining laws are developed by the settlers. Laws, customs and decisions recognizing priority of appropriation, linked to beneficial use of the water, as the basis for obtaining rights to this vital resource are developed.
- 1870: Placer Mining Act (43 U.S.C. 661, 1982). "All patents granted, or preemption or homesteads allowed, shall be subject to any vested and accrued water rights, or right to ditches and reservoirs used in connection with such rights, as may have been acquired under or recognized by the 1866 Act."
- 1872: Mining Law of 1872. An act to promote the development of the mineral resources of the United States.
- 1877: Desert Land Act (43 U.S.C. 321, 1982). "The right to the use of water by (the claimant) shall depend upon bon-a-fide prior appropriation; and such right shall not exceed the amount of water actually appropriated, and necessarily used for the purpose of irrigation and reclamation. All surplus water over and above such actual appropriation and use, together with the water of all lakes, rivers, and other sources of water supply upon the public lands and not navigable, shall remain and be held free for the appropriation and manufacturing purposes subject to existing rights."
- 1902: Reclamation Act (Newlands Act). Created the "reclamation fund" out of receipts from the sale and disposal of public lands in states west of the Mississippi River; authorized the Secretary of the Interior to construct irrigation works and to withdraw irrigable lands from entry; and provided sale at a price estimated to return to the reclamation fund the cost of construction. Homesteaders in the project area were limited to acquiring 160 acres of federally irrigated lands and were to repay the government within 10 years.
- 1908: *Winters v. United States*. The United States sued to enjoin private appropriators from diverting water from the nonnavigable Milk River which runs along the Fort Belknap Indian Reservation in Montana. The Supreme Court found federal water reservations to be implicit in federal land reservations. As the purpose of the reservation was to encourage agriculture, and as the lands involved could produce virtually nothing without irrigation, the treaty reserved water rights sufficient to fulfill the purpose of the reservation.

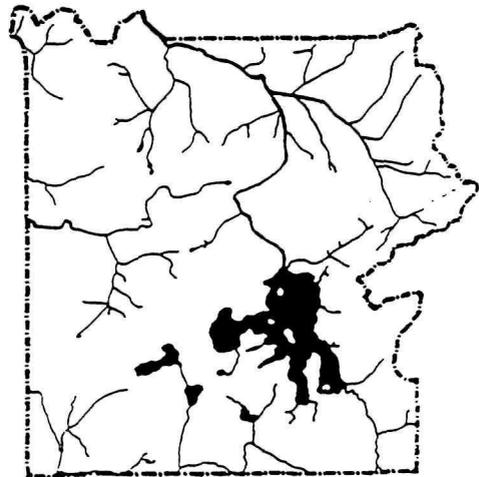
- 1916: National Park Service Organic Act of August 25, 1916 (39 Stat. 535 et. seq.). Created a centralized administration for national parks, monuments, and reservations for the purposes of conserving the scenery and the natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.
- 1916: Stock Raising Homestead Act. Authorized the Secretary of the Interior to open for entry under homestead laws not more than 640 acres per person of public lands. Also withdrawn were lands needed to ensure access by the public to watering places or required for stock movement.
- 1921 Congress prohibited the issuance of permits, licenses, or leases for the development of water in existing National Parks or National Monuments without specific authority of Congress.
- 1929: Colorado River Compact. Upper basin states (Wyoming, Utah, Colorado, New Mexico) were appropriated 7.5 million acre feet and Lower basin states (Nevada, California, Arizona) were appropriated 7.5 million acre feet.
- 1952: McCarran Amendment. Federal government consented to its water rights being adjudicated in state general adjudications (waived sovereign immunity).
- 1955 *Federal Power Commission v. Oregon* (Pelton Dam - 1955). Implicitly expanded the Winters Doctrine to non-Indian lands. The Desert Land Act gave State control over water on public lands but not reserved lands.
- 1963: *Arizona v. California*. Dispute between two states over water on the Colorado River which had been apportioned in the Boulder Canyon project. The Court claimed reserved water rights for five Indian reservations, a national recreation area, and two wildlife refuges. Quantification standards were set by practicably irrigable acreage (PIA). Explicitly expanded the Winters Doctrine and included future as well as present water uses.
- 1968: Wild and Scenic Rivers Act (16 U.S.C. 1271 et. seq.). Established to preserve wild and scenic rivers. A three-tiered system of classification (wild, scenic, and recreation) was defined.
- 1974: *Southeastern Colorado Water Conservancy District v. Shelton Farms, Inc.* The Colorado Supreme Court ruled that clearing the land bordering a stream of all the phreatophytes does not add water to the natural sources and does not entitle the user to a senior priority date.

- 1976: *Cappaert v. United States*. The Court ruled that any reservation of the public lands by the federal government may create reserved water rights by implication. A turning point in Court's view of Federal Reserved Water Rights Doctrine. When Devil's Hole National Monument was established, water sufficient to meet the purposes of the reservation was reserved. The proclamation (1952) noted the geologic significance of a pool found within a limestone covered cavern and which was the home of the Devil's Hole Pupfish, an endangered desert fish. Cappaert considered the water level in the pool to be surface flow and did not address groundwater reservation.
- 1978: *California v. United States*. U.S. Supreme Court interpreted the Reclamation Act of 1902 to require federal agencies constructing reclamation projects to comply with state-imposed limitations on the use of project waters.
- 1978: *United States v. New Mexico*. The Court declared that federal reservations of land from public domain do not by implication include reservations of waters flowing through or along side such lands except for the minimum amount of water essential to the specific purposes for which the land was reserved.
- 1982: *United States v. Denver*. Colorado Supreme Court addressed claims by the United States to reserved rights for seven national forests, a national park, three national monuments, and two mineral hot springs. The Court affirmed the water court's judgement denying federal instream flow rights for forests. Water claimed in Rocky Mountain National Park for the purposes of conservation of scenery, historic and scientific interest, and wildlife preservation, received the priority date from the time the national park was established.
- 1982: *Sporhase v. Nebraska*. The Supreme Court ruled that water is an article of interstate commerce and that it may not be completely prohibited from export.
- 1983: *Nevada v. United States*. Winters rights, once quantified, cannot be increased; this reemphasizes the idea of finality.
- 1989: *Wyoming v. United States*. The United States Supreme Court upheld a Wyoming Supreme Court decision that awarded the Wind River Indian Reservation with reserved water rights totalling over 500,000 af/yr for agricultural purposes. The water received a priority date of 1868 - the date of reservation and is senior to all other water rights on the Big Hole River.
- 1990: U.S. Forest Service. District Court, Water Division No. 1, State of Colorado. Federal reserved rights water case began in Greeley, Colorado, requesting water rights in four National Forests (1/90).

- 1993: U.S. Forest Service. District Court, Water Division No. 1, State of Colorado. Decision to deny a U.S. Forest Service request for water rights in four National Forests by Weld County District Judge Robert A. Behrman (2/93).
- 1994: U.S. Forest Service. District Court, Water Division No. 1, State of Colorado. United States government filed a motion with the Colorado Supreme Court (3/94) asking for voluntary dismissal of an appeal of the landmark decision handed down by Weld County District Judge Robert A. Behrman in February 1993.
- 1994: Rocky Mountain National Park. District Court, Water Division No. 1, State of Colorado (Decree pending, Case No. W-8439-76(W-8788-77)). Memorandum of Decision and Order issued by the Court grants summary judgement to the United States determining that the U.S. has reserved water rights for park purposes only for all unappropriated waters in Rocky Mountain National Park and by doing so the underlying purposes of the creation of the park can be achieved.
- 1994: Montana Reserved Water Rights Compact. To resolve the adjudication of water rights at National Park Service units in Montana, the United States and the State of Montana negotiated a compact to determine reserved water rights at Big Hole National Battlefield, Glacier National Park and Yellowstone National Park. The Montana State Legislature ratified the Compact and, there by, reserved water rights for consumptive use, instream flow, and hydrothermal ground water under state law.

I do not think we should create a National Park without making it a real National Park. It should not be a National Forest under a different name. If the area is to be a National Park, its recreational and scenic values should be fully and absolutely protected, so that they cannot be broken into by commercial developments unless Congress should so decide.

---Stephen T. Mather



APPENDIX C*

Table 1 National Park Service, Water Resources Division, General Background Information and Contacts

*** Source: Water Resources Course presented to Natural Resource Management Trainees, 1993. Water Resources Division, National Park Service, Fort Collins, CO.**

INTRODUCTION

The purpose of this appendix is to provide National Park Service (NPS) managers and other interested individuals with an overview of the mission and responsibilities of the Water Resources Division (WRD), how the WRD interacts with other NPS organizational units to develop and implement the Servicewide water resources management program, the organizational structure of the WRD, and the role and function of each Branch within the WRD and some of the services they offer.

MISSION AND RESPONSIBILITIES

The mission of the WRD is to preserve and protect NPS water resources and water dependent environments. This mission is accomplished through a watershed management program based on needs at the park, region, and national levels.

The WRD, which is located in Fort Collins, Colorado, is responsible for providing water resource management policy, planning, and operational support to NPS managers Servicewide. These services and assistance are provided either directly to parks, regions, and the Washington Office or in cooperation with other NPS organizational units, agencies, or entities.

The activities of the WRD include: formulating water resources policy recommendations; planning assistance and regulatory reviews; water resources inventories and monitoring; identification, evaluation, and mitigation of existing and potential threats to park water quality and quantity; floodplain and flood hazard analyses and delineation; erosion and sediment control; protection of wetland and riparian habitats; locating and testing surface and ground water sources for potable water needs; securing and protecting NPS water rights and water resources; and conducting projects and studies in support of water resource needs.

PROGRAM DEVELOPMENT AND IMPLEMENTATION

The WRD Division Chief and Branch Chiefs coordinate with the Regional Water Resource Coordinators and park staff to identify water resources issues and concerns and to prioritize projects and technical assistance needs. In general, project priorities are established at an annual program meeting between all the Regional Coordinators and the Division while technical assistance needs are addressed at the annual program meeting and on a day-to-day basis. Once a problem has been identified and prioritized, Division staff, with additional expertise if necessary, generally work directly with the Region and park to solve the problem.

In addition, the Division assists the Office of the Associate Director for Natural Resources, other Washington offices, and the Denver Service Center (DSC) with water resource matters, and provides support to Servicewide training needs.

ORGANIZATIONAL STRUCTURE

Three Branches under the direction of the Division Chief make up the WRD. Each branch has clearly defined functional responsibilities and is headed by a Branch Chief responsible for the management and implementation of the Branch's program. The Division Chief and Branch Chiefs comprise the Division's management team and are the first persons to contact when requesting assistance from the WRD. They are as follows:

Division Chief, (970) 225-3501

Planning and Evaluation Branch, (303) 969-2813

Water Operations Branch, (970) 225-3503

Water Rights Branch, (970) 225-3505

PLANNING AND EVALUATION BRANCH

The role of the Planning and Evaluation Branch (PEB) is to provide to NPS management planning and evaluation support relating to the protection and management of water resources of the National Park System. The PEB provides operational support in seven activity areas:

- * Water resources and natural resources management planning assistance
- * Implementation of the wetlands component of WRD's watershed protection program
- * Evaluation of complex regulatory issues
- * Assistance in implementation of regulatory programs
- * Technical review and advice
- * Issue identification and analysis
- * General guidance and training

WATER OPERATIONS BRANCH

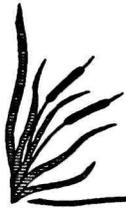
The role of the Water Operations Branch (WOB) is to provide policy and operational support to the parks, regions, and the Washington Office (WASO) in the activity areas of floodplain management and surface-water hydrology, ground water protection and development, water quality protection and development, water quality management, watershed and stream management, and data management and geographic information systems (GIS) applications. In addition, operational support is provided to other NPS organizational units such as the DSC and the NPS hazardous materials management program in situations involving the Branch's five activity areas, which are:

- * Floodplain management and surface-water hydrology
- * Ground water protection and development
- * Water quality management
- * Watershed and stream management
- * Data management and GIS applications

WATER RIGHTS BRANCH

The role of the Water Rights Branch (WRB) is to recommend water rights policy and implement the servicewide water rights program for the protection of NPS water rights in coordination with the Office of the Solicitor (SOL), Department of Justice (DOJ), and other governmental entities. The WRB provides operational support in the following seven activity areas:

- * Development of strategy to protect NPS water rights
- * Determining and satisfying technical and/or scientific evidence needs to protect and/or acquire water rights
- * Developing and maintaining water rights records
- * Providing general and technical review and advice to NPS management with respect to water rights issues
- * Representing management with respect to water rights in administrative, judicial, or other state or federal agency proceedings
- * Inventorying and verifying water rights and uses
- * General guidance



GLOSSARY *

Abandonment Loss of water rights established by prior appropriation due to nonuse coupled with intent to abandon; unreasonable period of nonuse may create a rebuttable presumption of intent to abandon.

Acequia A concept from Pueblo water rights referring to an irrigation ditch.

Acre-foot The volume of water required to cover one acre to a depth of one foot. Equal to 43,560 cubic feet or 325,851 gallons. One cubic foot per second flowing for 24 hours produces approximately 2 acre-feet.

Adjudication The judicial decree defining and dating a water right.

American Rule A groundwater doctrine that holds that an overlying property owner has the right to use only a reasonable amount of groundwater.

Appropriate The acts necessary to create a right to make a private use of water.

Appurtenance Water rights that arise from the ownership of land abutting a stream and require use of the water to occur on that land.

Aquifer A geologic form or layer of material that is porous or permeable to water and thus capable of containing or carrying groundwater.

Beneficial use The measure, the basis, and the limit of the appropriator's right to use water. Beneficial use includes domestic, irrigation, stock, and mining uses, and may include recreation, fish and wildlife, or other uses, depending on state law.

Compact A contract between states, entered into with the consent of the federal government, defining the relative rights of two or more states on an interstate stream to use the waters of that stream.

Consumptive use Use of water in a manner that makes it unavailable for use by others because of absorption, evaporation, transpiration, or incorporation in a manufactured product.

Cubic feet per second (cfs) A standard flow-rate measurement, which measures volume (cubic feet) per unit of time (second).

Depletion Withdrawal of a resource, such as surface water or groundwater, at a faster rate than it is being replaced.

Dockets Special files housed in the Water Resources Division, Water Rights Branch, Fort Collins, Colorado, containing records documenting water rights for National Park Service units.

Diversion The removal of water from any body of water by canal, pipe, or other conduit.

Drainage Basin The area drained by a river system.

Due diligence The efforts necessary to bring an intent to appropriate into fruition by the actual application of water to the beneficial use intended. Due diligence does not require unusual effort or expenditures, but only such constancy in the pursuit of the undertaking as is usual with those in like enterprises. Actions that demonstrate a good-faith intention to complete the undertaking within a reasonable time are considered due diligence.

Evapotranspiration (ET) The total moisture loss from an area controlled by climatic conditions and plant processes.

Federal reserved rights doctrine This doctrine provides that when the United States reserves its lands for a special purpose, such as a park, a national forest, or other federal reservation, it concurrently and by implication also reserves sufficient water to fulfill the purposes of that reservation. Reserved water rights have a priority date as of the date of the reservation, whether or not water has actually been used.

Forfeiture Involuntary loss of all or a portion of one's water rights triggered by nonuse of the water for a specified statutory period, regardless of the owner's intent.

Futile call A situation in which a junior priority will be permitted to continue to divert in spite of demands by a senior appropriator in the same watershed because to curtail the junior from diversion would not be effective to produce water for beneficial use by the senior.

Gaging station A point on a stream or a body of water where observation of water elevation or level are systematically taken.

Groundwater appropriation/permit system The distinguishing feature of the permit system is administrative regulation and management of groundwater by specifying limits on the number of permits issued, pumping rates, and other requirements to prevent overdevelopment of the aquifer.

Groundwater recharge The addition of water to an underground body or source of water to replace that water that is withdrawn.

Groundwater table The upper surface of an underground body or saturated zone of water.

Hydrologist A person involved in the study of water.

In-stream appropriation An in-stream appropriation right requires that a minimum amount of water flow through the stream at particular places in order to protect fish and wildlife, scenic beauty, or waterborne recreation.

Interbasin transfer The physical conveyance of water from one watershed to another.

Nonconsumptive use Use of water with return to a stream or body of water of substantially the same amount of water as withdrawn.

Nontributary groundwater Underground water (in an aquifer) that is so situated that it neither draws from nor contributes to a natural surface stream in any measurable degree.

Phreatophyte A water-loving plant that grows where its roots can reach ground water, such as cottonwood trees or salt cedars.

Point of Diversion A specifically named place where water is removed from a body of water.

Prior appropriation The surface water law system developed in the western United States which provides that one who is first in time to divert and apply water to a beneficial use has a prior right to use the water in the event of water shortage. Under modern statutes, appraisal must usually be secured from some state agency before acquiring a new water right or making a change in use of water.

Priority The right of the earlier appropriator to the flow of part of a natural stream in preference to a later appropriator.

Publici juris Those things in which every member of the public has an impersonal right and in which everyone has a right of use, as in the case of light, air, and public water.

Public trust doctrine An emerging concept prompted by environmental concerns, this doctrine may require a state agency to reject water rights applications that are not in the public interest.

Reasonable use doctrine Also known as the "American Rule", this doctrine allows a landowner to withdraw groundwater for reasonable uses on the overlying land without liability for harm to adjoining landowners; any beneficial use on the overlying land is considered reasonable.

Referee A person selected by the water judge to carry on certain of the judicial functions of the water court.

Reservoir A pond, lake, aquifer, or basin, either natural or artificial, for the storage, regulation, and control of water.

Riparian Of or relating to the banks of a stream or lake. Landowner adjacent to a body of water.

Riparian rights The surface water law system prevailing in the eastern United States which grants to a landowner bordering a body of water the right to make reasonable use of the water on that land if the use does not interfere with reasonable uses of other riparians.

River basin The land area surrounding one river from its headwaters to its mouth.

Runoff That portion of precipitation that would ultimately reach a stream without the intervention of man.

Salvaged water Water that is saved to a natural stream by manmade modification of natural conditions.

Sluice An artificial passage for water, fitted with a valve or gate to stop or regulate the flow.

Spring An identifiable continuous or intermittent flow of water from the ground to the surface.

Storage or storage right Water interrupted in its natural gravity flow and detained for a later beneficial use.

Substantive law The law defining rights to the use of water.

Trans-basin The removal of water of a natural stream from its natural basin into the natural basin of another stream.

Transpiration The process by which plants remove soil moisture by losing water vapor through their leaves.

Tributary A stream that empties into and contributes its waters to another stream.

Tributary drainage The area from which water drains by gravity into a water course.

Tributary groundwater Groundwater that is hydraulically connected to a stream so that groundwater withdrawals affect the stream supply and thus maybe administered in conjunction with a surface water allocation system.

Usufructuary Right The right to utilize and enjoy the profits and advantages of something belonging to another so long as the property is not damaged or altered in any way.

Water commissioner A public official under the direction of the division engineer who carries out the detailed, day-to-day administration and distribution of the waters of each water division.

Water course A place on the earth's surface where water flows, regularly or intermittently, in a defined channel.

Water court A special division of a district court with a district judge designated as and called the water judge to deal with certain specific water matters principally having to do with adjudication and change of point of diversion.

Water right A property right to make a beneficial use of a particular amount of water.

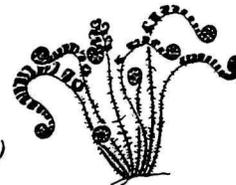
Watershed The region draining into a river, river system, or body of water.

Weir A device placed across a stream and used to measure the discharge by having the water flow over a specifically designed spillway.

Winters doctrine A United States doctrine holding that when Indian reservations were established, the federal government also reserved the water rights necessary to make the land productive.

Xeriscape The use of plant materials and practices that minimizes landscaping water use.

* This glossary is based in part on Fetter, Jr., C.W., *Applied Hydrogeology*, Bell & Howell Company (1980). Also based in part on excerpts from *League of Women Voters of Colorado* (1992) *Colorado Water, and Water Rights of the Fifty States and Territories* (1990).





References

This might appropriately be called a "Suggestive Bibliography" because it does little more than skim across a great many references on water and reveal some reading possibilities. It suggests the breadth of reading material available on water rights and the National Park Service. It provides encouragement to explore the informational resources that are available. The list is just representative. Rather than list all the important papers on a topic, the interested reader can easily find more references in those included.

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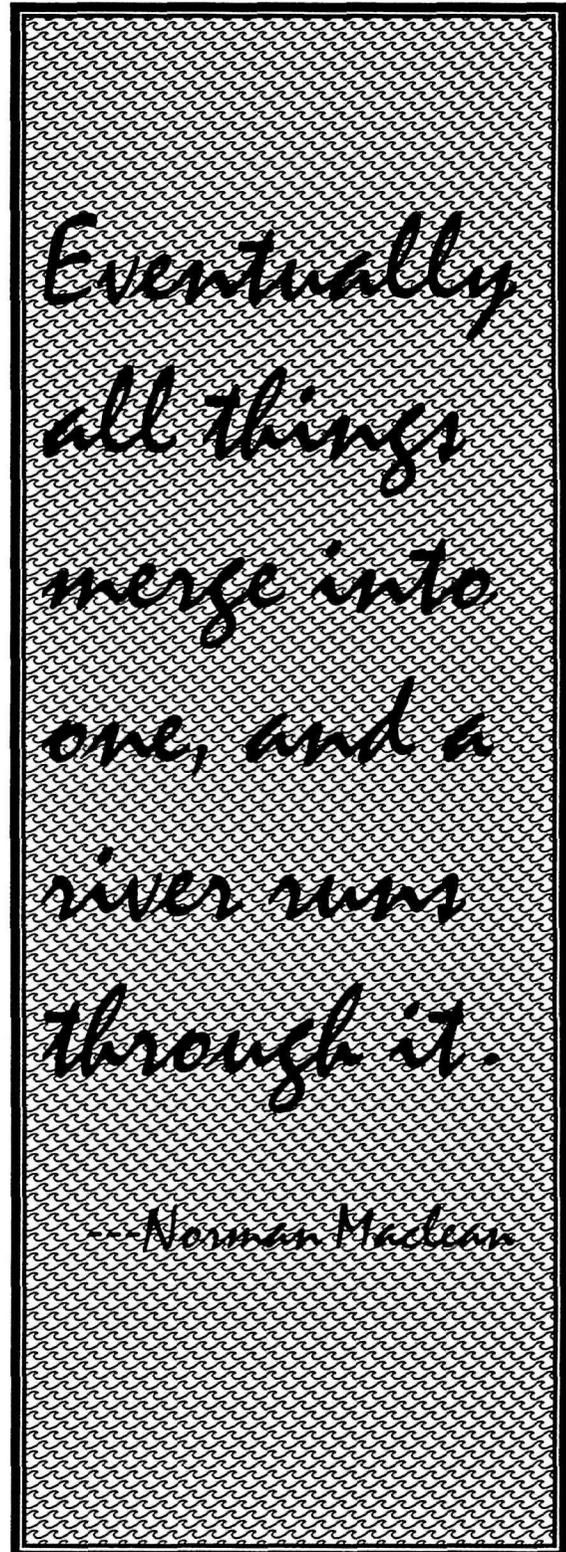
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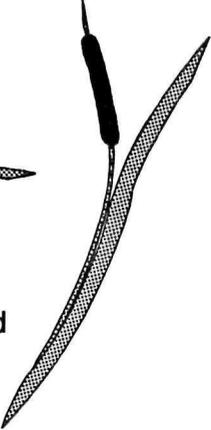
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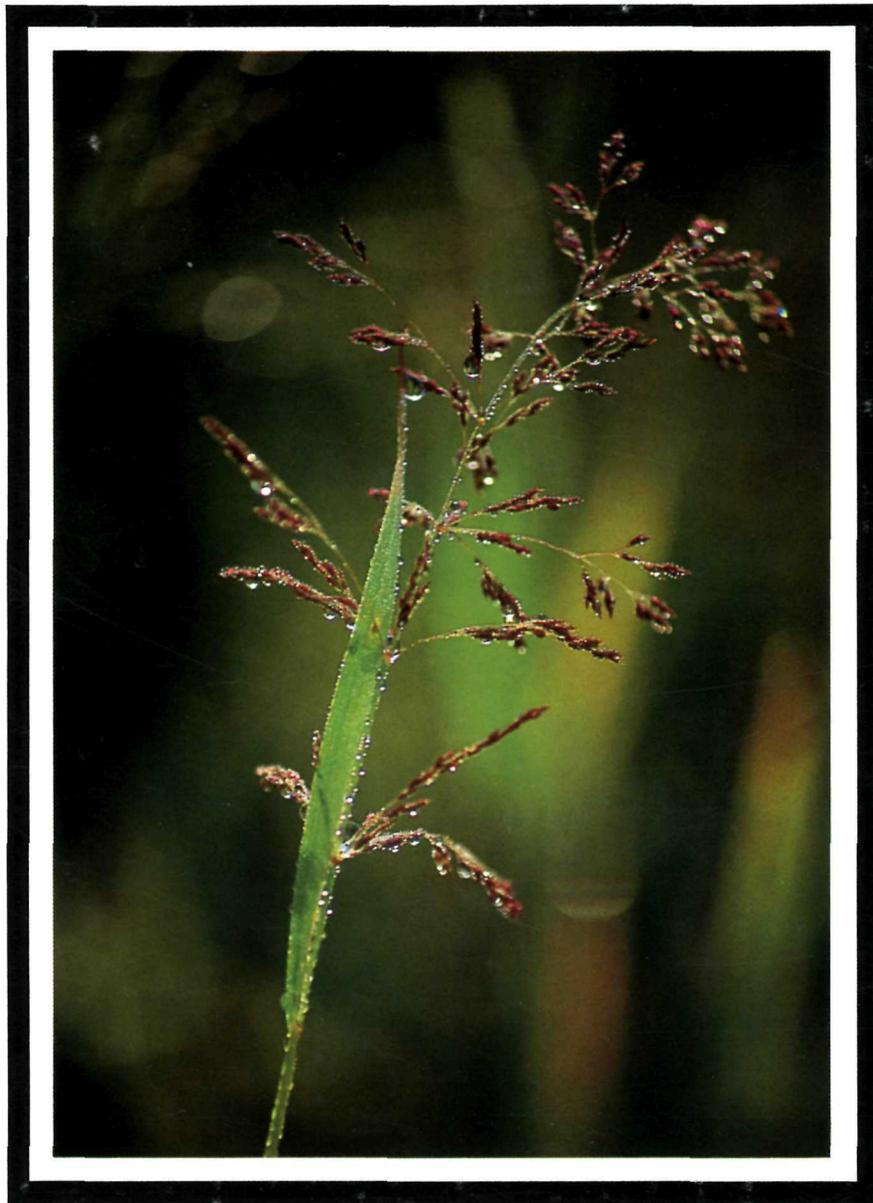
SO ... WHAT IS MY ROLE ?



Now that you have completed reading this booklet, here are some ideas and suggestions on how you can begin to help our "*Liquid Treasure*".

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- ▶ Be aware of activities adjacent to the park boundary:
 - water storage areas being constructed such as reservoirs and fish ponds.
 - diversion of water from rivers, streams, or ditches.
 - ▶ Review National Park Service management changes that increase water use needs and how that may relate to water rights:
 - building new visitor centers, campgrounds, and employee housing areas.
 - park master plans, environmental impact assessments and environmental impact statements.
 - ▶ Increase public awareness of the role water plays in aquatic and terrestrial ecosystems:
 - interpretive walks, talks, and evening programs.
 - public scoping meetings.
 - ▶ Promote a better understanding of water through "Junior Ranger" interpretive programs so that younger people can become more informed as they mature into adults:
 - water festivals with educational, fun programs and exhibits.
 - lesson plans and curriculum for teachers.
 - ▶ Understand the basic framework and history of water law and how it relates to the National Park Service position:
 - organic act, congressional mandates, establishment of the park you are presently employed at.
 - ▶ Stay informed of current event issues dealing with water and its uses for your present area:
 - boundary changes, inholding purchases, local town news, regional news, etc.
 - National Park Service training courses related to water, new publications, research, etc.

**CONTACT THE WATER RESOURCES DIVISION
WITH ANY QUESTIONS**



*When the well runs dry,
we know the wealth of water.*

↳ B. Franklin