

Summary of California Water Rights

1.1 Types of Water Rights

In California, the different types of water rights include:

1.1.1 Prescriptive

Water use rights gained by trespass or unauthorized taking that ripen into a title, on a par with rights to land gained through adverse possession.¹

1.1.2 Pueblo

A water right possessed by a municipality that, as a successor of a Spanish-law pueblo, is entitled to the beneficial use of all needed, naturally occurring surface and groundwater of the original pueblo watershed.²

1.1.3 Groundwater

The *Dictionary of Real Estate Appraisal*, defines groundwater as “all water that has seeped down beneath the surface of the ground or into the subsoil; water from springs or wells.”³

This is an adequate working definition if the “springs or” is eliminated because once water issues out of a spring it becomes surface water, not groundwater. As is also indicated in the following text, it is not water flowing in an underground channel. Groundwater should be thought of as the water that occupies the space between soil particles beneath the surface of the land. Groundwater is extracted exclusively by means of wells. Whenever groundwater reaches the surface in a natural manner, whether through springs or seepage into a surface water stream channel or lake, it ceases to be groundwater and becomes surface water.

The jurisdiction of the SWRCB [State Water Resources Control Board] to issue permits and licenses for appropriation of underground water is limited by section 1200 of the California Water Code to “subterranean streams flowing through known and definite channels.”

If use of underground water on nonoverlying land is proposed and the source of the water is a subterranean stream flowing in a known and definite channel, an application pursuant to the California Water Code is required. A Statement of Water Diversion and Use should be filed for use of water from a subterranean stream on overlying land (see Statements of Water Diversion and Use section of this [the footnoted] document).

¹ <http://www.swrcb.ca.gov/waterwords.html>, SWRCB web site

² <http://www.swrcb.ca.gov/waterwords.html>, SWRCB web site

³ Appraisal Institute, *The Dictionary of Real Estate Appraisal*, 4th ed., (Chicago: Appraisal Institute, 2002), p. 133.

Underground water not flowing in a subterranean stream, such as water percolating through a groundwater basin, is not subject to the SWRCB's jurisdiction. Applications to appropriate such water, regardless of use, should not be submitted. Owners of lands overlying a groundwater basin or other common source of supply have the first right to withdraw water for reasonable beneficial use on their overlying lands, and the right of each owner is equal and correlative to the right of all other owners similarly situated. In case of insufficient water to supply fully the requirements of all, the available supply must be equitably apportioned. In these respects, overlying rights are closely similar to riparian rights pertaining to surface bodies of water.⁴

A subterranean stream flowing in a known and definite channel is a rarity.

1.1.4 Riparian

A working definition of riparian water rights can once again be obtained from the *Dictionary of Real Estate Appraisal*:

The incidental right of the owners of land bordering a lake or stream to the use and enjoyment of the water that flows across their land or is contiguous to it; entitles the user to reasonable use that does not materially diminish the quality or quantity of the water for other owners. The owner's rights are equal, regardless of their location along the stream or the time when each property was purchased.⁵

Some of the aspects of a riparian water right include:

- The right arises from the place of use being lands adjoining the water body from which the water is drawn.
- The water can only be used on these lands.
- If lands are severed from the water body, they lose the riparian right unless it is reserved in the title.
- There is no priority of riparian rights.
- The right is not created by use nor lost through non-use.
- The right cannot be transferred to another parcel of land.
- The right is for the natural flow of the stream, not flow that results from the release of stored or imported water.

⁴ SWRCB, http://www.waterrights.ca.gov/application/forms/infobook.htm#_Toc442697730

⁵ Appraisal Institute, *The Dictionary of Real Estate Appraisal*, 4th ed., (Chicago: Appraisal Institute, 2002), p. 250.

1.1.5 Appropriative

Appropriative water rights exist in situations where surface water is transported away from its naturally occurring location and used on lands that are not adjoining the source water body. These water rights generally fall into two categories:

Pre-1914

Appropriative right that pre-dates the SWRCB's existence and authority to regulate the State's water supply.

License (post-1914)

An official document giving permission to engage in a specified activity, such as an appropriation of water.⁶

1.1.6 Contractual Entitlements

Contractual Entitlements are not a water right. A water right is held by the entity that takes water directly from a body of water. A contractual entitlement is created by means of a contract between the appropriative water right holder and another entity that will take delivery of water diverted by means of the water right. State Water Project (SWP) and Central Valley Project (CVP) districts have contracts with Department of Water Resources (DWR) and U.S. Bureau of Reclamation (Reclamation), respectively, which specify the amount of water each district is entitled to if full allocations are available. If less than full allocations are available, then the reduced delivery each district receives is determined by the terms of the contract. The districts generally have contracts with landowners for distribution of water the district receives. Therefore, there is a second tier of contractual entitlements. When there are sub-districts present, there would be three tiers of contractual entitlements, with the last one involving the landowner, the actual user of the water.

1.2 Property Definition

1.2.1 Appraisal Definitions

Appurtenance. Something that has been added or appended to a property and has since become an inherent part of the property; usually passes with the property when title is transferred.⁷

Correlative. In a mutual or complementary relationship.⁸

Improvements. Buildings or other relatively permanent structures or developments located on, or attached to, land.⁹

⁶ <http://www.swrcb.ca.gov/waterwords.html>, SWRCB web site

⁷ Appraisal Institute, *The Dictionary of Real Estate Appraisal*, 4th ed., (Chicago: Appraisal Institute, 2002), p. 17.

⁸ Encarta Dictionary, http://encarta.msn.com/dictionary_/correlative.html

⁹ Appraisal Institute, *The Dictionary of Real Estate Appraisal*, 4th ed., (Chicago: Appraisal Institute, 2002), p. 142.

Intangible Property (Intangible Assets). Nonphysical assets including, but not limited to, franchises, trademarks, patents, copyrights, goodwill, equities, securities, and contracts, as distinguished from physical assets such as facilities and equipment.¹⁰ (underline emphasis added)

Partial interest. Divided or undivided rights in real estate that represent less than the whole.¹¹

Personal Property. Identifiable tangible objects that are considered by the general public as being personal, for example, furnishings, artwork, antiques, gems and jewelry, collectibles, machinery and equipment; all tangible property that is not classified as real estate.¹²

Personal Property. Consists of every kind of property that is not real property; movable without damage to itself or the real estate; subdivided into tangible and intangible.¹³

Real Estate. An identified parcel or tract of land, including improvements, if any.¹⁴

Real Property. The interests, benefits, and rights inherent in the ownership of real estate.¹⁵

1.2.2 Legal References

Water

Unless otherwise noted, the following excerpts come from Water Rights Laws in the Nineteen Western States, Volumes I and II, written by Wells A. Hutchins and published in 1971 by the U.S. Department of Agriculture.

Water flowing in a natural stream is not the subject of private ownership. Private rights that attach thereto – whether appropriative or riparian – are strictly usufructuary rights to take the water from the stream into physical possession for the purpose of putting it to beneficial use. This, in western water law...is a very old and well-established principle. (page 137, Volume I)

One of the “first principles” of the law of watercourses...is that the running water of a natural stream is, as a *corpus*, the property of no one – variously expressed as being in the “negative community,” “common,” “*publici juris*,” “the property of the public,” or “the property of the State in trust for the people.” (page 140, Volume I)

The foregoing principle, so well settled in the arid and semiarid regions of the country recognizes, of course, that denial of private ownership in the *corpus* of the flowing stream water does not preclude but, on the contrary, is expressly subject to the existence and protection of valid private rights to capture, possess, and beneficially use the public waters [footnote omitted]. (page 141, Volume I)

¹⁰ The Appraisal Foundation, Uniform Standards of Professional Appraisal Practice, 2005 ed., (Washington, DC, 2005) p. 3.

¹¹ Appraisal Institute, The Dictionary of Real Estate Appraisal, 4th ed., (Chicago: Appraisal Institute, 2002), p. 209.

¹² The Appraisal Foundation, Uniform Standards of Professional Appraisal Practice, 2005 ed., (Washington, DC, 2005) p. 4.

¹³ Appraisal Institute, The Dictionary of Real Estate Appraisal, 4th ed., (Chicago: Appraisal Institute, 2002), p. 212.

¹⁴ The Appraisal Foundation, Uniform Standards of Professional Appraisal Practice, 2005 ed., (Washington, DC, 2005) p. 4.

¹⁵ Ibid

The right to take water from a public stream into private possession under either the doctrine of appropriation or the riparian doctrine is a strictly usufructuary right. [footnote omitted] Said the California Supreme Court in the landmark riparian rights case of *Lux v. Haggin*: “As to the *nature* of the right of the riparian owner in the water, by all the modern as well as ancient authorities the right in the water is *usufructuary*, and consists not so much in the fluid itself as in its uses, including the benefits derived from its momentum or impetus.” [footnote omitted] From the earliest times, this usufructuary right, whether riparian or appropriative, has been consistently regarded and protected as property. [footnote omitted] (page 142, Volume I)

...in a series of cases, the California courts have held uniformly that water flowing in a natural channel is real property, a part of the land. [footnote omitted] That water in its natural situation upon the surface of the earth, whether as a flowing stream, as a lake or pond, or as percolations in the soil, is real property, will not be disputed. (page 143, Volume I)

The general rule is that one who diverts water from a natural stream pursuant to a valid right of diversion and use becomes the owner of the particles of water. (page 144, Volume I)

The rule in California is that water in canals and other artificial conduits or reservoirs does not become personalty as soon as it is diverted from its natural channel or situation, but usually retains its character as realty until severance from the artificial conduits is completed by delivery therefrom to the consumer; and that water in use in irrigation is not personal property.

...the California Supreme Court stated that where the right to water in pipes and the pipes themselves constitute an appurtenance to real property, which is usually the case, the water usually retains its character as realty until severance is completed by its delivery from the pipes to the consumer. [footnote omitted]

...Water diverted from a natural source of supply into artificial conduits for the purpose of conducting it to land for irrigation has been uniformly classed in California as real property, and it does not change its character from realty to personalty upon being delivered upon the land for the irrigation thereof. [footnote omitted]

...Water separated from the source or body of which it constitutes a part may be bought and sold like other commodities in the character of personal property, such as when it is supplied through artificial conduits for domestic use. The same reasoning applies to water supplied for industrial use. [footnote omitted] Hence, water delivered to an oil company for use in its drilling operations no more partakes of the characteristics of realty than does domestic water delivered by a municipality to its inhabitants for use within their homes or to an industrial plant for use within its factory. In this case, such water was held to have become severed from the real property on which it was produced, and to have become personalty. (pages 149-150, Volume I)

Water Rights

The previous excerpts refer to the classification of the water itself. The following ones refer to the water rights involved.

Water rights traditionally have been considered as rights in real property. *San Bernardino v. Riverside* (1921) 186 Cal. 7, 13; *San Francisco v. Alameda County* (1936) 5 Cal.2d 243, 245-247. A riparian right is “part and parcel” of riparian land, and the right to the flow is real property. *Title Ins. & Trust Co. v. Miller & Lux* (1920) 183 Cal. 71, 81. Real property remedies are therefore available for riparian rights. *Miller & Lux v. Enterprise Canal & Land Co.* (1915) 169 Cal. 415, 444. An appropriative right is also an interest in real property. *Wright v. Best* (1942) 19 Cal.2d 368, 382. Thus, appropriative rights may be, but are not necessarily appurtenant to the land. If they are appurtenant, the right is incidental to the land. *Wright*, pages 377-378. Percolating water rights are also real property rights. *Stanislaus Water Co. v. Bachman* (1908) 152 Cal. 716, 725. The right to use percolating waters is part and parcel of the land. *Pasadena v. Alhambra* (1949) 33 Cal.2d 908, 925; *Rank v. Krug* (S.D. Cal. 1950) 90 F.Supp. 773, 787.¹⁶

Appropriative

...the appropriative right is a right of beneficial use, a usufruct only, and hence it does not include an ownership of the *corpus* of water while still in the natural source of supply. A necessary result is that (a) ownership of a private appropriative right and (b) ownership of the public water to which the right relates are entirely different things.

...Pragmatically, the important principle is that private ownership of stream water while in its natural environment does not exist; but private rights to extract and use such waters under State supervision and control in the exercise of its police powers – do exist, and they are property rights. (pages 442-443, Volume I)

The appropriative right is a species of property. – At the beginning of the development of water law in California – in the earliest years of statehood – it was established that the right which an appropriator gains is a private property right, subject to ownership and disposition by him as in the case of other kinds of private property (footnote omitted).

This view of the property nature of the appropriative right has been consistently taken by the western courts that have had occasion to pass upon or to discuss it (footnote omitted). (page 151, Volume I)

The appropriative right is real property. – In 1894, the Wyoming Supreme Court said:

Thus it seems that the doctrine is very general in the states of the arid region that a water right becomes appurtenant to the land upon which the water is used, and the ditch, water-pipe, or other conduit for the water, becomes

¹⁶ Littleworth, Arthur L. and Garner, Eric L., *California Water*, Solano Press, Point Arena, California, 1995, p 27

attached to the land either as appurtenant, or incident to the land and necessary to its beneficial enjoyment, and therefore becomes part and parcel of the realty (footnote omitted).

In one of its earliest water rights decisions, the California Supreme Court held that the right of prior appropriation and use of water “has none of the characteristics of mere personalty.”¹⁷ The rule that the appropriative right is an interest in real property is recognized generally throughout the West (footnote omitted). (page 152, Volume I)

Generally Appurtenant, but Severable. Of general application in the West is the rule that an appropriative right becomes appurtenant to the land for the benefit of which the water is applied. ...In most jurisdictions the right may be severed from the land to which it became initially appurtenant and, subject to certain conditions, it may be transferred to and become simultaneously appurtenant to other land. (page 455, Volume I)

Some individual State situations. - ...(2) California. By contrast with the riparian right, the appropriative right is not inseparably annexed to the land as part and parcel of it, but is separable and alienable from the land to which it became initially appurtenant.¹⁸ (page 457, Volume I)

Riparian

That the riparian right is real estate has been acknowledged uniformly by the courts of the West that have had occasion to pass upon or to discuss the property nature of the right.

...The right of a proprietor of riparian land in a riparian rights jurisdiction to have the water flow to his land to meet the requirements of his water right as recognized in the jurisdiction is annexed to the soil, not as a mere easement or appurtenance, but as part and parcel of the land itself. (pages 155-156, Volume I)

Groundwater

The right to use percolating water, as well as the *corpus* of the water itself, is real property (footnote omitted). In *Pasadena v. Alhambra*, the California Supreme Court stated that the “overlying right,” or right of the owner of the land to take water from the ground underneath for use on his overlying land, “is based on ownership of the land and is appurtenant thereto (footnote omitted). (pages 669-670, Volume II)

The California Doctrine of Correlative Rights. The doctrine of correlative rights to the use of percolating waters in California accords to each owner of land overlying a common water supply a right to the reasonable beneficial use of the water of that supply on or in connection with his overlying land. Such right of use of each landowner is correlative with similar rights of all other

¹⁷ Hill v. Newman, 5 Cal. 445, 446 (1855). More recently An appropriative right constitutes an interest in realty. Wright v. Best, 19 Cal. (2d) 368, 382, 121 Pac. (2d) 702 (1942).

¹⁸ Wright v. Best, 19 Ca. (2d) 368, 382, 121 Pac. (2d) 702 (1942).

overlying owners. An insufficient supply may be apportioned among them by a court decree. Any surplus may be appropriated for nonoverlying uses. (page 670, Volume II)

Discussion and Conclusions

Percolated Groundwater: Groundwater rights are one of the real property interests in the real estate overlying the groundwater basin. They are correlative with other overlying landowners. If a groundwater basin produces yield in excess of the amount that can be beneficially used by the overlying landowners, then the excess is available for appropriation by other entities.

No license is required from the SWRCB before exercising a groundwater right, and this right is not lost through non-use.

Groundwater and groundwater rights may be available for transfer provided the conditions presented in Section 1.3.3 of this document are met. Research must also be done into the restrictions of local ordinances on this issue before reaching conclusions regarding legality of transfer. Many counties already have such ordinances in place. An increasing number of groundwater basins have groundwater management plans in effect that also could pose restrictions on the groundwater right.

Riparian: Riparian water rights are one of the real property interests in the real estate adjoining the water source. Riparian rights are generally correlative with other riparian rights and are not junior to appropriative rights regardless of date of first use.

No license is required from the SWRCB before exercising a riparian right, and this right is not lost through non-use.

Exceptions to the preceding statements could exist if a water source has been adjudicated.

Unless reserved in the title documents associated with a subdivision of a riparian parcel, any new parcel that no longer has frontage on the water source loses its riparian right. Riparian rights cannot be gained for a non-riparian parcel by merging with a riparian parcel.

Riparian rights cannot be separated from the real estate of which they are a part, and therefore, cannot be transferred.

The Layperson's Guide to Water Rights Law, Water Education Foundation, 2000, makes the following statement about riparian rights:

To allow water to be put to its most reasonable and beneficial use, the courts have permitted riparians to agree not to use water to which they are entitled so others may claim the water under another right. When such an arrangement is made, the riparian right holder usually is compensated in a manner very similar to a sale of the water right. When the purchaser is an appropriator, his priority depends on the date of his appropriation in relation to other appropriators on the waterway.

If this were true, then riparian rights would, for all intents and purposes, be transferable. However, a recent communication with a Department of Water Resources executive staff member who has a long-term involvement in water transfers indicates that there is no legal means for ensuring that other diverters do not capture the unused riparian water.

Appropriative: While the water is in its naturally occurring location, it is not owned by any private party. Upon the exercising of an appropriative water right, the water is diverted from its natural location and becomes owned by the legal diverter. When the intended use of the diverted water is for application to a parcel of land, then the appropriative water right is appurtenant to that parcel. In this case the water is considered part of the real estate from the moment of diversion through the time of final application to the land.

The appropriative right is, however, severable from one parcel and transferable to another. If the appropriative right is by means of a license to divert issued by the SWRCB (i.e., post-1914 right), then the SWRCB must approve all modifications in point of diversion, place of use, and purpose of use. If the right is pre-1914, then the SWRCB is not involved. However, any other water right holder who considers their water right to be harmed by a transfer of pre-1914 water rights can seek relief from the courts.

If an appropriative water right is not intended for application of water to a specific parcel of land, but for municipal and industrial use, then the water becomes personal property when it is delivered to the customer.

Contractual Entitlements: Contractual entitlements are not water rights, but they are linked to a water right. The entity that has an appropriative water right has entered into a contractual agreement with a second entity to deliver up to a certain amount of water, if it is available. The second entity (contractor) then is said to have a contractual entitlement for the specified amount of water. There is usually a point of delivery specified where the water will be delivered. Fixed costs (infrastructure related) and variable costs (operations and energy for pumping related) are associated with the entitlement. Contractual entitlements may cascade down to other contractors further down the delivery system by means of additional contracts.

It is common for a contractual entitlement to be associated with a parcel of land and to transfer with the land. However, it is not part of the real estate and, therefore, not a real property interest in the real estate. By definition, a contractual entitlement is *intangible property*.

Dedicated Instream Water (1707 Water): Section 1707 (a) (1) of the California Water Code states that:

Any person entitled to the use of water, whether based upon an appropriative, riparian, or other right, may petition the board....for a change for purposes of preserving or enhancing wetlands habitat, fish and wildlife resources, or recreation in, or on, the water.

Essentially, the purpose of use of a water right that was being used on a parcel of land can be changed to benefit wildlife. Usually this is done by foregoing the right to divert the water from a stream. This is considered a reasonable and beneficial use, and the ownership of the water right would not be lost through disuse.

It would appear that such a water right has been separated from the real estate to which it was formally an appurtenance. Is it therefore no longer a real property interest in any real estate?

An informal opinion of an attorney with the Board consisted of:

There appears to be no specific prohibition in the Water Code to filing a petition to revert water currently released under section 1707 to a consumptive use. The petitioner would have to file a petition with the Division to change the purpose of use. Also, if the petitioner wished to use the water in a different place of use, this would also have to be included in the petition. Obviously, a California Environmental Quality Act (CEQA) analysis would have to be completed, and, possibly, a water availability analysis as well, if the water were to be diverted for a consumptive use, thus changing the total streamflow regime. The petition would be publicly noticed, with a protest period, etc., just as in any other petition.

One exception to this might be if the applicant had agreed to make specific bypass flows or releases for the purpose of habitat management; maintenance of temperature, dissolved oxygen or other water quality parameters; etc., in order to get the rest of the project approved. In this case, the permittee would probably NOT be able to revert the instream beneficial use water to other purposes. However, these releases/bypasses would also probably not be included as part of a section 1707 agreement, but rather as specific mitigation measures under CEQA, ESA, CESA, etc., incorporated as terms and conditions in the permit.

If the water right, or the associated physical water, had become personal property, none of the restrictions or requirements listed above for using it elsewhere would apply.

Consequently, while it is dedicated to instream use, the water right may not be a real property interest, although it has the potential of being restored to that condition. Any valuation of a 1707 water right would have to examine all of the economic uses to which it could be put, including reversing the dedication, and consider the costs and risks of reversing the dedication.

Because of the expense and risks associated with attempting to reverse an instream dedication, a seller of a water right would not be prudent to initiate the dedication process even if the buyer is a public agency acquiring the right for exactly that purpose. The acquiring agency should be the one that applies for change of purpose after close of escrow in the transaction.

Any private party looking to acquire a water right for economic purposes could be expected to be reluctant to acquire a 1707 water right because of the difficulty of gaining the right to use the water for other purposes. At a minimum the price would be discounted to consider risk and cost of reversing the dedication process.

1.3 Transfers of Water Rights

You can transfer water if it is your water and not somebody else's water, provided the transfer does not injure another water right holder or unreasonably affect instream beneficial uses. – A Guide to Water Transfers

1.3.1 Prescriptive

Once a prescriptive water right has ripened, it would simply be treated as an appropriative right.

1.3.2 Pueblo

Pueblo rights could consist of a combination of surface water rights and groundwater rights. It is highly unlikely that these rights will ever be available for sale or lease, so they will not be discussed further.

1.3.3 Groundwater

Unless groundwater is flowing in a defined channel underground, a rare occurrence, the SWRCB does not issue licenses associated with its extraction. For appraisal purposes, rights to such defined-channel groundwater should be valued in a manner similar to surface water rights.

Landowners have a right to tap into the groundwater under their lands. There are also situations where groundwater may be used on non-overlying lands. Such appropriation of groundwater is conditional upon no overdraft condition being created, and it is also subject to future needs of overlying landowners.

Because of political considerations, it appears highly unlikely that a public agency utilizing these guidelines would be appropriating groundwater rights or acquiring appropriated groundwater rights from another party. Therefore, this situation will not be addressed at this time. It should be noted that appropriation of groundwater is different from acquiring existing groundwater rights for overlying lands, ceasing use on those lands, and transferring the conserved water elsewhere.

There are a few groundwater basins that have been adjudicated where groundwater rights are bought and sold apart from the land. See DWR website:

http://www.dpla2.water.ca.gov/publications/waterfacts/water_facts_3.pdf

In adjudicated basins, the total extractions allowed are generally equal to the total annual yield of the basin. There is frequently a well-defined market for these rights, especially if a growing urban entity has been acquiring them. Transfers can be effected by reducing pumping at one location in the basin and increasing pumping by a like amount at another point.

Transfer of non-adjudicated percolated groundwater is possible under certain conditions. Also, a landowner who has access to both surface water and groundwater can transfer the surface water and replace it with groundwater, again under certain conditions.

The paper, Water Transfer Issues in California: Final Report to the California State Water Resources Control Board by the Water Transfer Group, June 2002, addressed the issue of transfers of percolated groundwater in Section 7. The paper is available at:

[http://www.calwater.ca.gov/Programs/WaterTransfers/adobe_pdf/Final_Report%20 Water Transfer Group.pdf](http://www.calwater.ca.gov/Programs/WaterTransfers/adobe_pdf/Final_Report%20Water%20Transfer%20Group.pdf)

The excerpt immediately following titled “Section 7. Issues Associated with Transfer of Water Percolated Underground” through end of the excerpt on page 1-14 is the entirety of Section 7 from that document and best summarizes the issues and complexities of groundwater transfers. Note the underlying principles of consumptively used water being available for transfer and no harm to other parties.

Section 7. Issues Associated With Transfer of Water Percolated Underground¹⁹

Water Code sections 484 and 1725 specifically identify consumptively used water that is available for transfer to include water that has percolated underground.

484. (a) The temporary transfer of any water or water right that otherwise would have been consumptively used or stored by the transferor in the absence of the temporary transfer, does not in any way prejudice the transferor’s right to the use of the water in the future. (b) *Consumptively used, for purposes of this section, means the amount of water which has been consumed through use by evapotranspiration, has percolated underground, or has been otherwise removed from use in the downstream water supply as a result of direct diversion.*(emphasis added)

1725. A permittee or licensee may temporarily change the point of diversion, place of use, or purpose of use due to a transfer or exchange of water or water rights if the transfer would only involve the amount of water that would have been consumptively used or stored by the permittee or licensee in the absence of the proposed temporary change, would not injure any legal user of the water, and would not unreasonably affect fish, wildlife, or other instream beneficial uses. *For purposes of this article, consumptively used means the amount of water which has been consumed through use by evapotranspiration, has percolated underground, or has been otherwise removed from use in the downstream water supply as a result of direct diversion.* (emphasis added)

Definition of Water That Has Percolated Underground

Both Water Code sections 484 and 1725 define consumptively used water to include water that has percolated underground or has been otherwise removed from use in the downstream water supply. The phrase or has been otherwise removed clarifies that only the portion of the underground percolation that is removed from the downstream supply qualifies as

¹⁹ The sections of this report were drafted by groups of participants, some large and some small. Early in the process, a ground rule was developed: the conclusions and opinions expressed in the report are not endorsed by all participants, nor are they necessarily majority opinion or position. The sections presented in this report nonetheless are useful in outlining various positions and perspectives, some of which evolved after much discussion. Others more closely reflect the perspective of one or a few participants.

consumptive use under the Water Code. The portion of underground percolation that makes its way back to useable water supplies downstream does not qualify as consumptive use as defined in the Water Code. The Water Code definition of what aspects of underground percolation constitute consumptive use is consistent with the technical definition of consumptive use as water lost from the overall water supply system. Further, all water transfers must not cause injury to other legal users of water. The transfer of underground percolation that, absent the transfer, would have ultimately returned to the surface streams or useable groundwater supplies could cause injury to surface water or groundwater users. Therefore, the consumptive use portion of underground percolation is best defined as either:

1. Water that percolates underground from a use and becomes unavailable for other beneficial uses (for example, percolates to a saline sink), or
2. Water that percolates underground from a use and is not relied upon for subsequent use downstream or down gradient.²⁰

In the latter case, an analysis to determine if the transfer would injure any legal user of the water, or unreasonably affect fish, wildlife, or other instream beneficial uses would be required.

Potential Effects of Transferring Percolated Water

Transferring water that would otherwise percolate underground to useable water sources could affect other beneficial uses and legal water users in several ways, including:

1. Directly reducing the volume of water that reenters a downstream surface waterway where the groundwater is hydrologically connected to the surface waterway;
2. Indirectly reducing the volume of water that enters a downstream surface waterway by reducing the hydraulic head which influences the volume and rate of groundwater entering a surface waterway; and
3. Reducing groundwater recharge induced by irrigation practices.

The following factors contribute to the period of time in which a reduction in surface flow, resulting from implementation of a transfer, could be observed:

- Distance to the waterway
- Seasonal hydrologic continuity
- Other groundwater pumping
- Geologic conditions

²⁰ Minimal or insignificant impacts may not be valid grounds to prevent an otherwise beneficial transfer under Article X, section 2 of the California Constitution.

These factors, among numerous other influences, complicate the interaction of groundwater with surface water to the degree that there is no concise way to estimate the effect of transferring percolated groundwater on a general basis. Site-specific evaluations are needed to portray the relationship of this interaction in a specific geographic area.

For example, in areas of the San Joaquin Valley, irrigation water percolates underground, combining with unusable groundwater, which contributes to local high water tables that can damage agricultural productivity. In these areas, reductions in percolation of water beyond the root zone benefits other uses of water. Such reductions in percolated water would be transferable. However, in the Sacramento Valley, most of the water that percolates underground either flows to usable groundwater or makes its way back to the river system. Specific studies would be needed in the Sacramento Valley to identify exceptions, including areas of salt sinks where water percolates underground and is no longer useable.

Effects to Legal Users of Water

Surface Water Users

The transfer of water that, absent the transfer, would have percolated underground and ultimately made its way to usable surface water supplies could constitute an injury to other legal users of water. Downstream water diverters make use of this percolated water in a manner similar to that which would have occurred absent the appropriation of water. Therefore, downstream users could be injured if the underground percolation component of the appropriation was identified and transferred in a manner that precluded its use by the downstream water user.

Groundwater Users

Irrigation practices can induce recharge to a useable groundwater basin greater than that which would have taken place absent the appropriation of water. The transfer or reduction of this artificial recharge could affect other groundwater users. However, this effect may not constitute legal injury because, absent the appropriation, this artificial recharge would not occur. The effect of the reduction or transfer of this artificial percolation on groundwater users should be identified in the appropriate CEQA document and mitigated where feasible. However, these effects may not constitute injury under the Water Code.

The topic of groundwater transfers is also addressed in Chapter 7 of [A Guide to Water Transfers](#) (Draft). This was produced by the Division of Water Rights of the State Water Resources Control Board in July 1999. Available at:

http://www.watertransfers.water.ca.gov/geninfo/geninfo_index.cfm

The following excerpt is taken from that document.

Use of Groundwater in Lieu of Surface Water

In some areas of the State water users have access to both surface water and to usable groundwater. In these areas the use of surface water is often cheaper than pumping groundwater or the water quality of the surface water is better. Therefore, the surface water is often the preferable water source. However, the overall water supply of the system can be expanded if the surface and groundwater supplies are used together or conjunctively. In cases where groundwater is pumped in lieu of surface water, water users forego their surface water so it can be used by others while the original water users pump groundwater. In these cases the surface water is transferred to another user downstream and the transferor is compensated for the extra costs of pumping the groundwater. There can also be impacts to other groundwater users by such a practice that would not occur without the transfer.

The document goes on to emphasize that local groundwater management plans must be considered and that the no-harm principle must apply as well. Transfers of banked groundwater are discussed.

Direct transfers of groundwater are discussed, including the many obstacles that exist to out-of-basin transfers of such water.

Finally, the paper, [Groundwater Substitution Transfers - How to Make Them Work in the Sacramento Valley in 2002](#), Water Transfer Office, California Department of Water Resources, March 2002, addresses groundwater transfers and is quoted below. The document is available at:

http://www.watertransfers.water.ca.gov/docs/Groundwater_Substitution_Transfers_5_23_02.pdf

California law protects the surface water rights of water users who engage in groundwater substitution transfers. Also, overlying users of groundwater, including those with access to surface water, do not lose the right to use their underlying groundwater supplies for reasonable and beneficial use simply because they have access to surface water.

California law protects other existing water users, the environment and (in many cases) the source area economy when water is transferred [footnote omitted]. Groundwater substitution transfers have the potential to cause injury to other local groundwater users due to the additional groundwater pumping needed to allow the surface water transfer to take place. Injury can also occur to downstream water users due to the interaction between the

surface and subsurface components of the water system if all or a portion of the additional pumped groundwater reduces stream flows at a time when it is used by downstream users.

The rationale behind a groundwater substitution transfer is that surface water demands are reduced because a like amount of water from an alternative source, in this case groundwater, is used to meet these demands. The unused surface water is then transferred to other users. Typically, the amount of water credit given such a transfer is the amount of the increased pumping that takes place to support the transfer. This credit assumes there is no interaction between the surface water and the groundwater that is affected by the additional pumping for transfer. If there is interaction, then the extraction of groundwater is not truly an alternative source to the surface water supply and the net surface water flows will not increase as assumed.

...Significant accretions and depletions in surface water flow due to groundwater flow occur along the Sacramento River. Normal groundwater pumping likely affects these flows and such effects are allowable under current California water law. However, if a party wishes to transfer surface water by virtue of the use of an alternative water supply, that party needs to establish that the supply is truly an alternative one to the surface water system during times of importance to downstream water users.

The paper goes on to stipulate what steps must be taken to ensure that the groundwater being substituted for the surface water is from an alternate source. The requirements can be extensive and expensive.

Any agreement for purchasing groundwater directly, or surface water with associated groundwater substitution, should be carefully considered by the buyer. Monitoring costs and potential reductions in water available for transfer because of connectivity between surface water and groundwater could dramatically impact sale price and quantity of water purchased. This could also be a very sensitive issue politically.

The most recent DWR publication that discusses groundwater on both a statewide and on a hydrologic region basis is: California's Groundwater, Bulletin 118, Update 2003. This is available on the web at:

<http://www.groundwater.water.ca.gov/bulletin118/update2003/index.cfm>

Groundwater Substitution and Transfers

This topic has been addressed at several locations on the previous pages and is summarized here. Groundwater that has been used on overlying land can be transferred for use at another location, including instream, provided that only the amount that has been consumptively used is transferred. If the historical use has been for irrigation, then the amount available for transfer would be the ETAW (evapotranspiration of applied water). The ETAW on overlying land must be reduced by an amount equal to the volume of water transferred. If additional groundwater, over and above the amount conserved, is to be transferred, then it must be proven to come from wells that are not hydrologically connected to surface water (see additional comments on this issue in the next paragraph).

If surface water that has been used on a parcel of land is to be transferred and replaced by groundwater use, then this arrangement is groundwater substitution. Paramount to the legality and approval of such an arrangement is that no other water right holder is damaged by the transfer. The groundwater being developed must be proven to not be interconnected to surface water. Research and monitoring costs could be substantial in such cases. Even if no connectivity exists with surface water, other groundwater users could be harmed by an increase in the depth to groundwater and therefore an increase in pumping costs. Great care should be exercised before entering into agreements to replace surface water with groundwater to avoid situations where far less water is made available at a far greater price than anticipated.

1.3.4 Riparian

As the previous text indicated (see Section 1.2.2), riparian rights are associated with lands that are adjacent to a water source. It should be noted, however, that the water for riparian lands may be extracted on another ownership, generally upstream, and delivered to the uphill portion of the property by means of canals or pipelines from which gravity irrigation could take place. Therefore, a riparian right may have the appearance of an appropriative right because the water is extracted off-site. If the land being irrigated has frontage on the stream from which the water comes, it is probable that a riparian right is being exercised. The exact nature of the water right being valued must be understood. The appraiser should never assume anything about the water right unless directed to do so by the client. Such assumptions must always be presented prominently in the report as Extraordinary Assumptions.

Another situation could arise whereby water is extracted from a tributary stream and used to irrigate land that fronts on the main stream. Even though functionally it is a matter of indifference whether the irrigation water was withdrawn from the tributary or the main-stem, it is probable that the right is appropriative. If that is the case, then an interesting situation exists whereby the holder of the appropriative water right may want to sell it and irrigate directly from the main-stem by means of a riparian right. In that case, downstream water right holders could very well be harmed. Because of the no harm rule, it is unlikely that the transfer would be allowed.

Even if it were allowed, this would not be a situation with which any public agency would want to be involved. The in-stream benefit would be so brief that the cost-benefit ratio would probably not support the expenditure of public money.

Public agencies that have explored the riparian water right issue have sometimes been frustrated because of the fact that the right cannot be separated from the land. Dedicated in-stream water (1707 water) can come from a riparian right (see page 1-9 of these Guidelines).

Other than in-stream dedication, there appear to be only two ways that riparian water rights can be transferred to the benefit of in-stream use. The first, and most obvious, is to purchase the land outright. It would then belong to the agency to manage as it wishes. Any water not used on the property would remain in the stream. This would benefit in-stream needs. However, it would also be available for any downstream appropriator or riparian user because the conserved water would be part of the natural flow of the stream. Therefore, the in-stream benefit may be short-lived apart from diligent enforcement efforts.

The transfer of the riparian water right could also be by means of a conservation easement. The easement could specify certain hydrologic conditions under which the land owner would need to leave the land fallow. The same drawback exists for this approach as for the previous one regarding the inability to keep the water in the stream in the face of downstream water right holders' capacity to extract it. In essence, the economic use of the water would be simply shifted to one or more downstream locations. Again, the cost-benefit ratio would have to be considered.

1.3.5 Appropriative

In California, all appropriative water rights have a priority associated with them. Information from the SWRCB web site indicates that:

Prior to 1872, appropriative water rights could be acquired by simply taking and beneficially using water. The priority of the right was the first substantial act leading toward putting the water to beneficial use provided the appropriation was completed with reasonable diligence; otherwise, priority did not attach until beneficial use of the water commenced.

In 1872, sections 1410 through 1422 of the California Civil Code were enacted. These sections established a permissive procedure for perfecting an appropriation of water. Provisions were made for establishing a priority of right by posting a notice of appropriation at the proposed point of diversion and recording a copy of the notice with the respective County Recorder. If these procedures were not followed, the pre-1914 appropriative right did not attach until water was beneficially used.

After December 19, 1914, the SWRCB had to issue a permit, or license to divert, before a legal appropriation of water could take place. The priority date associated with the water right is the date of the permit.

A license to divert will specify the:

- point of diversion
- time period when diversion can take place
- quantity of water that can be diverted, usually in cubic feet per second
- intended place of use
- intended purpose of use

The licensee is supposed to report to the SWRCB every year how much water was diverted and when the diversion took place. Riparian and pre-1914 water right holders are also supposed to report, but there is no penalty for non-reporting in their cases.

If a water source has greater flows or yields than the amount that has been legally appropriated, then new appropriations may be granted to applicants. When the natural flows are insufficient to fulfill all of the existing appropriations in a particular year, then the most junior (recent) water right holders must refrain from diversion until the rights of the senior holders are fulfilled. Consequently, the more senior the right, the more reliable it is considered.

Pre-1914 water rights are not under the jurisdiction of the SWRCB and, therefore, do not need the Board's approval for transfer. However, the no-harm rule to other water right holders still applies. The injured party would have to seek remedy in the courts, not before the Board.

The Water Transfer Decision Tree, displayed as Figure 1 on page 2-3 of A Guide to Water Transfers and replicated on the following page, shows the process that must be followed for transfers of the various types of water rights involved. Specific sections of the Water Code are referenced.

Short-term transfers (one year or less) are relatively straight-forward and gain rapid approval while long-term or permanent transfers are much more complicated and are subject to greater scrutiny.

The following summary of the Board's requirements for a long-term transfer is taken from Water Acquisition Handbook, the Trust for Public Lands, page 22:

Like short-term transfers, a long-term water transfer involves changing the point of diversion, the place of use, or the intended purpose of the water. The only difference is that the period of change exceeds one year [footnote reference to Water Code Section 1735]. As always, the transfer may not injure any legal user of water or unreasonably affect fish, wildlife, or other instream beneficial uses.

Long-term transfers, unlike short-term transfers, are subject to the requirements of CEQA. Depending on the circumstances, the documentation requirements can range from a simple declaration of "no significant environmental impact" to the development of a full environmental impact report....

In reviewing a proposed long-term transfer, the SWRCB must provide public notice of the proposal and an opportunity for a hearing on it. This process can take months. If the parties involved cannot resolve valid protests to the proposed change through negotiations, then the SWRCB must hold a hearing prior to the approval or denial of the requested transfer. Protests are generally considered valid by the SWRCB if the protesting party can show that there is a possibility of injury to other water rights. The petitioner has to attempt to resolve the protests, and such attempts at resolution are often successful. The assistance of attorneys, engineers, and SWRCB staff can be invaluable during this phase.

The appraiser must understand the hurdles, risks, and costs associated with a proposed transfer of the water right being appraised, and also of any comparable sales used. These items should be kept in mind in adjusting comparable sales to the subject.

Regarding transfers in general, quoting from page 1-1 of A Guide to Water Transfers:

When one stands back from all the existing rules and regulations related to water transfers, a rather simple general rule emerges, You can transfer water if it is your water and not somebody else's water, provided the transfer does

not injure another water right holder or unreasonably affect instream beneficial uses.

One of the fundamental principles involved in determining the amount of water available for transfer is the amount that has been consumptively used in the past, i.e., lost to the system through evaporation, transpiration, or percolated into a salt sink (see page 1-14). The burden is on the party proposing the transfer to present evidence of consumptive use.

1.3.6 Contractual Entitlements

Contractual entitlements are tied by contract to an appropriative water right. Consequently, all of the seniority associated with the water right is passed on to the contractor. The SWP and CVP hold water rights for diversion out of the south Delta and pass on the water through entitlements to contractors south of the Delta. Because of recent developments of a political and legal nature, the SWP and CVP are generally not able to deliver full entitlement amounts to their contractors. Both of these projects also have contractors north of the Delta, and those deliveries tend to be closer to full entitlement amounts.

Chapter 4, Surface Water – Contract Supply, [A Guide to Water Transfers](#), deals with transfers involving CVP and SWP entitlement water, as well as other irrigation districts. Usually, the Board does not have to get involved in transfers between contractors under the same umbrella water right, e.g., one SWP contractor to another, or between farmers within the same irrigation district.

However, the specific contractual entitlement being considered for transfer must be analyzed as to what the opportunities and obstacles are for it. Whether the entitlements are transferable to non-contractors must be investigated on a case-by-case basis. Frequently they either are not, or the other peer contractors must be given a right of first refusal. If a transfer to a non-contractor is allowed, the contractors not involved in the transfer will pay great attention to ensure that their financial position is not impacted negatively by the transfer.

Any assumptions made in this regard must have the client's pre-approval, and the consequences of those assumptions being wrong must be explained in the report.