EVALUATING AND PROTECTING ENVIRONMENTAL WATER ASSETS

A GUIDE FOR LAND CONSERVATION PRACTITIONERS

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Disclaimer: *This document is a general guide to approaches for managing water rights and water resources for conservation purposes in California. While it discusses water rights and water-related legal issues, this document is not intended as a definitive or authoritative legal guide. Water rights and water law in California are complex and often depend on the specific circumstances involved. Accordingly, the statements and conclusions presented are not intended as legal advice on any issue or question. The advice of a water law attorney should be obtained when making decisions or taking actions with respect to legal issues related to the existence and use of water or water rights.*

Chapter 1

INTRODUCTION

Purpose

This guide provides land trust staff and other land acquisition practitioners with information about key aspects of water rights.

It presents a suite of important tools to protect ***environmental water assets*** in order to maximize the ecological outcomes of lands acquired and/or managed for conservation purposes.

Like land, water rights are real property that can be bought, sold, and encumbered. If an organization acquires a land interest (e.g., through a conservation easement or fee simple acquisition of a property) with ***conservation values*** that depend on water resources which are impacted by the way water is used, it is important to understand the type and status of water resources and ***water rights*** associated with the property and the surrounding watershed. In addition, it is becoming imperative to take action and utilize tools to align water and land management, to ensure that properties protected in perpetuity are resilient enough to endure the increasing pressures of climate change and the human population on the landscape.

Intended Audience

This guide is intended for conservation practitioners who acquire property interests in California, mainly in the form of conservation easements or fee-simple acquisitions. This includes individuals working for a wide array of public and private organizations, including, but not limited to, open space districts, land trusts, and other environmental organizations. While land trusts are not the only entities that acquire property interests for environmental conservation purposes, such activity is a primary focus for many land trusts; therefore, the term 'land trust' is utilized in this guide when referring to the more general audience to whom this document is speaking.

Format and Scope of Document

This guide is organized into chapters that can be read from beginning to end or selectively by the topic of interest.

Chapter 2 briefly describes the importance of ***environmental water assets***.

Chapter 3 provides a basic overview of the most common types of surface water rights in California, as well as the key elements and limitations associated with them, in order to provide the reader with a solid background understanding.

Chapter 4 outlines steps for conducting water resources and water rights ***due diligence*** for a candidate conservation property and describes a variety of tools that can be used to further enhance conservation outcomes.

Key due diligence efforts that are specific to fee-simple acquisitions are subsequently described in **Chapter 5**, while those specific to conservation easement acquisitions are described in **Chapter 6**.

Chapter 7 presents recommendations for effectively and efficiently integrating environmental water asset evaluation and protection approaches into an organization's existing standard land acquisition procedures and template documents.

A glossary of terms and an appendix listing additional resources are provided at the end of this document.

Words that are defined within the glossary are shown in ***blue italics*** the first time that they appear in the document. Words that are additionally defined in call-out boxes within the document are in ***bold blue italics*** the first time that they appear in the document. Website links provided for documents and informational resources that are noted within this document and are available online are shown in blue underlined text.

Key terms used throughout this guide:

Environmental water assets are both the physical water resources (e.g., streams, wetlands, springs) and the water rights (i.e., claims, permits, licenses, registrations) that support, or have the potential to support, the conservation values of a property acquisition.

Conservation values refer to the primary purpose for acquiring a real estate interest. These include ecological, social, economic, and other values that drive the land trust to acquire and protect the land.

Water rights are any rights to water codified in water law or statute. In California, this includes appropriative permits, licenses, and registrations, as well as both pre-1914 appropriative claims and riparian claims.

Due diligence is the act of taking reasonable steps to investigate and understand the physical and legal aspects of a property in order to make an informed decision about a property acquisition.

Chapter 2

IMPORTANT OF ENVIRONMENTAL WATER ASSETS

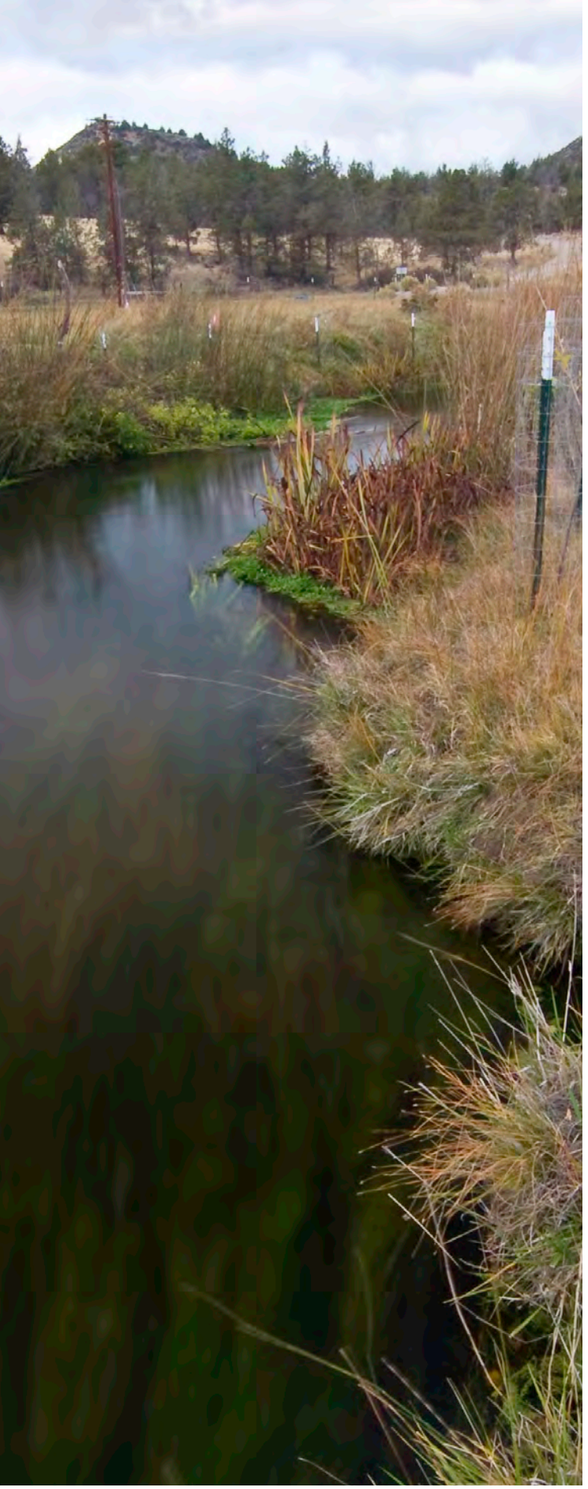
Connection to the Landscape

The landscape and its water resources are inextricably linked. Protecting one generally aids, at least partially, in the protection of the other.

Land trusts regularly acknowledge and address this link when they target the conservation of riparian corridors, wetlands, and other water-related features or habitat for aquatic and terrestrial water–dependent species by acquiring the land that contains them. Control of the legal parcel of land upon which water resources are located is certainly significant. Water resources, however, are dynamic liquid assets that often flow across parcel boundaries and do not abide by the same laws that govern land ownership. Thus, it is imperative to take steps to properly protect and manage them.

Acquiring and managing water rights and associated water resources outright, or otherwise ***conditioning*** water rights and associated water management options within a conservation easement, are important ways to protect the physical environmental water assets that support a landscape. Whether those lands are natural lands, working farms, or rangelands, there are tools available for protecting and enhancing their environmental water assets. In some situations, doing so provides a unique opportunity to conserve the environmental resources on the property while also protecting those resources downstream of the property's boundaries (as described in Chapter 4).

In this document, ***conditioning*** refers to the placement of any prohibition, restriction, or requirement upon any existing or potential future water right through easement language, formal water rights modifications, forbearance agreement, or other means.



Support Conservation Values

The conservation values for a land or easement acquisition often either explicitly include, or have a strong tie to, the presence and preservation of water resources. Even when water resources are not noted as a conservation value, the ability to sustain the conservation value often relies on the availability of, and access to, water.

Some examples include:

- **Riparian areas** to protect the high biological diversity they contain, to maintain wildlife habitat corridors, or to protect critical habitat to a specific species of interest
- **Habitat** for specific aquatic or water-dependent terrestrial species
- **Water-dependent ecological communities** such as rivers, streams, and wetlands for the beneficial functions they provide (e.g., water quality, flood attenuation, etc.)
- **Water-dependent ecological communities** such as rivers, streams, and wetlands for the aesthetic values they provide
- **Rangelands and agricultural lands** to enable ongoing operations and the resulting economic and ecologic services they provide

See Appendix A for specific resources that can help identify areas to prioritize conservation efforts within a region and/or assess the potential conservation attributes of a particular property.

Chapter 3

SURFACE WATER RIGHTS IN CALIFORNIA

Water Rights Overview

California has a unique and complex system of surface water rights administration that acknowledges multiple types of water rights. These include rights appurtenant to land containing or adjacent to a water course (i.e., riparian rights) and those allocated by the State Water Resources Control Board (Water Board) irrespective of the characteristics of the land upon which the water is diverted or used (i.e., appropriative rights). While water rights are complex, taking the time to learn some of their key characteristics and how to evaluate a property's water rights can vastly improve your understanding of the water assets associated with a property you wish to acquire. Knowing your options for managing or conditioning water rights associated with the property will help you take appropriate steps to secure and maintain these rights to sustain the conservation values of the property.

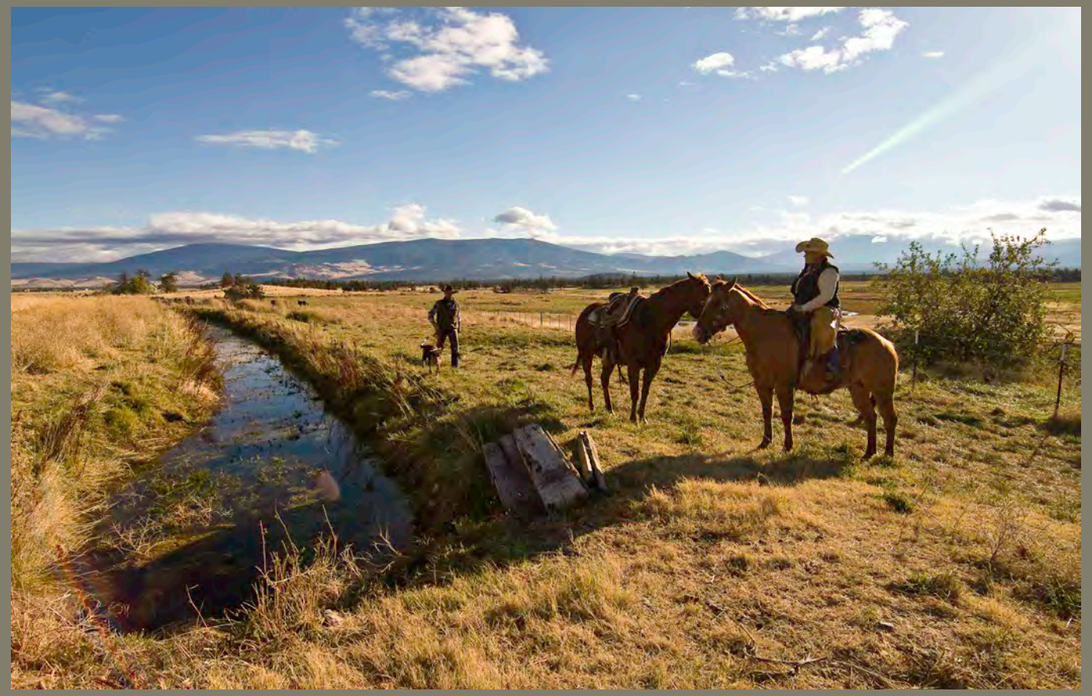
This guide only covers the basic water rights conditions and common scenarios most pertinent to evaluating and addressing water rights for land that is being acquired for conservation purposes. Other documents pertaining to California water rights are listed in the box to the right and in Appendix A. To review the specific laws and regulations governing water rights in California, see the Water Board's compilation of **Statutory Water Rights Law**[1] and excerpts from the **California Code of Regulations, Title 23**[2].

Additional water rights resources

- A Guide to Water Rights in California for Small Water Users (TU, 2019)
- A Practitioner's Guide to Instream Flow Transactions in California (SWIFT Working Group, 2016)
- Layperson's Guide to Water Rights Law (WEF, 2013)
- Water Acquisition Handbook: A Guide to Acquiring Water for the Environment in California (TPL, 2005)

[1] *https://www.waterboards.ca.gov/laws_regulations/docs/wrlaws.pdf*

[2] *https://www.waterboards.ca.gov/laws_regulations/docs/wrregs.pdf*



Water rights *In California are any rights to water codified in California water law or statute. This includes appropriative permits, licenses, and registrations, as well as both pre-1914 appropriative claims and riparian claims. Possessing a water right on its own does not automatically constitute assured access to a set quantity of water. The type of water right, seniority of the water right, past use, and hydrologic variability of the water source also influence the reliability of a water right.*

Key Water Rights Concepts

- **Water right:** In California, a water right is any right to water codified in California water law or statute. This includes appropriative permits, licenses, and registrations, as well as both pre-1914 appropriative claims and riparian claims. Possessing a water right on its own does not automatically constitute assured access to a set quantity of water. The type of water right, seniority of the water right, past use, and hydrologic variability of the water source also influence the reliability of a water right.
- **Water rights as property:** Water rights are legal entitlements that can be bought, sold, and encumbered like land. However, they differ from standard property rights in the following ways:
  - » They entitle a holder of the right to use of water, not actual ownership of the water.
  - » They can be tied to a property (i.e., riparian rights) or can be independent from the property (i.e., appropriative rights).
  - » Water rights aren't typically documented in deeds or other instruments recorded by the county recorder's office, so they are often not identified in title reports. Exceptions to this include some pre-1914 appropriative water right claims and riparian water rights retained on lands that are separated from a water course.
- **Administration of water rights:** The State Water Resources Control Board (Water Board) is the state agency charged with administering and regulating post-1914 appropriative water rights in California. While the Water Board does not approve or authorize riparian and pre-1914 appropriative water rights, it does have the authority to enforce the requirement that all uses of water rights in California, regardless of the type of water right, are ***reasonable*** and beneficial. All surface water right holders, regardless of the type of water right, are required to report their water use to the Water Board annually. The Water Board can fine a water right holder who is actively using a water right but fails to file water rights statements.
- **Beneficial uses:** The State of California defines beneficial uses as uses for domestic, irrigation, power, municipal, mining, industrial, fish and wildlife preservation and enhancement, aquaculture, recreational, stockwatering, water quality, frost protection, and heat control purposes.
- **Instream use:** California water law does not allow for a new water right to be established in order to protect instream flow, but it does allow a water right holder to submit a ***change petition*** to request the modification of an existing water right to include the use of water instream for fish and wildlife preservation and enhancement purposes.

Primary Types of Water Rights in California

The two overarching types of water rights that are most common in California are riparian rights and appropriative rights. These different types of rights can occur within the same stream system, and sometimes on the same property, but they operate under different sets of rules and conditions. In addition, there are several sub-types of appropriative rights. Table 1 provides an overview of the primary characteristics of each of these water rights. The following sections of this chapter provide additional detail.

Table 1: Comparison of general water rights characteristics and reporting requirements

Water right characteristics	Riparian rights	Appropriative Rights		
			Post-1914	
		Pre-1914	Permit/License	Small Use Registration
Basis of Right	land containing or adjacent to water source	appropriative claim	permit/license	registration
Allowed Uses	all beneficial uses	all beneficial uses	all beneficial uses	restricted to the uses allowed by the specific type of registration [1]
Allowed Place of Use	within parcels of land riparian to the water source	anywhere	location(s) identified by the applicant in the permit/license	location(s) identified by the registrant in the registration certificate [2]
Initial Documentation to the Water Board [3]	Initial Statement of Diversion and Use	Initial Statement of Diversion and Use	Permit Application	Registration Package
Annual Reporting Form	Supplemental Statement of Diversion and Use	Supplemental Statement of Diversion and Use	Annual Use Report	Annual Use Report
Annual Report Due	July 1	July 1	April 1	April 1
Approval by Water Board Required to Intiate Use?	no	no	yes	approval granted as long as registrant agrees to terms placed on the registration
Storage Allowed?	not more than 30 days	yes	yes	yes, limited to size specified by registration type
Amount Quantified?	no	yes, maximum historic use	yes, face value of license	yes, limited to maximum amount specified by registration type
Can Be Lost to Non-Use?	no	yes	yes	yes

1. Small use registration types include: Small Domestic Use, Small Irrigation Use, and Livestock Stockpond Use. Each of these registration types allow for specific types of additional types of uses that are secondary to the registration type.
2. As of the publication of this document (June 2020), Small Irrigation Use registrations are only available in coastal stream watersheds from the Mattole River to San Francisco and coastal stream watersheds entering northern San Pablo Bay.
3. State Water Resources Control Board, Division of Water Rights

Example Scenarios

Parcel A: This parcel is riparian to both the river and the drainage coming from the spring above it. The landowner can rely on a riparian right to provide water to the fields. Water diverted and stored for domestic use for the residence on the property is used under a small domestic use registration.

Parcel B: This parcel contains a spring. Since the water from the spring naturally drains off the site and into a stream, the landowner needs a surface water right in order to use water from the spring. If no water is stored, the landowner can rely on a riparian right and simply report use.

Parcel C: This parcel is riparian to the stream, but if water is diverted and impounded in a stockwater pond or otherwise stored for more than 30 days prior to use, then a stockwater pond registration is needed.

Parcel D: This parcel is not riparian and must rely on appropriative water rights in order to obtain surface water. Parcel D has an easement to access and deliver water across Parcel C. The easement only provides access and does not constitute a water right. The landowner of Parcel D has obtained an appropriative license to divert and store water. The amount being stored is greater than 20 acre-feet, so the storage amount is too large to qualify for a registration.

Parcel E: This parcel is not riparian to any surface water sources. The spring on this property is fully contained (i.e., water from it does not naturally flow off the property or enter a stream or other surface water drainage), so the landowner can use water from the spring without having a surface water right. An appropriative water right is needed to divert any surface water obtained from the nearby stream.

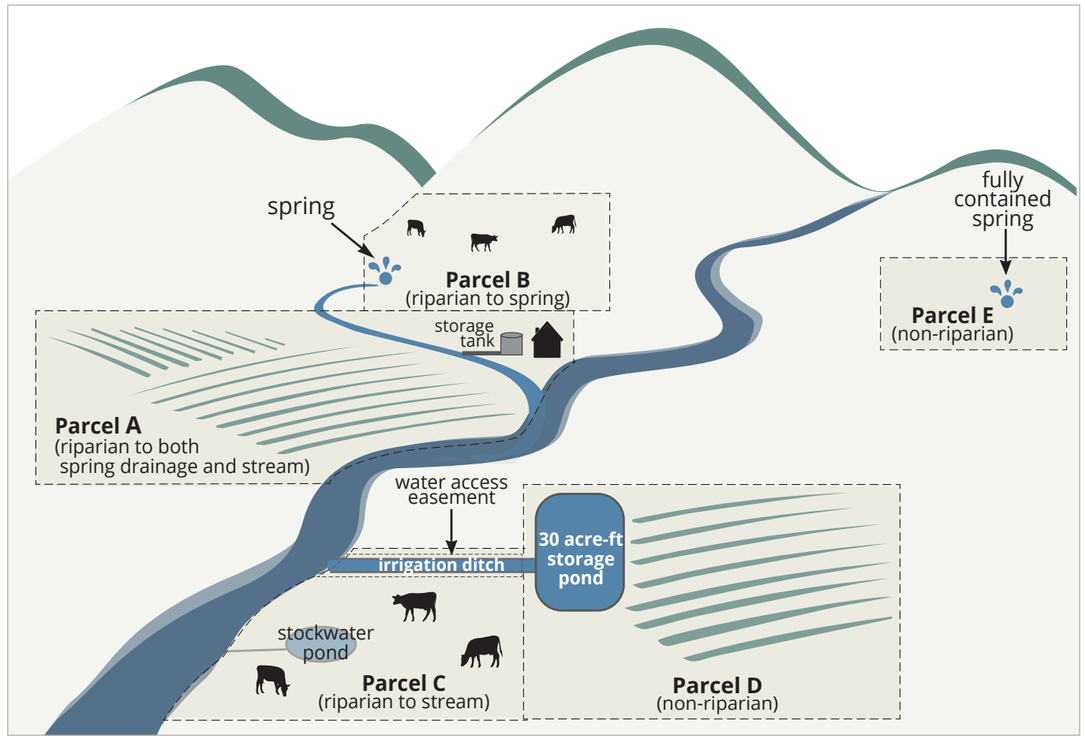


Figure 1: Example scenarios

Riparian Rights

Basic Conditions

Ownership of property containing, or adjacent to, a water source automatically entitles the landowner to a riparian right to divert water from that water source. Riparian rights are not quantified, except when they are part of an ***adjudication***, so the holder of a riparian water right can withdraw any amount of water naturally available, as long as the amount is reasonable for the intended use, the use is on riparian lands, and the amount of water withdrawn does not unreasonably affect other riparian water diverters or public trust resources.

Riparian rights are tied to riparian property and do not require ongoing use to be maintained.

Priority of Rights

All holders of riparian water rights have an equal right to use water from the water source (e.g., stream, river) and their rights are typically ***senior*** to appropriative water rights. When there is not enough water to meet the demands of all water right holders, riparian water right holders share the burden of reduced water availability, and no riparian water right may impair another riparian water right. A riparian right that is not actively being used is called a ***dormant riparian right*** and the holder can start or resume active use at any time.

Limitations

There are two significant limitations on the use of riparian rights:

1) Water diverted under a riparian water right claim cannot be stored or otherwise impounded for more than 30 days. As such, it cannot be diverted during a wet season for later use during a dry season.

2) Riparian rights are tied to riparian lands and cannot be transferred for use off the riparian parcel, except when they are dedicated instream to increase downstream flows in accordance with **California's Water Code Section 1707**[3].

Riparian Land Exception

If a riparian parcel is divided, creating a new legal parcel that is separated from the water source, the new parcel loses its riparian right unless that right is explicitly reserved in the deed. For example, Parcel 2 in Figure 2 is a riparian parcel; however, if it is split as shown, then Parcel 2b will no longer be riparian to the stream and will lose its right to divert and use water under a riparian water right unless the intent to maintain the riparian right on Parcel 2b is explicitly stated in the deed recorded at the time the larger riparian parcel is legally split.

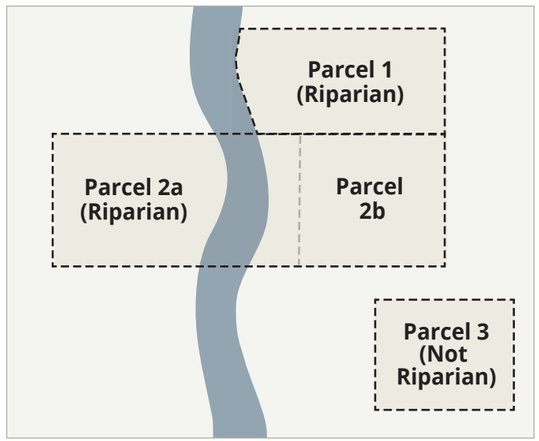


Figure 2: Riparian rights

[3] https://codes.findlaw.com/ca/water-code/wat-sect-1707.html

Reporting

Although riparian water rights are not subject to a permitting process by the state, all active riparian water rights claims are required to submit an Initial **Statement of Water Diversion and Use**[4] to the Water Board stating when the riparian right is first used. After this statement has been filed, the Water Board assigns a water right ID and reporting identifier to the water right and informs the identified point of contact how to file subsequent annual Supplemental Statements of Water Diversion and Use using the Water Board's online **Report Management System**[5].

Appropriative Rights

Basic Conditions

Unlike riparian rights, appropriative water rights can be stored for more than 30 days, so the water can be diverted in one season and used during a different season. This is particularly important when there is a need for water but water resources are limited, such as during dry summer months. Appropriative rights can also be used outside the property and drainage from the water source. Because they are not tied to the land on which the water diversion originally occurred or where water was originally used, they can be sold, leased, or otherwise transferred along with or independently from the property on which they originated.

Appropriative rights can be sold, leased, or otherwise transferred along with or independently from the property on which they originated.

Priority of Rights

Appropriative water rights operate on a priority system of "first in time, first in right." The appropriators who were the first to divert water from a water source are "senior" to subsequent "junior" appropriative water right holders. When there is not enough water to meet the demands of all water right holders, senior appropriators are entitled to take their full allotment of water before junior appropriators may take any of their allotted water. In some places, a junior water right holder may seldom be able to divert the full amount of their water right allocation because there is not enough water physically available due to climatic conditions or demand from senior water right holders.

Limitations

Entitlement of an appropriative water right is based on the actual beneficial use of water and can be lost if the holder does not actively use the water for a period of five years or more.

[4] https://www.waterboards.ca.gov/waterrights/water_issues/programs/diversion_use/docs/intl_stmnt_form.pdf
[5] https://rms.waterboards.ca.gov/login.aspx?ReturnUrl=Default.aspx

Categories of Appropriative Rights

Appropriative water rights fall into two categories based on the date in which water was initially diverted under the water right: pre-1914 and post-1914. While both categories follow the general rules of appropriation described above, they are administered differently, as explained below.

Pre-1914 Appropriative Water Rights

Prior to the Water Commission Act of 1914, appropriative water rights in California were established by posting a public notice identifying the intended water right at the point of diversion and filing a copy of the notice with the local County Recorder's office, pursuant to Civil Code Section 1415. Holders of pre-1914 appropriative water rights are responsible for submitting to the Water Board an **Initial Statement of Water Diversion and Use**[6] identifying the date of first use and submitting Supplemental Statements of Water Diversion and Use every year to validate their continued use of the water right. They are not required to get approval from the Water Board to change their point of diversion, place of use, or purpose of use for traditional consumptive water uses. However, if they intend to change all or a portion of their existing use to an instream use, they must submit a **Petition for Change form**[7] to the Water Board to dedicate water instream, in accordance with Water Code Section 1707, in order to protect the water right from being considered abandoned due to non-use and protect the instream flow from diversion by junior water right holders.

Post-1914 Appropriative Water Rights

The Water Board has regulatory authority to approve, deny, and condition all post-1914 appropriative water rights. The two sub-categories of post-1914 appropriative water rights are appropriative applications and registrations. For both applications and registrations, the season of use, beneficial use, place of use, point of diversion, and maximum *face value* of the right are all clearly established at the time the application or registration package is submitted to the Water Board. Any change to these conditions must be subsequently approved by the Water Board. Holders of post-1914 appropriative water rights must pay an initial filing fee and an annual fee that vary based on the type of appropriative right (permit, license, or registration) and amount of water. Each type of appropriate right is described below.

- **Applications (Permits/Licenses)**: During application review, the Water Board must evaluate the availability of requested water and the impact of the proposed water diversion on other diverters and public trust resources (i.e., navigation, fishing, fish, wildlife, habitat, and recreation). If the Water Board determines that water is available for appropriation, it will issue a permit identifying the amounts, conditions, and construction timelines for the proposed water project to the applicant. When the permitted project has been constructed, the terms of the permit have been met, and water has been put to beneficial use, the Water Board may issue an appropriative water right license (see Figure 3). A water right license is a formal confirmation of the water right that remains effective as long as its conditions are fulfilled and water is put to beneficial use. Appropriative water right permittees must file an annual Progress Report of Permittee, and licensees must file a Report of Licensee, with the Water Board. In order to make any change in diversion point, type of use, or season of use, the permittee or licensee must submit a change petition and be approved by the Water Board.

[6] https://www.waterboards.ca.gov/waterrights/water_issues/programs/diversion_use/docs/intl_stmnt_form.pdf
[7] https://www.waterboards.ca.gov/waterrights/publications_forms/forms/docs/pet_change.pdf

STATE OF CALIFORNIA—DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATER RESOURCES
STATE ENGINEER

License for Diversion and Use of Water

APPLICATION 9774 PERMIT 5636 LICENSE 3130

THIS IS TO CERTIFY, That [redacted] Notice of Assignment (Over)
Sacramento, California
has made proof as of May 24, 1950,
(the date of inspection) to the satisfaction of the State Engineer of California of a right to the use of the water of
an unnamed spring in Sonoma County
tributary to St. Elmo Creek thence Austin Creek and Russian River

for the purpose of domestic use
under Permit 5636 of the Department of Public Works and that said right to the use of said water has been perfected in accordance with the laws of California, the Rules and Regulations of the Department of Public Works and the terms of the said permit; that the priority of the right herein confirmed dates from November 27, 1939; and
that the amount of water to which such right is entitled and hereby confirmed, for the purposes aforesaid, is limited to the amount actually beneficially used for said purposes and shall not exceed fifty (50) gallons per day
to be diverted from January 1 to December 31 of each year.

The point of diversion of such water is located South eight hundred (800) feet and West four hundred twenty-five (425) feet from NW corner of Block 12, Plat I, Casadero Redwoods Subdivision, being within NW¼ of NE¼ of Section 30, T 8 N, R 11 W, M.D.B.&M.

A description of the lands or the place where such water is put to beneficial use is as follows: Within Lots 8, 9 and 10, Block 12, and Lots 9, 10, 11 and 12, Block 11, Plat I, Casadero Redwoods Subdivision, being within NE¼ of NE¼ of Section 30, T 8 N, R 11 W, M.D.B.&M.

All rights and privileges under this license including method of diversion, method of use and quantity of water diverted are subject to the continuing authority of the Department acting through the State Engineer in accordance with law and in the interest of the public welfare to prevent waste, unreasonable use, unreasonable method of use or unreasonable method of diversion of said water.

Reports shall be filed promptly by licensee on appropriate forms which will be provided for the purpose from time to time by the State Engineer.

The right hereby confirmed to the diversion and use of water is restricted to the point or points of diversion herein specified and to the lands or place of use herein described.

Water Right ID (A009774)
Water Source
Beneficial Use
Maximum Amount
Season of Use
Point of Diversion Location
Place of Use Location

Figure 3: Example excerpt of an appropriative license

- **Registrations:** Water users who intend to divert surface water for domestic use, livestock stockpond use, or irrigation use may file a **Water Right Registration**[8] with the Water Board to obtain an appropriative right as a registration instead of a full appropriative license, if their water storage and use are within the eligible amounts (see Table 2). Both the Water Board and the California Department of Fish and Wildlife can place standard and site-specific conditions on the registration. Once the registrant has agreed to the conditions placed on the registration request and paid the associated fees, the registration is valid for five years, after which time it can be renewed. Registrants are required to file an annual Report of Registrant form with the Water Board.

Table 2: Types of Small Use Registrations

Type of Registration	Types of Use	Max Diversion Per Day	Max Storage Per Year
Small Domestic Use	domestic, including up to 1/2 acre of lawn or garden	4,500 gallons	10 acre-feet
Livestock Stockpond [1]	stock watering [2]	4,500 gallons	10 acre-feet
Small Irrigation Use [3]	irrigation, frost protection, and heat control of cultivated crops		20 acre-feet

1. While the name of this registration is Registration for Livestock Stockpond Use Appropriation, the registration can also be for direct diversion and diversion to a tank for livestock use.
2. Stock watering must be the primary use for a livestock stockpond registration, but other uses, including fire protection, fish and wildlife aesthetic, and recreational, are allowed as incidental uses.
3. Currently, Small Irrigation Use Registrations are only available in portions of Marin, Napa, Sonoma, Mendocino, and Humboldt counties that are within the North Coast Instream Flow Policy Area.

Situations That Require Condition-Specific Evaluation

Water District Allocations

While many water rights are held by individuals or entities that use the water themselves, water rights are also held by water districts (both agricultural and municipal) that manage water allocations within a region. In most cases, when water is supplied by a water district, the users of that water do not actually have their own water rights. Instead, they are using a portion of the district's water right. If you are considering acquiring a property that relies on water district allocations, contact the local water district to obtain information about any rules or limitations they have in place regarding how water they deliver can be allocated and used.

Water Access Easements

Occasionally a property will have an easement that allows another entity (often the adjacent landowner) to access a water source, divert water from that water source, and/or develop the infrastructure necessary to deliver water off the property for use elsewhere. This water access easement does not constitute a water right; rather, it is permission from the property owner to access water. For example, the legal description text in Figure 4 provides the adjacent landowner with ownership of the existing water infrastructure and an easement to access that infrastructure on the property. The adjacent landowner would still need to establish a legal water right in order to legally divert and use that water.

[8] https://www.waterboards.ca.gov/waterrights/water_issues/programs/registrations

Together with an undivided 1/2 interest in the water system constructed for domestic and limited irrigation purposes on parcel three together with the right of ingress and egress for the maintenance and operation of the water system.

Figure 4: Example text from a property legal description that describes a water access easement

Spring Water Sources

Users of water sourced from a spring may or may not need a surface water right, depending on the site-specific conditions of the spring and the water it produces. If the spring's water does not naturally flow into a surface watercourse and does not leave the property on which the spring is located, the water user does not need a surface water right. If water from the spring either leaves the property or flows into a surface watercourse, then the spring water is considered surface water and any potential water user needs to obtain a water right to use any water from the spring. For example, in Figure 5, use of water from springs A and B require a surface water right, while use of water from spring C does not. If the water will be used outside the parcel in which the spring is located or will be stored for more than 30 days, then the water user needs to obtain an appropriative right, by submitting either a permit application or a registration as described above. If the water will be used on the parcel in which the spring is located and the water will not be stored for more than 30 days, then the water can be used under a riparian right.

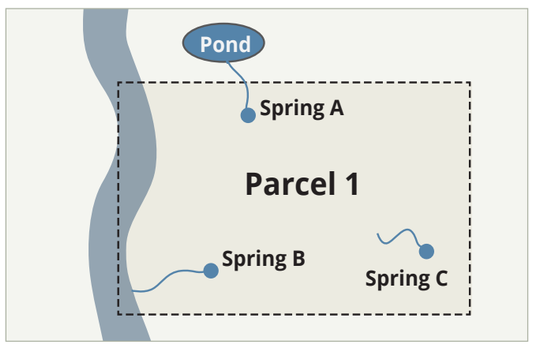
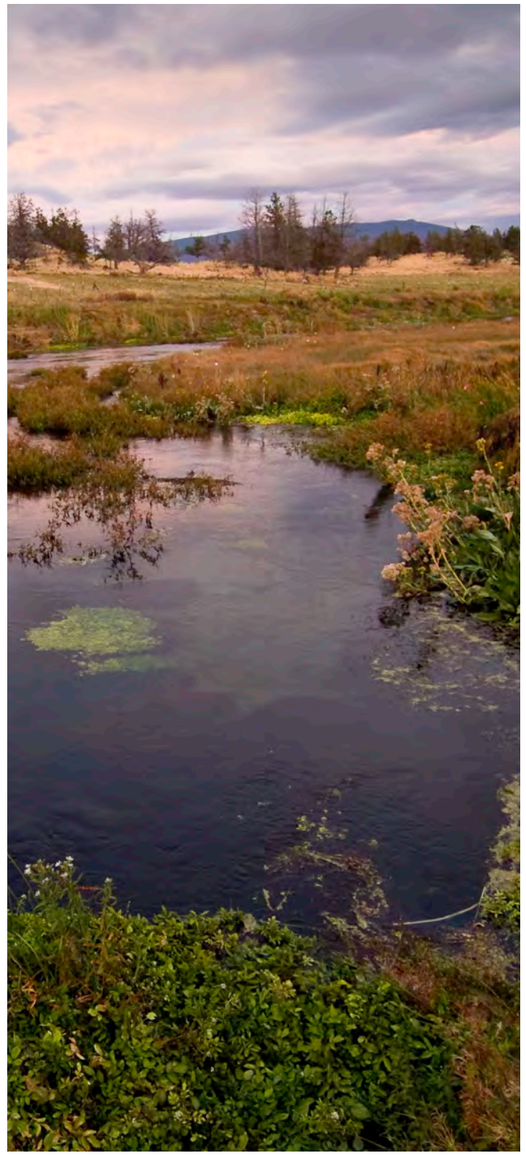


Figure 5: Spring water sources



Subterranean Streams vs. Groundwater

Even though a well is taking water from beneath the ground surface, it could potentially be pumping what is considered surface water and therefore be subject to surface water rights. This situation occurs when water is flowing in a ***subterranean stream***, which is defined as water flowing underground through known and definite channels.[9] The most common scenario is when a shallow well is installed within the alluvial deposits adjacent to a river or other surface water body, and there is a direct connection between surface water flows and the water that is pumped from the well.

Groundwater that does not fall into the category of a subterranean stream is much more common, is considered true groundwater, and is outside the laws that govern surface water. In most cases, groundwater remains unregulated and can be extracted without approval or a permit. This is likely to change in the future, particularly in basins that are subject to the **Sustainable Groundwater Management Act** (SGMA)[10]. While this issue is not the focus of this document, it is worth noting that some ecosystems, such as wetlands and seeps, may be dependent on groundwater.[11]

All the following physical conditions must exist for the Water Board to classify water as a subterranean stream:

- A subsurface channel is present
- The channel has a relatively impermeable bed and banks
- The course of the channel is known or capable of being determined by reasonable inference

[9] *California Water Code § 1200*
[10] *https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management*
[11] *Additional information about groundwater dependent ecosystems can be found at https://groundwaterresourcehub.org/what-are-gdes/*

Chapter 4

EVALUATION DUE DILIGENCE

Importance of Due Diligence

Whenever water resources are deemed important to the conservation values of a conservation easement or fee-simple property acquisition, the land trust should include an evaluation of environmental water assets at-large as part of their due diligence process.

Completing this process will help you:

- Determine and document the current status of water rights associated with the property.
- Support future monitoring and enforcement by having adequate baseline information.
- Identify actions to avoid potential abandonment of any water rights acquired as part of the land conservation transaction.
- Ensure that the land trust fully understands the assets it is acquiring.
- For conservation easement acquisitions: Ensure that the land trust includes appropriate language in the conservation easement to encumber or condition any water rights that are deemed essential to the conservation values of the property, and includes adequate enforcement language to protect these interests in the future.

This chapter provides guidance on due diligence efforts that are specific to evaluating water rights. Chapter 7 of this document explains how to integrate the steps identified here into the overall due diligence process for a conservation land acquisition.

Due Diligence Checklist:

INITIAL EVALUATION (Described in Chapter 4)

- ❑ **1. Analyze the importance of water rights in meeting the conservation goals and objectives**
  Determine if the acquisition and/or conditioning of water rights is needed to protect and sustain the property's physical environmental water assets and intended conservation values.
- ❑ **2. Identify water sources on or associated with the property**
  Look for both perennial and seasonal water sources.
- ❑ **3. Identify past and current water uses on the property**
  Water diversion and conveyance infrastructure, troughs, irrigated fields, home sites, etc.
- ❑ **4. Identify water rights**
  Determine if any water rights have been formally documented and identify any potential undocumented water rights.
- ❑ **5. Verify ownership of water rights**
  Look at documents on file with the State Water Resources Control Board and potentially a chain of title report if a pre-1914 appropriative right is involved.
- ❑ **6. Determine reliability of the water rights**
  Determine if there are limitations in the reliability of access to water associated with a water right due to climatic conditions or the priority of the right relative to other water rights.
- ❑ **7. Determine if a new water right is needed**
  Evaluate if a new water right is needed to validate existing uses or support or enhance conservation values.
- ❑ **8. Tools for Protecting or Enhancing Environmental Water Assets**
  Consider: changing the rate of diversion, coordinated timing of diversions, water conservation, voluntary forbearance, change in location of a point of diversion, water right purchase or purchase and lease, obtaining a new water right, and/or formal instream dedication.

ACQUISITION (Described in Chapters 5 & 6)

- ❑ **Make sure existing water rights necessary to support the conservation values are acquired (fee simple acquisitions) or conditioned (conservation easements)**
  Conditions may include prohibition, restriction, or prescriptive language.
- ❑ **Notify Water Board of change of ownership**
  Submit change of ownership form.

MANAGEMENT (Described in Chapters 5 & 6)

- ❑ **Ensure water is managed in accordance with water rights and in furtherance of the conservation values**
- ❑ **Ensure annual reports are submitted to the Water Board to document water use for each water right**

1. Conservation Goals and Objectives Analysis

The first step in conducting water rights due diligence for a candidate conservation property is to determine if the acquisition and/or conditioning of water rights is necessary to protect and sustain the property's physical environmental water assets and intended conservation values. Consider these key questions for the property, whether it is a fee-simple acquisition or conservation easement:

Are existing water rights materially important to the conservation value(s) that are the purpose of the acquisition?

If the conservation values rely on water assets that can be enhanced, sustained, or harmed by the use of water rights, then water rights are likely to be materially important to the acquisition. If this is the case, then consider:

1) What is necessary to protect and enforce water rights in a manner that is consistent with those purposes? For a fee-simple property acquisition, this may just be ongoing management to ensure that the water resources and water rights associated with the property continue to support the conservation values of the land acquisition. For a conservation easement acquisition, you may need to add specific language to the easement that restricts, prohibits, or prescribes specific conditions on water rights or water use.

» ***For example:*** Consider a property with a water right that was established to divert water from a natural water source to a manmade pond used to store water for irrigation or stock watering use and seepage from that pond or the pond itself now provides important aquatic habitat for a species that the acquisition intends to protect as a result of the use of the water right. In this situation, it is important to consider ways to protect and enforce the presence and use of the water right, or establish another water right, in a manner that maintains the aquatic habitat.

2) Are the physical environmental water assets that are materially important to the conservation goals of the acquisition potentially at risk of being impaired by a potential future water right or change in an existing water right? If a property being considered for a conservation easement contains environmental water assets that are materially important to the intended conservation purposes, make sure that the easement language prohibits

the impairment of those conservation values by any existing or future water right associated with the conservation easement property. If a property contains a water access easement that allows someone else to access the property to install water infrastructure and divert water from a source on the conservation property, then consider what impacts these activities may have to the water resources. If future use of an existing water access easement is likely to impair the conservation values, try to acquire a quitclaim deed from the easement holder to eliminate the possibility of future use.

» ***For example:*** Consider a property whose primary conservation value is the habitat it provides for California tiger salamanders and the primary breeding pool on the site is fed by a spring that has a water access easement for use by the adjacent property owner. In this situation, it is a good idea to negotiate with the adjacent property owner to quitclaim the water access easement.

3) **Does the current use of the water rights on the property protect the conservation values or can the use be modified to address this need?** In some situations, the way a water right associated with a property is used prior to a conservation acquisition is not in alignment with the conservation values that a land trust might identify for the site. The future management and use of the water right should be modified to address this issue.

» ***For example:*** Consider a property in the central coast region of California that has coho salmon summer habitat within the portion of a stream that bisects the property. This stream has been identified as being flow impaired due to water diversions during the summer months within: the NOAA Fisheries' ***Recovery Plan for the Evolutionarily Significant Unit of Central California Coast Coho Salmon***[12], a local stream flow assessment, or when comparing local stream gage data to modeled unimpaired flows included in The Nature Conservancy's ***Natural Flows Database***[13]. If a water right associated with the property contributes to the impairment due to the way it has been managed and used, you should try to modify the existing water right to improve instream flow during this critical period. Depending on the circumstances, this may be achieved by implementing one or more of the following approaches: water conservation measures, ceasing the current use and dedicating all water associated with the right to instream use, obtaining a right to store water when it is more readily available to avoid diversions during the dry summer period, and/or changing the point of diversion to a downstream location to enhance stream flows between the existing and new point of diversion.

If possible, visit the property during different seasons to get a sense of where and how much water is present at different times of the year.

2. Identification of Water Sources

Visual inspection is an important way to identify the physical environmental water assets on a property. When you view a property's water resources in California, remember that the Mediterranean climate is punctuated by wet and dry periods. Depending on the time of year and the type of year (e.g., dry, normal, wet), the availability of water on the property will vary. Some drainages may be dry during the middle of the summer but have significant water flowing through them during the wintertime. If possible, visit

[12] *The NOAA Fisheries West Coast Regional Office (https://www.fisheries.noaa.gov/region/west-coast#) is responsible for developing recovery plans for federally listed aquatic species, which are documents that identify key issues and actions needed to improve the habitat and population of one or more species.*

[13] https://rivers.codefornature.org/#/home

the property during different seasons to get a sense of where and how much water is present during different times of the year. The size of channel banks, the types of vegetation present, and any visible scour lines or "trash lines" (i.e., the line of debris left on channel banks or caught in vegetation that indicates the maximum height of flowing water, shown above) can also provide helpful clues, particularly in situations where multiple site visits are not feasible and other forms of site-specific hydrologic information are not available. Other resources for identifying water sources and water availability include maps and spatial data, hydrologic data, verbal and written historic records, and the expertise and records maintained by other organizations. Some commonly used spatial and hydrologic data sources are provided in Appendix A.

3. Identification of Past and Current Water Uses

Visual inspection of the property is an important way to identify past and current water uses that may not be documented elsewhere. Knowing the history of use of any appropriative water right is also important because you need to ensure that the right was properly established and used in accordance with California water law. Appropriative rights are at risk of abandonment after five or more years of consecutive non-use, so obtaining records that prove ongoing use is important to prove up the validity of the water right. The existence of pipelines, ditches, and wells and the presence of a surface stream on the property can provide evidence of current or past use. Conversely, a landowner may claim to have an appropriative right, but if the water diversion infrastructure on the site is in disrepair or absent, the validity of the water right and any actual recent use may be suspect.

Interviewing current and past property owners, lessees, and neighbors, and reviewing available documents, can provide insights into the history of water use on the property. For properties with irrigated crops, crop records can be used to estimate historic water use. Construction documents, historic aerial photos, and other documents associated with the property can also provide clues regarding past water use.

Uncertainty about the past use or establishment of a water right doesn't necessarily make it invalid, but it can make it more difficult to prove. Seek the advice of a water law attorney who is familiar with California water law when you are trying to determine the validity of a water right, particularly a pre-1914 appropriative claim.

Resources for Aerial Photography:

Websites such as USGS Earth Explorer and Historical Aerials and the desktop software Google Earth Pro are all free sources for digitally viewing historic aerial photography. In addition, universities often maintain catalogs of aerial photographs. For example, UC Berkeley's Earth Science and Map Library has over 80,000 images covering areas of California, taken from 1931 to the present, with an emphasis on the nine counties surrounding the San Francisco Bay.

Knowing the recent (i.e., within the last five years) history of use is important, both to determine the validity of the water right and the ability to formally change the underlying right to allow for a dedication of all or a portion of the right to instream for fish and wildlife use, in accordance with Water Code Section 1707.

4. Identification of Water Rights

To identify existing water rights associated with a property, start by interviewing the current landowner and/or property manager. They should know what water rights are present or at least be able to identify the water uses on the property. They may also be able to provide you with copies of documents such as licenses, notices, and past reports.

Regardless of what information the landowner or land manager can provide, the Water Board's online electronic **Water Rights Information Management System** (eWRIMS)[14] is an important place to look for information about water rights. Within eWRIMS, you can search the **eWRIMS web mapping application**[15] to see if any water rights records are associated with or near the property. Zoom to the area of interest within the web mapping application or search based on feature categories, such as the Water Right ID, name of the water right holder, stream name, or other feature.

The ID that the Water Board assigns to a water right always starts with a letter, then six numbers.

- The **Application ID** is the water right ID for post-1914 appropriative permits and licenses.
- The **Statement ID** is the water right ID issued for riparian rights and pre-1914 appropriative rights once the Water Board has received an Initial Statement of Water Diversion and Use.

It is important to recognize that the eWRIMS database does not contain a complete inventory of all surface water rights in California.

You can also search the **eWRIMS water rights records database**[16] by the name of the property owner to find applications, permits, or licenses that have been filed or granted to appropriate water. If you know the state-issued water right ID associated with a water right, which you can find by using the eWRIMS mapping application, you can enter the water right ID into the eWRIMS database system to look up documents associated with the water right, recently submitted use reports, and general information about that water right. While the Water Board's eWRIMS database is the central database for water rights in California, it is important to recognize that it does not contain a complete inventory of all surface water rights in California. Many pre-1914 appropriative claims and riparian claims have never been reported to the Water Board, and therefore the Water Board has no record that they exist. As of 2009, water right holders whose water rights are not part of an adjudication are supposed to notify the Water Board if they are actively using a water right, and they must report their use annually. However, many water users are either unfamiliar with this requirement or have not abided by it. In addition, water rights included as part of a statutory or court adjudication are typically reported by a watermaster who is appointed to administer and enforce the provisions of the adjudication and are not individually listed in eWRIMS.

[14] https://www.waterboards.ca.gov/waterrights/water_issues/programs/ewrims/
[15] https://waterrightsmaps.waterboards.ca.gov/viewer/index.html?viewer=eWRIMS.eWRIMS_gvh
[16] https://ciwqs.waterboards.ca.gov/ciwqs/ewrims/EWServlet?Redirect_Page=EWWaterRightPublicSearch.jsp&Purpose=getEWAppSearchPage

Here are additional approaches for investigating water rights in each of these circumstances:

Riparian Water Rights

Physically investigate the property for signs of a natural water source running through or along the boundary of the property. If a non-riparian parcel was previously part of a larger riparian parcel that was subdivided, review the property deed to determine whether the riparian water right was explicitly reserved on the now non-riparian parcel.

Pre-1914 Appropriative Water Rights

Ideally, the existing property owner has records documenting any pre-1914 right they are claiming. If not, the local County Recorder's office is the official location where a pre-1914 appropriative right should have been filed. Record-keeping practices vary from county to county, and older documents can be difficult to find. If you suspect there is a pre-1914 appropriative right associated with the property, obtain the services of a title company to prepare a chain of title report, and have the title company or legal firm review any documentation pertaining to water rights claims.

Adjudicated Water Rights

Check the Water Board's **adjudication webpage**[17] for the current map and list of identifying adjudications throughout California. If the property of interest is within an area that has been adjudicated, click on the link for the specific adjudication on the Water Board's webpage or check with the applicable Superior Court or appointed watermaster to view or obtain a copy of the decree. Contact the watermaster who was appointed to administer the adjudication decree to ask about the water rights associated with the property of interest.

5. Ownership of Right

While a riparian right is tied to a riparian parcel and is conveyed automatically with the land ownership, an appropriative water right does not automatically transfer to a new owner and may not necessarily be held by the owner of the property on which the point of diversion is located. To find out who owns an appropriative water right diverting water on the property or delivering water to the property, look at the permit, license, and recent reporting documentation on eWRIMS to identify the original and current owner. If there is a point of diversion on the property that delivers water off-site, interview the current landowner and review the preliminary title report to determine whether there are any existing easements or other agreements regarding the water infrastructure on the property that may restrict or impair the maintenance of the property's conservation values.

6. Reliability of Water Right

The amount of water allocated to an appropriative water right license or registration is not necessarily the amount of water you will be able to divert and use. Even when a right has been properly established and used in accordance with California water law, the amount of water that you can access using it may be limited by the climate and the priority of the right relative to other water rights within the system (i.e., other water right holders may be senior). It is important to investigate the reliability of a water right to determine how useful or valuable it is.

Approaches you can use to assess the reliability of a water right include:

- Review past documented water diversion amounts.
- Ask the landowner and/or the Water Board's

[17] https://www.waterboards.ca.gov/waterrights/board_decisions/adopted_orders/judgments/
[18] *Be aware that many water right holders have not historically had measuring devices on their water diversions, so the amount of water historically diverted may be an estimate or simply recorded as the face value of the right, rather than being the true amount that was diverted.*
[19] *The stream trace tool in the Water Board's eWRIMS web mapping application is a useful tool for identifying the water rights upstream or downstream of a selected location. The results can be downloaded as a shapefile for use in ArcMap or other GIS software or as a .csv file*

Division of Water Rights if the water right received any curtailment orders during the most recent drought period.

- Review the other water rights associated with the same water source and find out their allocated amounts and relative priority for diverting water.
- Review available stream gage data to assess stream flow conditions.
- Conduct a water availability analysis or hire a hydrologist or water rights specialist to do one.

7. Determine Whether a New Water Right Is Needed

In most cases, you will not need to establish a new water right, but sometimes it is useful or necessary to acquire one to accomplish the conservation goals of a land acquisition. Acquiring a new water right can enable you to:

- validate existing uses,
- modify existing uses, or
- accommodate new uses.

Validate existing uses

Perhaps water on a property is being used, even though no valid water right has been established for this use. If continuing to use water in this way is important to protecting or maintaining the conservation values of the site, you should consider how difficult it would be in terms of time and expense to acquire a valid water right as part of your evaluation of the feasibility and desirability of the overall acquisition. For example, it is fairly easy to acquire an appropriative water right for small water storage (<10 acre-feet per year) for stock watering or domestic use, as long as the water source is not already fully appropriated during the time period that you wish to divert water. To acquire this right, you would need to prepare and submit the appropriate small use registration package, as described in Chapter 3. Alternatively, establishing a new appropriative water right that allows a larger amount of water (>20 acre-feet per year) to be stored on the property behind an existing earthen dam can be an extremely expensive and time-consuming endeavor. In general, it is significantly easier, faster, and cheaper to obtain a valid water right for small-scale water uses by submitting a water right registration than it is to obtain a water right of any size by applying for a license to appropriate water. An appropriative license; however, provides some additional water security in that the right, once licensed, is a vested right that does not need to be renewed. (See Chapter 3 for additional information about appropriative registrations and licenses.)

Modify existing uses

In some cases, you will need to acquire a new water right in order to make it feasible to either eliminate another water right or change it to fish and wildlife preservation and enhancement instream. See the sub-section *Obtain a New Water Right* below.

New uses

In some situations, you will need to acquire a new water right in order to carry out new site management strategies to preserve or enhance the conservation values of a property. See the sub-section *Obtain a New Water Right* below.

8. Tools for Protecting or Enhancing Environmental Water Assets

Consider taking additional steps to leverage water assets to enhance or further generate conservation benefits. You may discover during the due diligence process that the maintenance or modification of water uses and associated water rights is needed to protect a conservation value deemed necessary to support a property acquisition. In other circumstances, proactively making modifications could be an excellent 'bonus' opportunity to maximize the environmental

In some cases, you will need to acquire a new water right in order to make it feasible to either eliminate another water right or change it to fish and wildlife preservation and enhancement instream.

benefits of a property acquisition beyond its baseline condition. Below are a variety of tools that range from very simple water management modifications to more complex efforts that involve a combination of physical and administrative changes to water infrastructure and associated water rights. Even some of the most basic tools, such as changing the diversion rate of a portable stream pump or coordinating the timing of water diversion with a neighbor, can provide a dramatic benefit to instream flows, aquatic habitat, and the species that rely on them. These tools are not mutually exclusive, and in many circumstances the resulting benefits can be compounded by implementing two or more of the approaches simultaneously or sequentially.

The approaches below can be implemented on a property acquired by the land trust. These approaches also can be implemented in partnership with landowners that have property adjacent or within the vicinity of the land trust's conservation properties as part of a broader watershed strategy. Some of the more basic approaches can be a way to work with and gain the trust of landowners who aren't ready yet to commit to permanent conditions associated with a conservation easement, outright donation, or sale of a water right or property interest. For example, a landowner might be uneasy about establishing a conservation easement that leaves water instream or places other conditions on their water rights in perpetuity, but may be willing to commit to an agreement that contains similar restrictions on a temporary basis under a forbearance agreement or temporary instream dedication. By participating in the short-term effort, the landowner has an opportunity to become more comfortable with the approach and with the land trust, which may lead them to consider a more permanent commitment in the future. Even if they do not decide to commit in this way, the landscape still reaps the conservation benefit during the term of the effort.

Here are some of the strategies for stewarding a property's environmental water assets

- Change the rate of diversion
- Coordinate the timing of diversions
- Implement water conservation approaches
- Engage in voluntary forbearance
- Change the point of diversion location
- Purchase or lease a water right
- Obtain a new water right
- Dedicate water instream

> "A trickle of flow, as little as 0.1 cfs or 40 gallons per minute, has shown to be enough to keep stream pools wet and provide habitat that young fish need to survive over California's hot summer months."
>
> *—Monty Schmitt, The Nature Conservancy*

Change the rate of diversion

Reduce dramatic swings in the hydrograph that can dewater or otherwise impair aquatic habitat by diverting water from the water source at a lower rate over a longer period of time.

Reducing the rate of diversion is a relatively simple action that does not require any changes to an underlying water right and, in some cases, can dramatically improve instream flow conditions without reducing the overall amount of water diverted. In the case of a conservation easement acquisition, a land trust could stipulate the maximum allowable rate of diversion in the agreement or in a separate contract agreement in order to obtain a formal commitment from the property owner.

Coordinate the timing of diversions

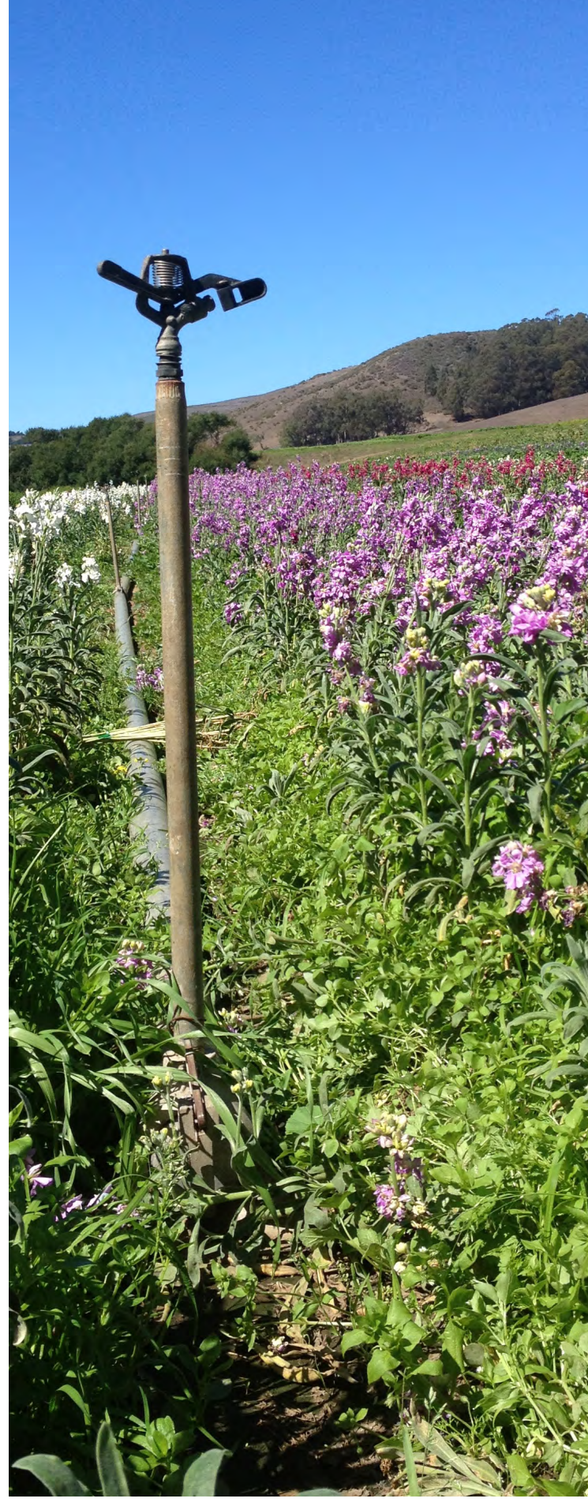
Reduce large fluctuations in surface water availability and reduce the likelihood that a stream segment becomes dewatered or significantly impaired due to multiple diversions withdrawing water simultaneously.

Coordinating the timing of a water diversion with other water right holders and/or coordinating multiple water diversions held by a single water right holder can minimize impacts to the stream hydrograph. For example, if points of diversion are located near one another along a stream system, set up a rotating schedule to avoid water being pumped from multiple points of diversion at the same time. This action can reduce the chance of dewatering or significantly impairing a stream segment due to multiple diversions withdrawing water at the same time.

Implement water conservation approaches

Reduce the amount of water needed for consumptive uses so that less water is diverted from the water source.

Changes to existing water infrastructure can result in long-term water conservation savings and keep more water in the environment. While this approach is not as dramatic as eliminating the water diversion entirely, it provides the dual benefits of maintaining desirable uses while reducing impacts to the water source. It could lengthen the amount of time a stream segment flows during drier months or extend the time that a spring-fed pond holds water. On working agricultural lands, water conservation most often involves making irrigation efficiency improvements or changing from a more water-intensive crop to a less water-intensive crop. Another approach is to modify infrastructure or water use practices associated with other consumptive water uses. Conserved water can be dedicated instream for fish and wildlife use by submitting a 1707 change petition (described below), or if the associated water right is an



appropriative right, the water right holder can report the amount of water conserved on the annual use reporting forms submitted to the Water Board.[20]

Engage in voluntary forbearance

Leave water in the environment to protect environmental water assets during periods when stream flows are low, during critical periods for species life cycles, and/or when needed to maintain water quality.

Voluntary forbearance is refraining from diverting water for consumptive water uses during key time periods in order to leave water instream for environmental purposes. The time period depends on the conservation goals and objectives. For example, if the preservation of aquatic habitat for salmonids was included in the property's conservation values, the water right holder could forbear the diversion of water during the migration period to improve flow conditions for fish passage. In another situation, if the riparian corridor is the key conservation value identified for the property, a commitment to forbear the diversion of water during critically dry years can help support the health and survival of vegetation in the riparian corridor.

If the forbearance of a water diversion only occurs sporadically or for short periods within the diversion season, then it may not be necessary to modify the associated water right, as long as the water right holder does not need to protect the water that is left instream from other water diverters. If forbearance is likely to continue for more than five years, or you want the Water Board to recognize the intent to leave water instream as a formal use associated with the water right so that it cannot legally be diverted by junior water right holders, then the water right holder must submit a change petition to formally dedicate water instream, in accordance with Water Code Section 1707. You can accomplish an intentional forbearance of a water right on a fee-simple property held by the land trust without taking any other actions beyond those described above. If the land is held through a conservation easement, however, you should work with the landowner to develop a forbearance agreement to specify the terms of the forbearance. A forbearance agreement can be restrictive language included in the conservation easement itself, or it can be a stand-alone contract agreement that is or is not recorded. In either circumstance, the forbearance language would include additional conditions and a level of specificity beyond what is included in the terms of a water right permit or license.

Excerpted sections from Sanctuary Forest Inc.'s Template Agreement for Seasonal Forbearance of Diversion of Water and for Construction, Installation and Use of Water Management System, which sets the terms of water forbearance for all water rights associated with the property:

Anytime that streamflow in the _____ River is less than ____ cubic feet per second (cfs), as measured at a point on the _____ River at _____ ("Measure Point"), Participant shall cease all diversion, pumping, or other withdrawals of water from the _____ River or its tributaries (including but not limited to surface streams, subterranean streams, springs, and other sources of flow contribution to the _____ River) on and to the Property ("Restricted Period"). During the Restricted Period, Participant will cease diversions under any and all bases of water right, and for any and all purposes, including, without limitation, domestic and agricultural purposes.

Figure 6: Example forbearance language excerpted from Sanctuary Forest's Template Agreement

[20] *Identifying that water has been conserved in accordance with California's Water Code Section 1011 prevents any conserved water from being forfeited due to non-use.*

Change the point of diversion location

Reduce impacts on key aquatic resources by moving an existing point of diversion downstream or away from sensitive aquatic habitat.

Modifying the location of a point of diversion can be a strategic way to leave water instream for a longer time or otherwise reduce the impacts on sensitive habitat or other environmental resources without necessarily changing the overall amount of the water diverted or used. In order to change the location of a point of diversion of any post-1914 appropriative water right, you must submit a change petition to the Water Board. For riparian and pre-1914 appropriative rights, you are not required to submit a petition to, or obtain approval from, the Water Board to change their point of diversion. However, you should seek the advice of a water law attorney to determine if it is appropriate to submit a change petition to obtain formal recognition of the change by the Water Board, particularly if the point of diversion is being moved downstream of other water diverters.

This approach can balance both local environmental and human water use needs. It does require downstream water users who are interested in leasing additional water and involves more complex water rights modifications and administration than other approaches. Occasionally there may be opportunities to achieve multiple environmental benefits by moving the point of diversion downstream to improve instream flows and divert water lower down in the system to benefit wetlands.

Purchase or purchase and lease a water right

Obtain control over a water right so that you can modify its use to provide instream benefits for fish and wildlife resources and potentially elsewhere.

An appropriative water right can be purchased separate from the land on which it was originally permitted for use. Once acquired, the water right can be modified to be dedicated entirely instream for fish and wildlife protection and enhancement or potentially leased to a water user who diverts that water further downstream. Leasing the right to a user can provide instream benefit for the portion of the stream that is downstream of the existing point of diversion while also generating income from the water right to support future conservation initiatives.

Obtain a new water right

Provide water for environmental benefit by either obtaining a new water right that supports environmental uses or by acquiring a right that facilitates the dedication of an existing water right to instream flow for fish and wildlife benefit.

In some situations, new site management strategies to preserve or enhance the conservation values of a property either require or would significantly benefit from the acquisition of a new water right. For example, if a property contains grasslands or other natural landscapes that would benefit from grazing to manage vegetation, it would be useful to obtain a stockpond registration. Stockponds that support the livestock used for lands management can be designed and managed to simultaneously support habitat

for aquatic species, such as red-legged frog (Rana draytonii) or California tiger salamander (Ambystoma californiense). In this situation, the land trust would submit a Registration of Livestock Stockpond and Use Appropriation form to the Water Board to obtain a new appropriative water right registration for stockpond use.

In other situations, acquiring a new water right may be necessary in order to make it feasible to either eliminate another water right or change it to fish and wildlife preservation and enhancement instream. For example, you could acquire a new appropriative water right to divert and store water during wetter months of the year so that the water, historically diverted during drier months or during critical ecological time periods, can be formally dedicated to fish and wildlife use instream. A water right that was used previously to divert surface water can have its allowable use either partially or entirely converted to fish and wildlife preservation and enhancement instream by submitting a change petition to the Water Board in accordance with Water Code Section 1707.

Dedicate water instream

Provide water for environmental benefit by changing all or a portion of an existing water right to use instream for fish and wildlife preservation and enhancement.

A water right holder can reduce or eliminate an historic use of an existing water right, or the need to rely on the water right, and submit a change petition to add fish and wildlife preservation and enhancement instream as a valid use of the water right in accordance with Water Code Section 1707. For example, a land trust that acquired land with a water right that historically was used to divert water from a stream for use on irrigated pasture may decide to stop irrigating the fields and instead manage them as dry pasture or restore them to native grasslands. In another scenario, a vineyard owner with a water right that was historically used to divert water for frost protection could install a frost fan or switch to some other mechanism for frost protection that eliminates or reduces the use of water. If it is necessary to maintain an existing water use while simultaneously reducing the impact of water diversion on instream flows during a specific time period, consider obtaining a new water right that allows for storage. Then the existing water right may be partially or entirely dedicated to instream use as described in the ***Obtain a new water right sub-section*** above.

Going through the process of formally changing the use of the water right to allow for fish and wildlife preservation and enhancement instream helps to achieve the targeted conservation outcome. It does this by protecting the water from being legally diverted by or allocated to junior water rights and by protecting the water right from forfeiture in perpetuity. The water right holder has the option to ***permissively*** add wildlife preservation and enhancement use instream, while keeping the other existing uses, or making a ***permanent*** change so that fish and wildlife preservation is the only valid use of the water right. If the land trust is establishing an agreement with a water right holder to permissively dedicate water for instream use, it is important to consider including specific terms in the agreement that outline the conditions and commitments associated with the use of the water right. The document ***A Practitioner's Guide to Instream Flow Transactions in California (SWIFT, 2016)***[21] describes the steps for formally changing a water right to include instream use and includes several case study examples.

The ***permissive*** dedication of fish and wildlife preservation and enhancement instream is the addition of water use instream as a valid use of a water right, which can be applied interchangeably among the water right's other allowed uses, as long as the total amount of water does not exceed the face value of the water right. In contrast, a ***permanent*** dedication is when a water right or portion of a water right is dedicated solely for use instream.

[21] http://www.calinstreamguide.org/

Chapter 5

STRATEGIES FOR LAND ACQUIRED IN FEE SIMPLE

Acquisition Phase

Once you have conducted due diligence to verify the existence and status of water rights on a property (as described in Chapter 4), make sure to include in the purchase agreement any existing appropriative water rights that support the conservation values of the property (or could potentially do so).

Riparian rights are connected to riparian lands and are automatically acquired as part of the land acquisition. The one rare exception is if a riparian parcel is split into two or more parcels as part of an acquisition and the land being acquired is a sub-parcel that is not adjacent to the watercourse. In this circumstance, it is important to make sure that the intent to retain the riparian right is included on the deed recorded with the county recorder's office when the parcel is split from the original riparian parcel. Otherwise, the newly created non-riparian parcel will lose its riparian entitlement due to the parcel split (see Figure 2 on page 10).

The Water Board should be notified of the change of ownership for any water right(s). For riparian rights, acquisition occurs automatically when the new owner acquires the property in fee simple; however, the new owner must notify the Water Board of this change in ownership, or it will continue to send any notices associated with the water right to the previous owner. You can notify the Water Board by submitting a Supplemental Statement for Change Form[22] for each riparian right. For a change in ownership of an appropriative water right (application, permit, license, or registration), notify the Water Board by filling out and submitting an Ownership Change Form [23].

Both forms are simple one-page forms available on the Water Board's website that can be submitted by email, mail, or fax. After you have notified the Water Board of the change in ownership, the individual identified as the responsible party on the notification form will be sent login information for submitting annual reports and information about any reporting and regulatory compliance requirements specific to the water right. They will also receive any notices sent by the Water Board that are relevant to the water right.

[22] https://www.waterboards.ca.gov/waterrights/water_issues/programs/diversion_use/docs/coao_sppl.pdf
[23] https://www.waterboards.ca.gov/water_issues/programs/ewrims/ownership/

Make sure that any existing appropriative water rights that support the conservation values of the property (or could potentially do so) are included as part of the purchase agreement.

Management Phase

Once the land and any associated water rights have been acquired, you should ensure that any existing water rights which support the conservation values of the site are adequately maintained, both physically and administratively. This includes both the on-the-ground management practices and administrative reporting that is required in order to ensure that the water rights are maintained in a manner that supports the conservation values of the property.

When you are developing the management plan for the site, be sure to identify both on-the-ground management practices and administrative reporting that is required in order to ensure that water rights are maintained in a manner that supports the conservation values of the property.

It is worth noting that post-1914 appropriative water rights have annual fee requirements that vary based on the type of appropriative right (permit, license, or registration) and amount of water associated with the right. Furthermore, water rights with a face value over 10 acre-feet per year are subject to measurement and reporting requirements established under Senate Bill 88 (SB88). Installing monitoring equipment to comply with SB88 standards and maintaining that equipments over time can be time-consuming and costly. If applicable, take these costs into consideration when you develop an annual budget for ongoing site management costs. Information about current fees and reporting requirements are available on the Water Board's webpages for **water measurement reporting**[24] and current **water rights fee schedule**[25].

In some circumstances, a land trust may want to modify the water management practices and/or associated water rights in order to enhance the conservation values of a property. This additional stewardship of the property's environmental water assets can take a variety of forms, as described in Chapter 4, including changing the rate of diversion, coordinating the timing of diversion, etc.

Sale or Transfer Phase

If a land trust acquires a property in fee simple that it then sells or transfers to another entity, the land trust can place deed restrictions on the use of water rights on or appurtenant to the property as part of, or prior to, selling or transferring the property. This approach could be used to essentially prevent any future landowner from using a riparian right. It could also be used to place conditions on a riparian and/or an appropriative water right that dictate how, when, and where it can be utilized. Examples of deed restriction language are included below in the Acquisition Phase portion of Chapter 6. For appropriative water rights, the land trust could retain ownership of the water right(s) associated with the property even if it sells the land. In order to use this approach, the land trust would need to either establish an easement on the property or set up an agreement with the new landowner to allow for ongoing diversion and use of the appropriative right. Alternatively, the land trust could submit a change petition to the Water Board to dedicate the water right to instream use or change the location of the place of water use prior to selling the land.

[24] https://www.waterboards.ca.gov/waterrights/water_issues/programs/diversion_use/water_measurement.html
[25] https://www.waterboards.ca.gov/resources/fees/water_rights/

Chapter 6

STRATEGIES FOR CONSERVATION EASEMENTS

Acquisition Phase

Once due diligence has been conducted to verify the existence and status of any water rights on the property (as described in Chapter 4), consider what approaches to conditioning water rights associated with the property are appropriate to support the conservation values of the property.

In most cases, the maintenance or management of water and water rights on the property are important for meeting the goals and objectives of the conservation easement. Consider whether any requirements, prohibitions, or restrictions need to be placed on any of the water rights associated with the property. Just as the permitted and prohibited uses of the land are detailed in a conservation easement, the easement holder should also consider including permitted and prohibited uses of water and water rights. Below are summaries of ways in which easement language can address water rights.

Just as the permitted and prohibited uses of the land are detailed in a conservation easement, permitted and prohibited uses of water and water rights should also be included in the easement.

Prohibition Language

When you are including language in a conservation easement that places prohibitions on any aspect of water rights, specify the particular water rights that are being encumbered or conditioned. Be careful not to over-restrict water rights in the conservation easement language. If language about water rights is included at all in a conservation easement, it tends to prohibit any transfer of water rights off the property and may prohibit any new water use. While these blanket provisions may seem to protect the conservation values of the property, they may also eliminate future opportunities to dedicate water to instream flow beyond the property boundary or to modify water rights in a manner that could enhance the conservation values of the site. This is particularly true if the stated conservation values and purpose of the easement include the aquatic resources of a waterway, or the species that rely on it for habitat, which reside on and/or downstream of the property. Allowing the formal addition of fish and wildlife preservation and enhancement purposes as an allowed use of a water right provides an opportunity to maintain water associated with the water right instream for environmental purposes without risking the forfeiture of the right due to non-use. Including the option for water rights to be formally dedicated to instream use for fish and wildlife protection and enhancement purposes beyond the property boundaries would allow an instream dedication to extend as far downstream as is defensible under the individual water right. Adding language that specifically allows for the use of water instream beyond the property boundary for the purposes of fish and wildlife benefit is a way to keep this option open while keeping the suite of potential changes allowed by the conservation easement relatively narrow.

> ***Water and Mineral Rights.*** *Grantor reserves all ground water, appropriative, prescriptive, riparian, and contractual or other water and mineral rights on and appurtenant to the Property. Under no circumstances shall water, water rights, minerals, and mineral rights be conveyed, diverted, encumbered, or used off the Property, except those water rights that are legally dedicated instream to benefit fish and wildlife. Any action that diminishes or extinguishes such water rights and mineral rights is prohibited.*

Figure 7: Example of language added to a conservation easement template (underlined) that allows for an instream dedication

Restriction Language

Another approach is to include provisions in the easement that allow for a change in circumstances, as long as the change does not impair the conservation values of the easement and is approved in writing by the easement holder. This added language both protects the conservation values of the acquisition and provides flexibility to allow for some modifications in the future that may not be feasible or under consideration at the time the easement is established. Example text is provided in Figure 8.

> ***Water Rights.*** *Grantor is prohibited from changing the place or purpose of use, leasing, selling, transferring, abandoning, or otherwise separating any water rights from the Property without the prior written consent of the Grantee, upon a determination that such lease, sale, transfer, abandonment, change, or separation would not impair the Conservation Values of the Property.*

Figure 8: Example of conservation easement language that prohibits changes to water rights without written approval by the Grantee.

Affirmative Language

While it is not as common as prohibition language, an easement can prescribe or otherwise require certain types of water use or management to occur to protect, maintain, or enhance the conservation values of the easement. If the conservation values of a property depend on the continued use of a water right, then the land trust may want to include language that both affirms ongoing use of the water right and compliance with any reporting or other administrative requirements necessary to maintain the water right. In this circumstance, the easement should include a process that allows the easement holder to take action to remedy a situation in which a water right is at risk of being forfeited if the landowner fails to comply with the conditions of the easement or fails to use the water right appropriately.

While it is not specific to water assets, the Marin Agricultural Land Trust's use of affirmative language requiring easement lands to be actively farmed or used for ranching operations is one of the more well-known applications of affirmative language applied to conservation easements in California. Land trusts in Colorado and other states have also included affirmative language to require the ongoing use of water rights. One example is the model language for conservation easements developed by the Colorado Water Trust, which prescribes ongoing use of a water right in order to sustain the conservation values of the property and avoid forfeiture of the water right (see Figure 9).

Protection of Water Rights. *In order to preserve and protect the Conservation Values of the Property, the Grantor shall continue the recent historical use of the Water Rights on the Property consistent with the Conservation Values and shall not abandon or allow the abandonment of any of the Water Rights, by action or inaction. The Grantor shall annually report to the Grantee the nature and extent of use of the Water Rights during the prior year, which report need not be in writing, but shall include copies of any reports submitted to the State or Division Engineer or Water Commissioner1 by the Grantor. The Grantor shall provide the Grantee a copy of any written notice received by the Grantor from any state official concerning the use, or possible abandonment, of the Water Rights.*

[1]. This language was developed for conservation easements in Colorado so the language regarding the State or Division Engineer or Water Commissioner is not applicable to water rights in California

Figure 9: Example of affirmative easement language specific to the ongoing use of water rights

Management Phase

Annual site compliance monitoring is a standard practice to ensure that the terms and conditions of a conservation easement are being upheld over time. During this annual monitoring, a land trust representative should review water rights that support the conservation values of the site to make sure they are adequately maintained, both physically and administratively. The representative should also check to see whether water on the site is being managed in accordance with the conservation easement and within the legal authorizations of the associated water right. In addition, the representative should check to make sure that the landowner is complying with the State's water rights reporting requirements by either obtaining copies of annual use reports from the landowner or looking them up on the Water Board's eWRIMS database.

The land trust may consider providing incentives or assistance to conservation easement landowners that encourage them to modify water management practices and/or associated water rights further in order to enhance the conservation values of a property. Depending on the capacity and interests of the land trust, this stewardship assistance can include technical support, project assistance, funding assistance for project implementation costs, or payments for leasing or forbearing water for environmental uses. If the land trust is interested in these types of efforts but they are beyond the scope of its operations, consider partnering with conservation-oriented organizations, such as environmental nonprofits and Resource Conservation Districts that that may have existing environmental water stewardship programs and that may be able to provide additional expertise and project support. Stewardship of the property's environmental water assets can take a variety of forms, including approaches described in Chapter 4.

Chapter 7

RECOMMENDATIONS FOR INTEGRATING WATER ASSET IDENTIFICATION, EVALUATION, AND PROTECTION IN STANDARD PROCESSES AND DOCUMENTS

The previous chapters of this document focus on how to identify, evaluate, and protect water assets. While these tasks may be new to a land trust, adding them to the list of existing approaches to assess and protect land acquisitions does not necessarily involve adding a completely new set of stand-alone actions to a staff member's workload. Many of the steps can be integrated into the existing suite of standard practices that a land trust already takes.

The specific forms and checklists vary from one organization to the next. However, there are a variety of steps that are considered standard practices that most land trusts follow. The checklist on the following page identifies several common practices and documents listed in the ***Land Trust Alliance's Land Trust Standards and Practices***[26] report that can readily be modified or added to in order to integrate water asset identification, evaluation, and protection. Additional details for each of the practices and forms listed are provided on the subsequent pages.

[26] *http://s3.amazonaws.com/landtrustalliance.org/LandTrustStandardsandPractices.pdf*

Checklist for including environmental water assets in standard acquisition practices and forms:

FOR ALL CONSERVATION TRANSACTIONS

- ❑ **1. Project meets the land trust's selection criteria**
  Include environmental water assets in selection criteria.
- ❑ **2. Project checklist**
  Include water asset evaluation and protection steps throughout the acquisition process.
- ❑ **3. Visual inspection of the property**
  Identify and document any water resources, existing water diversions, and water infrastructure.
- ❑ **4. Evaluation of potential threats to the property's conservation values and any current or potential risks associated with the project**
  Evaluate whether the conservation values of the project might be impaired by the reactivation of any dormant riparian rights, the use of existing appropriative rights held by others, or the sale or transfer of any water rights.
- ❑ **5. Assessment of the project's stewardship implications**
  Consider what level of direct management or oversight of management is needed to physically and administratively manage the water rights and associated water resources on the site.
- ❑ **6. Legal review appropriate to the complexity of the project**
  Confirm that the appropriate water rights are in place (e.g., claim, registration, license) for any existing water diversions and infrastructure projects on the property.
- ❑ **7. Annual monitoring report form**
  Include examination of on-site water use and water infrastructure, and check that annual water rights reports of use have been filed.

FOR CONSERVATION EASEMENTS

- ❑ **8. Conservation easement deed**
  Consider options for placing prohibitions, conditions, or requirements on both existing and future water rights as part of the conservation easement.
- ❑ **9. Baseline documentation report**
  Include a written description and photo documentation of the hydrologic features and any water infrastructure on the property and historic water use, to the extent it is known.

FOR FEE-SIMPLE LANDS

- ❑ **10. Land management plan for each conservation property**
  Include a written description of on-site water resources management and administrative water rights management (i.e., annual reporting to the Water Board) as part of ongoing resource management duties.

For All Conservation Transactions

1. Project meets the land trust's selection criteria

A land trust's selection criteria should reflect its overall organizational goals and objectives. Environmental water assets should be included in a land trust's selection criteria if the organization's goals and objectives rely on their availability. For example, if a land trust aims to protect riparian corridors for stream health and/or wildlife habitat, then the ability to maintain or enhance the instream flows that sustain that riparian corridor should be considered a key component of the selection criteria.

2. Project checklist

The project checklist should include water asset evaluation and protection steps throughout the acquisition process. Steps include:

- Completing an initial investigation of water use
- Validating and documenting any water rights
- Including language pertaining to water rights in easement or purchase agreement
- Submitting a change in ownership form to the Water Board for any water rights acquired as part of a fee-simple property acquisition
- Assigning a land trust representative to oversee monitoring and reporting of water rights

3. Visual inspection of the property

During the visual inspection of the property, document any water resources that support the conservation values of the property and meet the land trust's project-selection criteria in the initial site visit inspection form or other standard forms to document site conditions. Inspect any existing water diversions and water infrastructure to determine whether they impair or have the potential to impair the conservation values of the property.

4. Evaluation of potential threats to the property's conservation values and any current or potential risks associated with the project

Evaluate whether the conservation values of the project might be impaired by the reactivation of any dormant riparian rights, the use of existing appropriative rights held by others, or the sale or transfer of any water rights not encumbered as part of the project. Depending on the complexity of the site conditions, it may be appropriate to seek the advice of an attorney familiar with California water law to assist with or conduct this evaluation.

5. Assessment of the project's stewardship implications

When you are assessing the stewardship implications of each project and the land trust's capacity to meet those obligations, consider what level of direct management or oversight of management is needed to physically and administratively manage the water rights and associated water resources on the site. As part of a fee-simple acquisition, identify any long-term water infrastructure maintenance costs. Also identify who will be responsible for water management on the site and annual reporting to the Water Board. For conservation easements, consider your land trust's capacity for water management and reporting. Also consider what enforcement actions may be necessary if the landowner does not follow through with their obligations to manage and maintain specific water rights and what resources may be needed to address these issues.

6. Legal review appropriate to the complexity of the project

Confirm that the existing landowner has the appropriate water rights in place (e.g., claim, registration, license) to operate any existing water diversions and infrastructure projects on the property. Seek the advice of an attorney familiar with California water law to assist in the review of existing water rights, purchase and sale agreement, conservation easement (if applicable), and a chain of title report if you are verifying the transfer of ownership of a pre-1914 appropriative claim.

7. Annual monitoring report form

Include criteria that examine on-site water use and water infrastructure, and check that annual water rights reports of use have been filed with the Water Board (if applicable) in the annual monitoring report form.

For Conservation Easements

8. Conservation easement deed

Consider options for placing prohibitions, conditions, or requirements on both existing and future water rights as part of the conservation easement. See Chapter 6 for examples.

9. Baseline documentation report

Include a written description of the hydrologic features on the property, a description of any water infrastructure, photo documentation of any water resources and water infrastructure, and a description of the current and historic uses of water (to the extent that they are known) in the baseline documentation report.

For Fee-Simple Lands

10. Land management plan for each conservation property

Create a land management plan that includes a description of site conditions and facilities and any water management infrastructure. Also describe ongoing on-site water resource management and administrative water rights management tasks (i.e., annual reporting to the Water Board), and who is responsible for them, as part of ongoing resource management duties. During the development of the management plan, consider whether any modifications of existing water management and/or underlying water rights would enhance the conservation values of the property.

Glossary

adjudication: The judicial process that confirms the existence of a water right by court decree.

beneficial use: A reasonable quantity of water applied in a non-wasteful manner for any of the uses described by the California Code of Regulations Sections 659–672, Title 23, including Domestic Use, Irrigation, Power Use, Frost Protection Use, Heat Protection Use, Municipal Use, Mining Use, Industrial Use, Fish and Wildlife Preservation and Enhancement, Aquaculture Use, Recreational Use, Water Quality Use, and Stockwatering Use.

change petition: The form and associated documentation submitted to the Water Board to request approval of a change to the point of diversion, location of diversion, place of use, and/or beneficial use of a water right.

conditioning: A general term used in this document for the placement of any prohibition, restriction, or requirement upon any existing or potential future water right through easement language, formal water rights modifications, forbearance agreement, or other means.

conservation values: The primary purpose for acquiring a real estate interest. These include ecological, social, economic, and other values that drive the interest to acquire and protect land.

consumptive use: The amount of water that is consumed through use by evapotranspiration, that percolates underground, or that is otherwise removed from use in the downstream water supply as a result of direct diversion to storage.

dormant riparian right: A riparian right that is not currently being put to beneficial use.

due diligence: The act of taking reasonable steps to investigate and understand the physical and legal aspects of a property in order to make an informed decision about a property acquisition.

environmental water asset: Both the physical water resources (e.g., streams, wetlands, springs) and the water rights (e.g., claims, permits, licenses, registrations) that support, or have the potential to support, the conservation values of a property acquisition.

face value: The maximum amount one can divert water under an appropriative water right as stated on the permit or license. The actual amount of water available for use by the right may be less than the face value of the right under circumstances where water is not available due to senior water diverters or climactic conditions.

instream dedication: An instream flow transaction that includes a water right change in accordance with Water Code Section 1707, and that is recognized by the Water Board.

junior right: Water rights established more recently than older or more senior rights. In times of shortage, the most recent ("junior") water right holder must be the first to discontinue their diversion of water. The priority of each post-1914 appropriative water right dates to the time that the permit application was filed with the Water Board.

permissive instream dedication: A water rights change under Water Code Section 1707 that adds instream use to a list of allowed uses in an existing water rights list.

reasonable use: A state constitutional requirement (Article X, Section 2) that all water rights must use water for a beneficial use(s) and cannot waste or unreasonably use the water or apply an unreasonable method of use to it.

senior right: One of the older water rights on a stream; holding a senior priority date on the permit application filed with the Water Board.

subterranean stream: Water flowing underground through known and definite channels.

water right: In California, any right to water codified in California water law or statute. This includes appropriative permits, licenses, and registrations, as well as pre-1914 appropriative claims and riparian claims.

Appendix A. Additional Resources

This appendix includes a variety of resources that can help you evaluate and protect environmental water assets. Some of the resources were cited in the guide, while others are additional resources that are relevant to the topic under which they are listed.

Environmental Water Asset Evaluation Resources (Chapter 2)

GIS data and decision support tools

Biogeographic Information and Observation System (BIOS)
https://apps.wildlife.ca.gov/bios/

California Natural Diversity Database (CNDDB)
https://www.wildlife.ca.gov/Data/CNDDB

California Freshwater Species Database
https://www.scienceforconservation.org/products/california-freshwater-species-database

California's Freshwater Conservation Blueprint
https://www.scienceforconservation.org/assets/downloads/CAblueprint.pdf

California Wildlife Habitat Relationships (CWHR)
https://www.wildlife.ca.gov/Data/CWHR

EcoAtlas
https://www.ecoatlas.org/

Vegetation Classification and Mapping Program (VegCAMP)
https://www.wildlife.ca.gov/Data/VegCAMP

Watershed and species habitat plans and assessments

CDFW digital library of stream inventory reports
https://nrm.dfg.ca.gov/documents/ContextDocs.aspx?cat=Fisheries--StreamInventoryReports

NOAA Fisheries Recovery Plans for fish species in California
https://archive.fisheries.noaa.gov/wcr/protected_species/salmon_steelhead/recovery_planning_and_implementation/southern_oregon_northern_california_coast/recovery_plans.html

USFWS digital library of Recovery Plans in it's Environmental Conservation Online System (ECOS)
https://ecos.fws.gov/ecp0/pub/speciesRecovery.jsp?sort=1

Water Rights Resource Documents (Chapter 3)

Laws and Regulations

California Code of Regulations, Title 23
https://www.waterboards.ca.gov/laws_regulations/docs/wrregs.pdf

Statutory Water Rights Law
https://www.waterboards.ca.gov/laws_regulations/docs/wrlaws.pdf

Water Rights

A Guide to Water Rights in California for Small Water Users (TU, 2019)
https://www.tu.org/wp-content/uploads/2019/05/Trout-Unlimited.-A-Guide-to-CA-Water-Rights-final-full-resolution.pdf

A Practitioner's Guide to Instream Flow Transactions in California (SWIFT Working Group, 2016)
http://www.calinstreamguide.org/

California Department of Water Resources Sustainable Groundwater Management
https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management

Layperson's Guide to Water Rights Law (WEF, 2013)
https://www.watereducation.org/publication/laypersons-guide-water-rights-law

Water Acquisition Handbook: A Guide to Acquiring Water for the Environment in California (TPL, 2005)
https://www.tpl.org/california-water-acquisition-handbook

Water for Nature: What We Can Do Today to Help California's Rivers, Streams and Wetlands (TNC, 2017)
https://www.scienceforconservation.org/assets/downloads/Water4Nature-2017.pdf

Evaluation Due Diligence (Chapter 4)

Hydrologic data

The Nature Conservancy's Natural Flows Database
https://rivers.codefornature.org/#/map

USGS WaterWatch
https://waterwatch.usgs.gov/?m=real&r=ca

Maps, aerial photography, and spatial data

Historic Aerials
https://www.historicaerials.com/

USGS Topographic Maps
https://www.usgs.gov/core-science-systems/ngp/tnm-delivery/topographic-maps

USGS Earth Explorer
https://earthexplorer.usgs.gov

State Water Resources Control Board (Water Board) Webpages and Forms (Chapters 3, 4, and 5)

Electronic Water Rights Information Management System (eWRIMS) database and mapping application
https://www.waterboards.ca.gov/waterrights/water_issues/programs/ewrims/

Senate Bill 88 (SB88) surface water measurement and reporting information
https://www.waterboards.ca.gov/waterrights/water_issues/programs/diversion_use/water_measurement.html

Water Board's adjudication webpage
https://www.waterboards.ca.gov/waterrights/board_decisions/adopted_orders/judgments/

Water rights fee information
https://www.waterboards.ca.gov/resources/fees/water_rights/

Water rights forms (change of ownership, petitions, registrations, applications, etc.)
https://www.waterboards.ca.gov/waterrights/publications_forms/forms/

Water Rights Report Management System (RMS)
https://rms.waterboards.ca.gov/login.aspx

Strategies for Conservation Easements (Chapter 6)

Sanctuary Forest Storage and Forbearance Program Summary
http://sanctuaryforest.org/wp-content/uploads/2014/12/Water-storage-and-forbearance.pdf

Recommendations for Integrating Water Asset Identification, Evaluation, and Protection in Standard Processes and Documents (Chapter 7)

Land Trust Alliance's Land Trust Standards and Practices
http://s3.amazonaws.com/landtrustalliance.org/LandTrustStandardsandPractices.pdf