



COUNTY OF HUMBOLDT

AGENDA ITEM NO.
H-3

Date: May 26, 2015
To: Board of Supervisors
From: Kevin R. Hamblin, Director, Planning and Building Department
Subject: Report on Water Storage Issues

RECOMMENDATION(S):

That the Board of Supervisors hear the report and take appropriate action, if required.

SOURCE OF FUNDING:

N/A

DISCUSSION:

In response to presentations by various agencies and stakeholder groups regarding low summer water flows in local rivers and streams and the resulting impacts on local fisheries, the County has been investigating water storage issues. The necessity for water storage is a fact of life for many rural residential citizens as well as those engaged in general agriculture. Years of drought have shown that many areas of the county can no longer rely on historical rainfall patterns and stream flows to meet domestic or irrigation needs.

As part of its research, the County consulted with various agencies, affected property owners, stakeholder groups, representatives from the consulting community, and businesses that provide water storage products and services. Two needs emerged from these consultations: 1) there is a need to educate the public on water storage issues; and 2) there is a need to clarify and, where possible, streamline the county

Prepared by Steven Santos

CAO Approval

REVIEW:

Auditor _____

County Counsel DS

Human Resources _____

Other _____

TYPE OF ITEM:

- Consent
- Departmental
- Public Hearing
- Other _____

PREVIOUS ACTION/REFERRAL:

Board Order No. _____

Meeting of: _____

BOARD OF SUPERVISORS, COUNTY OF HUMBOLDT

Upon motion of Supervisor
Seconded by Supervisor

- Ayes
- Nays
- Abstain
- Absent

Per Order of the Chair

and carried by those members present, the Board hereby approves the recommended action contained in this Board report.

Dated May 26, 2015

By:

Kathy Hayes, Clerk of the Board

permitting process for water storage structures.

With regard to public education, several issues were identified by the County as important. These issues include storage amount, forbearance periods, storage options, water conservation and water budgets. These areas of focus are discussed in a Water Storage Overview informational handout which is attached to this Board report.

With regard to permits, a goal of the County review was to clarify for property owners when a Conditional Use Permit would be required by the Planning and Building Department's Current Planning Division. County staff examined the zoning regulations and considered factors such as water source and storage type. A goal of the department was to establish policies that would streamline and facilitate water storage efforts and increase allowable water storage amounts. This effort resulted in a Water Storage Permits informational handout which describes increased thresholds of ministerial permit requirements. In other words, property owners who qualify can store more water than before without triggering a discretionary planning permit.

The two handouts are published by the Planning and Building Department and are available on the web, at the front counter and distributed at appropriate community meetings. As knowledge and experience evolves, either of the work products or the policies contained within them can be adjusted over time if necessary.

FINANCIAL IMPACT:

N/A

ALTERNATIVES TO STAFF RECOMMENDATIONS:

Board's discretion

ATTACHMENTS:

Water Storage Overview Informational Handout

Water Storage Permit Informational Handout

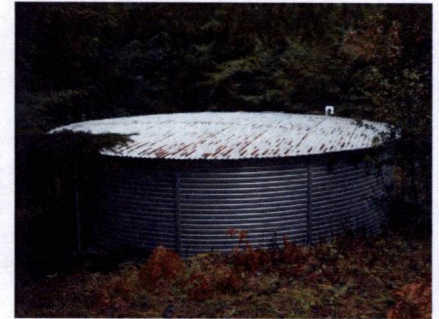
WATER STORAGE OVERVIEW

PLANNING AND BUILDING DEPARTMENT

Humboldt County's Mediterranean climate is often characterized by long, dry summers. Little or no rain may result in low stream flows during the summer months. Because water in streams and springs may not be available, rural property owners can prepare for the dry season by storing water by May 31st that will last for at least 105 days.

STORAGE AMOUNT

According to the State Water Resources Control Board, between 55 and 75 gallons of water is needed per person per day depending on whether the household has water conservation devices installed. At a minimum, using these calculations, a family of three using low flow fixtures would need approximately 17,325 gallons of stored water to meet the suggested 105 day supply for domestic use only. This figure does not include irrigation. In addition, a minimum of 2500 gallons may also be needed on-site for wildfire protection. For larger households or under other conditions, 50,000 gallons or more of storage capacity may be necessary for a 105 day period.



STORAGE OPTIONS

There are many ways to store water. Water tanks, bladders, ponds, rainwater catchment systems and greywater systems are the most common options.

Water tanks may be constructed of various materials such as metal, plastic or fiberglass. Bladders are typically constructed of industrial strength flexible nylon or PVC plastic. Water tanks and bladders can store more than 100,000 gallons of water, depending on the model. Water bladders can sometimes be difficult to install, may fail due to the material breaking down over time and may not be suitable as a drinking water source or long-term solution.



Ponds are depressions in the ground that store water. Ponds can be filled with water run-off during the wet season for use in the dry season.

Rainwater catchment systems collect run-off from rooftops which is then stored for later use. Since collecting rainwater in this way does not require additional state permitting, it is a cost effective solution to meeting some of your water needs.

Greywater systems reuse water from hand sinks, showers and baths and reuse it for toilet flushing and irrigation.

WATER CONSERVATION

Water conservation is just as important as water storage when preparing for the dry season. Use of conservation techniques result in a longer lasting water supply. It is important to create a water budget and regularly track water flow to ensure that household needs are met through the dry season.

Flow is the measurement of the total fluid that passes a fixed location. There are several ways to measure flow. Installation of a water meter is one method of tracking weekly water use and staying within your water budget. Other ways of measuring flow include the bucket method and float method. Both methods require minimal investment and provide fairly accurate results.

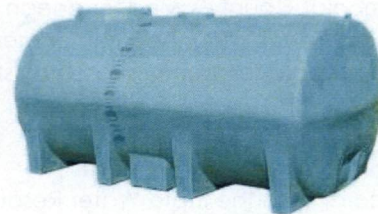


WATER STORAGE OVERVIEW

PLANNING AND BUILDING DEPARTMENT

Simple steps to conserve water include:

- Ensure fixtures are working properly
- Replace older fixtures and appliances with more efficient models
- Turn off water unless actually rinsing dishes, showering, or brushing teeth
- Regularly inspect tanks and water systems for leaks
- Install a shut off valve to divert water back to the source when the tank is full
- Reduce irrigation water by using drought-resistant plants or drip irrigation
- Reuse greywater and prevent runoff



WATER STORAGE PERMITS

Development of water storage structures requires permits from local agencies. For example, a permit is required from the Building Inspection Division for any water storage structure in excess of 5,000 gallons regardless of the storage type or method. A Conditional Use Permit may also be required from the Current Planning Division for general agriculture or rural residential uses if the storage exceeds 50,000 gallons.



Permit applications must include a detailed site map known as a plot plan. Among other things, a plot plan must show the location of site characteristics such as property lines, roads, utilities, natural features as well as all existing and proposed structures. Plot plans must show distances between features and structures and it is preferred, but not required, that plot plans be drawn to scale. Plot plans can either be prepared by certified professionals or by applicants themselves. As part of the planning or building permit application review, other agencies are notified and asked to respond with comments. These agencies can include Public Works, Environmental Health, California Department of Fish and Wildlife and the US Fish and Wildlife Service.

It is important to plan ahead. While the building permit process takes approximately 4 to 6 weeks, the Conditional Use Permit process can take 4 to 6 months. For more specific information about permit requirements, please contact the Humboldt County Planning and Building Department at (707) 445-7245. A Water Storage Permits brochure is also available.

ADDITIONAL INFORMATION AND REQUIREMENTS

Depending on the water source, a Lake or Streambed Alteration Agreement may be needed from the Department of Fish and Wildlife. For additional information on obtaining a Streambed Alteration Agreement or questions about pumping and fish screens, contact the Department of Fish and Wildlife located at 619 2nd Street, Eureka, CA 9550, (707) 445-6493 or visit: <https://www.dfg.ca.gov/habcon/1600>

For more information regarding water rights, please contact the State Water Resources Control Board at P.O. Box 100 Sacramento, CA 95812, (916) 314-5300 or visit: http://www.swrcb.ca.gov/waterrights/water_issues/programs/registrations/index.shtml

There are many online resources with additional information on water conservation:

http://www.appropedia.org/How_to_measure_stream_flow_rate

<http://greywateraction.org>

<http://www.yournec.org>

<http://humboldt.gov/DocumentCenter/Home/View/6546>

<http://www.waterboards.ca.gov/stormfilm/>



WATER STORAGE PERMITS

PLANNING AND BUILDING DEPARTMENT

BUILDING PERMITS

Permits are required from the Humboldt County Building Inspection Division for all water storage in excess of 5,000 gallons regardless of the type of storage method. In general, grading permits are required for ponds and building permits are required for tanks. Property owners must sign a Notice of Acknowledgement of Land Use Limitations for conformance with zoning before a grading or building permit can be issued. A Notice of Acknowledgement is a document that describes which uses are allowed. On average, the permit process with the Building Inspection Division takes approximately four to six weeks.

PLANNING PERMITS

Permits may be required from the Humboldt County Current Planning Division for water storage under certain conditions. Considerations that may trigger a Conditional Use Permit include the water source, intended storage capacity, storage type, forbearance period and whether the storage is accessory to general agriculture or rural residential use. In general, water storage is considered accessory to general agriculture or rural residential use if it serves a purpose which does not change the character of the principal agriculture or residential use. In other words, the water storage must be incidental and subordinate and cannot be the primary or exclusive use.

The Conditional Use Permit process can take 4 to 6 months. The tables below describe the basic conditions that trigger a Conditional Use Permit. Other conditions may apply.

Water Storage Accessory to General Agriculture

This table shows the water sources and water storage capacities that are allowed without a permit for properties where general agriculture is the principal use. This means the water storage is for purposes such as irrigation or stock watering. It does not matter if the parcel has a developed residence or not. The minimum forbearance periods listed in the table are the minimum county standard. A different standard may be required by state agencies.

Water Source	Tank Storage Capacity (US Gallons)	Pond Storage Capacity (US Gallons)
Rainfall Catchment	100,000	No Limit
Well (not connected to surface water)	100,000	No Limit
Surface Water Diversion (stream, well or spring)	50,000 (Over 50,000 requires a permit which may include a forbearance period.)	1,000,000 or approx. 3 acre feet. (Over 1,000,000 requires a permit only if forbearance is less than 60 days)

Water Storage Accessory to Rural Residential Use

This table shows the water sources and water storage capacities that are allowed without a permit for properties where rural residential is the principal use. This means the water storage is for purposes such as domestic use or a small vegetable garden. The parcel must have a developed residence. The minimum forbearance periods listed in the table are the minimum county standard. A different standard may be required by state agencies.

Water Source	Tank Storage Capacity (US Gallons)	Pond Storage Capacity (US Gallons)
Surface Water Diversion (stream, well or spring)	50,000	1,000,000 or approx. 3 acre feet (Over 1,000,000 requires a permit)
	>50,000 to 100,000 (Permit required only if forbearance is less than 60 days)	
	>100,000 (Permit requirements vary, please contact the Planning & Building Department)	



WATER STORAGE PERMITS

PLANNING AND BUILDING DEPARTMENT

Other provisions of the Humboldt County Zoning Regulations may also apply. For example, if a water diversion for general agriculture was not in existence before April 24, 1995, the County's Streamside Management Ordinance may apply. Also, the total coverage of ponds or tanks may not exceed 25% of the lot area of the parcel without a Special Permit. Storage quantities in excess of base amounts may be permitted in individual cases. A surface water diversion forbearance agreement and/or a water budget will be requested to justify the additional storage amount.

PLANNING AND BUILDING PERMIT APPLICATIONS

Permit applications must include a detailed site map known as a plot plan. Among other things, a plot plan must show the location of site characteristics such as property lines, roads, utilities, natural features as well as all existing and proposed structures. Plot plans must show distances between features and structures and it is preferred, but not required, that plots plans be drawn to scale. Plot plans can be prepared either by certified professionals or by applicants themselves.

As part of the planning or building permit application review, other agencies are notified and asked to respond with comments. These agencies can include Public Works, Environmental Health, California Department of Fish and Wildlife and the US Fish and Wildlife Service.

Additional submittals may be requested as part of the permit review process. Biological studies, soils reports or engineering calculations are common requirements.

Payment of fees is associated with permit applications and varies depending on storage size, the number of agencies providing review and the total number of permits. For more specific information about permit requirements, please contact the Humboldt County Planning and Building Department at (707) 445-7245.

OTHER PERMITS

Depending on the water source, a Lake or Streambed Alteration Agreement may be needed from the Department of Fish and Wildlife. For additional information on obtaining a Streambed Alteration Agreement, contact the Department of Fish and Wildlife located at 619 2nd Street, Eureka, CA 9550, (707) 445-6493 or visit: <https://www.dfg.ca.gov/habcon/1600>

Approvals may also be required for the State Water Resources Control Board or the Department of Forestry and Fire Protection (CalFire).

