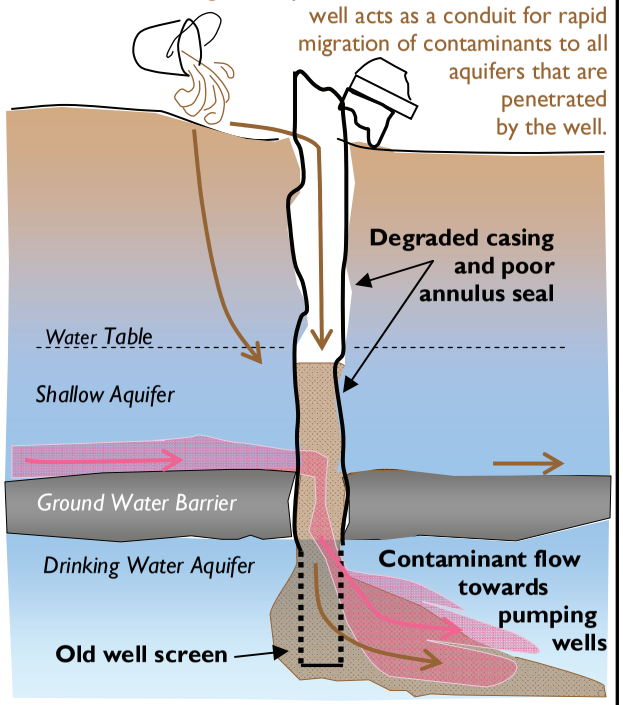
Did You Know...

- An estimated 43% of Californians rely on ground water for their drinking water supply (3).
- Private wells (including those that provide domestic drinking water) are not regulated as strictly as public water systems, leaving the responsibility for clean water to the property owner (4).
- A nationwide study detected total coliform bacteria (an indicator of possible fecal contamination) in one-third of domestic wells sampled. A separate federal analysis revealed nitrate levels exceeding the U.S. Environmental Protection Agency's pollution standard in nearly one-fourth of the shallow domestic wells sampled in agricultural areas (4).

Pesticides, nutrients, and other potential contaminants applied or spilled on the ground near any well pose a pollution risk, but the hazard significantly increases where an abandoned well acts as a conduit for rapid migration of contaminants to all aquifers that are penetrated by the well.



By penetrating clay layers or other groundwater barriers, old wells may act as pathways for poorer-quality ground water to pass from shallow "water table" aquifers into deeper aquifers, which may be the source of domestic or municipal drinking water supply. Pumping from nearby wells may actually accelerate the rate of contaminant migration towards the producing well.

For More Information...

www.ca.nrcs.usda.gov

USDA-Natural Resources Conservation Service for California homepage, including online access to this pamphlet and other technical resources, EQIP and other program information, and a Service Center directory.

www.water.ca.gov/groundwater/

California Department of Water Resources (DWR) "Groundwater Information for California," including groundwater education, State Well Standards, groundwater level and quality data, and DWR contacts. DWR's listing of local permitting agencies can be found under "Wells and More" and the "Well Completion Reports" tabs.

www.wellowner.org

National Ground Water Association's online resource for information relating to private well systems and groundwater, including groundwater, water quality, and well basics, and a search engine for finding a local contractor.

Photo Credits and Acknowledgements:

(1) Ontario Ministry of Agriculture, Food & Rural Affairs Fact Sheet 716;

(2) University of Illinois College of Agricultural, Consumer and Environmental Sciences;

(3) California Department of Water Resources Bulletin 118;

(4) United States Geological Survey Circular 1332;

(5) www.environmental.hannahville.net/Project_Photos.htm

(6) Saskatchewen Watershed Authority Ground Water Management Fact Sheet.

Additional information provided by Monterey County Health Department , Environmental Health Division; and Sean Duffy (USDA-NRCS-MI)

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Davis, CA *January 2010*

United States Department of Agriculture
NRCS Natural Resources Conservation Service

Abandoned Wells

The Problem:

- People could fall into uncapped wells as narrow as 8 inches, resulting in injury or even death. Livestock and wildlife are also at risk.
- Poorly designed wells or wells in disrepair are potential conduits for pesticides, bacteria, and other pollutants to enter the groundwater and contaminate drinking water supply.

The Solution:

Recognize...

When locating abandoned wells on your property, look for:

- Historic records in personal files or in county or state records
- Pipe sticking up out of the ground
- Concrete pit or vault
- Depression or open hole
- Unused electrical panel
- Electrical poles or lines
- Unused windmill
- Small building (former well housing)
- Plywood or metal on the ground

Loose soils and cavities associated with historic grading and/or erosion are common near abandoned wells, and may have created a safety hazard. Survey the site for signs of subsurface or obscured voids and collapsible soils, and take necessary safety precautions.

(5)

Deciding whether to cap or to destroy an old well...

Wells that are temporarily not in use but are in good condition may be capped with a watertight seal. The seal prevents both unauthorized access and contamination of the well. Capping is not, however, an effective alternative for dug wells, wells without casing or with deteriorated casing, or wells that are otherwise in poor condition. Such wells should be destroyed.

Decommissioning instead of capping is also recommended for wells located close to sewers or septic systems, seepage pits, or animal enclosures, or where potential contaminants including fertilizers or pesticides must be applied.

As with any functioning well, wellhead protection for capped wells is necessary to help protect groundwater quality.

Report...

The California Department of Water Resources (DWR) has developed water well standards which establish the minimum criteria for the construction, alteration, maintenance, or destruction of wells to prevent pollution of ground water.

Local governments, counties, cities, and some water districts are responsible for enforcing standards that are either equal to or more stringent than DWR's well standards. In most jurisdictions, permits, permit fees, and a certified (C-57) well driller to complete the work will be required.

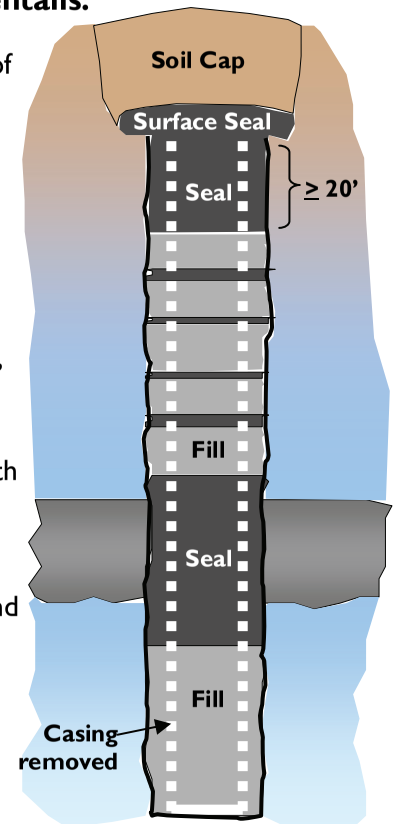
The primary mission of regulating agencies is to protect groundwater quality for the health and safety of its citizens. Agencies are committed to working cooperatively with landowners who are addressing resource concerns that have developed as a result of generations of historic land use practices.

(6)

Destroy...

Well decommissioning by a certified well driller typically entails:

1. Clearing the site of old pumping equipment, trash, and other materials;
2. Disinfecting the well column with chorine;
3. Removing, ripping, or perforating old casing;
4. Filling the hole with fill and sealing material, in accordance with local regulations and NRCS standards;



5. Cutting off any casing that remains at least five feet below the surface, and placing a surface seal on top of the filled well bore; and
6. Placing and grading soil material over the sealed well to prevent ponding of surface runoff.

NRCS Assistance May Be Available...

USDA's Natural Resources Conservation Service provides technical and cost-share assistance (using programs such as the Environmental Quality Incentives Program or EQIP) to qualified producers, for well decommissioning and other practices that promote wise stewardship and protect natural resources.