

April 13, 2000

Endangered Species and Water

## WATER: for Farming, Fish and Fighting over.....

**A special report of the Methow Valley News**

### *NOTE:*

*As water rose to prominence as the key issue in the Methow Valley after listing of endangered fish in the basin, the News has committed to in-depth reporting and analysis of the complex factors involved in this important time.*

by Lee Hicks

Water has never been as critical to the future of the Methow Valley as now, with issues of endangered fish species affecting livelihoods and the local economy.

The debate over availability of water was a factor in the now-abandoned quest to build Arrowleaf resort. Water rights are in question as the Methow Valley Irrigation Ditch begins a reorganization program that was opposed by many smaller ditch users.

Irrigators diverting from federal land face more uncertainty over permits that determine whether they'll have water for crops. A job-producing expansion of the Valley's largest single employer, Sun Mountain Lodge, has been threatened because of water issues.

The National Marine Fisheries Service, which listed salmon and steelhead trout under the 1973 Endangered Species Act, is putting pressure on state and county governments, and other federal agencies, to conserve water for fish habitat.

The history and terminology of water rights and water use is complex, sometimes obscure and intimidating.

This special report of the News attempts to summarize water law and terminology, and to explain the key issues related to uses of water in the Methow basin.

### **A short history of water rights in Washington:**

Water rights in our state, and many others, evolved from English common law. A principle of territorial water law, the riparian doctrine, held that landowners adjacent to rivers had the right to use the resource.

As Washington moved from territory status to statehood, courts and then the state legislature increasingly favored the appropriation doctrine for water rights. Users could appropriate water to develop a water right even though they were not adjacent to a river or stream. Rights could be held to ground water, that originating in aquifers and obtained through wells.

The 1917 Water Code adopted by Washington state recognized existing riparian water rights but required that any new rights be "appropriated" through a state permit system. Proximity to a river or stream was not necessary to establish an appropriative right. The 1917 code also established the principle of "first in time, first in right." Adjudication through the courts also became the primary process for resolving water right disputes.

The water code gave authority over the permit system at first to a supervisor of water resources. The responsibility passed to the state Department of Conservation up to 1967 and for a brief time to a state Department of Water Resources before being assumed by the Department of Ecology in 1970. Today DOE has broad authority under state law and the administrative code to manage many aspects of water use, including issuing water permits and water rights certificates, for the "public welfare."

Some of the terms that might help understand the water issues being debated in the Methow Valley:

**Statements of water claims, water permits and water right certificates** are all recorded in the Department of Ecology water registry. In the Methow basin there are more than 2,000 entries, some of them a century or more old.

**Claims** are essentially that, a written statement of a water user's intent and belief in the right to use water.

The Department of Ecology may issue a water permit to an applicant, and eventually a water right certificate if terms of the permit are satisfied. The right is perfected through beneficial use, generally meaning that water must be applied for the purpose in the permit. Once a right has been established through **beneficial use**, the "use it or lose it" principle comes into play.

This was part of the state Supreme Court case that went against the Town of Twisp's effort to use a diversion on the Methow River for the proposed new industrial park. The court held that the Twisp right had been abandoned.

A July, 1998 state Supreme Court decision (*Theodoratus v. the state Department of Ecology*) notes that, "Water must be put to a beneficial use before a water right vests." Beneficial use, the court notes, refers to both the type of use and the "measure and limit" of the water right.

**Trust water rights:** State legislation passed in 1991 allows water rights to be placed in "trust" and managed in the public interest by the state Department of Ecology.

**Water bank:** The new basin water rule now being re-drafted will likely include provisions for a water bank in which unused water rights can be "deposited" in a bank for future withdrawal for approved uses, including agriculture, fish habitat, instream flows and development. This might include amounts not used by residences with a 5,000 gallon "exempt" well, irrigation or other rights.

**Exempt wells:** Most residences in the Methow Valley as part of the building permit process are allowed to use 5,000 gallons of water per day for domestic consumption, including one-half acre of irrigation. In its 1998 discussions with the Okanogan County Commissioners, DOE has said that a realistic amount would be 2,000 gallons a day and has suggested that this "excess" water might be deposited in a water bank.

**Group domestic rights:** The 1977 Methow basin water plan gave priority to water for single-family and stock watering uses. When water planning efforts focused on the Methow Valley in the 1980s and 1990s, many people argued to "elevate" group domestic water, or community water systems, to similar status in the water code.

At present, however, community water systems are not permitted in the Methow Valley, a situation many argue encourages "grid" development.

**Interruptible rights:** State legislation passed in 1970 allows the interruption of water use under a specific right if it would impede instream flows to a river or stream. Irrigation rights issued

after 1976 are usually interruptible, while wells for single-family domestic use are not. The law is aimed to protect habitat of fish and other wildlife populations. Junior water rights can also be interrupted when there is danger of taking water away from a senior water right within a basin.

**Instream flows:** This refers to the actual amount of water flowing in stream. The state DOE has said a major objective of watershed planning with Okanogan County agencies is to protect instream flows in the Methow basin. This is even more a critical issue with the listing of several fish species under the US Endangered Species Act.

**Groundwater and surface water:** Groundwater is water that is drawn from wells and aquifers, while surface water is that which flows within a river or stream and tributaries or is contained in a lake. Irrigation for farmland and ranching is typically from surface water.

**Hydraulic continuity:** All recent water studies in the Methow Valley have adopted the premise of the connection, or continuity, between ground water (aquifers) and surface water (lakes and streams). The continuing argument is how to identify the effect on the river of groundwater and vice versa. Removing or adding to one of the sources affects the other according to this equation.

**Reaches:** The Methow basin has seven stream reaches. They are the Methow headwaters above Mazama, Early Winters Creek, the upper Methow from Mazama to Winthrop, the middle Methow to Carlton, the lower Methow to the Columbia at Pateros, the Twisp River and the Chewuch River.

**Allocation:** The Department of Ecology is responsible for determining the amount of water allocated in a given basin such as the Methow basin. In the Methow, the amount of water available for new single domestic and stock watering uses since 1976 has been set by regulation at 2 cfs (cubic feet per second) in each of the seven reaches of the basin. (See related story describing water measurements.)

**Water budget:** The term budget is applied to the total amount of "inflow" water that comes into the basin through precipitation and snow melt and water that leaves through "outflow": attributed to evapotranspiration, groundwater withdrawals and surface diversions. The water budget for the Methow according to studies in the mid 1970s was 2,875,000 acre feet per year.

**Water demand:** The amount of water put to various uses in the basin and that which is subtracted from what is available in the budget is known as water demand. Both water budget and water demand are terms that can be applied to a specific project, such as a development or a town water supply.

**Consumptive use:** This is water that is actually consumed through such uses as irrigation and domestic residential use. Some water is returned to the water table after being used—such as gray water and water in septic drain fields.

By some engineering estimates, 85 percent or more of water used on a single family lot with a well and septic system is returned to the groundwater system.

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## HOW MUCH WATER: From where and for what?

by Lee Hicks

The amount of water in the Methow basin is a topic that has been debated energetically for decades, and maybe never more than in the past year.

The National Marine Fisheries Service believes that increasing streamflows is the way to

improve habitat for endangered or threatened salmon and trout species.

Many hydrology studies and historical data indicate, however, that flows of basin streams have less to do with the amount of irrigation and domestic groundwater use through wells, than fluctuating snowmelt runoff and spring rains. In other words, it's "mother nature" and not man that has the greatest effect.

A 1974 study by the Department of Ecology with the US Geological Survey established a "water budget" of 2,875,000 annually in the Methow basin.

The "inflow" side of the budget assumed all of that amount came from snow melt and precipitation. "Outflow" was attributed primarily to evapotranspiration of about 1,623,500 acre feet on Forest Service land, which comprises more than 80 percent of the basin. The other factor in evapotranspiration, irrigation, accounted for only 27,100 acre feet.

The next largest outflow was from 1,162,700 acre feet of surface water lost in streamflows leaving the basin. Groundwater withdrawals totaled 61,700 acre feet.

A subsequent Department of Ecology study in 1976, just before the 1977 water rule was adopted, concluded that total annual man-made water uses amounted to only 115,000 acre feet per year, or about 4 percent of the outflow side of the basin water budget. That amount included "non-consumptive" use which does not reflect water that is returned to the water budget after withdrawal.

It may be easier to understand how much water is available in the basin by considering how it is measured.

A cubic foot per second is the amount of water that would pass a given point in one second, or 7.48 gallons. An acre foot is the amount of water needed to cover one acre to a depth of one foot.

In one hour, a 1 cfs diversion would cover an acre of land with one inch of water. In one day or 24 hours, then, 1 cfs would cover one acre with water two-feet deep—or 2 acre feet of water. Therefore, 2 acre feet per day is equal to a 1 cfs irrigation diversion.

A 1 cfs irrigation diversion would result in 448.8 gallons in one minute (usually rounded to 450 gallons per minute, or gpm). That would amount to 26,928 gallons in an hour, 648,000 in a day and 236,520,000 gallons in a year.

A proposed new water rule, now withdrawn, for the Methow basin would have assigned water in the amount of 2 cfs (cubic feet per second) that can be appropriated for group domestic use in each of the seven "reaches" of the Methow basin. These are the upper Methow River headwaters, Early Winters Creek, upper, middle and lower Methow River, and the Chewuch and Twisp river reaches.

What does this mean in practical terms?

We can translate that 2 cfs figure into 14.96 gallons per second. An "exempt" domestic well that doesn't require a Department of Ecology permit can pump up to 5,000 gallons per day for a single-family residence. That would amount to 258 single-family homes (1,292,544 gallons divided by 5,000).

Some senior surface water rights for irrigation ditches allow more than 20 cfs for seasonal withdrawals—or 10 times the amount allocated by the 2 cfs existing water rule for domestic and stock watering use in the basin.

An important point, though, is that few single-family homes actually use 5,000 gallons per day, especially in winter. In-house domestic use is often less than 500 gallons per day for a three-bedroom residence.

One good example of water use is that a 10-minute shower with a new water saving shower head would use only 25 gallons of water. Leaving the shower running at that rate all day would amount to only 3,600 gallons—still leaving another 1,400 gallons of the 5,000 gallon per day exemption for the well.

Assuming that group domestic systems would allow for 700 gallons of water per day for each residence, as proposed in 1994 by the Pilot Planning Committee study, each 2 cfs reach of the Methow River would support 1,846 homes (1,292,544 gallons divided by 700).

An early draft of a proposed new basin water rule encouraged the use of "group domestic" or community water systems in an effort to concentrate density, preserve open space and discourage "grid" development on five to 20-acre lots throughout the Methow Valley. That provision has been withdrawn, however, as Ecology grapples with a new proposed rule that responds to endangered fish species issues. The state Department of Fish and Wildlife had been expected to conduct a winter fish mortality study of local streams to provide information for decisions on the water rule. But officials say the agency does not have the resources, although it has submitted a summary of winter flow information based on existing studies.

DOE officials and others have said that parts of the basin could already be "overallocated," or could have water appropriated in excess of the 2 cfs reservation. Research by the county's watershed planning unit tends to contradict that assumption.

A planning unit committee has discovered that many pieces of property in the basin have as many as three water claims—not water rights—recorded on the Department of Ecology's Yakima register.

## **THE ADJUDICATION PROCESS**

A possibility in the discussions over endangered fish and water issues in the Methow basin is that the state Department of Ecology could "adjudicate" water rights if no inter-governmental agreement can be reached.

Adjudication is a legal process that results in a determination of an existing water right, not creation of any new rights.

There are an estimated 165,000 water rights claims in Washington State according to the state Department of Ecology. Since 1918, only 82 adjudications of small drainage systems have been completed, and 39 more petitions to adjudicate have been filed.

In the Methow basin, there have been seven adjudications, beginning in 1921 with Beaver and Libby creeks. Gold and Black Canyon creeks were adjudicated in 1929 and Bear Creek and Davis Lake in 1930. There was a half century hiatus until completion of the Wolf Creek adjudication in 1984.

One of the longest-running adjudications in the state involves the Yakima Basin, where the process had been grinding along for 17 years. Just recently the Ecology, the Yakima Indian Nation and US Bureau of Reclamation entered an agreement that will continue to tie up water use in the basin until a \$6 million study of ground and surface water continuity is completed.

An adjudication may be filed by an individual citizen, an organization or Ecology. In any case, Ecology becomes the plaintiff in the action which is carried out in the county superior court.

A summons is issued to known water rights holders and users who then become defendants. The defendants, or others, may then file a statement of claim to a water right with the court, in effect making them claimants as well as defendants.

The claim process is not the same as filing a "statement of water right claim" for the Ecology water register. That information is recorded in the department's central region office in Yakima.

### **QUESTIONS ABOUT REGARDING WATER USE**

The current discussions of water rights issues in the Methow Valley have left many people concerned about obtaining and keeping water for their property.

Relying on a number of sources, the *News* has identified several key questions that most often arise. The questions and answers cannot address all details or specific, individual situations.

It's best to do careful research and consult specialists—such as a well-drilling contractor, planner or engineer—and state and county agencies before making any decisions involving water for your property. In some cases you may need an attorney with water rights experience.

In all cases, a new well or water system must meet "water adequacy" standards of the state health department, as administered by the Okanogan County Health District. These include providing well test data showing capacity for a minimum of 360 gallons per day for in-house use in a three-bedroom residence.

#### **Question:**

I've heard that some sub-basins in the Methow are considered "closed basins." What does this mean?

#### **Answer:**

In 1976, the state Department of Ecology closed more than a dozen sub-basins in the Methow watershed to further surface and groundwater withdrawals "hydraulically connected," including drilling of 5,000 gallon per day wells that are otherwise exempt from DOE permitting. The basins include: Wolf Creek, Bear Creek, Thompson Creek, Beaver Creek, Alder Creek, Benson Creek, Texas Creek, Libby Creek, Cow Creek, Gold Creek, McFarland Creek, Squaw Creek, Black Canyon Creek and French Creek.

Lakes that were closed include Alta, Black, Black Pine, Crater, Davis, Eagle, Libby, Louis, Middle Oval, North, Patterson, Pearrygin, Slate, Sunrise, Upper Eagle and West Oval.

#### **Question:**

I am beginning to look at a number of areas in the Valley where I might buy property. Besides those areas that are "closed" to well-drilling, can I drill an exempt 5,000 gallon well in most other areas?

#### **Answer:**

A 1997 state Attorney General's opinion reaffirmed that property owners do not need to obtain a permit from the state Department of Ecology for "5,000 gallon exempt wells." However, applying for and obtaining a water right permit for an exempt well could provide the property owner with additional flexibility to transfer or change the place of withdrawal or purpose of use—under specific conditions. Property owners should thoroughly research any plans with the state Department of Ecology and Okanogan County agencies.

**Question:**

I purchased about five acres up the Twisp River Valley in 1993. There is a well on the property but it hasn't been used. I have a water certificate for the well that was transferred with the property sale. Will I have any problem using this well when I build my house.

**Answer:**

Your situation raises an important question regarding water rights. Under the "beneficial use" standard of water law, a water right must have been used in at least one of five consecutive years to be valid. This principle has consistently been applied to irrigation rights and other permitted uses. And the Town of Twisp recently "lost" water it had anticipated could be used for a new industrial park because a diversion right had not been put to beneficial use for many years.

"Use it or lose it," is the phrase often applied to this principle. There is no clear answer to your question as it applies to domestic wells. The county planning department's position is that a water permit is not needed to use an existing exempt well. However, as with new wells, a property owner must demonstrate adequacy of water for a dwelling. The county health district requires evidence that a well can produce at least 360 gallons per day for a three-bedroom residence. Again, it's important to consult the health district and a licensed well contractor.

**Question:**

I am a partner in a 42-acre property partnership. The property has been subdivided into 14 lots of about three acres each. There is a well on the property, but it has not been used for more than 20 years.

**1) Can that well be used for the property?**

*Yes, according to the county planning department.*

**2) Can we build a community water system?**

*In this case there are different opinions from the county planning department and county health district.*

*The planning department says, yes, if the department of health approves the system.*

*The county health district, which acts as an "operating partner" with the state health department says community systems are not allowed because of potential conflicts with "senior" surface water rights.*

**3) Rather than build one water system for all lots, can we drill several wells and tie them in to serve multiple lots without a permit?**

*Probably not. Each exempt well can serve only one single domestic use, or else it would be interruptible to meet minimum instream flow requirements. Multiple exempt single domestic wells could be drilled as long as the total does not exceed 5,000 gallons per day. Under certain circumstances, the water code allows consolidation of exempt wells with permitted wells.*

**4) Can persons who buy the lots each build a well?**

*Yes, with the caveat that the lots must meet standards for septic and water systems including soil percolation and separation between well and septic--and the previously mentioned well pumping capacity.*

## **A 5,000-gallon well means a lot of showers**

By Lee Hicks

Terry Cooper doesn't consider himself a miserly water user. He doesn't waste water, though, and uses a drip irrigation system at his Chewuch River area home.

Cooper is one of hundreds of Methow Valley residents whose home and property is served by an "exempt" well that allows use of up to 5,000 gallons per day without requiring a permit from the state Department of Ecology. Cooper's water system is metered by choice.

On average, Cooper says he uses about 175 gallons per day in summer months when the drip irrigation system is operating. The amount drops to about 75 gallons per day in winter.

The county health department only requires that a potential new homebuilder show "water adequacy" of 360 gallons for indoor use in order to complete the building permit process.

A typical water-saving shower head allowing water to run 2.5 gallons per minute would require more than 33 hours to use 5,000 gallons of water. Assuming a very leisurely 10-minute shower, that's enough water to keep about 200 Methow Valley residents squeaky clean.

Cooper may be more typical than not of Methow Valley homeowners whose water usage barely scratches the surface of what they are entitled to use each day. Many Valley homes are "second" or vacation residences that go unused for many months of the year.

The "use it or lose it" standard to establish beneficial use of a water right and the 5,000 gallon exempt well provision most likely distort the discussion of just how much water is needed or actually used in the Methow Basin.

Jay Lucas, who lives in the Mazama area, says he uses even less water, an average of about 50 gallons per day in summer and maybe 140 gallons in winter.

Lucas, director of the Methow Valley Sport Trails Association, is one of the homeowners who was required to install meters under the 1980s county ordinance anticipating development of the Early Winters Ski Area. It is one of numerous monitoring programs and studies initiated in response to the now-abandoned plan for a destination resort in the upper basin.

## **DOE moves to meter water use**

by Lee Hicks

Reacting to a court decision, and possibly continued pressure from environmental groups, the state Department of Ecology is proposing a water rule to step up metering of surface and ground withdrawals.

In a recent announcement, DOE said it wants to amend an existing 1969 rule in order to comply with a 1993 state law that requires metering and recording of water withdrawals from specific locations.

State law now requires metering of water use related to new water rights for agriculture, municipal industry or other uses, and for new diversions from rivers, lakes and springs.

The law also says DOE must require meters for existing surface diversions of more than 1 cfs, or 450 gallons per minute, and for water use where salmon runs are in danger.

The Thurston County Superior Court case involves a May 1999 lawsuit by environmental and

fishing groups, which claimed DOE was not enforcing state law. This February, the court ruled that DOE must update the metering rule.

According to DOE, "court calendar conflicts," resulted in recent postponement of the trial to hear additional arguments on, "the amount of effort" the agency must put into metering existing water rights.

Keith Phillips, DOE water resources program manager, said metering of about 125,000 water right claims, permits and certificates related to salmon runs would burden the agency, "with an enormous budget dilemma...since the legislature has never provided funding to do that work.

"We believe metering is important, but we need to prioritize...along with the many other demands for water management."

DOE's announcement that it would propose the new metering rule came just after release of a report by a Puget Sound area environmental writer that harshly criticized state and federal agencies for neglecting to enforce laws to protect salmon.

That report was sponsored by the Bullit Foundation, an environmental group financed by some heirs of KING broadcasting. The report was later condensed in a lengthy article published March 19 in the Seattle P-I's editorial section of the Sunday Seattle Times.

The writer, Daniel Jack Chasan, began with a conclusion, "...DOE's failure to obey or enforce the law represents business as usual."

Referring to salmon issues in the Puget Sound area, Chasan wrote:

"Before we spend a fortune and disrupt people's lives to restore wild salmon runs in Puget Sound, we should take a long look in the mirror. The same government agencies that have started tapping the cornucopia of federal salmon restoration money have ignored, selectively enforced or actively violated the laws that are already supposed to protect salmon and salmon habitat. Investing more money in business as usual will not save the fish."

Metering of irrigation and other water use in the Methow basin is included as a provision of several water and fish agreements now being negotiated with state and federal agencies. Most members of the local water planning unit appear to support the provision.

DOE officials have also said the agency has been unable to maintain data on actual water use and has encouraged the basin planning unit to identify unused surface diversions and other uses.

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