

RSB JC UPDATE

Spring 2004

Volume 6, Number 1

A PUBLICATION OF THE ROZA-SUNNYSIDE BOARD OF JOINT CONTROL
 P.O. Box 810 ♦ Sunnyside, WA 98944

Water Quality Program Continues to See Improvement



Monitoring data from the 2003 irrigation season illustrates that the quality of water in RSBOJC drains has continued to progress. This season, three of the four main drain sites met the Washington State Department of Ecology's Total Maximum Daily Load (TMDL) for suspended solids. The TMDL process is utilized to help the lower Yakima River and its tributaries meet water quality standards. The loads are estimates of the amount of pollutants that the river can "safely" absorb without threatening the beneficial uses of the river. Results for the season are reported as both 'turbidity' and 'total suspended solids' (TSS) loading. For observance with the TMDL, all major sites where irrigation waters drain back into the lower Yakima River must meet a turbidity goal of not more than 25 nephelometric tur-

bidity units, or NTU. Turbidity is a measurement of water clarity, which directly relates to the quantity of suspended solids in water while TSS loading is the actual measured concentration of suspended solids multiplied by the discharge of the drain, reported in tons/day.

Monitoring of turbidity at the four drainage outlets to the lower Yakima River was measured bi-weekly during the irrigation season, and monthly during the non-irrigation season. For compliance purposes, the overall NTU for each

drainage outlet is reported as "90th percentile" (90% of the individual measurements lie below that value and only 10% above). As illustrated by Chart 1, this goal of 25 NTU was met at the Sulphur, Snipes and Spring Creek Wasteway sites. With a value of 46 NTU, Granger drain continued to exceed the turbidity goal. Granger drain showed improvement over the 2002 irrigation season, declining from 61 NTU.

TSS loading is also calculated at the four major drainage outlet sites. As shown in Chart 2, the median calculated loading on the Snipes Creek Wasteway outlet was 0.11 ton/day, and 5.7 tons/day for the Spring Creek Wasteway. At the Sulphur Creek Wasteway outlet, loading was 13 tons/day. Loading at Granger drain totaled 8.4 tons/day. Due to the larger water volume discharge at Sulphur Creek Wasteway,

it has higher TSS loading than Granger Drain, even though Sulphur Creek Wasteway has lower turbidity values.

In addition to meeting a TSS TMDL, the Granger Drain is monitored for a TMDL for fecal coliform bacteria. Fecal coliform bacteria are a prime indicator of fecal contamination in water. These bacteria are measured as the number of colony-forming units (cfu) per 100 milliliters (mL) of water. The TMDL goal for 2012, reported in geomean, is 100 cfu/100mL. Samples from the last seven years show that fecal coliform concentrations have declined dramatically. This past year, Granger drain had a geomean value of 361 cfu/100mL.

The 2003 irrigation season continued to demonstrate considerable improvement in water quality. This continued improvement is primarily due to the continued efforts of landowners within the Roza-Sunnyside Board of Joint Control.

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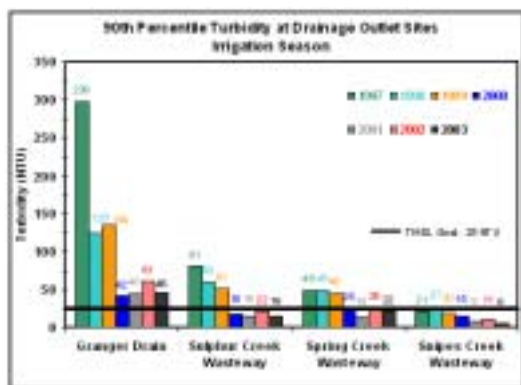


Chart 1

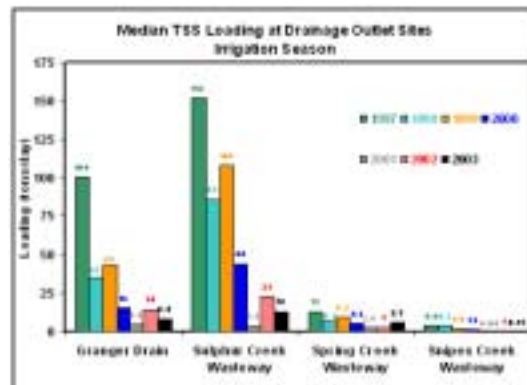


Chart 2

Water Delivery Begins April 1

SVID began priming the canal system on March 16 in preparation for water deliveries beginning on April 1. RID began priming on March 17 and deliveries will also begin on April 1. If possible, both districts may be able to make some deliveries prior to April 1 depending upon location.

Last Season for On-Farm Loan Program



This is the final season of the low interest on-farm loan program. This program has successfully assisted over one hundred farmers convert from rill or furrow irrigation to more efficient methods.

The basic structure for the On-Farm Loan Program includes low interest payments of 1% with a four-year repayment term. The yearly payments are included in the water users' annual irrigation assessments. Deadline for new applications is July 1, 2004. All projects must be completed by September 30, 2004. Invoices of the submitted projects must be submitted by October 31, 2004 to ensure payment.

For more information, please contact Theresa Johnson, SVID at (509)837-6980 or Wayne Sonnichsen, RID at (509)837-5141.

Water Measurement Conversion

- 1 cubic foot per second (cfs) = 50 Washington Miners' inches
- 1 cubic foot per second (cfs) = 1.9835 acre feet over 24 hours
- 1 cubic foot per second (cfs) = 1 acre inch per hour
- 1 cubic foot per second (cfs) = 448.9 gallons per minute (gpm)
- 1 cubic foot per second (cfs) = 7.48 gallons per second.
- 1 cubic foot per second (cfs) = 1 second foot
- 1 cubic foot per second day (cfs-day) = 1 sfd over 24 hours
- 1 second foot day (sfd) = 646,272 U.S. gallons per day
- 1 acre foot = amount of water to cover 1 acre, 1 foot deep
- 1 acre foot = 325,828 gallons
- 1 acre inch = 27,154 U.S. gallons

Note: The cfs is a flow rate measurement, not a measure of volume.
The second foot day or acre foot day is the common measurement of volume.

Water Ordering Instructions for 2004 Irrigation Season

When ordering water, please be aware that all your assessments must be paid, including the current 2004 assessment to ensure delivery. Ditchriders will not deliver water to unpaid accounts. Please be aware that water is delivered the next weekday and plan accordingly. Orders placed prior to 11:00 p.m. will be processed on the next day's orders.

If you are in doubt of the account balance, please use the automated service at 837-8611 to confirm the balance. You will need the parcel number, which is located above your name on both Roza and SVID billing statements.

The most efficient method to place water orders is by calling one of the following numbers that is in your toll free calling area: 837-8611, 877-2122, 837-2223, 837-3115, 882-4343, 588-5521, 837-5040.

Directions for use of the water ordering system can be picked up at either office or downloaded from http://www.svid.org/order_water.htm.

Please check the district websites for additional ordering options, www.roza.org or www.svid.org.

City Water Ordering Procedures

Water ordering for users within Prosser, Grandview, Granger and Zillah:

If you live within the city limits of these cities, please contact your local irrigation provider. Prosser 786-7300, Grandview 882-9211, Granger 854-2299, Zillah 829-5151. The deadline for city water orders is 4:00 p.m. the day prior to expected water delivery date.

RRA Forms Required for Roza Landholders

In order to be eligible to receive irrigation water, landholders with two hundred and forty acres or more of leased and/or owned lands within the Roza Irrigation District must complete the RRA forms each year. Failure to submit these forms to the district will result in no irrigation water delivery for the 2004 irrigation season.

Forms are available online at USBR website, www.usbr.gov/rra/RRAforms/landholder_forms.htm or additional information is available on the district website, http://www.roza.org/rra_rules.htm.

Please contact the Roza Irrigation District office if you have questions or need assistance, 837-5141.

SVID Lateral Status Available on Website

The SVID website was updated to include a lateral status notification feature. We have added a Lateral Status feature, which contains lateral "out of service" notices to help better plan the delivery schedule. If for some reason, a lateral repair or maintenance activity effects delivery, we will post a notice on the website with the scheduled time or date of return to service.

During the irrigation season, the website will be updated weekdays to reflect the status of laterals at the following page address:

<http://www.svid.org/lateralstatus.htm>.

Water Storage 75% of Average

The Bureau of Reclamation has issued its first irrigation forecasts of the year which predicts adequate water supplies for the season.

System storage is about 450,000 AF, which is about 75% of average for this time of year. Mountain precipitation October 1 to date is just below 98% of average. Even with the light December/January/February precipitation, snow pack figures from the NRS SNOTEL sites still look good (about 93 of average).

The major indicators (snow pack, precipitation to date, and system storage) all point to a favorable water supply next summer. The National Weather Service three month forecast calls for normal temperatures and precipitation.

Brian Jackson New RSBOJC Water Quality Specialist



Brian Jackson joined SVID in October as the new Water Quality Specialist. He joins Anne Rice and Roy Pasicaran in the Water Quality Lab. The Water Quality Specialist is responsible for the operation of the water quality monitoring program related to surface water irrigation established by the Roza-Sunnyside Board of Joint Control (RSBOJC), including conducting tests and field inves-

tigations to obtain data used to monitor water conditions throughout the RSBOJC. Brian works with various state & federal agencies and others on water quality monitoring and reporting.

Brian grew up in Sunnyside and graduated from Sunnyside High School. He earned a B.S. in Biology from Southern Nazarene University in Oklahoma and a M.S. in Agronomy from the University of Florida. Agronomy is the study of the application of soil and plant sciences to soil management and crop production.

He and his wife, Shigeko have recently moved into a home outside Grandview. Shigeko grew up in Japan and they met while they were both attending Southern Nazarene University. As for hobbies, Brian enjoys camping, bicycling, gardening and cooking. He enjoys reading, focusing mainly on the topics of agriculture, philosophy and theology. "My wife and I are glad to be back in the lower valley. I look forward to working with irrigation district landowners and employees in order to help improve water quality," states Brian.

RID Welcomes New Employees

Tim Collett started as the new Assistant Manager with Roza Irrigation District in January. He brings over 20 years of irrigation experience from Idaho A & B Irrigation District and Twin Falls Canal Company. "The uniqueness of the work is rewarding due to the people and environment that surrounds us. Managing the lifeblood of most living things is a privilege that we must all

be proud of."

Diana Frey joined Roza Irrigation District as a Civil Engineering Technician. Diana earned an A.A.S. in Civil Engineering Technology from Y.V.C.C. "I am enjoying this challenging position mainly due to the people at Roza who have been very welcoming and helpful," said Diana Frey.

Modified Water Delivery for Enclosed Conduit Systems

As both districts continue to make advancements on their conservation programs, more and more enclosed conduit systems are installed. Along with automating the drop structures, which control the flow of the main canals, RID and SVID continue enclosing more and more laterals. A closed system is a piped irrigation water distribution and delivery system operates under pressure and with fluctuations in flow caused by varying delivery demands.

The enclosed system permits waterusers to take delivery of their water on a modified demand basis. This modified delivery system provides the landowner as much flexibility as possible without negatively affecting other district landowners. Waterusers are still required to order their water on and off at each delivery as well as changes in flow. Ordering water on and off, including changes in delivery amounts, helps control the overall delivery system. It

also helps the ditchrider manage the water on his beat. The modified delivery system provides efficient operation while limiting the adverse effects on other waterusers from changes in demand and water use. Excessively high flows through flow meters can cause damage to the delivery systems when the high flows are shut off and affect neighboring delivery pressures.

SVID deliveries by flow meter are limited to a maximum use of 16 gallons per minute per assessed acre or system capacity, whichever is less, to protect SVID property and to minimize delivery affects on neighboring landowners, and will generally not handle frost control/cooling without a pond or supplemental water. Systems should be designed based on a measurement of 8 gallons per minute per acre. All SVID landowners are required to have their own worm gear operated valve, which should be used by the landowner when cleaning screens, changing sets, testing lines, etc.

Aquatic Weed Control Keeps Canals Flowing



The Sunnyside and Roza Canals and their associated distribution laterals become heavily infested with noxious aquatic weed species, both rooted and green algae, during the irrigation season. Common species include *Potamogeton pectinatus* (sago pondweed), *Potamogeton crispus* (curly pondweed), *Lemna sp.* (duckweed) and *Myriophyllum spicatum* (Eurasian watermilfoil). Control of these species is necessary to ensure efficient flow for meeting water delivery responsibilities.

The use of MAGNACIDE® H herbicide, active ingredient acrolein, was introduced in 1975 to the Lower Yakima Basin for the control of algae and noxious aquatic weeds in irrigation waterways, under strict label requirements. Acrolein is a soluble compound that controls noxious weed growth through contact with unwanted vegetation as the wave of treated water passes.

On April 10th, 2002, the Washington Department of Ecology instituted regulations on use of the herbicide acrolein, specifically a new national pollutant discharge elimination system (NPDES) general permit intended to control the discharge of waste herbicides from irrigation systems to natural waters in Washington State (Administrative Order No. 01WQH-Q-2935).

Tom Monroe, RID Operations Manager comments, "During this treatment process, water deliveries may be postponed for 24 hours to ensure the containment of the treated irrigation water."

If you use irrigation water in personal ponds, please contact the irrigation district for notification of acrolein treatments as the acrolein may cause damage to your pond vegetation and freshwater fish. Acrolein applied under label concentrations will not affect agricultural crops.



Busy Construction Season For Irrigation Districts



Construction crews throughout the Roza and Sunnyside Irrigation Districts have had a busy winter construction season. Both districts utilize the winter months for major construction projects that could not be undergone during water delivery. Several projects

were delayed due to the extreme weather this winter and crews are working to complete scheduled project prior to the start of the irrigation season in April. Construction projects include piping, lining, automated gate installation, Supervisory Control and Data Acquisition (SCADA) installation, culvert crossings, structure construction, pumping station construction and repair, turbine maintenance and routine lateral repairs

RID Construction Projects:

Roza Irrigation District (RID) has enclosed approximately nine miles of laterals this winter. Laterals 16.4, 75.5, 75.7, 76.6, 79.5, and 81.3 were enclosed this winter and will service 1420 irrigable acres. Enclosed conduit systems consist of replacing open laterals with enclosed systems utilizing piping materials such as PVC pipe. Currently approximately 51% of the 72,000 irrigatable acres within the Roza Irrigation District are now part of the Enclosed Conduit System (ECS). The ECS project is part of a total RID conservation program started in 1983. The goal for this part of the program is to replace all open laterals with PVC pipe. Over the next 3 to 5 years, RID plans to finish enclosing open laterals on the laterals below the main canal and begin piping projects on the high side of the canal.



RID retrofitted three existing check structures at mile 85.6, 86.0, 87.4 with a u t o m a t e d Langemann gates this winter. These check structures are used to maintain water levels in the main canal with the use of concrete structures and wooden "flash-board" manually

inserted to adjust the water level. The three gates replaced the wooden flashboards at a cost of approximately \$80,000 with the Bureau of Reclamation providing matching funds for half that amount.

The Bureau of Reclamation conservation-funding program will continue to provide RID with a cost share option to retrofit the existing check structures over a period of five years. This is the second year of the five-year program in which more of the remaining flash-board check structures in the lower division will be replaced with automated gates. The gates were equipped with Supervisory Control and Data Acquisition (SCADA) that enables staff to monitor and adjust the gates remotely. This type of control is helpful because it allows staff to run the canal while minimizing spill to the wasteway. These automated gates also enable the districts to deliver water even in very short water years because water surface elevations in the canal can be maintained high enough to get water down the laterals and water can be "stored" for short time periods in reaches of the canals.

SVID Construction Projects:

Sunnyside Valley Irrigation District (SVID) will have converted over six miles of open laterals to enclosed conduit systems during the winter. Enclosed conduit systems consist of replacing open laterals with enclosed systems utilizing piping materials such as PVC pipe.



SVID enclosed approximately 6 miles of open laterals including laterals 23.10, 23.08, SN 6.42A, 35.51, 59.28, RY 3.86 and Harrison Hill Mainline. Other lateral improvements include a concrete lining project on SN 7.84. Shotcrete was used to line 59.28 to 59.30 on the main canal. Shotcrete is a sprayed concrete mixture applied over a lining material.



SVID added SCADA to the Benton Headworks and Wasteway this winter to monitor irrigation water levels at the lower end of the system. Supervisory Control and Data Acquisition (SCADA) that enables staff to monitor and adjust the gates remotely. This type of control is helpful because it allows staff to run the

canal while minimizing spill to the wasteway. The levels of the canal are monitored and can be adjusted remotely to more quickly respond to fluctuations in the water level. As part of the Sunnyside Canal Improvement Project (SCIP), approximately 30 check structures within SVID will have SCADA installed on the gates to monitor and control water levels. Currently engineers from CH2M-HILL are working on the design of the first re-regulation reservoir located near McDonald Road. Construction of this reservoir will begin in the fall of 2004.

SVID crews built over 20 concrete structures as well as did extensive repairs and maintenance to the Outlook Turbine. The 59.30 Turbine was replaced by electric pumping stations that will service 59.30E and 59.30W. Six culvert crossings were installed throughout the district. Drain crews have spent the non-irrigation season cleaning and maintaining drains, including removing debris along drain access banks.

The Roza-Sunnyside Board of Joint Control (RSBOJC) publishes the **RSBOJC UPDATE** biannually for landowners. All articles, letters and other items submitted to RSBOJC for use in its landowner newsletter become the property of RSBOJC which is authorized to use any item submitted, without payment or compensation to the person submitting the item, in any newsletter or other publication of RSBOJC. RSBOJC reserves the right to edit all items submitted. Mike Miller, Chairman; Doug Simpson, Vice-Chairman; Robert Golob, Ric Valicoff, Larry Haak, Mike Hogue, Dave Michels, David Minick, John Newhouse, Helen Darr, Steve Smith, Jim Willard, Directors. Officers: Ron Van Gundy, Secretary; Patricia Bailey, Treasurer. Address comments to: Melodie Smith, Editor, P.O. Box 239, Sunnyside, WA 98944.