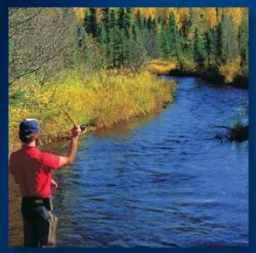
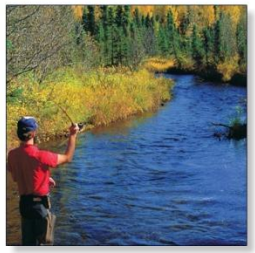
North Ada Technical Working Group

January, 27, 2010

Modeling in the Treasure Valley

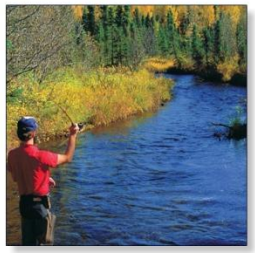
- Contract #CON00811 vetted to review existing models of the Treasure Valley.
- Complex hydrogeologic setting.
- Various model domains/boundary conditions.
- Recommendations for future modeling efforts.



Project Updates

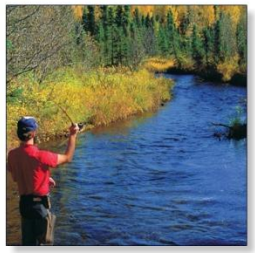
- Surface Water Studies
- Geochemical Study
- Seismic work update
- Water level monitoring network
- Monitoring well installation

Surface Water Studies



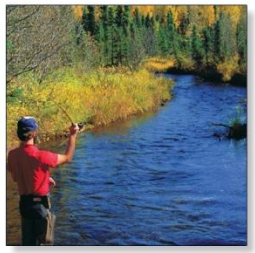
- Stream Gage Installation
  - Dry Creek gage
    - Gage is installed. Data will be available online through the USGS website.
    - Rating curve being established.
    - Flows in Dry Creek are currently minor (less than 1 cfs on 01/08/10)

Surface Water Studies



- Stream Gage Installation
  - Spring Valley gage
    - Spring Valley Golf Course, location of previous USGS gage site.
    - Ownership access is being finalized.

Surface Water Investigations



- USGS Stream Gage Contract
  - Willow Creek gage
    - Flow in Willow Creek is minimal and seasonal
    - Site visit to Bettis Reservoir on 11/17/09
      - Dam operation data limits the use of inflow gage data.
  - Alternate location
    - Currently looking at the Eagle Drain (Hwy 44/Eagle Road).
    - Water Master maintains gage readings throughout the irrigation season, no winter flows recorded.
    - Flowing approximately 9 cfs (01/08/10).

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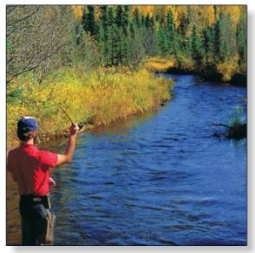
Surface Water Investigations



- Drain Return Measurements
  - Assessment of drains was conducted in December.
  - Approximately 33 sites were GPS'd
  - Complex drain/ditch network

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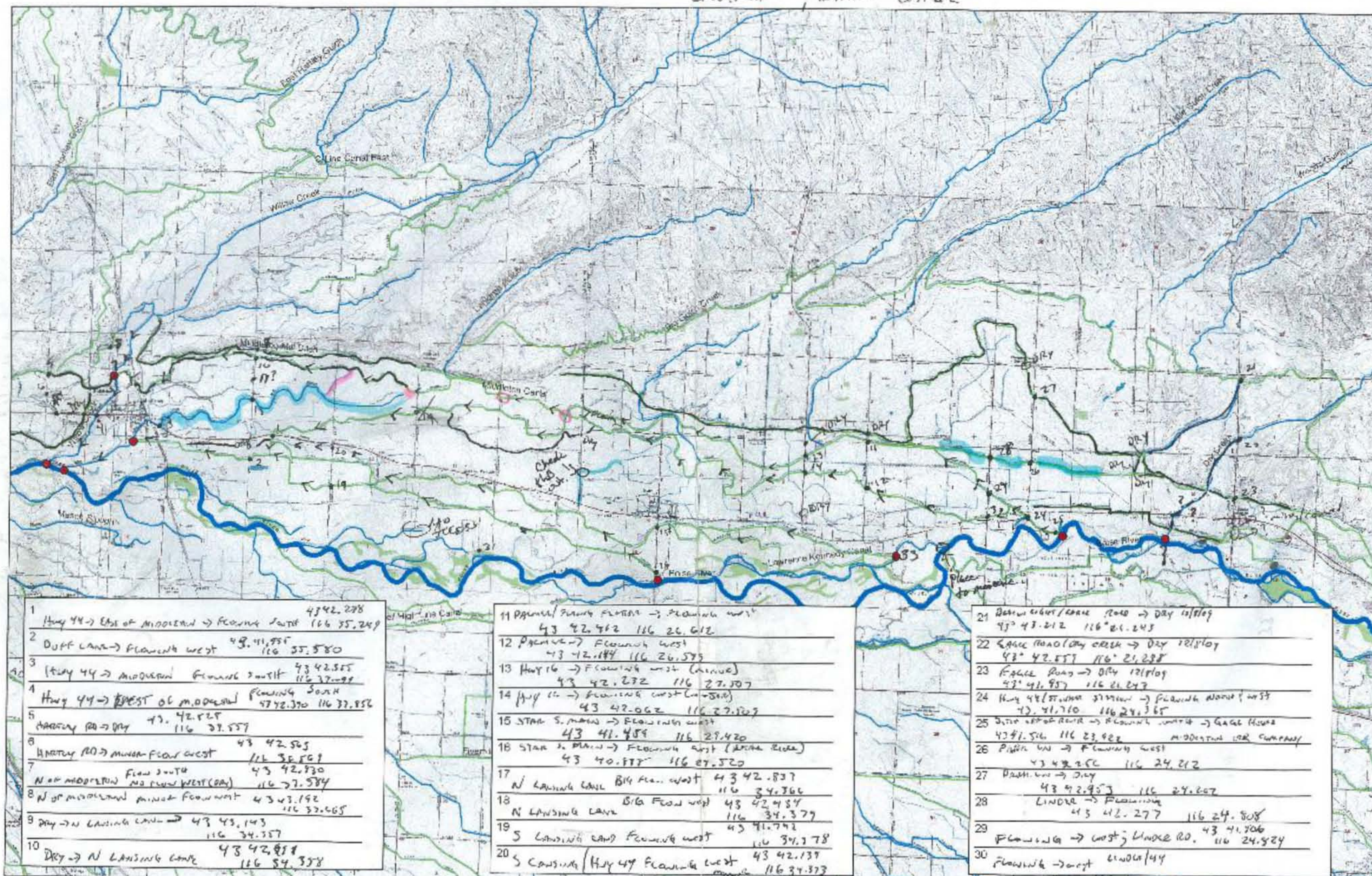
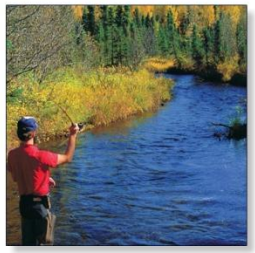
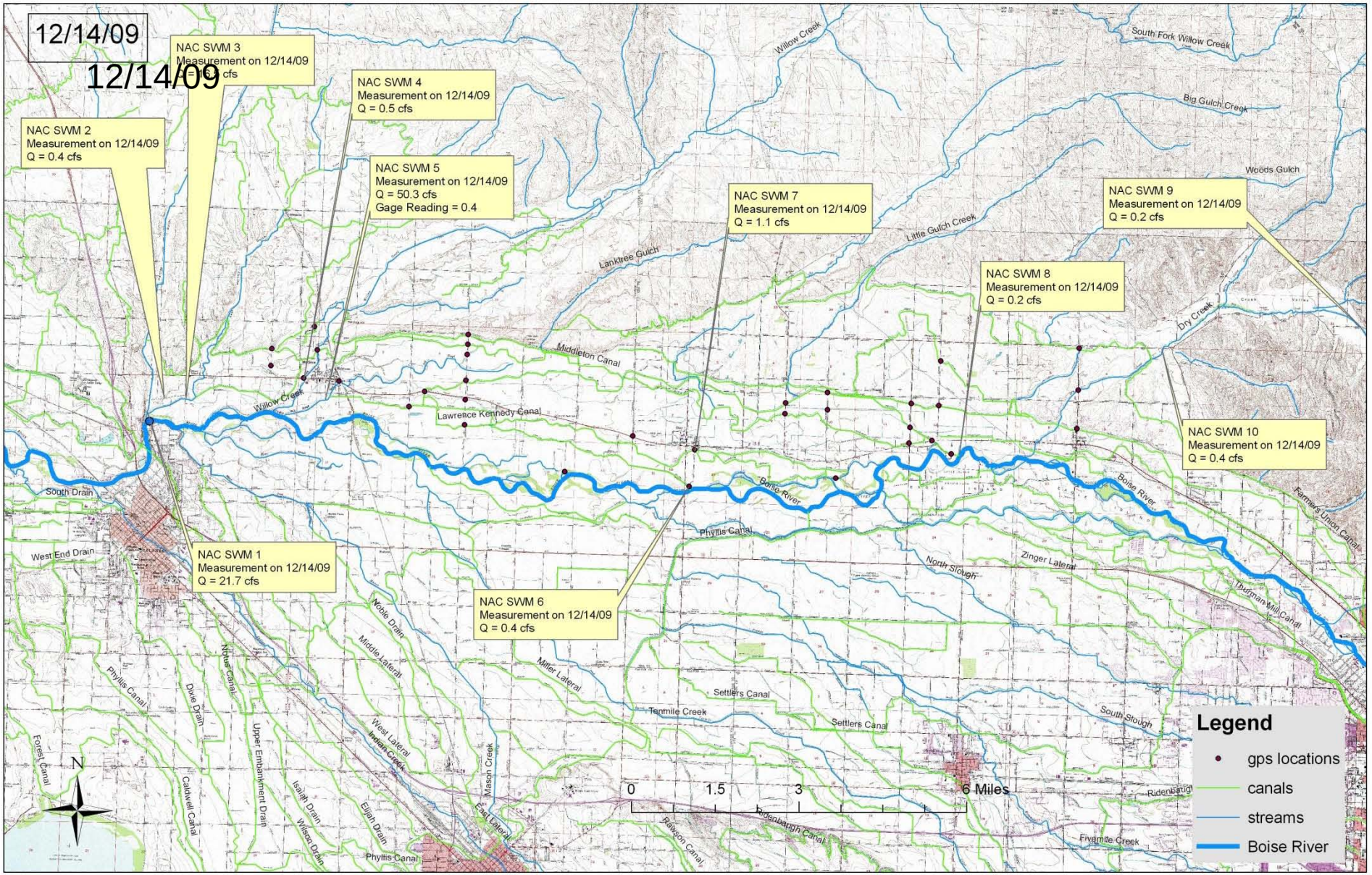
CANADA, EAGLE GAGE



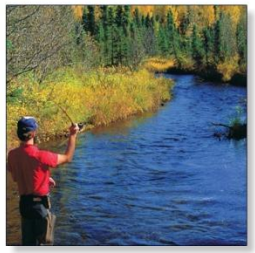
Surface Water Investigations



- Drain Return Measurements
  - Reduced drain sites to 10 -12 measurable sites.
  - Two sets of measurements have been collected.
    - 12/14/09 & 01/08/10
    - Third set will be this week (weather permitting)
    - Ongoing measurements throughout non-irrigation season


12/14/09
12/14/09
NAC SWM 1
Measurement on 12/14/09
Q = 21.7 cfs
NAC SWM 2
Measurement on 12/14/09
Q = 0.4 cfs
NAC SWM 3
Measurement on 12/14/09
NAC SWM 4
Measurement on 12/14/09
Q = 0.5 cfs
NAC SWM 5
Measurement on 12/14/09
Q = 50.3 cfs
Gage Reading = 0.4
NAC SWM 6
Measurement on 12/14/09
Q = 0.4 cfs
NAC SWM 7
Measurement on 12/14/09
Q = 1.1 cfs
NAC SWM 8
Measurement on 12/14/09
Q = 0.2 cfs
NAC SWM 9
Measurement on 12/14/09
Q = 0.2 cfs
NAC SWM 10
Measurement on 12/14/09
Q = 0.4 cfs
Willow Creek
South Fork Willow Creek
Big Gulch Creek
Woods Gulch
Little Gulch Creek
Lanktree Gulch
Dry Creek
Middleton Canal
Lawrence Kennedy Canal
Boise River
Phyllis Canal
South Drain
West End Drain
North Slough
Zinger Lateral
Farmers Union Canal
Ibuffman Hill Canal
Noble Drain
Middle Lateral
Miller Lateral
Settlers Canal
Tenmile Creek
South Slough
Nixon Canal
Dixie Drain
Caldwell Canal
Upper Embankment Drain
West Lateral
Indian Creek
Mason Creek
East Lateral
Isaiah Drain
Wilson Drain
Elijah Drain
Ridenbaugh Canal
Rawson Canal
Fivemile Creek
Forest Canal
N
0
1.5
3
6 Miles
Legend
gps locations
canals
streams
Boise River

Surface Water Investigations



- Drain Return Measurements
  - 12/14/09 results
    - 10 sites measured
    - Discussed measurements with Basin 63 Watermaster – relocate measurements to coincide with gage locations.
    - Approximately 90 cfs of drain flow returning to the Boise River. (Total Q measured = 91.7 cfs -- 1.7 cfs measured from river)
    - Dry Creek gained between measurements. Data will be comparative with USGS measurements/gage reading.

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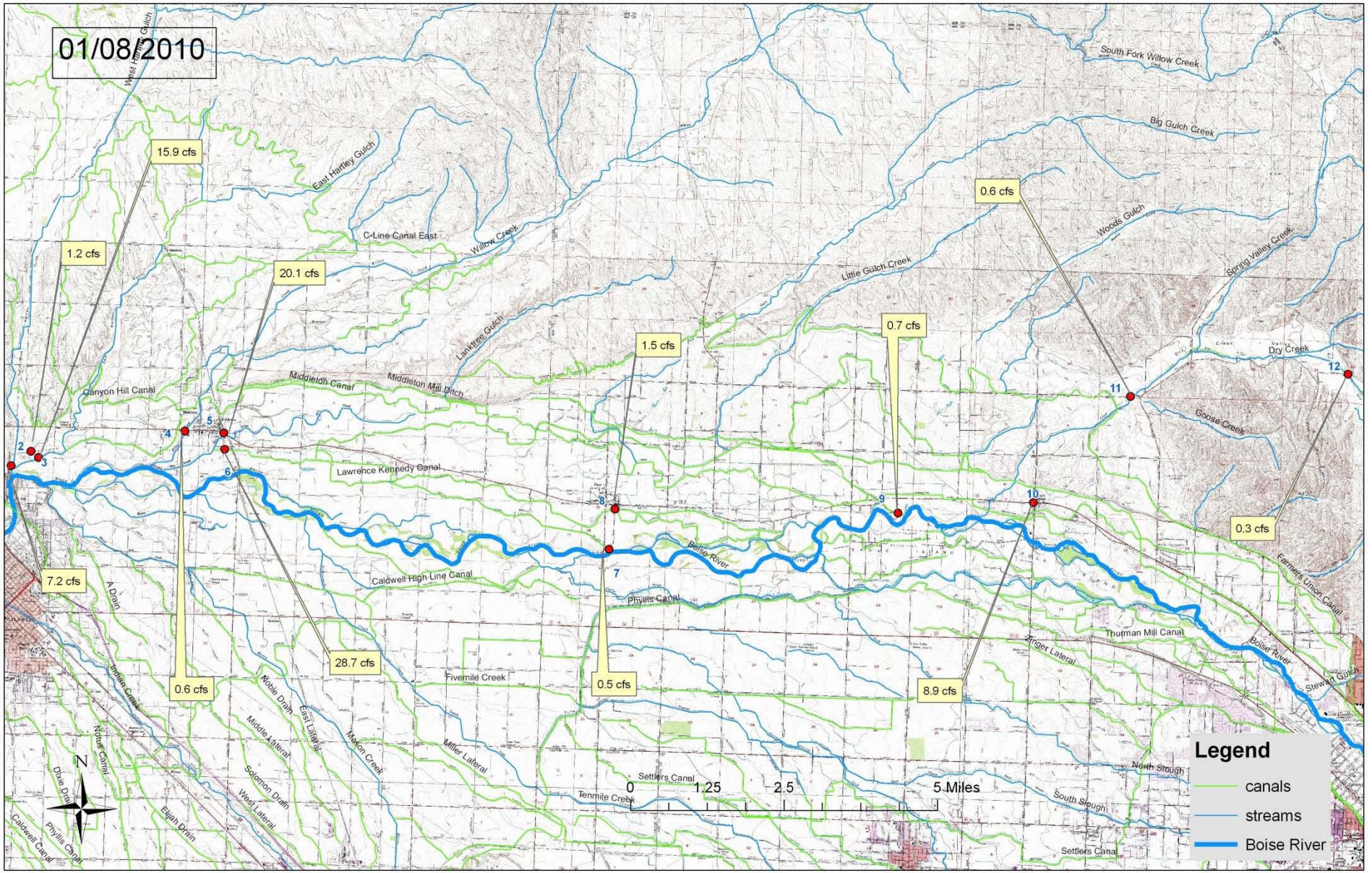
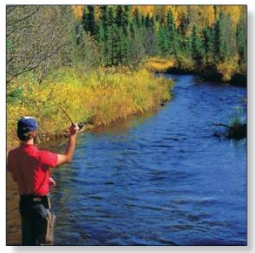


Surface Water Studies



- Drain Return Measurements
  - 01/08/10 results
    - 12 sites measured
    - Sites adjusted to existing gage locations
    - Approximately 85 cfs of drain flow returning to the Boise River (Total Q = 86.2 cfs; 2.7 measured from river).
    - Dry Creek flows conditions remained the same.

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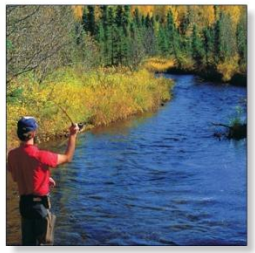
Surface Water Studies



- Boise River Seepage
  - First Boise River seepage run was conducted on 11/05/09.
    - 12 cross sections measured between Diversion Dam and Glenwood.
    - Multiple cross sections coincide with previous measurements.
    - Net gain.
  - Next seepage run is schedule in two weeks (February 2010).

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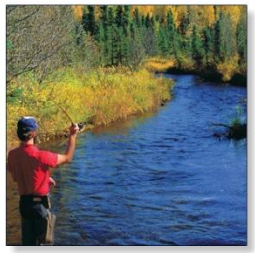
Geochemistry Work



- Sample from UWI Floating Feather production well on 10/28/09.
- Analytical results have returned from the lab EXCEPT tritium. Tritium is expected in the near future.
- Draft report in February/March, followed by approximately six months of USGS internal peer review.
- Presentation at upcoming TWG meeting.

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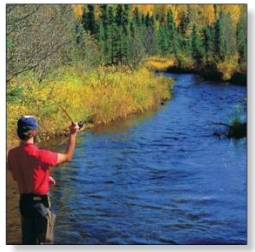

Geophysics Contract

- Field work is complete.
  - Vibrosies work in Chaparral
  - Additional hammer line.
- Data is being processed.
- Draft report is due in March.
- Results will be presented at an upcoming TWG meeting.

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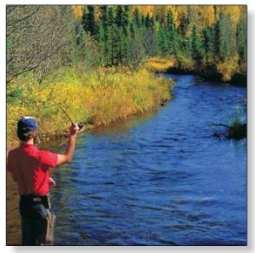
Water Level Network



- Currently completing winter measurements.
  - Data loggers functioning well
  - Limited access to some sites.
- Added 5 USGS CO-OP sites to the current network.

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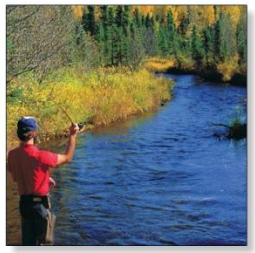
Monitoring Wells



- Bid schedule and technical specifications are being reviewed internally.
- Access agreement is being reviewed by City of Eagle attorneys.
- Bid will be released following reviews.

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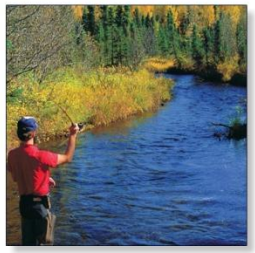
Emmett References



- Two new documents on the NAC website under Technical Publications.
  - Bradshaw, 1953
  - Bradshaw, 1954
  - US Dept. of Ag Soil Conservation Service Research documents