

Water Rights in the Upper Coeur d'Alene Basin

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Groundwater treatment is an important component of the Selected Remedy for the Upper Coeur d'Alene River Basin. It includes intercepting groundwater with high metals concentrations and treating that groundwater at the Bunker Hill Central Treatment Plant (CTP) in Kellogg, Idaho, prior to returning the water to the South Fork of the Coeur d'Alene River (SFCDR).

To assess whether the groundwater treatment component of the Upper Basin Selected Remedy affects water rights holders along the SFCDR and its tributaries, it is important to understand (a) some key regulatory issues in Idaho water law, and (b) where the groundwater interception areas included in the Selected Remedy are located with respect to current water rights holders. This Technical Memorandum (TM) does not address: (1) whether the U.S. Environmental Protection Agency (EPA) is excused from the obligation of obtaining a right to use water by Section 121(e) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); (2) whether Idaho State water law is an applicable or relevant and appropriate requirement (ARAR) for the Selected Remedy; and (3) which portions of Idaho State water law are procedural and which are substantive.

Idaho Water Law

All waters of the state of Idaho, including natural-channel surface water and groundwater, are public waters according to the state's constitution and statutes. The State of Idaho has the authority to appropriate those waters by establishing water rights. A water right is the right to divert the public waters of the state of Idaho and put them to a beneficial use. A water right under state law can be established only by appropriation and, once established, it can be lost if it is not used. The right to appropriate water may be acquired only by appropriation under Idaho's application, permit, and license procedure- (Idaho Code § 42-226). The application process requires an applicant to file an application with the Idaho Department of Water Resources (IDWR) (Idaho Code § 142-202). The filing establishes the priority date (Idaho Code § 42-219(4); see below).

When reviewing an application, IDWR will consider:

- Whether the new use will damage existing water rights;
- Whether water supply is sufficient for the purpose of the new use;
- Whether the application was made in good faith and is not speculative;
- Whether the applicant has sufficient resources to complete the project;
- Whether the use does not conflict with local public interests; and
- Whether the project is consistent with the conservation of water in Idaho.

See Idaho Administrative Procedures Act (IDAPA) 37.03.08.045.

The amount of the water right is the quantity of water put to beneficial use (typically expressed in cubic feet per second [cfs]). State-recognized beneficial water uses include:

Aesthetics	Manufacturing
Aquatic Life	Mining
Commercial	Municipal
Cooling	Navigation and Transportation
Domestic	Power
Fire Protection	Recreational Use
Fish Propagation	Stock Watering
Ground Water Recharge	Water Quality Control
Industrial	Wildlife
Irrigation	

Of these beneficial uses, Aquatic Life and Water Quality Control apply to the implementation of the Upper Basin Selected Remedy. Beneficial uses do not have to be consumptive: this is important in this case because under the Selected Remedy, groundwater treatment will not involve consumption of any water unless there is a loss of water that is diverted from the SFCDR prior to its return.

The date a water right is established is called “the priority date”. This date is important because it is used to determine who will receive water in the event of a shortage. If there is not enough water available to satisfy all water rights, the oldest (or “senior”) water rights will be satisfied first; newer (or “junior”) water rights will not be able to receive water when there is not enough available to satisfy all the water rights.

Disputing claims over water rights in Idaho are reviewed through an adjudication process. The purpose of water right adjudication is to catalog and decree (through a court) the water right and to which property it belongs. IDWR has an Adjudication Section whose mission is to determine water rights accurately in two areas, one of which is the Northern Idaho Adjudication that includes the Selected Remedy implementation area. EPA received notice of the Northern Idaho Adjudication in August 2011. However, and consistent with the terms of the notice, EPA is not yet required to participate in the adjudication because any permit application EPA may submit would be filed after November 12, 2008, the cut-off date for requiring participation in the adjudication.

More details on water rights in Idaho can be found online at:

<http://www.idwr.idaho.gov/WaterManagement/WaterRights/WaterRightVariations.htm>

Water Rights Holders in the Selected Remedy Implementation Area

IDWR was contacted in September 2010 regarding the existing water rights holders in the Canyon Creek and Mainstem SFCDR Watersheds.¹ IDWR water rights records available for these watersheds on the Internet are mapped in Attachment A. Figure A-1 shows the holders of water rights in the Canyon Creek Watershed, and Figures A-2 through A-5 show the water rights holders in the Mainstem SFCDR Watershed. In these figures, surface water rights holders are denoted by blue boxes and groundwater rights holders by green boxes. Water rights holder information is available online; however, because it is possible that the most current information has not yet been posted on the website, IDWR was also contacted directly. In this case, the information provided directly from IDWR matched that which was available on their website.

The current IDWR water rights records indicate that some of the more significant water rights holders include:

- In Canyon Creek between river mile (RM) 1² and RM8 there are seven surface water rights holders, most of whom are small domestic users (with rights to less than 1.0 cubic feet per second [cfs] of water), and three groundwater rights holders (Figure A-1).
 - Hecla Mining Company has two active water rights: (a) a surface water statutory claim for 2 cfs near RM 8 that is upstream from any of the proposed groundwater interception areas, and (b) a groundwater license for 0.14 cfs near RM2 that is within Woodland Park, a location of groundwater collection actions in the Selected Remedy.
- On the mainstem of the SFCDR between RM187 and RM 171 (Figures A-2 through A-5), there are four surface water rights holders, three of whom are small domestic users (with rights to less than 1.0 cfs of water), and 20 groundwater rights holders.
 - ASARCO has two active groundwater licenses near RM184 within Osburn, a location of groundwater collection actions in the Selected Remedy, for 0.21 cfs (Figure A-2) and 0.38 cfs (Figure A-3).
 - Bunker Hill Sullivan Mining Company has one active groundwater license for 2.67 cfs in Miner's Slough (adjacent to the mainstem of the SFCDR) near RM178 (Figure A-4).
 - Bunker Limited Partnership has one active groundwater statutory claim for 3.34 cfs, adjacent to the mainstem of the SFCDR near RM172 (Figure A-5).

¹ No groundwater treatment actions are planned for the other watersheds included in the Selected Remedy (the Upper SFCDR, Ninemile Creek, Big Creek, Moon Creek, and Pine Creek Watersheds). Therefore, water rights holders will not be impacted by remedial actions conducted in those watersheds during implementation of the Selected Remedy.

² River miles are shown on figures presented in Section 6.0 of the Draft Final Focused Feasibility Study Report for the Upper Basin of the Coeur d'Alene River (CH2M HILL, 2010).

- Federal Mining Company has one active surface water license for 4.5 cfs adjacent to the mainstem of the SFCDR near RM171 (Figure A-5).

All four of these entities have filed for bankruptcy since they obtained the water rights indicated above. ASARCO, Bunker Hill Sullivan Mining Company, Bunker Limited Partnership, and Federal Mining Company all ceased mining operations decades ago. Idaho law generally stipulates that water rights holders who do not put their water to beneficial use for five years forfeit their rights. IDWR does not have a regular process for seeking out rights that may have been forfeited, and typically only reviews a water right for forfeiture if there is an action before the State. However, each of these entities may have been required to file a notice of a claim in the Northern Idaho Adjudication because their proof of beneficial use was likely filed prior to November 12, 2008

In addition to these private water rights, the Idaho Water Resource Board (IWRB) holds a minimum instream flow right (License No. 94-7341) of 413 cfs from July to October and 1,108 cfs from November to June as measured at Harrison, which is well downstream from the SFCDR near Coeur d'Alene Lake. Any upstream junior right to License No. 94-7341 (which has a priority date of June 15, 1992) cannot be diverted if these minimum flows are not met. This means that if the Coeur d'Alene River flow at Harrison drops to 413 cfs, upstream water rights holders who have a priority date of later than June 15, 1992 must cease diversion of water until flows at Harrison increase. For comparison, the 7Q10 flow at Harrison, which represents extreme low-flow conditions (the lowest 7-day average flow that occurs on average only once every 10 years), is 239 cfs.³

Discussion

Firstly, any discussion of proposed groundwater diversions (interceptions) should be based on the available physical hydrology. Extensive monitoring and modeling have been conducted that show flows under a range of conditions, including conservative (extreme low-flow) 7Q10 conditions:

- In Canyon Creek, the published 7Q10 flow is 7.1 cfs.⁴ Under 7Q10 conditions, implementation of the Selected Remedy within this tributary is expected to remove 0.7 cfs (approximately 10 percent of the 7Q10 flow).
- Along the mainstem of the SFCDR, the calculated 7Q10 flow is 51 cfs. Under 7Q10 conditions, implementation of the Selected Remedy is expected to remove 8.1 cfs (approximately 16 percent of the 7Q10 flow).

The derivation of the above estimates is documented in the TM *Estimated Stream Flow Reductions Resulting from Groundwater Remedial Actions, Upper Basin of the Coeur d'Alene River, Bunker Hill Superfund Site* (CH2M HILL, April 16, 2012).

³ From Table 6-1 in *Total Maximum Daily Load for Dissolved Cadmium, Dissolved Lead, and Dissolved Zinc in Surface Waters of the Coeur d'Alene Basin* (EPA and Idaho Department of Environmental Quality [IDEQ], August 2000). The 7Q10 value presented is for Cataldo but (as described in that document) is determined to be representative of flows at Harrison (i.e., flows at Cataldo and Harrison have been shown to be essentially identical).

⁴ From Table 6-3 in *Total Maximum Daily Load for Dissolved Cadmium, Dissolved Lead, and Dissolved Zinc in Surface Waters of the Coeur d'Alene Basin* (EPA and IDEQ, August 2000).

Note that these percentages reflect conditions that are beyond worst-case because, in order to protect the IWRB's instream flow right at Harrison, downstream from the SFCDR, remedial activities would cease before flows dropped to 7Q10 levels.

When compared against average annual flow rates, implementation of the Selected Remedy will only remove an average of 1.3 percent of the total stream flow in Canyon Creek and 5.2 percent of the total stream flow in the mainstem of the SFCDR (see the above-referenced TM [CH2M HILL, 2012]). Thus, the Selected Remedy will not result in significant de-watering of either Canyon Creek or the mainstem of the SFCDR.

Secondly, the number of potentially affected water right holders is limited, and the total volume of existing water right diversions that would be affected by implementation of the Selected Remedy is low. For example, in Canyon Creek, the total volume of diversions associated with either water right licenses or statutory claims (surface water and groundwater) in the lower reaches where groundwater extraction would occur is less than 2 cfs. This means that during 7Q10 conditions (7.1 cfs), approximately 70 percent of the streamflow would remain unallocated (i.e., would not be used to meet any water rights).

Similarly, in the SFCDR, 65 percent of the river flow is unallocated to water rights holders under 7Q10 conditions and 80 percent is unallocated under base-flow conditions. This, compared with the estimated reduction in river flow under 7Q10 conditions of 16 percent discussed above, indicates that water rights holders would not be impacted by the collection of contaminated groundwater and adit discharges under the Selected Remedy. In addition, many of the water rights holders in this reach of the SFCDR are now bankrupt (e.g., ASARCO, Bunker Hill Sullivan Mining Company, Bunker Limited Partnership, and Federal Mining Company, as noted previously). If these bankrupt entities are removed from the calculations, the percentages of river flow that are unallocated to water rights holders under 7Q10 and base-flow conditions increase to 87 and 93 percent, respectively (from 65 and 80 percent, respectively).

Thirdly, with respect to minimum stream flows held by the State, these are measured well downstream from the area that will be affected by implementation of the Selected Remedy. The Remedy will treat the removed volume of groundwater and discharge that same volume back into the mainstem of the SFCDR upstream from where the compliance point is located. The IWRB may still require that an exemption be filed to justify the diversion based on improvements to water quality.

Conclusions

The following conclusions can be drawn from the analysis presented in this TM:

- Implementation of the Selected Remedy is expected to remove approximately 16 percent of the streamflow during extreme low-flow (7Q10) conditions and approximately 5 percent of the streamflow during average annual conditions. (Note that the 7Q10 percentages reflect conditions that are beyond worst-case because, in order to protect the IWRB's instream flow right at Harrison, downstream from the SFCDR, remedial activities would cease before flows dropped to 7Q10 levels.)
- The amount of water that is currently allocated to water rights holders is relatively low for both Canyon Creek and the SFCDR. This means that a relatively small additional

water right to support the implementation of the Selected Remedy could likely be granted and easily absorbed into the adjudication process.

- During the implementation of the Selected Remedy, removed groundwater will be treated and returned to the SFCDR well upstream from the compliance point for State-held minimal instream flows. It is possible that the IWRB may still require that an exemption be filed to justify the diversion based on improvements to water quality.

ATTACHMENT A

Mapping of Current Water Rights Holders in the Canyon Creek and Mainstem SFCDR Watersheds

Note: In the figures in this attachment, surface water rights holders are denoted by blue boxes, and groundwater rights holders by green boxes.

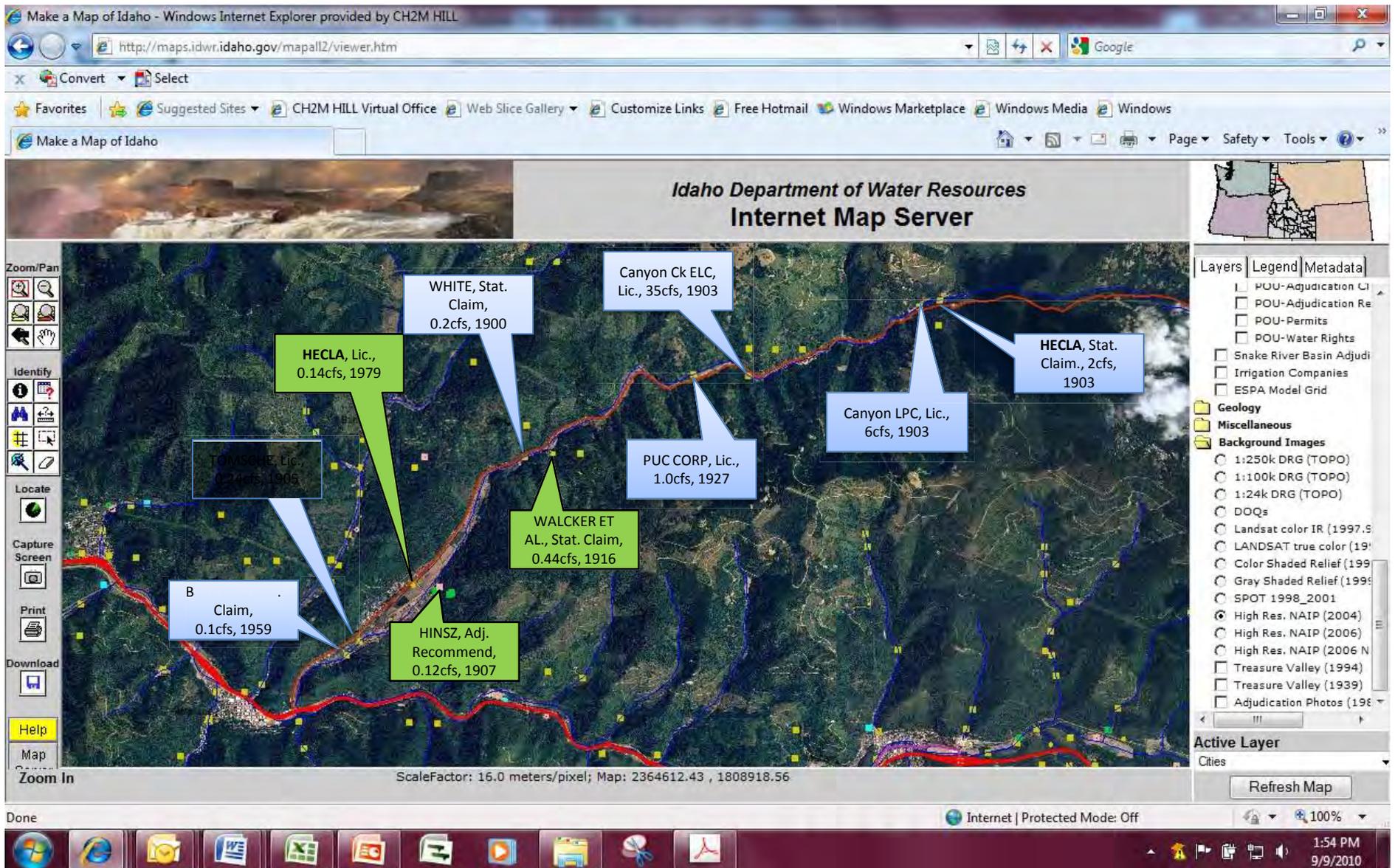


Figure A-1
Water Rights Holders in the Canyon
Creek Watershed

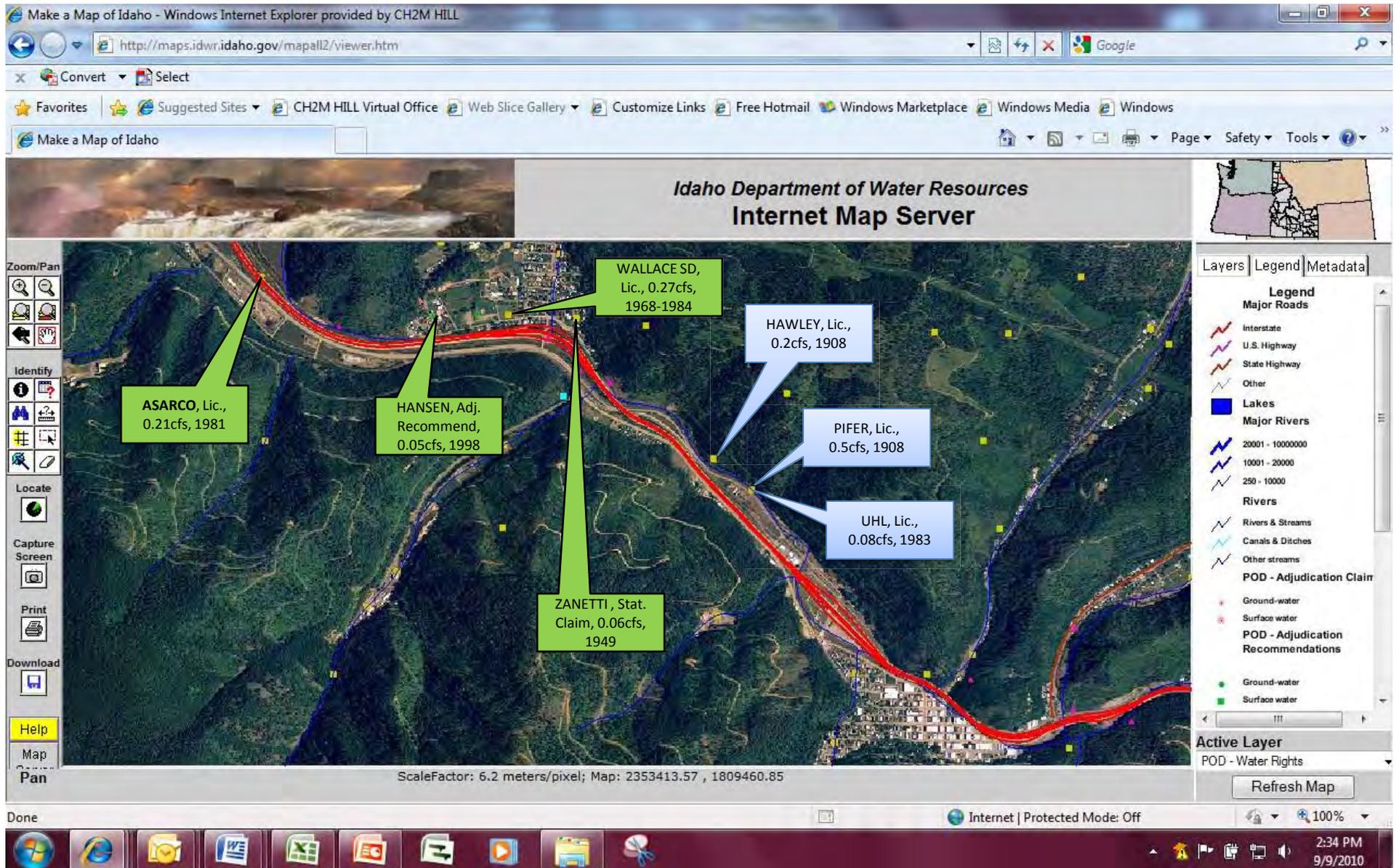


Figure A-2
Water Rights Holders in the Mainstem
SFCDR Watershed (1)

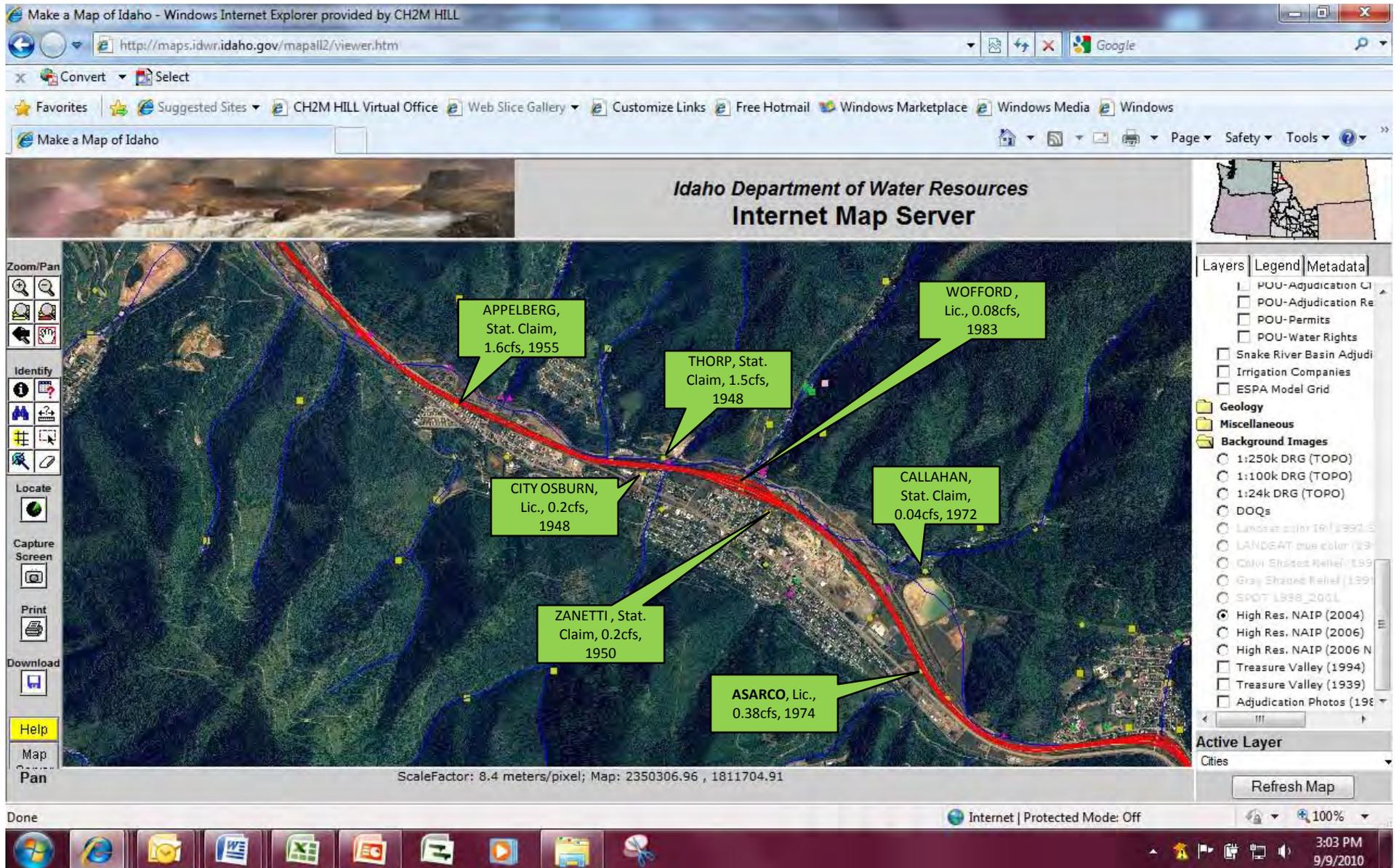


Figure A-3
Water Rights Holders in the Mainstem SFCDR Watershed (2)

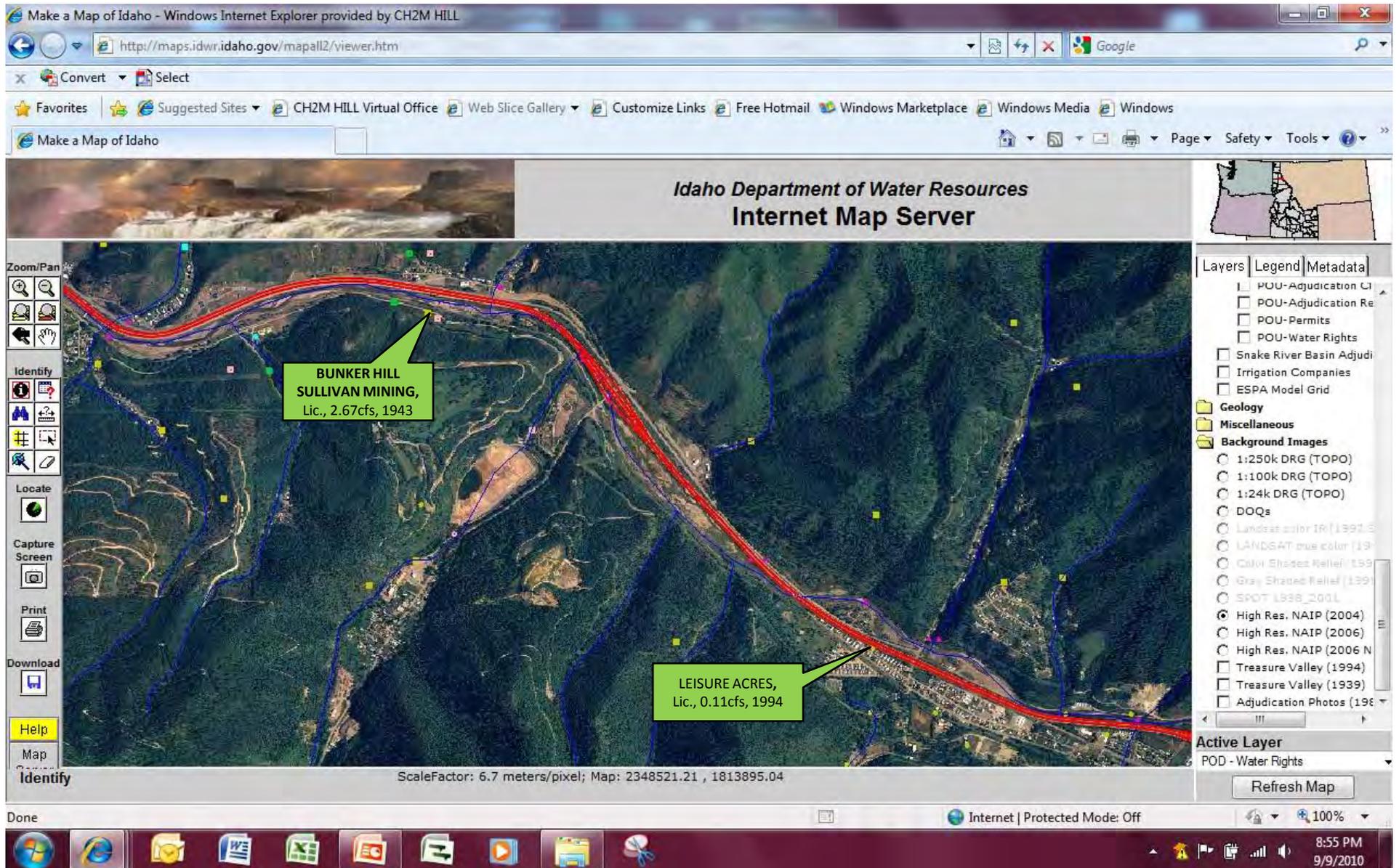


Figure A-4
Water Rights Holders in the Mainstem
SFCDR Watershed (3)



Figure A-5
Water Rights Holders in the Mainstem
SFCDR Watershed (4)

