

Gold Digger's Underground

Volume 1, Issue 1

Reading a Creek - (Part 1) Trashy Clues to Gold

Essential Prospecting - Why, What & How to...

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One of the first and most interesting things to learn in reading a Creek is to look for trash. No, not always the kind of trash all too often littering our waterways. Although it may include that kind of trash, it also includes natural debris flows. By that I mean sticks and branches, leaves, berry-vines, twigs, bark, floating pods, etc.

This debris serves as a marker and a direction indicator for high water flow. As we mentioned before, gold will only move during extreme water flow such as hundred year floods.

In this article I'm going to cover a few important details that you'll need to know to figure out the following flow related information:

1. How high were the most recent floodwaters?
2. Where were the deepest and heaviest water flows?

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California's Gold Dredge Ban & You

PJ's Private Prospecting Intel

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Historic Origins of the Suction Dredge Ban...

Let's take a look at the California gold dredging debacle. Even if you are not currently affected, you should look at what's happening to your peers.

Once a ban like this gets launched, it tends to spread based on misinformation and emotional politics. You can help correct this problem by educating and informing others.

There are several components to this mining crisis. First is the history of gold mining and sluicing with the use of mercury. The second is a history of hydraulic gold mining, and the ensuing erosion and mud deposits. Finally we get to current trends in water politics. I'll ignore the detailed soap opera of just how the ban took place, for now...

Before you think you're not affected by the dredging ban in California think again. It is common for eco-regulations to be tested in California before some variation shows up in the 49 other states and often around the world. I guess you could call that progressive...

An interesting property of gold is that it will combine freely with mercury* to form a soft metal paste in a process known as amalgamation. The amalgam is similar to the stuff used to make fillings for teeth. This amalgam can then be heated or chemically treated to drive off the mercury vapors, leaving behind highly concentrated gold in metallic form.

Mercury, when combined with certain organic compounds like the methane gas from rotting vegetation at the bottom of a lake or stream, forms a nerve poison called methyl mercury. This methyl mercury compound concentrates in the fish that consume these organic materials. In turn people, animals, or other fish that eat these contaminated fish further concentrate the mercury in their sensitive tissues, specifically the brain and fat.

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Jess



Prospector Jess - Good Prospecting!

Reading a Creek - Trashy Clues to Gold
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Start by answering these **Why-What-How** questions relating directly to the water flow and turbulent flood conditions that deposit gold into new pay streaks. It is important to recognize that often little details add up to significant clues when hunting for gold. Make sure that you practice this clue recognition process next time you go out to find gold.

So let's take a look at each of these high water flow clues:

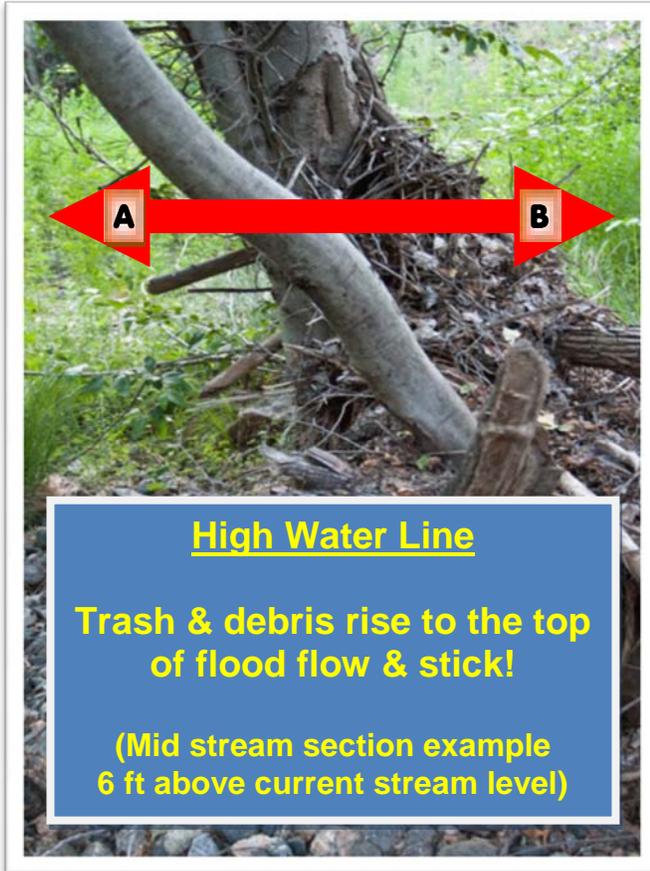


Figure 1 - High Waterline & Debris (sticks)

1. **How high did flood waters go most recently?**

Why: Floods move gold; recent floods restore gold concentrations even in areas that were mined before!

What: Look for flood flow shape or patterns to determine changes in speed or velocity that show where gold will concentrate.

How: Use this procedure:

- a. Take a look at surrounding borders to your stream area not immediately adjacent to the current water flow. Look further away, oftentimes yards to hundreds of yards from where you are right now if you're standing by the water's edge in the summertime. What you're looking for are sticks and lightweight trash such as paper, branches, styrofoam, tennis balls, and other hollow

plastic objects. These will typically collect in coves and eddies along the water's edge during high flow. You should try to find these on both sides of the creek just to establish a baseline across the flood. But if you can't, then try to get an elevation estimate using the one side relative to the current water edge. **See Figure 2 for view of flood region from above creek & gold drop zone.**

Note: each creek and flood is unique so your picture will vary and what you discover will, too.

- b. Look for fresh steep or horizontal riverbank cuts outside of these high water zones. These represent the outer bounds for flood erosion of potential gold source material.
- c. At a minimum, create a simple drawing or map that represents the current stream position and the features described in A and B. You can make this more accurate (complicated) and detailed by measuring, but that's not necessary at this point. ★

Reading a Creek - Trashy Clues to Gold (Part 2) IS continued in the next issue of GDU...

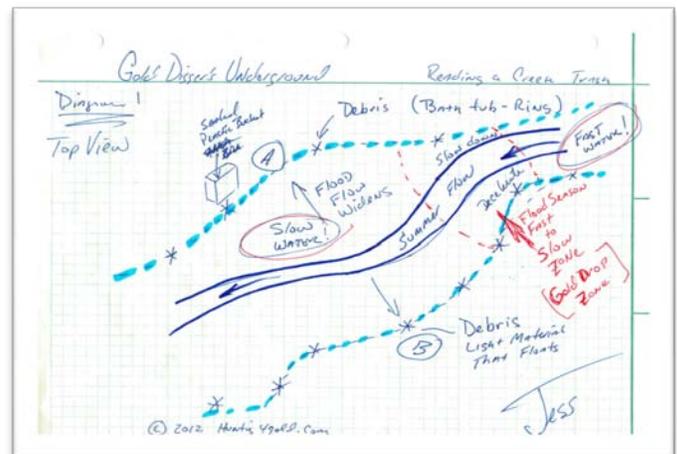


Figure 2 - Top View Creek High Water Line

Note: Winter flood zone is very different shape from summer flow. You need the flood zone variation in speed for winter peak flows.

Smaller cross section = faster flow (moves gold)
Larger cross section = slower flow (gold drops out of flow & seeks bedrock.) Cross section is the area under horizontal flood line in figure 2 ...

California's Gold Dredge Ban & You

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Needless to say, tons of mercury were spilled into the waterways through careless handling during mining operations. Interestingly, at the turn-of-the-century, mercury was valued more than gold, so oftentimes accidents with mercury spills led to the dismissal of the careless employee. That was too late for limiting the impact on the water way, though.

Most of the mercury loss occurred in the long sluice boxes at the base of hillsides that were being hydraulically mined. During hydraulic mining, the sheer volume of material flowing through the sluices or channels that were lined with mercury created a situation where mercury recovery was not effective. Dredges were more effective at recovering gold and mercury. Stamp mills were another source of elemental mercury exhaust into streams.

While it is a fact that these historic mercury spills represent an ecological hazard for both man and animal, it is not fact that the modern gold dredge causes this problem. In fact, the modern gold suction dredge poses one of the best potential solutions to this hazard. More on that in a future issue of Gold Digger's Underground.

What does mercury have to do with modern suction Gold dredging? The modern gold dredge does not use mercury in its concentration riffles. Instead it relies on better understanding of water flow and newer technologies controlling the concentration of material by specific gravity. In addition it utilizes hydraulic vacuum suction to draw up large and small particles of gold and river bottom materials. The sluice is the initial scrubbing, sorting and concentrating of these materials in a much more efficient manner than was used in the 1800s.

In fact concentrating machines are so good that they'll actually pull elemental mercury along with the gold and it is possible for prospectors to recycle mercury recovered in this manner. The problem is the perception that disturbing this mercury creates a mercury exposure hazard. The fact is governmental entities are paying millions to recover this mercury from streams and rivers with less efficient methods than a suction dredge presents.

With the addition of a copper plate, special riffle sections, or a copper grizzly this released mercury can be almost completely recovered for additional income to the gold dredger and no expense to governmental entities seeking to

remove mercury from the stream.

Much of this new technology was being explored in California when legislators decided to step in using water politics instead of science. The result is we now have gold dredges being blocked from the waterways of California in violation of the 1872 mining law.

As you can see the history of past mercury use has in part led to a situation where modern technology gold dredges that have the potential for remediation or repair prior mercury contamination cause political and emotional pressures that in turn lead to changes in the law that affect all of us.

Even those who are not currently impacted by California's dredging law need to take a good close look at their own states, countries and territories to watch for similar political anti-gold movements based on a misunderstanding of current gold dredging technology and its eco impact.

I do not have time to go into the details around silts and gravel disturbances and their supposed effect on fish, specifically hatching eggs. Maybe at a later date I'll go into this issue since it is also related to the dredging ban decision in California. Just know there is almost always a solution if you truly understand a problem and are willing to let people solve it.

Take the time to make yourself aware of what is happening here. Contact your local political authorities and let them know about suction dredging and its positive impacts on the environment and local economy.

The way I see it, you should remember to keep it clean, fun and keep it courteous even when someone else is not. You do make a difference in how others see gold prospecting, share that message. Think of yourself as a prospector's ambassador to the non-prospecting world.

* Do not use mercury in your concentrating process; there are far safer alternatives available. ★



Gold Fever vs. Strategic Prospecting

Learning from our mistakes...

What Went Wrong?

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It's always instructive to think about things that didn't work out, or things that went wrong with an attitude that says, there are no mistakes, these negative outcome events are simply opportunities to learn. What I mean by this is that success in prospecting for gold requires you to make decisions that often times will literally not pan out.

When events like this happen, you have a choice. You can think of it as something messed up that you never want to repeat again, or you can see it for what it really is, another opportunity to uncover gold knowledge and prospecting clues that you didn't know before. Only the latter attitude will lead to success in finding gold. Persistence in learning the little things that went wrong and correcting actions based on that education pays. Let me give you an example from my own experience.

My son Josh and I were having a blast one very hot summer afternoon dredging for gold. You see we had rigged up a long series of dredge hoses to reach into a pocket along the stream bed that was partially blocked upstream by a huge log that had fallen across the stream years earlier. It was so exciting just to be out there sucking up little particles of gold and hunting down those elusive nuggets. So far the gold particles were winning and the nuggets were losing but we really didn't care, until...

Eureka – Gold! Gold! Gold! Later that day, we saw something yellow, glimmering above the grizzly plate just ahead of the dredge's sluice box. Sure enough, we had found our first nugget of the day. We were so excited that we decided to change our strategy and not dredge directly down to bedrock in that region. Instead, we began to search along the edge of the stream bed where we had found the nugget. Hour after hour we hunted, until darkness fell. No more nuggets. In fact, not much gold at all. *What went wrong?*

It wasn't until later in the season, when we were evaluating our gold map records and the vials of gold for the season, that we realized we had dropped the ball and not continued our original plan of going to bedrock. Upon further analysis of this section of the stream we have discovered that we likely missed a lot more nuggets. The cause for this problem was quite simple, we let gold fever take over the planning and strategy that we had set, and we missed serious gold.

Lesson learned = *Make your plan and stick to it,* unless you can improve it using evidence from more than one data point. ★

Miner's Moss & Your Sluice Box

Prospecting Product Reviews - Extra

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For this product review I'm going to cover a necessary and powerful addition to your sluice box, Miner's Moss or 3M Nomad matting. It's use will greatly increase the amount of fine to coarse gold that you capture from your sluice box. Many different suppliers sell this material, so finding it shouldn't be too difficult and I include a link to a source below.



Miner's Moss

There are also other, more sophisticated mattings, that provide interesting corrugated surfaces. Some imitate Hungarian riffles or form little whirlpools. Fundamentally, the principles are the same. They all provide a slow flow zone where finer gold particles can settle quickly. In many areas, this finer gold will make up the majority of the gold recovered, so it's well worth considering as a gold recovery multiplier.

By just adding a square foot or so of this material to the top in your sluice box, in place of or above your green matting or carpet, you will enhance your gold yield greatly. It also happens to make sluice-box cleanup a lot easier because the matting stretches easily to release any gold or black-sands that are trapped inside.

In areas of high concentrations of fine gold, the green carpeting may take a different cleanup process over time. The carpet can even retain enough gold that prospectors have been known to burn the carpet after extended use to release the gold trapped within. You won't need to do this with nomad matting or Miner's Moss.

The moss material is made out of nomad matting, an all-weather non slip carpet material from 3M; sometimes you can find used pieces relatively cheap. It makes sense to just purchase the smallest piece you need directly from a mining supply dealer. Take a look, and consider adding miner's moss to your prospectors toolbox. ★

Here's where to get your [Miner's Moss](#) at page bottom.

*Note: We offer BlackCatMining quality products and receive compensation as part of Hunting4Gold's integrated gold prospecting supplies for you.

A Look at the Five Stages of Gold Finding (Part 1)

Nugget Finding Strategies

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Stage I - Research

During the research stage you'll need to focus on digging up information and history with regard to locations that produced gold in the past, or have the potential to produce gold based on other geologic research evidence. You will use resources both online and off-line to carry out this part of your search for gold. In the modern age of technology is a tendency to want everything available online.

The reality is many of the records date back a century or more and thus are not available as online records because they were handwritten. This is especially true when it comes to gold claims and gold claim research. Oftentimes this must take place in the county or territory records office pouring through huge archival manuals deciphering handwritten claim descriptions including features like 300 paces from an old oak tree found in the center of the Creek next to Joe's cabin... LOL

Yep, you'll need to look at that because it may be the only information you have about if a claim is really valuable to you. If you need to, ask the librarian or historian.

Stage II - Site Survey

The site survey stage is one of my favorites because it's the first time you'll get a glimpse of the site's potential for producing gold it also is one of the most important when it comes to being able to be efficient finding gold repeatedly.

If you're skilled enough at this stage, you'll have a lot of prospecting buddies looking you up so you can take a look their gold prospect. Just make sure you have them sign a contract so you can get a percentage cut of any gold found.

Stage II includes reading a creek's trashy clues for the high water bath-tub-ring that was discussed in the first part of this issue. We'll be covering more of this stage in the next issue.

Meanwhile get out in the field and use your new knowledge of how to spot the high water lines along a stream bed and use it to spot that region of slowing water where gold drops out.

A Look at the Five Stages of Gold Finding - Continued in the next issue of GDU.



While You're Hunting...

I'd like to ask you to let me know what you want to learn next about gold finding & prospecting. Who knows, it may even turn into the next blockbuster prospecting video.

Get what you want and get to read it too...

Take a short minute to let us know
What do you want from H4G?



[Find more gold by sharing Your input on this page...](#)



G.D.U. - Resources & Gold Prospecting Links:
Mentioned in this issue



Site Links:

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YouTube -- [ProspectorJess Channel](#)

Twitter -- Follow @ [ProspectorJess](#)

Hunting4Gold Help Desk ([Support](#))

Please go here with your prospecting questions and any site, newsletter or product issues you may have.

Prospecting Tools:

[BlackCatMining - Miner's Moss](#)

(Miner's moss is at the bottom of this tool page from one of our H4G suppliers)

*Note: We offer BlackCatMining quality products and receive compensation as part of providing Hunting4Gold's integrated gold prospecting supplies to you.

A few of the topics in the next Issue of GDU:

- Gold Rush History - My Grizzly prospecting encounter
- Read a Creek (Part 2) - Trashy clues continued...
- Five stages of gold finding continued...
- More about *what went wrong*
- More gold finding tips & tricks

**Check for the next Gold Digger's Underground,
Volume 1 Issue 2 in your email coming soon!**