

On June 6th, during the regular Channelkeeper sampling, we came upon lots of dead and dying watercress at the confluence of Canada Larga and the Ventura River (Figures 1 and 3). Since Canada Large has been dry for over two months, and since this sampling location is just below the Ojai WWTP, my first thought was, ah ha, the treatment plant strikes again! (In 2008 there was a similar vegetation die-off featuring a wide variety of species, but primarily watercress – Figure 4 – and back in 2003, Julie Simpson and myself witnessed a sudden end to a *Cladophora* bloom at Shell Road, just a little further down the river. In both I suspected *something in the effluent*, but, of course, had not one bit of proof.)

And then we saw a line of surveyor's tape hanging from trees alongside a side channel filled with murdered plants (Figure 3, upper panel), and my second thought was, ah ha, somebody has been doing something, perhaps something associated with arundo removal or some other nefarious activity. I went home satisfied, content that I had rounded up the usual suspects, at least mentally. But in looking over photos taken that day – aren't digital cameras a wonderful thing? So much nicer than that devil's tool we call, perhaps appropriately, a "cell" phone – I noticed lots of dead watercress in pictures from Foster Park. Foster Park is more than a mile above the WWTP (Figure 5). The presence of dead watercress obviously hadn't registered during the time we sampled. It's a hell of a thing to see a great theory die.

So I'm thinking, curiouiser and curiouiser. I re-examined photos taken further downriver, at Main Street, and they showed no sign of watercress stress. And I looked back over those taken on May 2nd, and the watercress in them looks fine also. I then examined pictures taken during the diel sampling on May 22nd. Unfortunately, almost no photos were taken at Foster Park, but the few taken at the Canada Larga do show patches of discolored watercress – call it pale yellow-green. Off colored, probably stressed, but no dead watercress. At least not yet.

So what's going on? "Killer" effluent? Surveyors or contractors doing evil deeds? Collective suicide? (A plant version of that quintessential "Lemming" experience? Which I understand, unfortunately, to be untrue. Damn you Science!) Perhaps natural senescence – this is, after all, last year's watercress not this year's. (These plants took advantage of an early *Ludwigia* dormancy last fall to overwhelm the river and all competition.) But if so, why is the Main Street colony doing so disgustingly well? Pig-headed obstinacy? In over eight years of sampling on the Ventura I can't recall any early watercress demise – other than the incident mentioned above.

And it's not just watercress. Some of the dying plants upstream of Canada Larga were *Ludwigia*, and in my experience almost nothing kills *Ludwigia*. Wash it out in a flood, maybe; but kill it – hah! But further down, just a hundred feet or so, *Ludwigia* is doing just fine thank you.

So if anyone out there has some ideas, please share them.

Where the hell is CSI when you really need 'em?



Figure 1. Overlooking the watercress plantation below the Ojai WWTP: upper photo May 2, 2009; lower photo June 6, 2009. Note the dead and dying watercress (some *Ludwigia* also).



Figure 2. The watercress plantation below the Ojai WWTP: upper photo May 2, 2009; lower photo June 6, 2009. While, admittedly, John is taller than Nadine the plants have gone from above head-high to less than waist-high in a period of one month – note also the yellow color of patches that are fading fast.



Figure 3. May 2, 2009 photos: (upper) Just below area in Figures 1 and 2 a branch from the main stem comes in from the left. Everything along this branch was dead; note also the surveyor flagging in the background. (lower) Dead patches within the plantation area.



Figure 4. My first thought was “nothing new,” having seen both algae and aquatic plant die-offs below the WWTP in 2003 and in 2008. These photos show dead plants, mostly watercress but also other plants and some shrubs in photos taken on Aug. 27 (upper) and Sept. 6 (lower), 2008. The usual suspect has been some episodic pollutant in treatment plant effluent.



Figure 5. This time, however, watercress also seem to be dying at Foster Park. The upper photo is from May 9, 2009 the lower from June 6, 2009. I can't recall ever seeing this before and good questions might be "what the hell is happening?" And what's the current state of the Arundo removal project? And is it active in near these areas?