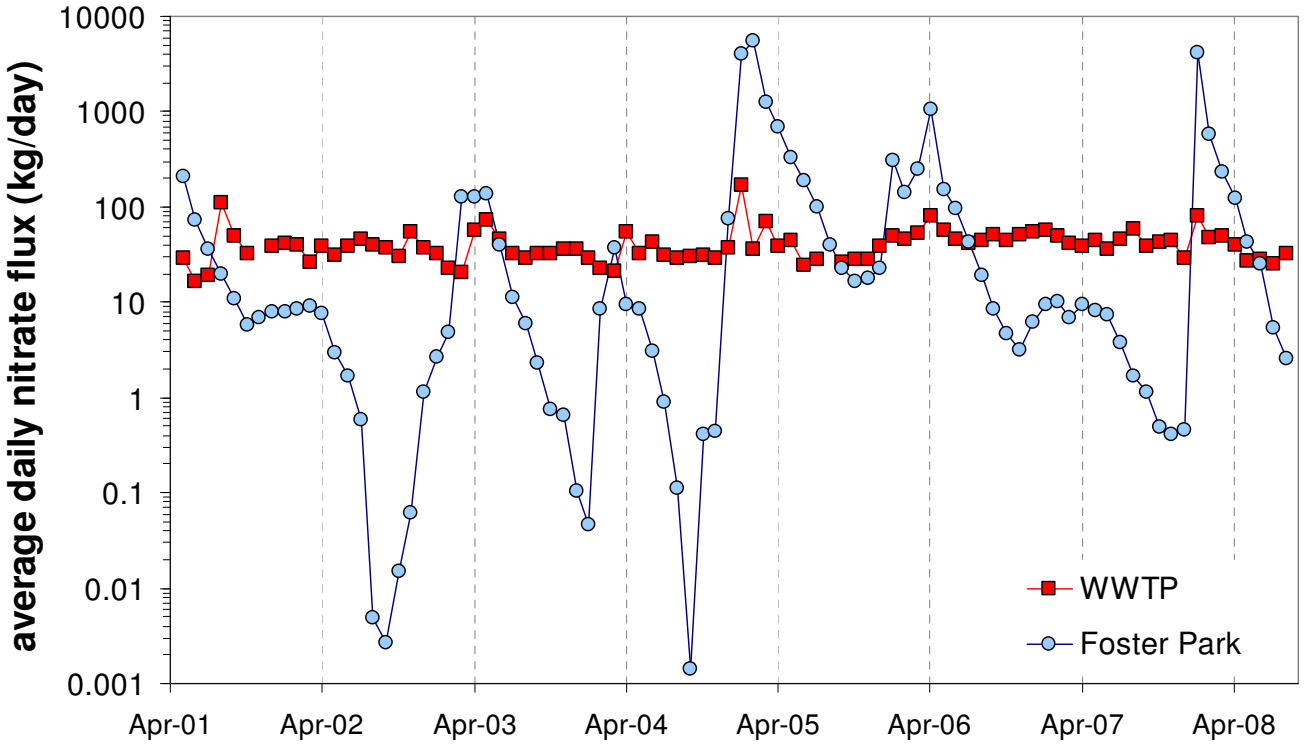
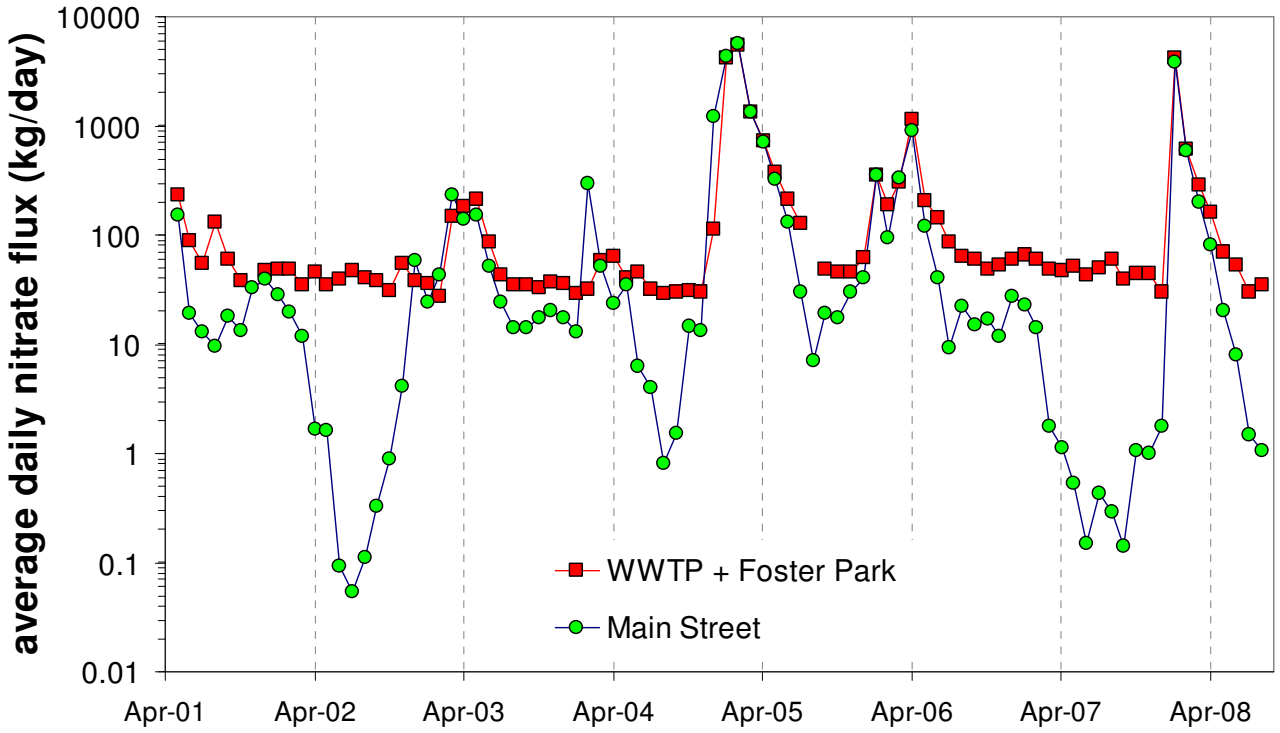


The above graph shows both the nitrate flux at Foster Park and the nitrate flux coming out of the Ojai Wastewater Treatment Plant (WWTP). I'm calling it *flux*. It could also be called *amount* of nitrate or the nitrate *loading* on or to the river. All these terms are interchangeable. I'm showing nitrate, which is by far the most important nitrogen component on the lower river. If I showed total nitrogen there would not be very much difference – I just happen to already have these graphs on hand for nitrate, and I don't have them for total nitrogen.

Let's assume that the nitrate flux (or loading) at Foster Park is pretty much the same as that just above the WWTP (a pretty safe assumption). If we add to it the loading coming out of the WWTP as treated effluent, the flux below the plant would be the sum of the two. The above graph shows seven years of data, from 2001 into 2008, and the dashed lines mark each April 1 – in other words approximately the start of each year's algal season. We can make two observations about the WWTP flux: (1) there is a lot of nitrate coming out of the WWTP, and (2) the flux or loading is relatively consistent. We can also make two observations about nitrate at Foster Park: (1) it varies amazingly (this was the basic point in my comments on the LWA Report), and (2) while the flux is usually lower that that coming out of the WWTP it is sometimes higher – much higher, perhaps on the order of a hundred-times higher in years like 2005. And if we ask in which years was the flux during the early part of the algal season coming from Foster Park much higher than that from the WWTP, the answer is "during big algae years." Which happen to be big rainfall or big water years. It's no coincidence – which is another point I've tired to make in my comments on the LWA Report.

In other words, when there is a lot of algae below the WWTP, especially the monster *Cladophora* blooms seen in 2005, 2006 and 2008, the WWTP is contributing only a minor fraction of the available nitrogen. And what about those years when the WWTP contributes most of the nitrogen? Well, those years, 2002, 2004, 2007, and yes, the current year, 2009, are years when algae are not really the problem below the WWTP. In those years, aquatic plants are the problem, but the TMDL appears to be relatively unconcerned about that particular problem.



We can carry the argument even further. In this graph the red boxes denote not the WWTP flux, but the WWTP loading added to the Foster Park flux, i.e., a reasonable estimate of the flux just below the WWTP outfall. It also shows the flux at Main Street. Again, we can make two observations: (1) in big algae years, when the WWTP flux is a minor contributor, the overall flux (during the first part of the algal season) is not greatly diminished by the time flow reaches Main Street, but (2) in low flow years (2002, 2004, 2007 and 2009, i.e., all the usual suspects) when the WWTP is the major contributor to nitrogen on the lower river, the nitrate content is drastically (actually the best word when we are taking about a thousand to hundred-thousand-fold reduction) reduced by Main Street.

This reduction is caused by uptake by aquatic plants and algae in the reaches between Main Street and the WWTP. And the reason uptake can be so effective in those years? Because those are low flow years in which the nitrogen flux is limited. In big water years flows, and the nitrogen flux, are so high that uptake can make only a dent – even when *Cladophora* massively takes off during the early part of the season.

So the essence of the argument is simple: When algae are out of control on the lower river WWTP contributions are relatively small and unimportant; and when the WWTP provides the most of the nitrogen algae are almost never a problem. And it those years any nitrogen coming from the WWTP is rapidly uptaken by biological growth and ceases to be much of a factor further down.

Kinda like a lawyer arguing that his client didn't commit the murder because he was out of town. And if not out of town his wife can state that he never left home. And if his wife can't, well, a broken leg prevented him from leaving the house.