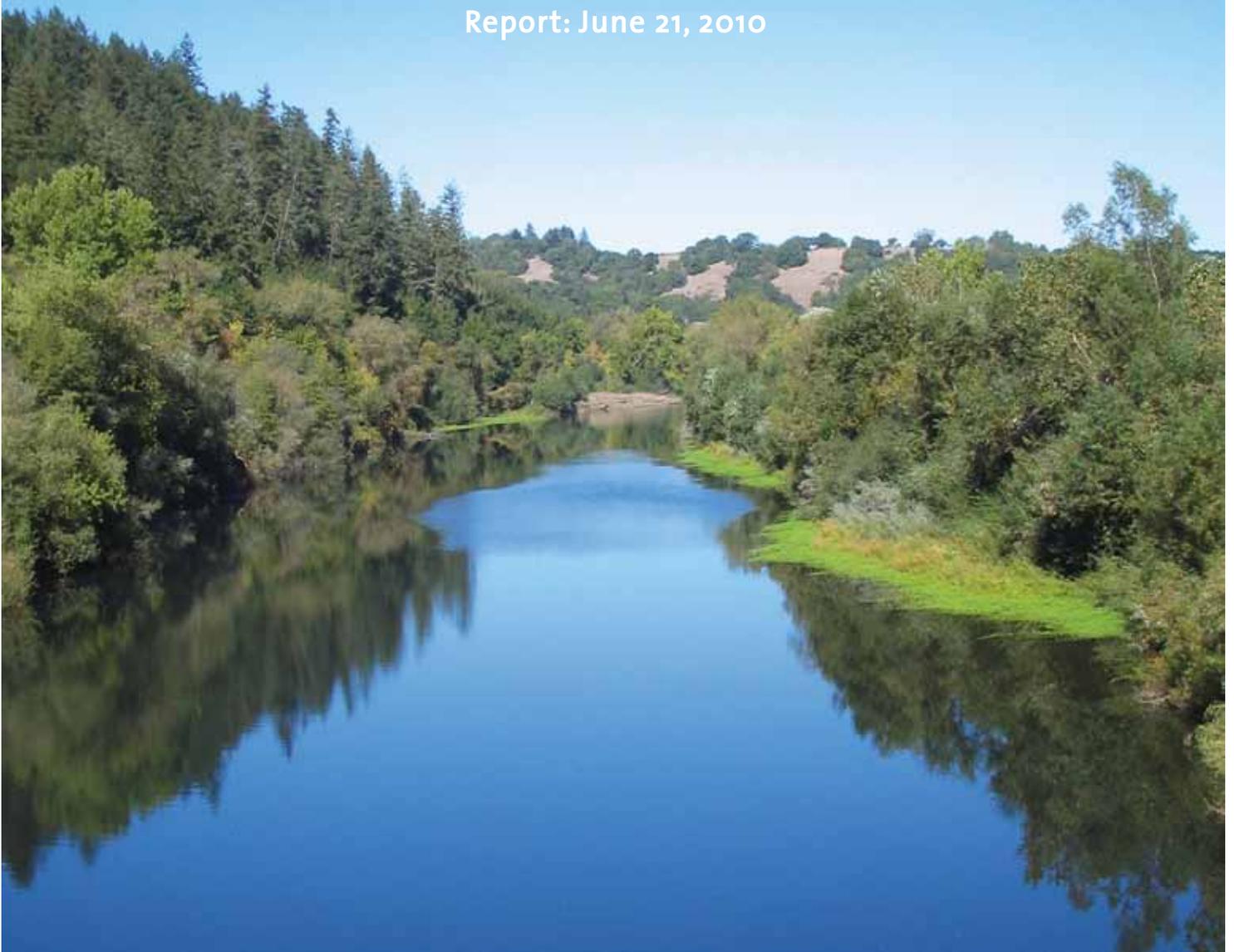


Russian River Watershed Protection Committee 2009 Photo Project

Report: June 21, 2010



By Brenda Adelman for RRWPC

Photographic Report on 2009 Water Quality Conditions in Lower Russian River: Response to proposed 45% cut in summer flows.

By Brenda Adelman for RRWPC

I. INTRODUCTION

In late May, 2009, in anticipation of very low summer flows as measured at the Hacienda Bridge, I started taking photographs from the Hacienda Bridge, the Guerneville (Old) Bridge, and the Monte Rio Bridge and Beach every week until early October, but for one week. Several other photographers assisted, including Laurie Ross, Larry Hanson, Shula Zuckerman, Kim Pistey, Tom Meldau, Shane McColgin, and Community Clean Water Institute volunteers.

Photographs were taken between the end of May and the end of September between Steelhead Beach and Monte Rio Beach. We also received a few photos from supporters and have included one picture from the Duncans Mills area as well. We ended up with thousands of photos and this report offers just a sample of representative scenes we shot.

Our goal was to photograph water quality problems, mostly in the form of nuisance algae and *Ludwigia* and also to show the water levels as the summer progressed. The two dams at Guerneville and Vacation Beach kept waters consistently high in that area all summer. The area where flow changes were most visible was the Kid's Beach in Monte Rio, which is east of the bridge. That was also the area with some of the worst algae. Over the course of the summer we saw many different kinds of attached and unattached algae and offer a representative sample in the pictures. We don't know the names of what we found, but hope some more knowledgeable than ourselves will be able to identify them.

We also tracked water quality monitoring reports as well as pathogen exceedances and beach postings. Furthermore, we include flow data as measured at Hacienda. There are no other flow gauges for the lower river that we know about. Unfortunately, the nutrient data for the entire year included inappropriate protocols and is very inadequate for scientifically determining the extent of the problem. Hopefully this will be corrected in 2010.

This report is divided into several sections including, algae, *Ludwigia*, water levels and impact on beaches, both by flow control and opening of mouth. We include two sets of before and after pictures, upstream and downstream of the Monte Rio Bridge showing the impact of opening the mouth of the river. Two of the pictures were taken on October 5th just as the mouth was being opened, and two were taken the very next day. The difference is profound.

After the breaching, when the water went way down, the beaches where the water had been were covered with algae. I talked to Regional Board staff about the algae and was told they would take samples. I was later informed that toxic blue-green algae had been found in the area of the Kids' beach at Monte Rio.

We include Hacienda flow data here, which we obtained from Sonoma County Water Agency. All of the flows through Sept. 30, 2009, had been verified by USGS. The October flows had not yet been verified. Over the course of the summer, of the 130 days total, 57 days the flow was under 85 cfs, and 31 days were under 70 cfs. The lowest flow was 47 cfs on August 17, 2009.

A few of the pictures state "pathogen exceedance". This means that weekly monitoring at Monte Rio Beach for pathogens was out of compliance on that date. The temperature data came from Hacienda or Johnson's Beach monitoring sites and averaged about 20 to 25 Celsius, which is far too high for salmonids. Temperatures diminish considerably in the fall however.

RRWPC requests that the enclosed photographs not be used for any purpose other than as evidence for consideration of changes to Decision 1610, either Temporary or Permanent. They may also be used by North Coast Regional Board staff for scientific evidence of water quality impairment of the lower Russian River. We do not allow these photos to be used for any commercial purpose without written permission. Where no photo credits are given, pictures were taken by Brenda Adelman.

II. MOUTH BREACHING & FLOW IMPACTS

Breaching of Mouth: impacts on Monte Rio Beach: looking west....



Photo 0145 was taken from the Monte Rio Bridge in the afternoon on Oct. 5, 2009 around 4 pm. looking west. Notice signs on mid-right of photo, far into the water. On far left notice accentuated plant on cement structure and plants submerged behind it. The water here was much higher than I had seen all summer at this location.

Hacienda flow: 92 cfs (not yet verified by USGS)



Photo 0228 was taken one day later (Oct. 6, 2009) of the same scene (magnification a bit different however.) In this picture you can see flat rectangular cement structure with plant behind it and beach all exposed behind.

On the right you can see the sand bar jutting way out with signs that had been far into the water on Oct. 5th, now far back on the sand. The line in the sand behind the signs is where the water had been the day before. Also, you can see sand bar jutting way out beyond bushes in upper right of photo. Although you can't see it in this picture, that beach is covered in algae where the water had been.

Hacienda flow: 102 cfs (not verified by USGS)

Breaching of Mouth: impacts on Monte Rio Beach: looking east....



Photo 0165: This picture was taken about 4 pm on Oct. 5th. The water line is right behind white wood platform. Bushes along the bank and Ludwigia go far out beyond water line.



Photo 0239: This was taken around 2:30 pm on Oct. 6th after breaching of the mouth. You can see white platform far back on sand and sand bar juts out beyond Ludwigia.

Low flow impacts on Monte Rio Beach:



Photo 5845: This is another comparison of the same beach scene looking east. This picture was taken earlier in the season on July 11, 2009. Water levels are more than October 6th but less than October 5th when the mouth was closed. The mouth was open when this picture was taken.

Hacienda Flow: 112 cfs

Temperature: (Johnson's Beach) 23 Celsius



Photo 7924: This picture contrasts with 5845 in that you can see that the river level is much lower (mouth open in both pictures). This was the most visible bridge location where we can see the impact of flow levels on the river. It was taken on Aug. 15, 2009

Hacienda Flow: 50 cfs

Temperature: (Johnson's Beach) 25 Celsius

III. ALGAE:



Photo 0329: This is essentially a blow up of photo 0228 on page 3 (upper right of photo) and taken Oct. 6, 2009 at Monte Rio Beach looking west. It shows prevalent algae in water and on beach AFTER opening of the mouth of the river. You can also see water line from prior day in bottom right corner.



Photo 0387: taken by Bill Clark behind his Duncans Mills vacation home on July 31, 2009 in the morning.

Hacienda flow: 76 cfs

Monte Rio Pathogen exceedence



Photo 4752: This photo was taken from the Monte Rio Bridge looking west on June 22, 2009. The whole water column seems to be subject to a large algal bloom. In subsequent visits, it was not nearly so iridescent green.

Hacienda flow: 157 cfs

Temperature:



Photo 0326: This picture was taken on Aug. 22nd from the Monte Rio Bridge looking east towards the Kid's Beach. As I looked down into the water in the middle of the bridge, the floating algae could be seen going by.

Hacienda flow: 64 cfs

Temperature: (Johnson's Beach) 23.63 Celsius



Photo 0407: This was taken at the Monte Rio Kid's Beach while down at the beach, also on Aug. 22nd. I believe that this is a different kind of algae than what was seen in the prior picture.

Hacienda flow: 64 cfs

Temperature: (Johnson's Beach) 23.64 Celsius



Photos 6814 and 7239: These photos were both taken at the Kid's Beach (from the beach) in Monte Rio. 6814 was taken on Aug. 2, 2009 and 7239 was taken on Aug. 8th. They were both from the same area.

Hacienda flow: 71 cfs and 64 cfs

Temperature: (Johnson's Beach) 23.35 Celsius



Temperature: (Johnson's Beach) 23 Celsius



Photo 6980: This picture was taken from Hacienda Bridge on Aug. 2, 2009 Looking west (downstream), the hill on the right is where the pipe is located and the algae is right down below.

Hacienda flow: 71 cfs

Temperature: 22 C



Photo 0369: This was taken at the footings of the Vacation Beach Dam (from the road) soon after it was taken down. The picture was taken on Oct. 6, 2009. The algae are very bright green as you can see, but we don't know what it is. Regional Board staff verified that it is not blue-green algae.

Hacienda flow: 102 cfs



Photo 8100: This picture was taken from the Hacienda Bridge on the North side and looking over to the right. There is a huge outcropping of Ludwigia on this bend and immediately downstream is the large mat of attached algae. This picture was taken on Aug. 16, 2009.

Hacienda flow: 51 cfs

Temperature: 23 C



Johnson's Beach algae photographed by Shula Zuckerman on September 27, 2009. The picture speaks for itself.

Hacienda flow: 69 cfs

Temperature: 21 C



Photo 3542: Picture of floating and submerged algae taken by Laurie Ross in the Steelhead Beach area on August 18, 2009

Hacienda flow: 51 cfs

Temperature: 23 C



Photo 3552: Steelhead Beach algae taken by Laurie Ross on August 16, 2009

Hacienda flow: 51 cfs

Temperature: 23 C



Photo 3311: taken by Laurie Ross in the Steelhead Beach area. This picture shows both Ludwigia and the attached floating and attached tubular algal plant under the water's surface. July 20, 2009 at west Steelhead Beach area, I found the same kind of growth at Hacienda looking south from the bridge on the right bank. **Photo 6327** was taken July 19, 2009.

Hacienda flow: 69 cfs

Temperature: 23 C

IV. LUDWIGIA

This invasive plant has overrun much of the Laguna and is now evident throughout the entire lower Russian River watershed. The Laguna Foundation eradicated it fairly successfully a few years ago in one area (near Stony Point west of Cotati), but it rapidly came back full force when not maintained. It now fills the entire channel.

Ludwigia is found in outgrowths from the bank along the whole lower river. We photographed downstream of SCWA facilities, but we know it occurs upstream as well, although not as prevalent as the lower section of the river. We include representative photos here going down the river from Mirabel (Steelhead Beach) to Monte Rio.



Steelhead Beach: Photo 7-31c looking downstream on July 31, 2009. You can see seven outcroppings in this picture along the bank. Hacienda flow on that date was 76 cfs. Picture taken by Tom Meldau and Shane McColgin.

Sunset Beach Ludwigia pictures taken by Larry Hanson (Photos 0098, 0024, 0026).



Photos 0024 and 0026 were taken west of the main Sunset Beach on July 25, 2009

Hacienda flow: 71 cfs



Photo 0098 was taken on July 4, 2009 in about the same location

Hacienda flow: 128 cfs

Hacienda Beach:



Photo 8091 was taken on August 16, 2009 (**Hacienda flow:** 51 cfs) and shows a large outcropping just north of the Hacienda Bridge looking down to the right.



Photo 8384 was taken looking south on the Hacienda Bridge towards the right bank on August 22, 2009.

Hacienda flow: 64 cfs



Photo 6684: Hacienda Bridge looking downstream at the left bank. Picture taken July 26, 2009 This is an outcropping of Ludwigia right next to outcropping of submerged attached algae.

Hacienda flow: 74 cfs.



Oddfellow's Bridge:

Photo 3002 taken by Kim Pistey, I believe at the Oddfellow's Bridge. (I was unable to contact her to verify.) The picture was taken in late August.



North bank between Russian River County Sanitation District and Monte Rio Beach:

Photo 3200: taken by CCWI volunteer. Not sure of date, but I had noticed area and it had been pretty consistently the same all summer.



Old Guerneville Bridge: (looking east):

Photo 6246: taken July 18, 2009.

Hacienda Flow: 81 cfs.



Monte Rio Kid's Beach:

Photo 6591 taken July 25, 2009.

Hacienda Flow: 71 cfs



Dubrava Beach:

Photo (#8) taken September 5, 2009 by Shula Zuckerman.



Researched and prepared by volunteers for:
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