

Llagas Watershed Agricultural Watershed Plan Annual Report

May 2005

The Llagas Watershed Working Group, in cooperation with the Santa Clara County Farm Bureau's Agricultural Water Quality Program, prepared the following watershed plan.

Description of Llagas Creek Watershed

The Llagas watershed is located on the central valley of South Santa Clara County. It drains the northern edge of the east-facing slope of the Santa Cruz Mountains and the west-facing slope of the Diablo Range. The watershed is comprised of Llagas Creek which drains to the Pajaro River, two major creek systems - Little Llagas and San Ysidro, which drain to Llagas Creek, and numerous smaller creeks, including Miller Slough, West Branch, Alamias, and Jones Creek, which drain to the major creeks. It has been identified as critical habitat for red-legged frogs.

Principal land uses include three small cities, Gilroy, Morgan Hill and San Martin, agriculture, rural residential, water supply (reservoir management), and recreation (parks, golf courses, horse riding trails, camping). Forests, grazing lands, rural residential, and public parks dominate the top of the watershed. The lower watershed of the Llagas is a mixture of suburban housing, retail and industrial uses, agricultural (primarily row crops, nurseries/ greenhouses, orchards, and vineyards) and rural residential. The creeks are intermittently dry in the summer. The Chesbro Reservoir is near the top of the watershed. The purpose of the reservoir is water supply and supplemental flow to the creek during dry months so as to provide continued irrigation and groundwater recharge.

Anticipated changes to the watershed include continued pressure for rural residential development, which is likely to result in increased runoff in the watershed due to added impervious surfaces.

The Llagas Watershed is a tributary to the Pajaro River, which flows into Monterey Bay along the Central Coast of California. Llagas Creek is listed as an impaired water body for nutrients (nitrate, total nitrogen, phosphorus), ammonia, chloride, sodium, and total dissolved solids, sedimentation / siltation, fecal coliform, and dissolved oxygen. The Pajaro River is listed as an impaired waterbody by the State of California as designate for the U.S. EPA under provisions of the federal Clean Water Act. The pollutants of concern are nutrients, fecal coliform and sedimentation/siltation. The state is required by law to set Total Maximum Daily Loads (TMDLs) for the amount of each of the listed pollutants the river can handle on a daily (or annual) basis. Both the nutrient and sediment TMDLs are underway. The Nutrient TMDL was supposed to be released in May 2005 but the Central Coast Regional Board (Regional Board) now says that it will be delayed for at least one year as a state task force discusses how to set water quality standards for nutrients and bio-stimulation (there are currently only standards for nitrates). The Sediment TMDL, which was also supposed to be released in May 2005, is currently waiting for Technical Peer Review and legal review. The Regional Board staff is hoping to have that document ready for public discussion in the fall.

Goals of the Llagas Watershed Working Group

We have identified 212 active growers in the Llagas Watershed. They farm more than 23,850 acres (note that we only have acreage that is registered by the Ag Commissioner for pesticide or organic and self reported acres, we do not have all of the ranch and non-pesticide using acreage so actual farmed acreage in the watershed is greater than 23,850). Of those 212 growers, 51 (24%) are active in the watershed workgroup. The 51 growers who are active cultivate 16,831 acres – which is 71% of the identified acreage in the watershed. Note that 42 (20%) of the growers in the Llagas Watershed farm 5 or fewer acres and 75 (35%) farm 10 or fewer acres. These small growers are harder to involve.

Established in June 2002, the Llagas Watershed Working Group is an association of agricultural landowners, managers and operators within the watershed, who have organized to address agricultural non point source pollution concerns. The agricultural landowners in the Llagas Creek watershed want to proactively address water quality problems in a way that is practical and feasible for agriculture. As a watershed-working group, the agricultural landowners have identified the following as action items and issues of concern. In particular, the focus of the last year has been fulfillment of the Regional Board's Agricultural Waiver requirements.

It is the mission of the Llagas Watershed Working Group to improve water quality by voluntarily implementing farming practices that successfully reduce sedimentation and agricultural non point source pollution. The Watershed Working Group seeks to achieve and sustain environmental improvements while maintaining the economic viability of the agriculture.

Watershed Working Group Action Items

1. Compliance with Water Quality regulations: The focus of the past year has primarily been on completing Notice of Intents, Short Courses, and Farm Plans. Growers began to develop individual, confidential Farm/Ranch Water Quality Plans, or Vineyard self assessments; attended short courses or Central Coast Vineyard team's Program; submitted their Notice of Intent to the Regional Water Quality Control Board; and developed and implemented "self monitoring" to track progress.

Status: 56 growers (53 ranches) in the watershed attended the short course, 20 have completed their Farm/Ranch Water Quality Plans, and 51 are active in the watershed-working group.

2. Encourage and assist individual agricultural landowners, managers and operators in development of plans that address sources of sediment and non point source pollution from their agricultural operations.

Status: The growers that are participating continue to invite their neighbors to meetings and forward contact information for their neighbors to the Water Quality Coordinator as is evidenced by the increase in the participation in the watershed work group meetings, and completion of the Short Course and Farm Plans. In addition, 4 growers have hosted meetings/workshops at their farms and 3 growers given the testimonials as to the value of the Short Courses.

3. Perpetuate or implement management practices (farming practices) that reduce or mitigate sediment and non point source pollution sources.

Status: 44 growers reported that they had implemented management practices. See survey results below.

4. Channel clearing as appropriate to clean up garbage/cars in creek and remove invasive species.

Status: The Santa Clara Valley Water District began its Arundo removal project in the summer of 2004. They expect to continue work for the next 5 years to complete the task. The growers in the Work Group have worked with the District as needed to facilitate the project.

5. Equestrian education to reduce the impact of horse management and trail riding on water quality.

Status: We collated an extensive list of horse properties to provide the basis for the Resource Conservation District's (RCD) owner education program. This project has been on hold due to staffing shortages at the RCD. We will be working with the RCD when they have the resources to move forward.

6. Rural residential education as to best management practices to protect water quality and reduce septic impact.

Status: We requested that the Loma Prieta Resource Conservation District increase the frequency of their short course for Ranchette owners. They held 2 classes in 2004 and both were full. We will be requesting additional classes in 2005 as resources become available.

7. Cooperate with the Monterey Bay National Marine Sanctuary (Sanctuary) and other partners with the Sediment Sources and Sediment Transport Study for the Llagas watershed, currently being administered by the Sanctuary.

Status: The Sediment Study is complete and was forwarded to the Regional Board for use as the basis of the Pajaro Sediment TMDL. Regional Board staff developed some draft documents, which were circulated to the Technical Advisory committee for comment. Regional Board staff has now revised the document and is currently establishing a peer review process as well as legal review. They expect to have a public draft in the fall of 2005.

8. Continue to hold demonstration/educational events and pilot project meetings as needed

Status: Members of the Working Group have participated in short courses, monitoring workshops, farm tours, harvest festivals and other training/educational events.

9. Develop water quality projects (demonstration & research) on farms with technical assistance from RCD, NRCS, and UCCE. (Ongoing)

Status: We referred 7 growers to the RCD, NRCS, UCCE, or Santa Clara Valley Water District. Most of those growers have implemented practices, either on their own or with the assistance of one of the technical agencies.

10. Monitor success by completing inventory of existing and further commitments for water quality management practices and compile into an annual watershed report to the Regional Board. (August 2003, annually thereafter)

Status: This is the second Annual Report for the Llagas Watershed. 44 growers in the Llagas watershed completed the survey inventorying their existing and future commitments. The results of the survey are discussed below.

11. Support watershed level water quality monitoring for Regional Water Quality Control Board.

Status: Almost 100% of the growers indicated in their Notice of Intent that they plan to participate in the group-monitoring program. Additionally, they have supported the monitoring done by the NRCS. The results of that monitoring have been presented to the growers twice each year (spring and fall) and they have had significant discussion on the sources, practices and next steps. Those results are attached.

Survey Results on Water Quality Practices Planned and In Place

44 (21%) growers completed our survey. The growers who completed the survey reported that they are cultivating 10,099 acres. Their primary crops are grains (alfalfa, oats) irrigated row crops (strawberries, raspberries, corn, jalapenos, squash), organic seeds, orchards and cattle. The growers reported implementing or planning to implement the following practices. Note that most growers did not report on the number of acres protected and/or were confused by the question so we will not be asking it on future surveys.

1. Vegetative controls

- A. **Annual grassing** – 3 growers, 30 acres
- B. **Cover Crops** – 11 growers, 1512 acres
- C. **Critical area planting** – 2 growers, 14 acres
- D. **Field border strips** – 5 growers, 387 acres
- E. **Filter strips** – 15 growers, 90 acres
- F. **Hedgerows** – 1 grower, 40 acres
- G. **Mulching** – 6 growers, 112 acres
- H. **Seeding Furrow bottoms** – 2 growers, 50 acres
- I. **Windbreaks** – 3 growers, 15 acres

2. Field management:

- A. **Crop rotation** – 7 growers, 1490 acres
- B. **Grazing management** – 1 grower, 160 acres
- C. **Move roads/rows** – 2 growers, 54 acres
- D. **Repair of potential erosion sites** – 2 growers, 630 acres
- E. **Row arrangement** – 8 growers, 52 acres
- F. **Slope management** – 3 growers, 40 acres
- G. **Tailwater Recovery / Reuse** – 3 growers, 40 acres
- H. **Underground outlets** – 3 growers, 300 acres
- I. **Water conservation** -- 13 growers, 1887 acres
- J. **Water/sediment control** – 7 growers, 196 acres
- K. **Unspecified sediment management** - 9 growers, 228 acres

3. Pest Management

- A. **Integrated pest management** – 10 growers, 1428 acres
- B. **Beneficial insects** – 5 growers, 640 acres

4. Monitoring

- A. **Monitoring** – 10 growers, 1302 acres
- B. **Pre-sidedress soil testing** – 8 growers, 2045 acres

Grower Profile: Jeannie Lopez, Uesugi Farms

It all started out 20 years ago when Jeannie Lopez started working for Joe Aiello, owner of Uesugi Farms. Jeannie is the office manager but has her hands in everything. Jeannie got the job from a friend who got hired at Uesugi Farms. Her friend called her about the job just when Jeannie’s job at the time was moving so she thought “why not”. She has been there ever since, holding the company together. When there is a problem, she is the person that everyone comes to for solutions.

Jeannie enrolled in one of the first Short Courses, when it was voluntary. She took the water quality message to heart and went to work implementing what she learned on all of the Uesugi Farms properties – even those in the Central and Imperial Valleys and in Mexico. Jeannie says that, when she took the short course, she learned that they were already doing a lot of the Best Management Practices, which was good, but that there was more to do.

Since Uesugi Farms leases a lot of property, each property has its own binder. In order to develop and track Farm Plans for their 50+ properties, Jeannie hired Griselda Espinoza, who had been an outside seasonal employee, as the full time Farm Plan manager. The owner of each leased property knows that Jeannie has taken the class, that there is a completed farm plan for each property at the office, and that the Farm Plans change and are updated on a regular basis. Uesugi Farms develops new Plans and removes Plans as they add or terminate leases, or if owners or other information changes.

Some of the new practices that they have implemented have been controversial - especially leaving a field that has just been picked and let it get overgrown. Joe Aiello, the owner, was strongly against this at first. He said that, when he went to school at Cal-Poly and majored in Crop Science, he was trained that if “you leave it with weed, the rodents will come and birds and what not”. He was very unhappy, but has supported her efforts to protect the land and make sure the water stays on his property.



Uesugi Farms: cover crops

In order to make sure that Water Quality is implemented by everyone on the farms, Jeannie works with Michael Aiello, the Farm Manager, to make sure that he understands all the regulations, upcoming changes, and what to look for when out in the field.



Uesugi Farms – grassed furlough ends

This is especially important since he is the one going to all the fields. She is making sure that he stays on top of things so that Uesugi Farms is protecting Water Quality in practice as well as in principal.

They also protect their riparian area (they have properties directly abutting Carnadero Creek) and make sure that is working.



Uesugi Farms – Riparian area adjacent to fields
May 2005

Jeannie Lopez, Michael Aiello, Griselda Espinoza and Uesugi Farms are very pro active, they keep current on the regulations and regularly hold classes for their employees to keep them abreast on new issues. It is no wonder that Uesugi Farms is a model and many farmers in the area come to check it out.

Existing and Ongoing Water Quality Data Collection

The following programs are collecting data on the watershed. This data will be analyzed as baseline data over the winter and then, in conjunction with the data collected through this program, will be used to compare trends and identify potential issues.

- **Ag Commissioner/County Planning:** general description of groundwater quality and quantity can be found in the County’s General Plan
- **NRCS:** monthly water quality monitoring at two locations along Llagas Creek. Parameters measured include: Nitrate-N, Orthophosphate as PO₄, Ammonia-N, Water Temperature, pH, Electrical Conductivity and Turbidity (NTU). The result of the local NRCS monitoring is attached.
- **RWQCB Central Coast Ambient Monitoring Program (CCAMP):** In 1998, the CCMP program had 3 monitoring stations. On the basis of those stations, two monitoring stations established on Llagas Creek for 2005. No results are available yet for the 2004-05 monitoring program.

RATIONALE FOR LLAGAS LISTING ON THE 2001 303(D) LIST

Pollutant	Rationale	Total Samples	Monitoring Dates	Data Source(s)
Fecal Coliform	Basin Plan Objective violated 63% of samples for stations “FRA”, “LLA”, and “VIS”	41	12/18/97-6/12/98	CCAMP
Chloride	Basin Plan Site-Specific Objective violated 100% of samples	78	6/23/92-6/13/00	South County Regional Wastewater Authority (SCRWA) Wastewater Discharge Requirement Monitoring Program (all samples are upstream of SCRWA)
Dissolved Oxygen	Basin Plan Objective violated 66% of samples	128	9/12/88-6/13/00	SCRWA Wastewater Discharge Requirement Monitoring Program and CCAMP predawn sampling
Sodium	Basin Plan Site-Specific Objective	78	6/23/92-6/13/00	SCRWA Wastewater Discharge Requirement

	violated 77% of samples			Monitoring Program (all samples are upstream of SCRWA)
Total Dissolved Solids	Basin Plan Site-Specific Objective violated 100% of samples	90	9/12/88-6/13/00	SCRWA Wastewater Discharge Requirement Monitoring Program (all samples are upstream of SCRWA)

- **Santa Clara Valley Water District** Groundwater Testing: There is no established surface water-testing program. The District data is available at: http://www.valleywater.org/Water/Water_Quality/What_is_in_your_water/index.shtm
- **UC Davis Researchers:** UC-Davis are doing a variety of toxicity testing at unknown location(s) in the Llagas watershed as part of their research. There is not currently a specific program in place.
- **USGS:** The USGS collected data at 4 sites on Llagas Creek between 21/24/1971 and 7/23/1991. That data is available at: http://nwis.waterdata.usgs.gov/ca/nwis/qwdata?huc_cd=18060002&format=station_list&sort_key=site_no&group_key=NONE&sitefile_output_format=html_table&column_name=agency_cd&column_name=site_no&column_name=station_nm&column_name=lat_va&column_name=long_va&begin_date=&end_date=&inventory_output=0&rdb_inventory_output=file&date_format=YYYY-MM-DD&rdb_compression=file&qw_sample_wide=0&list_of_search_criteria=huc_cd