

# Russian River Watershed

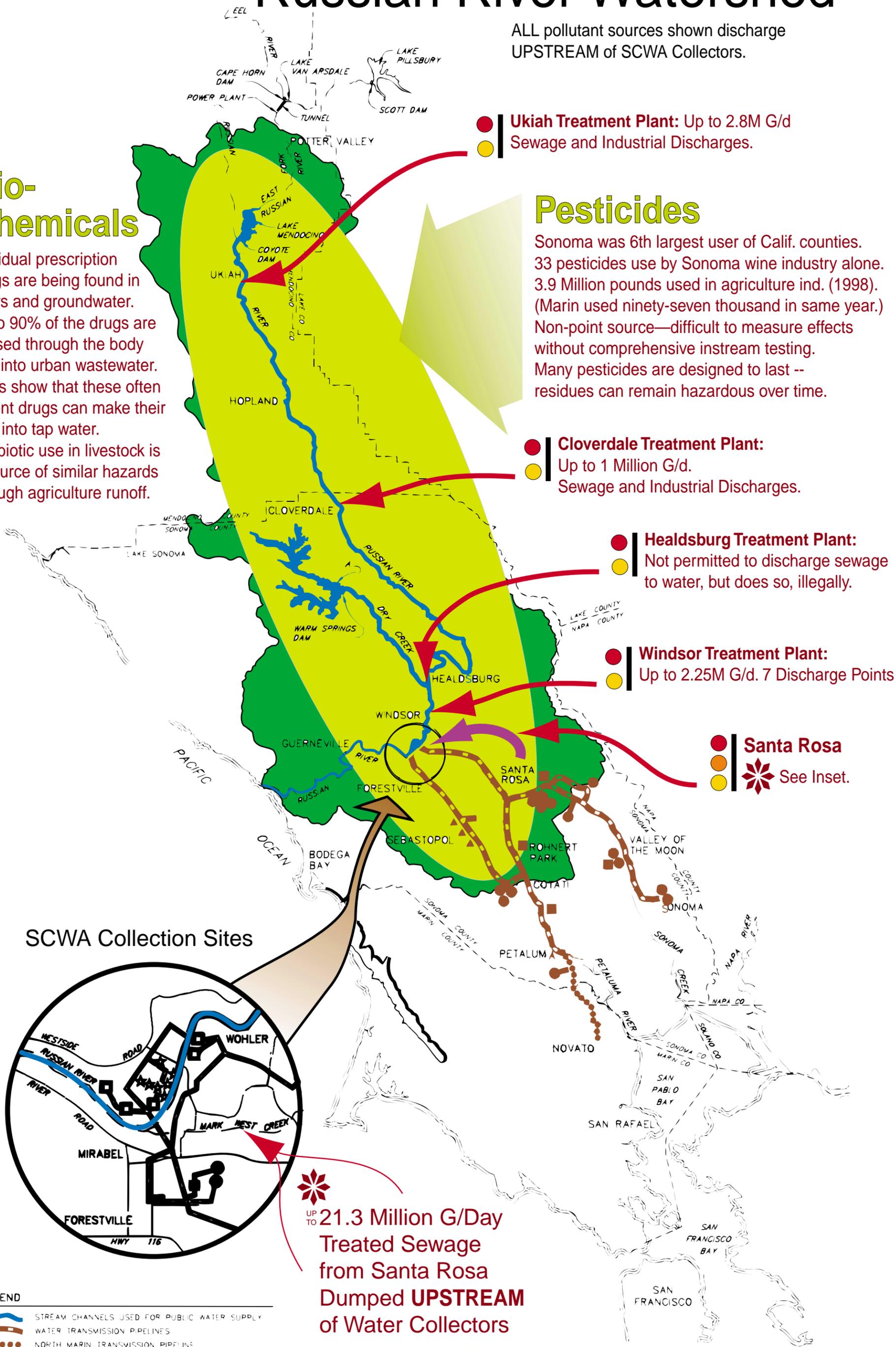
ALL pollutant sources shown discharge UPSTREAM of SCWA Collectors.

## Bio-Chemicals

Residual prescription drugs are being found in rivers and groundwater. 50 to 90% of the drugs are passed through the body and into urban wastewater. Tests show that these often potent drugs can make their way into tap water. Antibiotic use in livestock is a source of similar hazards through agriculture runoff.

## Pesticides

Sonoma was 6th largest user of Calif. counties. 33 pesticides use by Sonoma wine industry alone. 3.9 Million pounds used in agriculture ind. (1998). (Marin used ninety-seven thousand in same year.) Non-point source—difficult to measure effects without comprehensive instream testing. Many pesticides are designed to last -- residues can remain hazardous over time.



● **Ukiah Treatment Plant:** Up to 2.8M G/d Sewage and Industrial Discharges.

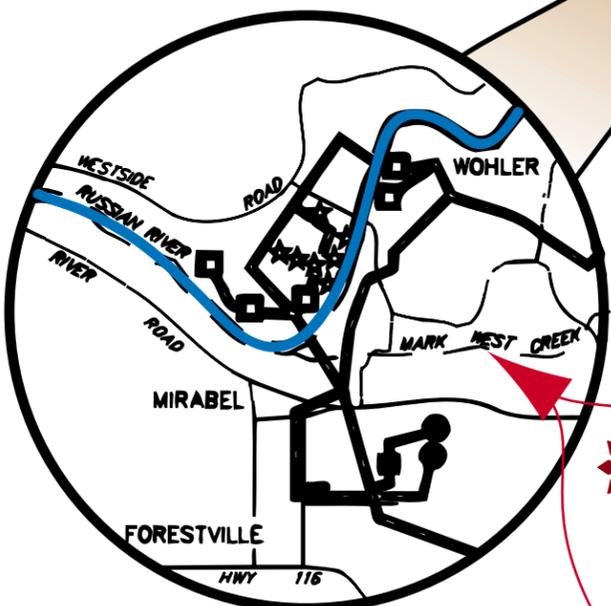
● **Cloverdale Treatment Plant:** Up to 1 Million G/d. Sewage and Industrial Discharges.

● **Healdsburg Treatment Plant:** Not permitted to discharge sewage to water, but does so, illegally.

● **Windsor Treatment Plant:** Up to 2.25M G/d. 7 Discharge Points

● **Santa Rosa**  
 ● See Inset.

### SCWA Collection Sites



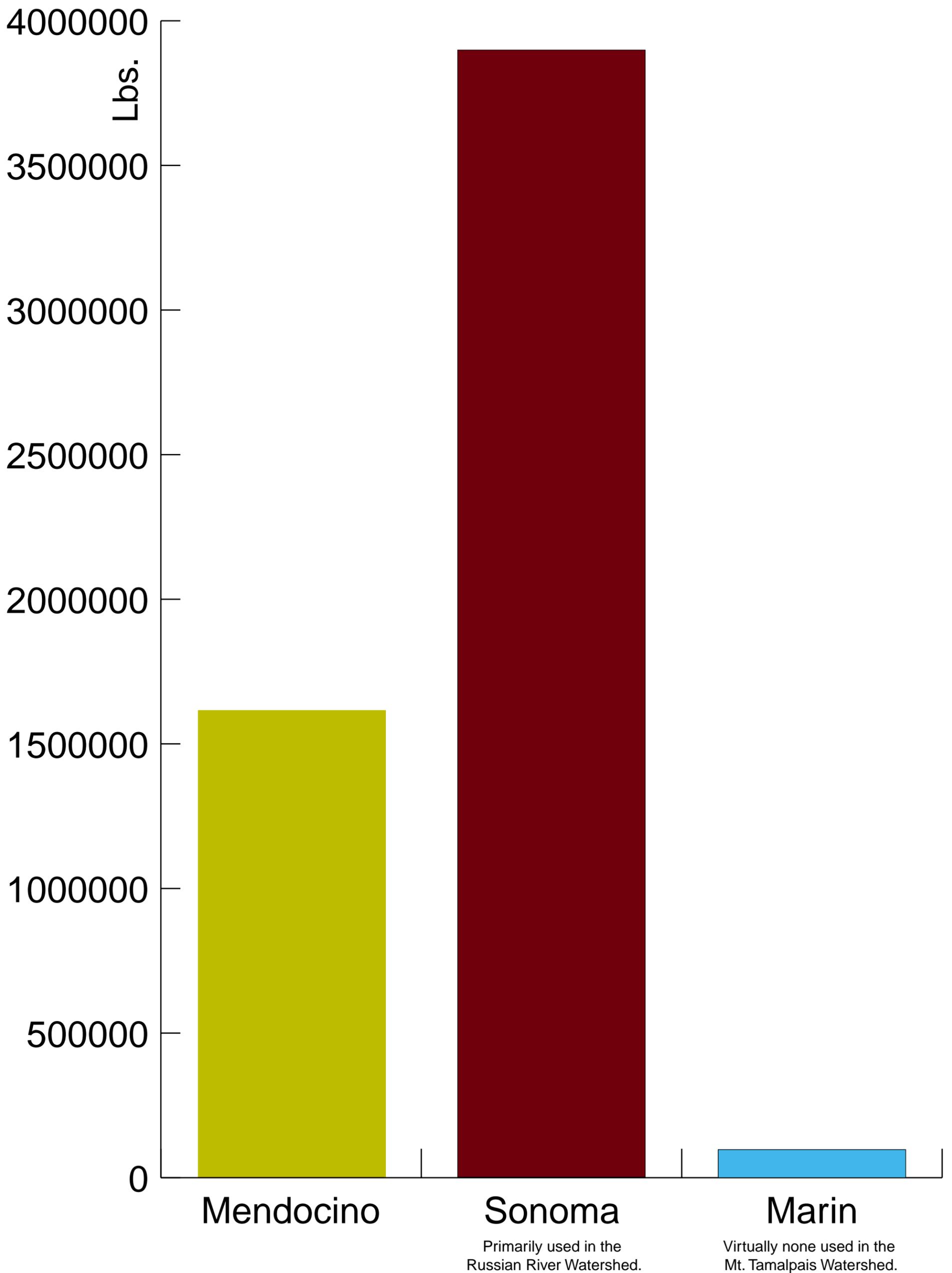
● **UP TO 21.3 Million G/Day Treated Sewage from Santa Rosa Dumped UPSTREAM of Water Collectors**

● **Plus Industrial Discharges**  
 ● **Plus Untreated Storm Water Run-off with no MTBE testing.**

#### LEGEND

- STREAM CHANNELS USED FOR PUBLIC WATER SUPPLY
- WATER TRANSMISSION PIPELINES
- NORTH MARIN TRANSMISSION PIPELINE
- COLLECTORS (PUMPING PLANTS)
- WELLS
- BOOSTER STATIONS
- STORAGE TANKS
- EMERGENCY WELLS
- SCWA CONTRACTOR SERVICE AREAS

# 1998 Pesticide Use by Weight



# RUSSIAN RIVER WATER QUALITY AND HEALTH CONCERNS

Presentation by Jean Berensmeier and Elena Belsky  
Maps by Louis Nuyens

## **Introduction:**

The public has been told repeatedly by staff and some MMWD directors that Russian River water quality is not an issue. But some of the public differ from that view and believe water quality is both an environmental and health issue. We decided to do some preliminary research to settle the disagreement. Our findings are worth your attention at this time. But first a little historical perspective.

About the time MMWD began to import water Marin supervisors had adopted the now County Wide Plan. This was in the early 70's when Sonoma County was predominately small rural communities and Marin was San Francisco's bedroom community. Absent were the issues related to transportation, housing, agriculture, threatened species, health, and water quality that are of paramount concern today.

The water that we take from the Russian River and drink today is not the water we drank 25 years ago nor is it the water we drank when Measure V was passed. Following, in brief, are the highlights of our preliminary documented - research which indicates that water quality is indeed an issue.

## **What we do know:**

- We do know that the Russian River is polluted on an astounding scale -by treated and untreated sewage, illegal discharges, pesticides, herbicides, fertilizers, and chemically complex industrial waste - so, we know that a great many significant hazards to health are likely to exist.

## **Water quality testing -site specific and of inadequate scope:**

- There is no overall watershed or river program, by any agency, in the Russian River watershed. Geographically, the placement of testing sites is very limited: not at all discharge sites receive instream testing.
- What limited testing is done is inadequate for determining the health and quality of Russian River water. The scope of testing is limited, and does not cover many potentially present hazardous substances.
  - ✧ **Sonoma County Water Agency (SCWA)** tests at **well and collector sites only**, during summer, they pump directly from the surface water into holding ponds to “recharge” the aquifer to enable continued pumping, when groundwater table levels are too low for adequate well extraction.
  - ✧ At the various **waste treatment plants**, testing for quality of discharged effluent is at point of release only. Illegal discharges of partially treated and raw effluent are commonplace, and are not tested.
  - ✧ **Urban Storm Water Runoff** - Testing program for Santa Rosa is showing that a typical level of toxics, and wastewater type problems are occurring in the stormwater run off – They do not test for MTBE's. Most monitoring samples are taken from the Laguna de Santa Rosa, a tributary of the Russian River, rather than in the River itself.
  - ✧ **Agricultural Runoff** — most **individual sites are not required** to conduct tests. A few local groups are monitoring selected tributaries of the Russian River for excessive nitrates and temperature. **Hundreds of thousands of pounds** of chemicals are used each year in the watershed, yet no overall water quality monitoring program is in place.

## A Few Russian River Pollutant Facts

### TOXICS & WASTE DISCHARGES:

- High levels of toxic discharges, both legal and illegal, are common.
- Non-point Sources: **Herbicide and pesticide** use in the watershed is enormous. **33 different pesticides** are used by vineyards alone, in Sonoma County - which is the sixth largest user of pesticides in California (1995).
- In 1995, **483,825 pounds of Methyl Bromide** (acute nerve toxin) was used by vineyards.
- More than **9647 pounds of Simazine**, a carcinogen and endocrine disrupter that is highly toxic to fish, was identified in 1995 study.
- The same study found that a local vineyard had used **41 pounds of strychnine** that year.
- There are **five sewage treatment plants** that discharge, legally and illegally, **above** the drinking water collectors in the Russian River.
- Santa Rosa alone, discharges up to **21.3 million gallons** per day of treated sewage from 15 identified sources. Not all sites have in-stream post-treatment testing.
- Prescription drugs in water sources and drinking water is an emerging concern in the International Scientific Community. An April 2000 Symposium was the first of its kind, held in the US. Federal and State agencies were in attendance, and joined in the concern.
- April 30th, 1999: An industrial facility in Windsor discharged **20,000 gallons of raw sewage and 2000 gallons of hydrated lime and various chemicals** into a tributary creek – tests determined that there was **no biological activity** left in the creek. It took 21 days for life to return.
- February 7, 1999 – unknown amount of **raw sewage illegally** discharged from Healdsburg plant into the Russian River (estimated between 140,000 and 1.3 million gallons).
- March 10<sup>th</sup>, 2000 — Photographs were taken of an **unidentified “iridescent green slime”** in a Russian River tributary, flowing from the Healdsburg wastewater treatment plant.

### **Summary:**

1. Additional Russian River water proposed to be used in Marin homes comes from a source that is increasingly contaminated.
2. Raw discharges. treated and partially treated effluent, industrial waste, pesticide runoff, fertilizer (nitrates), and toxic urban runoff plague the Russian River.
3. Water treatment plants are not perfect. They introduce a sequence of chemicals which are intended to neutralize identified undesired contents. But many toxins are missed; others may be created, not all are monitored, and very little analysis of breakdown products and their impacts exists.
4. Growth and land use dramatically affects water quality. It is inevitable that water quality will decline as the explosive growth projected for Sonoma County takes place.
5. Related impacts that would benefit from further research are: Eel River, water temperature, and the fishery decline of threatened species.

## **Conclusion:**

Unfortunately, Russian River water quality poses many problems for a healthy environment and healthy humans and our preliminary research has just revealed the tip of the iceberg. We learned that important water quality information was unavailable because of insufficient data, and a pronounced lack of watershed water quality monitoring. The recent international symposium attended by State and Federal agencies, addressed the current concerns regarding prescription drugs on water quality. Note the increased attempts to isolate environmental causes of cancer and other health conditions that are of growing concern to the public.

Issues that have surfaced over the last eight years regarding water quality alone makes it clear that the original EIR is inadequate to use as a basis for building the pipeline. Add to that new issues about threatened species, pipeline realignment, growth and land use issues in Sonoma County, and it becomes readily apparent that only a comprehensive CEQA review will give us the proper information for the realistic alternatives that must be considered for a healthy environment and community. This comprehensive review must be coupled with an aggressive broad-based conservation program.

**Feel free to post on your organizations' internet site; please make sure to give credit to the three authors of the report and maps. Thanks!**

# **RESOURCE LIST**

## **Russian River Water Quality Research**

by Elena Belsky, June 2000

**Sonoma County Water Agency** – PO Box 11628 Santa Rosa, CA 95406

- Information Specialist - Maps
- Laboratory/Industrial Waste Mgr - Well Water Quality Test results
- SCWA's Draft EIR for proposed water transmission project – 8 volumes.
- “Russian River Action Plan”
- “Saving the Salmon” Fisheries Restoration & Enhancement Plan

**North Coast Regional Water Quality Control Board** - 5550 Skykane Blvd, Santa Rosa, CA

- 24 Waste discharge files (including permits, conditions, & violations) – Ukiah, Healdsburg, Cloverdale, Windsor, & Santa Rosa
- Storm Water and Waste Discharge Violations Data Base & staff consultation.
- Numerous Staff Consults from Waste Discharge, Watershed, Storm Water, etc.
- On-line Waste Discharge permit data base, 1999-2000 Violations.

**City of Santa Rosa, Dept of Public Works** – (707) 543-3854 - Stormwater Monitoring Data.

**Santa Rosa Wastewater Treatment Plant** – 2115 Llano Rd, Santa Rosa, CA

- Site visit, basic information and waste discharge info.

**Sotoyome Resource Conservation District** - 970 Piner Rd, Santa Rosa, CA 95403

- Current Watershed programs, Ongoing local water quality testing programs, Farm / Vineyard Conservation Plans/ Training.

**Californians for Alternative to Toxics** – PO Box 1195, Arcata, CA 95518

- Toxics Study - “Time for a Change: Pesticides and Wine Grapes in Sonoma and Napa Counties, Calif.”

**WEB SITES/ On-Line Data Bases:** (more available on request)

**USGS** - [http://water.usgs.gov/nawqa/nawqa\\_home.html](http://water.usgs.gov/nawqa/nawqa_home.html)

**CARA Watershed** - <http://endeavor.des.ucdavis.edu/newcara>

**Environmental Protection Agency** - Watershed & toxics databases - [www.epa.gov](http://www.epa.gov)

**UC Berkeley Public Health Library** - [www.lib.berkeley.edu/PUBL/environment.html](http://www.lib.berkeley.edu/PUBL/environment.html)

**Sonoma County Water Agency** - [www.scwa.ca.gov](http://www.scwa.ca.gov)

**No. Coast RWQCB** - [www.swrcb.ca.gov/~rwqcb1](http://www.swrcb.ca.gov/~rwqcb1)

**Californians for Alternative to Toxics** - [www.reninet.com/catz](http://www.reninet.com/catz)

**Calif. Dept of Pesticide Regulations** – [www.cdpr.ca.gov](http://www.cdpr.ca.gov)

**Science News** – [www.sciencenews.org](http://www.sciencenews.org)

**Environmental News Service** – <http://ens.lycos.com/ens>

**Chemical/Material Safety Data Sheets** – <http://vsearch.sial.com>

**Local Organizations:** Friends of the Russian River & Friends of the Laguna de Santa Rosa