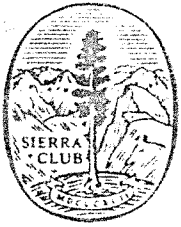


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Rich



# SIERRA CLUB - REDWOOD CHAPTER

P. O. Box 466, Santa Rosa, Ca. 95402

ENVIRONMENTAL CONSIDERATIONS AND CONCERNS  
REGARDING USEAGE OF THE LAGUNA DE SANTA ROSA  
AND THE RUSSIAN RIVER FOR SANTA ROSA'S  
LONG RANGE WASTEWATER MANAGEMENT PLAN

PRESENTED TO:

SONOMA COUNTY BOARD OF SUPERVISORS

SANTA ROSA CITY COUNCIL

SEBASTOPOL CITY COUNCIL

FEBRUARY 9, 1988

BRENDA ADELMAN: CHAIR

I. THE PROSPECT OF LONG RANGE RIVER DISCHARGE

In 1985, after illegally releasing ten million gallons (mg) of raw sewage and 750 mg of treated effluent into the Russian River, and while under a very tentative building moratorium, Santa Rosa promised to get their effluent out of the Russian River. In the three years since, "getting out of the river" has included a river augmentation plan, a rapid infiltration plan and an overland flow/indirect discharge plan. On Thursday, February 4, 1988, the Board of Public Utilities (BPU) elected to focus \$600,000 worth of studies on the "reclamation alternative" plan which, according to CH2MHill, would include filtering indirect discharges through a marsh. The river studies have been given priority over and will precede those designated for the ocean outfall alternative.

It is logical that the engineers would prefer an unmeasured indirect discharge, even though the California Department of Health Services (DOHS) in the Executive Summary of Wastewater Disinfection for Health Protection (Feb. 1987: Issue 8) states, "Where the receiving waters are used as a source of domestic water supply...it is appropriate to include a minimum dilution requirement in the uniform disinfection guidelines." In other words, no indirect discharge into the Russian River beyond 5%. And that is a problem for Santa Rosa; they cannot obtain enough storage and irrigation area to guarantee compliance with wastewater discharge requirements, even at 5%, during a dry year such as 1977-78. Indirect discharge means unlimited discharge to CH2MHill.

Santa Rosa has been planning to stay in the River all along; their goal has been to convince the State Water Quality Control Board (SWQCB) to change the standards to allow them to do this. At a Technical Advisory Committee (TAC) meeting on Nov.6, 1987, the CH2MHill representative stated that flow equalization implementation "Makes the Regional Board comfortable with allowing us to stay in the Russian River." Unfortunately, it appears as though these views are also supported by the Director of the Sonoma County Public Works Department.

State Water Quality Control Board staff is taking the position that if Santa Rosa could demonstrate consistent compliance with the regulations over a period of time, they might be allowed a 5% discharge for a long range plan. It has not been determined whether an inability to meet those standards in a dry year would preclude this option altogether. In fact, the only year Santa Rosa was allowed a 5% discharge (1986-87), coliform requirements had been violated and consequently cessation of the 5% discharge had been ordered (See Attachment). It is significant that while the City is demanding reassurances that they could use a Bay discharge if they commission certain studies to prove their ability to protect the Bay, the City asks for no such assurances from the North Coast Board around River discharge. They are spending over \$50 million to expand the current system with no assurance that it can be used in the long range and they are constructing major structures without benefit of any environmental review.

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River residents have expressed willingness to accept a 1% winter discharge of filtered advanced treated wastewater when the River is at a temperature and level where no recreational use is taking place. But Santa Rosa is needing to find ways of accomodating MASSIVE amounts of growth. The system is now at capacity with 15 mgd. About \$50 million dollars is currently being spent to bring that up to 18 mgd. But Santa Rosa and Rohnert Park are already looking forward to 25-50 mgd. (Rohnert Park has already allocated its capacity to 1995). The Laguna Basin and the Russian River are both very fragile environments and cannot safely hold that amount of wastewater, and to seek this as the final long range solution is totally absurd.

Those of us who use the Laguna and Russian River as a drinking water supply downstream of Santa Rosa's discharge point, are adamantly opposed to a 5% discharge. In 1986, the group, River Citizens Sewer Committee (RCSC) easily collected almost 3000 signatures demanding no discharges over 1%. Of major concern is the fact that filtration and tertiary treatment DO NOT remove all viruses and trace organics. The aforementioned health report states, "While technology regarding trace organics has advanced substantially over the past few decades, uncertainties persist regarding the range of compounds, synergistic effects, significance of mixtures, and the total health significance of trace organic constituents." (See Attachment)

Sierra Club supports the 1%, 1000 cfs discharge limit of filtered, advanced treated wastewater into the Russian River during winter months only.

## II. MARSH IN THE LAGUNA

CH2M Hill and Santa Rosa city officials believe that they have learned a lot in the last three years about how to placate the concerns of County environmentalists. They learned that just about everyone in the West County is against ocean outfall and the Bodega Marine Lab is a formidable foe. They learned that ALL environmentalists support reclamation, reuse, and conservation, as well as the concepts of marsh creation and irrigation of open space. They are now using the language of the environmentalists in the hopes of persuading us that marsh creation and a continued and growing supply of "clean water" is beneficial to the Laguna. Yet according to Mike Papanian of the Sierra Club (Feb. '88 Needles, P. 3), the governor recently vetoed legislation which determine safe and unsafe levels of contaminants in drinking water supplies. In other words, WE DON'T EVEN KNOW WHAT SAFE DRINKING WATER IS! (See Attachment). In his comments on the EIR for rapid infiltration, Bob Beach of the Sonoma County Water Agency commented extensively on unknown constituents in our drinking water supply. (Jan. 1987)

Extensive discussions with environmentalists indicate support for any measure that would help to rehabilitate the Laguna, and yet they share reservations about Santa Rosa's sincerity, ability and willingness to produce a truly environmentally beneficial plan.

Santa Rosa uses the concept of "Marsh in the Laguna" as a carrot to some environmentalists to convince them of the benefits of keeping wastewater there and consequently in the Russian River. It would be a serious mistake to believe simplistic assertions that Santa Rosa could safely rehabilitate the Laguna. We must be concerned about what type and size of marsh would be proposed. In its proposal to the Bay Regional State Water Quality Control Board, CH2MHill suggested that only 1/3 of the proposed 1500 acre marsh be set up for wildlife enhancement, while the other 2/3 be constructed for the sole purpose of wastewater management. It is significant that there have never been new fresh water marshes created near this magnitude, the largest being around 300 acres and serving 2-3 million gallons a day (mgd) wastewater inflow. (The frequently honored Arcata marsh is only 154 acres serving 15,000 citizens and benefits from tidal action because of its location.)

Further, the Bay Board had insisted that these marshes be sited in upland areas. We would hope that the North Coast board would demand the same requirements. Since almost all of the Laguna is in the 100 year flood plain, it would be hard to imagine where CH2MHill would site so many acres of marsh.

It is also agreed that wildlife marshes require fairly sophisticated management techniques. It is questionable that Santa Rosa is sufficiently environmentally conscious to offer such protections. We are more likely to end up with the type of marsh that simply processes wastewater and adds no features for wildlife enhancement. In fact, one of the mitigations for the Delta Pond, constructed in 1982, was to be a tree lined island in the middle for ducks and birds. When asked what happened to the invisible island, SWQCB staff remarked, "It's there, you just can't see it most of the time because it's so low." Any new marsh is likely to end up as a shallow Delta Pond with perhaps a few bullrushes.

According to a memo by Mike Rugg of State Department of Fish and Game on April 7, 1987, he states that wetlands created to treat wastewater "...may also create an attractive nuisance to wildlife if conditions conducive to avian botulism or bioaccumulation of heavy metals, petrochemicals, or other deleterious contaminants are present." He stated treatment marshes should be, "...outside current or historical wetland areas." And finally, "Without active management and assessment, any marsh creation project can become a serious liability not only to the operator, but to wildlife as well."

### III. THE LAGUNA AS A FLOOD CONTROL BASIN

It must not be overlooked that the Laguna serves as a flood control safety valve for the lower Russian River. In the Dec. 8, 1964 issue of the Press Democrat, an article ran called, "Can Much Be Done About the Laguna de Santa Rosa?" Gordon Miller, Chief of the Sonoma County Water Agency (SCWA) at the time saw the Laguna as a flood control reservoir for the Russian River

area and extensive levees or filling-in programs would make use-  
less a lot of valuable property around Guerneville. He felt that  
population growth of the Santa Rosa area would put more water in-  
to the Laguna (and ergo less value as a flood control mechanism)  
from sewer and more drainage because of the growing number of  
roofs, paving, sidewalks and other structures. He didn't mention  
that with that run-off would also come dangerous contaminants.

If not for back flooding into the Laguna, it is estimated that  
Guerneville would be an additional 14 feet under. In the Feb. '86  
flood, it was at least an additional 4 feet under (over-riding  
benefits of Warm Springs Dam) because the Laguna began to flood  
from Santa Rosa and Rohnert Park waters first. The Press Demo-  
crat article states further, "Also, to allow lake waters to re-  
main in the summer would decrease the flood control ability of  
the Laguna in the winter." One could assume that this might be  
true for marsh and ponds as well.

*Suggests  
channelized*  
The more water filling the Laguna in the summer and fall, the less  
water will be held in retention during the rainy season. Although  
adding fill to the Laguna is illegal (without first taking an e-  
qual amount away) additional sedimentation is increasing the fill  
of the Laguna Basin naturally, leaving less room for service as a  
flood control mechanism.

Because the Santa Rosa plain is rapidly being paved over, and be-  
cause most urban creeks have been channelized to move the water  
quickly to the Laguna lowlands, the Laguna in 1986 filled more  
rapidly from local heavy rainfall and there was scant retention  
capacity left when the Russian River flooded, giving Guerneville  
its worse flood ever.

In January, 1988, the Laguna Advisory Committee reported to the  
Sebastopol City Council, (p. 32) that, "...there is concern (by  
SCWA) that the effects of the 1986 flood may be more likely to  
reoccur...The cumulative effects of fill and development are un-  
known. The conclusion has been drawn, however, that the flood  
elevation will be raising to a higher level."

Further, the Laguna de Santa Rosa Environmental Analysis and Man-  
agement Plan by Sonoma State faculty and students in 1977 stated  
(p.19), "...most of the Santa Rosa Plain would naturally be flood-  
ed in a major storm because soil drainage is poor and because the  
channels of tributaries become smaller and shallower, with a smal-  
ler capacity and less gradient in the valley than they do in the  
hills."

The concept of marsh is not really discussed in the recent Sebas-  
topol report (which heavily relied on the Sonoma State Report for  
much of its information). In reference to the Laguna BEFORE chan-  
nelization, the Sonoma State Report states (p.23) "...the Laguna  
used to become a series of ponds and more or less undefined drain-  
age courses at its lower flow levels. There averaged about 1000  
acres of marsh land along the Laguna during the summer...The chan-  
nel defines and lowers the streambed, and allows more rapid drain-

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age." The purpose of this drainage was to give the farmers in the area a longer growing season. These channels are currently maintained by the Sonoma County Water Agency which has stripped most of the vegetation along the east bank to allow for easier maintenance. The SCWA uses the herbicide ROD&O for its clearance work.

It is unlikely that the farmers would give up any of their growing season in order to restore the Laguna to its former state. According to the Sonoma State Report (p.40), "...agricultural practices and wastewater treatment have been detrimental to the Laguna." County General Funds support the SCWA's maintenance of the channel on behalf of the farmers and questions (p.42), "...whether the profits reaped from agricultural use of lands reclaimed is worth the loss of marsh habitat and economic costs to citizens."

what about  
return of marshes  
to Sonoma State

Sierra Club supports riparian protections, cessation of channelization, elimination of herbicide use in the creeks and siting of a Laguna marsh FOR WILDLIFE ENHANCEMENT ABOVE THE 100 YEAR FLOOD PLAIN! This should include a riparian ordinance in the Sonoma County General Plan!

IV. IRRIGATION IN THE LAGUNA

Sierra Club supports irrigation of the Laguna. We are concerned however, about the amount of run-off and subsurface drainage into the Laguna in the summer time. The Sonoma State report estimates that 50% of the Laguna summer flow is from irrigation run-off or percolation. In the summer of 1986, when Santa Rosa began paying large amounts to the farmers for taking the irrigation water, observers reported an excessive augmentation of Laguna summer flows. At the time, SWQCB staff claimed that there was NO relationship. This in fact could amount to an illegal summer discharge which would have been embarrassing for them to investigate since they were the ones who originally demanded that Santa Rosa increase their irrigation.

Irrigation practices did seem to improve during the summer of 1987, but it is still unknown what percent of the Laguna's summer flow is wastewater. CH2MHill has claimed that now the wastewater is of a higher quality than the Laguna water, so they reason that discharges should IMPROVE the water quality in the Laguna (see attachment from DOHS). The fallacy with this argument is that many constituents are not measured at all (see enclosed Needles article), or cannot be measured to a significant degree due to expense and/or unsophisticated testing means. Although the wastewater may be pathogen free, it cannot be proven to be viral free.

Although heavy metals do not seem to be a significant problem right now, it can become one soon, since all attempts are being made by Santa Rosa businessmen as well as Santa Rosa and Rohnert Park city officials, to entice heavy industries into the area so as to boost the economy for support of future growth. Further,

there are questions about the impacts of mixing various chemicals from wastewater treatment and chemicals entering the water from non-point sources, such as drainage containing ag chemicals, as well as chemicals such as ~~ROBEO~~ used by the SCWA to clear the channels and urban run-off coming from the streets of Rohnert Park and Santa Rosa.

Although the Sebastopol Committee Report strongly supports continued irrigation in the Laguna, nevertheless, they state in reference to vernal pools (which need a wet, marshy environment in winter and spring and dry summer for their rare plantlife) on page 15, "While moderate grazing of horses or cows should not significantly affect the vegetation, overgrazing, grazing by sheep, spraying of effluent during the dry season, disruption of drainage patterns and leveling of the uneven topography supporting the pools and swales by plowing, discing, or other activities are destructive of the vernal pool habitat."

Further, summer irrigation is not only slowly killing the older oak trees, but nutrient rich irrigation water also "...makes it difficult for young oak seedlings to compete with luxuriant grass and weeds." (p. 15 Seb. report) The farmers originally promised to keep wastewater away from the great old trees, but they have not succeeded in doing this.

In addition, water quality in the Laguna has deteriorated to where few fish species inhabit its turbid waters due to destruction of much of the riparian habitat, bank erosion by grazing cattle and chemical constituency of the wastewater. (The remaining fish in the Laguna reportedly had adverse reactions to the 5% discharge in early 1987). Add to this the dangers of pesticides and agricultural contaminants running off with the irrigation waters, it becomes obvious that irrigation needs to be closely monitored and regulated. At the present time the SWQCB has no written guidelines for sound irrigation practices even though a staff report dated July 10, 1987, for the State Water Resources Control Board recommends, "Reclamation requirements should be prepared for the City's effluent disposal system."

Farmers might consider linkage to the CIMIS computer located in Sacramento. According to an article in the Jan. 1988 issue of Water Conservation News, with this system weather data is computerized giving control over how much water can be absorbed by a given crop, at a given time, under given conditions. This system takes into consideration crop canopy, root growth, soil type, and stage of plant development. This results in more efficient use of water causing less fertilizer to leach out into ground water as well as giving a higher quality crop. Yet it is unfortunate that, "...many growers who know about CIMIS believe they don't have time to find out how to use it...." Sierra Club would support use of such a program.

Environmentalists have no reason to believe that Santa Rosa can manage a consistently reliable system since they have not had a fault free year in their entire history. We believe that the city will get rid of as much wastewater as they can at minimal cost to

themselves. They would not hesitate to flood the Laguna with wastewater yearly in greater and greater quantities with minimal concern for the environment and even less concern for the health of their neighbors downstream. We ask if the wastewater is so pure (according to them), why is the Bay Area WQCB supposedly so reluctant to allow Santa Rosa to discharge there? How can this water be "Perrier" for the River and poison to the Bay? Why did the SCWA and Marin Water District and others so thoroughly trounce out the Rapid Infiltration plan? These questions MUST be answered.

#### V. CONCLUSIONS AND RECOMMENDATIONS

Sierra Club urges the City Councils of Santa Rosa and Sebastopol and the Sonoma County Board of Supervisors to recognize that exclusive long range river discharge is impossible to sustain on a consistent basis without either stopping growth or jeopardizing the health and welfare of all those who live downstream. For that reason we make the following recommendations.

- A. We support a 1% winter only discharge into the Russian River of filtered, advanced treated wastewater when the River is not being used for recreational purposes (ie. No discharge in River when River is low and weather is warm.)
- B. Sierra Club continues to support a Bay discharge with expanded irrigation and fresh water wildlife enhanced marshes in the South County area in conjunction with the River system.
- C. Sierra Club emphatically believes that more attention needs to be paid to the creation of an effective water conservation program.
- D. We support the use of effluent to develop wildlife enhanced marshes in the Laguna, BUT ONLY ABOVE THE 100 YEAR FLOOD PLAIN.
- E. We advocate restoration of riparian habitat and elimination of the use of herbicides (RØDØQ) within at least 50 yards of the water way.
- F. Sierra Club advocates use of the appropriate amount of wastewater in irrigating the Laguna used in a consistently safe and appropriate manner. We would support the establishment of SWQCB guidelines to make this an enforced reality.
- G. We support fencing, where practical, of sensitive riparian areas for protection from livestock damage.
- H. We advocate measures be developed which effectively protect the old oak trees from wastewater damage.
- I. Sierra Club demands full environmental review of all wastewater projects selected for implementation by the City of Santa Rosa.
- J. Since SCWA will be needing to draw some water supplies from ground water sources, studies should be undertaken to determine how much increased irrigation and marshes in the Laguna would impact those ground water supplies.



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ATTACHMENTS

1. Technical Advisory Committee Meeting (with Ben Kor of SWQCB) on July 1, 1987 : Minutes
  
2. Letter from Ben Kor to Mr. James L. Johnson, Wastewater Administrator for Santa Rosa, March 20, 1987 on coliform violations
  
3. Wastewater Disinfection for Health Protection, Executive Summary by Sanitary Engineering Branch, California Department of Health Services, Feb. 1987
  
4. Redwood Needles, "Deukmejian Vetoes Safe Drinking Water" by Michael Paparian Feb-Mar.1988 pg. 3

March 20, 1987

Mr. James L. Johnson  
Wastewater Administrator  
City of Santa Rosa  
55 Stony Point Road  
Santa Rosa, California 95401

Dear Mr. Johnson:

Subject: Self-Monitoring Report for February 1987 Violation of Coliform Effluent Limitations

Your report for the month of February shows a violation of your discharge permit (NPDES No. CA0022764). No explanation is offered to account for the higher coliform values during February and the resulting violation of the mean limitation of 2 MPN/100 ml. Your report for the first week in March also shows that you are not meeting the coliform limitations for the current month. You are requested to submit an explanation of these violations within five days of the date of this letter and to delineate the corrective actions you plan to undertake so that these violations are not repeated. Further action by this office will be contingent upon your response.

I am disturbed by the fact that staff was not advised of these higher coliform results in anticipation of the monthly report received on March 16 or the weekly report received on March 19.

I had previously authorized the discharge of effluent pursuant to the Interim Action Plan and the provisions of the recently adopted discharge requirements (Order No. 86-190). The most basic prerequisite for me to continue to support discharges above one percent is strict conformance with the limitations contained in the permit.

Your authority to discharge at rates exceeding one percent of the flow of the Russian River is therefore revoked until further notice.

If you have any questions, do not hesitate to call Bob Tancreto or Luis Rivera.

Sincerely,

Benjamin D. Kor  
Executive Officer

cc: Miles Ferris, City of Santa Rosa  
Scott Stinebaugh, City of Santa Rosa  
B. David Clark, California Department of Health Services

Technical Advisory Committee (TAC) Meeting  
July 1, 1987

MINUTES

**CONVENING**

The Technical Advisory Committee met at 1:00 p.m. in the Municipal Service Center Conference Room, 55 Stony Point Road, Santa Rosa, California.

**MEMBERS PRESENT:**

Mr. Don Head, Public Works Director, County of Sonoma  
Mr. Roland Brust, City Engineer, City of Rohnert Park  
Mr. Melvin Davis, City Manager, City of Sebastopol  
Mr. Miles Ferris, Santa Rosa Director of Utilities

**MEMBERS ABSENT:**

Mr. Paul Schoch, City Engineer, City of Sebastopol

**STAFF PRESENT:**

Ms. Jan Dolan, Assistant City Manager, City of Santa Rosa  
Ms. Karen Bevan, Recording Secretary

**OTHERS PRESENT:**

Mr. Dave Richardson, Consulting Engineer, CH2M Hill  
Mr. Ben Kor, Executive Officer, Regional Water Quality Control Board  
Mr. Luis Rivera, Associate Water Resource Control Engineer, Regional Water Quality Control Board  
Mr. Pete Callinan, City Manager, City of Rohnert Park  
Mr. Randy Johnson, City Manager, City of Cotati

ITEM NO. 1

ORDERS ON RIVER DISCHARGE: ORAL REPORT WITH BEN KOR, REGIONAL WATER QUALITY CONTROL BOARD

Santa Rosa Utilities Director Miles Ferris distributed a diagram depicting actual storage of treated wastewater as compared to the Operations Curve. He stated it has been a good season to date with a great deal of stored wastewater being reclaimed for irrigation on City and private farmland.

He told the Committee the new electric pumps have been largely responsible for the success of the operation as they have greatly enhanced the efficiency of the system.

Next Mr. Ferris introduced Mr. Ben Kor, Regional Water Quality Control Board, to explain existing orders on the Russian River and to answer any questions Committee members might have.

Mr. Kor stated the City appeared to be right on target with Interim and Long-Range policies established to carry the City to 1990, at which time Santa Rosa will have to check back with the North Coast Regional Water Quality Control Board. Wastewater treatment standards conditionally allowing for 5% discharge to the River during difficult winter months will increase during the Interim Period in December, 1988, and the City is on track to meet that schedule with the addition of filters and related improvements at the Laguna Treatment Plant. The City has petitioned for a modification of the Long-Range Planning Schedule to extend the date for implementation to 1995, and the Regional Board has agreed in principle; however, due to a legality, the City will, nevertheless, have to check with the Board again in 1990.

The 1,000 cfs flow standard imposed before allowing any discharge to the River has been relaxed somewhat; the 1,000 cfs must still be reached before discharge; however, it is not necessary for that flow level to be maintained in order to continue to discharge. And Mr. Kor is authorized by the Regional Board to authorize circumstances under which the City may discharge at less than 1,000 cfs. On the other hand, he can also suspend discharge whenever it would result in hurting any beneficial use of the River.

County Public Works Director Don Head asked about the importance of having the 1,000 cfs standard when the discharge is always a percentage of flow, to which Mr. Kor answered that he would consider allowing discharge when River was below the 1,000 cfs level in specified instances if the Subregion could provide ample testimony to support the need. It is important to understand, he noted, the Regional Water Quality Control Board is a lay board which must take into consideration not only technical, but also social, economic, and political issues.

Rohnert Park City Engineer, Mr. Roland Brust, reminded Board and Committee members the 1,000 cfs standard originally had been written into an application for a Federal EPA grant; the grant never materialized, but the 1,000 cfs standard remained.

Rohnert Park City Manager, Mr. Pete Callinan, expressed concern that Santa Rosa's goal to get out of the River is widely perceived to be a commitment. Mr. Kor stated there is no short- or long-term

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mandate for Santa Rosa to stop discharging effluent into the Russian River; it has merely been set forth in the Regional Board documents as a goal expressed by the City of Santa Rosa. There is a long-term plan established by the Regional Board for Santa Rosa to reduce its discharge into the River to 1% while it increases standards for treatment of effluent.

Answering Mr. Callinan's question as to the basis for this 1% standard, Mr. Kor said the standard was together set by experts in many fields. It issues forth from the Disinfection guidelines promulgated by the State Department of Health Services in order to keep out of the River any discharge which potentially contains pathogenic organisms. In other words, Santa Rosa may discharge up to 1% provided the effluent has been treated, and up to 5% provided Santa Rosa discharges only Advanced Treated Wastewater (ATW).

Mr. Head asked what happened last winter to make the Regional Water Quality Control Board feel the 5% standard resulted in adverse effects. Mr. Kor answered that the Subregional System has had only two seasons which allowed 5% discharge. The Subregion must build up a good, solid track record over a longer period of time before the Regional Board would determine there are no adverse effects with 5% discharge. The Subregion needs a track record of compliance with increasing flow. They need to show that Santa Rosa and the other participating cities can keep effluent at the same quality levels as now (being pathogen- and virus-free as well as free of harmful industrial pollutants).

Mr. Callinan expressed an opinion that spending \$10 million on filters should allow the Subregion to stay in the River, but Mr. Kor responded that it was the viewpoint of the Water Quality Control Board that utilizing filters was part of complying with the Interim Plan.

Mr. Head expressed that it was his understanding if it is determined there are no adverse effects from the effluent to 1991, the Subregion would be allowed to continue the Interim Plan to 1995. He stated we should also be allowed to increase our discharge level to 5%; this would be a reasonable alternative to the Long-Range Plan.

Mr. Kor answered if the good track record Mr. Head is assuming does materialize, then he would tend to

agree. But he asked the Subregional members to consider seriously whether the allowable 5% discharge would help appreciably in light of growth patterns of the various cities. Should it not help substantially, it will be necessary to implement another Long-Range Plan. In that case we would be considering standards beyond those currently mandated by the State Department of Health Services.

Mr. Head said we have run out of alternatives because neither the Bay nor the Ocean want the Subregion's treated effluent. He added at 1% discharge he was certain we did not make it, and at 5% discharge we would make it only 95% of the time.

Mr. Kor asked Engineering Consultant Dave Richardson the cost differential between discharging at 1% compared to 5%.

Mr. Richardson answered that a system which is 100% reliable in the driest year (therefore with zero discharge to the River and 100% to land irrigation) would at 1% (1,000 cfs limit) cost \$206 million and at 5% (no 1,000 cfs limit, 1 billion gallon River discharge), \$186 million.

He proceeded to say from the Phase II Report of Long-Term Treatment and Disposal Alternatives the low cost alternative was Rapid Infiltration, at a capital cost of \$72 million.

Different Bay/Marsh alternatives may permit us to spend as little as between \$100 million to \$170 million.

Mr. Kor stated it appears the water quality issue and the economic issue are at variance. He reiterated the requirement the Subregion establish a record of compliance, performance and no adverse impact to the year 1990, at which time the NPDES permit comes up for renewal. It is anticipated the Interim Plan will then be extended to 1995.

At the series of Basin Plan Amendment hearings the City must prepare several alternatives.

Mr. Callinan asked why we cannot reach a point where our level of discharge to the River can be maintained in perpetuity.

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Assistant City Manager Jan Dolan stated that the Seven-Month Bay/Marsh Plan calls for some River discharge and could conceivably be adopted. Putting in the filters has essentially bought time for the Subregion. As the Basin Plan stands now, we could not meet turbidity standards on a long-term basis.

It was stated we would know before 1995 if the Subregion might continue discharge at 5% because the Long-Range Plan would have to be built by that time.

The system we use today worked well ten years ago, but because of four variables (inflow into the system, weather, changing regulations, and Warm Springs Dam) it does not work today. It is imperative a system be developed which will work under the worst of conditions.

Mr. Head suggested River discharge was possibly the only alternative to date likely to succeed because it could be built incrementally, whereas others could not. In his Public Works experience any project which cannot be built in stages is doomed to fail. Irrigation and storage can be increased incrementally along with City growth. The 18 River discharge we are permitted today falls 95% of the time and is, therefore, inadequate.

After considerable discussion it was concluded the major question Subregional members had asked was answered by Mr. Kor. We could conceivably return to discharging effluent to the River when specified conditions were met, i.e. under terms of the Basin Plan. Mr. Kor said he would need input from all of the TAC members so the track record established was appropriate and would enable the Regional Board to get the information they needed to monitor the system well.

[The discussion being ended, Mr. Kor left the meeting at this time.]

ITEM NO. 2  
ROHNERT PARK REQUEST INCREASED EXPANSION AT THE LAGUNA TREATMENT PLANT

Mr. Ferris distributed a report by CH2M Hill dated June 29, 1987, regarding preliminary evaluation of flow equalization facilities, and also passed out a letter dated June 25, 1987, addressed to him from Mr. Callinan requesting increased expansion of the Laguna treatment Plant. (Current expansion will

bring the plant up to 18 mgd capacity and Rohnert Park is requesting an additional capacity of 3 mgd to total 21 mgd.)

The rule of the Regional Board is that we are allowed no more risk with our Irrigation System than we already have. Since this increased expansion would place an additional risk to our existing system there are several issues which must be addressed before the Subregion could honor the request. Before the Plant could be expanded beyond 18 mgd, improvements must be added to bring it to 18 mgd from 15 mgd, and these should be in place by mid-1989. We would need to show that, with the added filters, there would be no increased risk in the event of a spill than currently exists. Flow equalization would have to be incorporated, and this would add an additional \$6 million to the total cost of improvements at the Plant.

18 mgd will take us to 1998 technically, if growth patterns continue as they have been. Should one of the member cities grow at a faster rate, there would be a problem. The system is very weather dependent. Currently there is an average yearly inflow to the Plant of 40,000 gallons.

ITEM NO. 3

AMENDMENT TO AGREEMENT

Currently under way is a plan in progress to legitimize the South Wright Road Agreement between the County of Sonoma and the City of Santa Rosa. The County is proposing, when the Laguna Treatment Plant expansion from 15 to 18 mgd takes place, that they give their portion of the plant capacity expansion to the City of Santa Rosa in exchange for Santa Rosa agreeing to service properties with failing septic tanks in the South Wright Road area. This would include approximately 16 vacant lots and 150 old, existing homes in the South Park Sanitation District.

Ms. Dolan explained in order to do this the South Park Agreement would have to be amended and the Amendment would have to be approved by every TAC member.

The basis for the County's making this request is numerous annexations to the City from County areas, increasing the capacity needs of the City of Santa Rosa while decreasing the need of the County for

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ISSUE 8: Should the disinfection guidelines recognize the concept of an "indirect discharge" to receiving waters and recommend guidelines for such a situation? Should the guidelines require dilution where the receiving waters are used as a source of domestic water supply?

DISCUSSION: The current Uniform Guidelines for Sewage Disinfection do not recognize the concept of an indirect discharge of wastewater to receiving waters. Under the guidelines, either there is a discharge or the wastewater is confined to land. In natural land disposal situations, wastewater may percolate underground from disposal ponds and ultimately reach a waterway through horizontal movement, either with or without reaching groundwater; however, where there is aboveground movement of wastewater from a pond system, spray area, or leach field to a receiving water, this is considered to be a discharge for the purposes of the guidelines.

The guidelines propose that a "no discharge" recommendation should be made for proposed discharges to lakes, reservoirs, and freshwater streams used for domestic water supply where land disposal is physically and economically possible. For a freshwater stream, if it is not possible to prevent a discharge, a discharge of not more than five percent of the stream flow may be considered. The recommended discharge limitation applies only where a beneficial use of the water is domestic water supply. Where water-contact recreation and agricultural irrigation are beneficial uses and not domestic water supply, there is no minimum dilution requirement of the water discharge for health protection. This is consistent with California wastewater reclamation regulations which provide for recreation and irrigation uses of undiluted reclaimed wastewater which has undergone extensive treatment and disinfection.

The concept of an indirect discharge to receiving waters has been proposed by a California sewerage agency. Under this concept, an indirect discharge (or a discharge equivalent to an indirect discharge) would exist if:

- A. The wastewater is changed in a manner that would cause it to lose its character as a wastewater or no longer be distinguishable as a wastewater and be indistinguishable from the receiving water;
- B. The point of compliance for discharge precedes the indirect discharge step;
- C. The effluent passes through a polishing treatment step which alters the physical, chemical, and biological parameters of the wastewater; and
- D. The effluent is dispersed before entering the receiving water.

Other conditions might also be applied according to the agency to distinguish the indirect discharge situation from a direct discharge. It has been proposed by the sewerage agency that, under these conditions, there would not be a need for the five percent discharge limitation and it would not apply.

The purpose of the disinfection guidelines is to ensure that the public health will be protected for the uses made of the receiving waters. This is independent of the conditions proposed above for an indirect discharge. Health protection is not related to the comparative quality or character of the wastewater and the receiving wastes, as measured by such characteristics as BOD, nutrients, and solids content, and is not related to alteration of general waste parameters or the degree of dispersal of the discharge. These conditions may be significant for protection of beneficial uses such as esthetic enjoyment or preservation of aquatic resources, but not for health protection for recreation, domestic water supply, and agricultural use, which are the subjects of the guidelines. Consequently, the concept of an indirect discharge, as proposed, is not a factor for consideration or incorporation in the disinfection guidelines.

More directly, the issue is whether a limitation on the discharge to provide a specified dilution where domestic water use is involved is an appropriate health protection provision or whether wastewater treatment and management can replace all or part of the dilution provision. The review report presents information in several areas which relates to this issue.

The report pointed out that the presence of organic materials in treated domestic wastewater is highly variable and dependent upon the source of the sewage and the treatment it receives. Although studies have identified a wide range of specific organic constituents in treated wastewater at low levels, the organic fraction remains largely unidentified. Laboratory studies indicate that nonvolatile fractions of organics may be mutagenic in various hosts. While technology regarding trace organics has advanced substantially over the past few decades, uncertainties persist regarding the range of compounds, synergistic effects, significant of mixtures, and the total health significance of trace organic constituents. It should be noted that the increased knowledge regarding organic substances has been accompanied by an increased concern with longer term health effects. In this setting, dilution provides a positive means for a reduction in a potential uncertain health risk where the water is ingested.

It could be reasoned that a few surface waters in other states, which receive much higher percentages of sewage effluent, are used as sources of domestic water supply. It has been estimated, however, that the water supply of only 0.7 percent of the United States population is derived from waters containing more than five percent sewage effluent during average river flow conditions (EPA 1985).

With regard to the health concerns associated with waste-borne disease through pathogens, the particular waste disposal-water use situation is important. It was reported that disease outbreaks were more often associated with small systems serving seasonal users. A substantial percentage of illness cases (44 percent) was associated with untreated or inadequately treated water and with interruptions in treatment. Systems depending on simple chlorination or intermediate treatment were less reliable than those depending on complete water treatment. Consequently, less dependence on dilution would be acceptable with regard to health protection from waterborne disease agents where the domestic water supplies provide complete and reliable treatment. The

significance of the degree of water treatment provided is reflected in the water quality criteria which have been recommended at the federal and state level. The maximum recommended bacteriological quality for a water system providing only chlorination was 50/100 ml total coliform, whereas the limit for a water system providing complete treatment was 20,000/100 ml. Also, the U. S. EPA is considering a national standard which would require pretreatment and filtration of all surface waters and groundwaters, which are influenced by surface waters, for health protection from microbiological disease agents.

RECOMMENDATION: The guidelines for sewage disinfection should not include the concept of an indirect discharge. Where the receiving waters are used as a source of domestic water supply (or where domestic water supply has been designated as a beneficial use of the receiving waters by the RWQCB), it is appropriate to include a minimum dilution requirement in the uniform disinfection guidelines.





## Deukmejian Vetoes Safe Drinking Water

Legislation to establish a program to set standards to be used in determining safe and unsafe levels of contaminants in water supplies has been vetoed by Governor George Deukmejian. The bill, AB 859 by Assembly Member Byron Sher (D-Palo Alto), was supported by the Sierra Club.

AB 859 reflected a compromise reached between the major water utilities, Assembly Member Sher, and environmental groups. Until the compromise was reached, environmental groups argued that standards should be based on health considerations only, while the water interests argued that economics and technical factors should be taken into account in setting the standards. Under the compromise, two sets of standards would have been established, representing the numbers advocated by the two groups. Water purveyors would have been allowed to exceed the health number only if they submitted a plan and made progress towards reducing contaminants. Under no circumstance would they have been able to exceed the higher standards (the ones which would include economic considerations).

Until the last few days of the legislative session, it appeared that there was no opposition to the compromise. However, when the bill reached the floor of the Assembly for a vote on concurrence with amendments made in the Senate, strong opposition surfaced from agricultural interests, chemical companies, the state Chamber of Commerce and most

members of the Republican caucus. Apparently, these groups were uncomfortable with the requirements that water supplies eventually be cleaned up to the health standard. They would prefer to leave more of an option for local water agencies to determine whether they will try to clean up their supplies. Some of the groups are also apparently opposed to establishing any standards which are purely health based. The late opposition was unusual in that many of these groups did not seek to play a role in the negotiations on the bill.

In response to the Governor's veto, Assembly Member Sher said, "In my view, the reasoning behind this veto is faulty. The Governor cites significant and unwarranted increased costs to water utilities. . . . Yet, the utilities themselves, most of whom strongly supported this bill, indicate that AB 859 would not result in dramatic cost increases. The Governor further states that 1986 amendments to the federal Safe Drinking Water Act make this bill unnecessary. Yet, the federal Act explicitly authorizes the states with serious water contamination problems to enact more stringent standards."

Without legislative direction, the state Department of Health Services is expected to develop standards reflective of the interests of the agricultural and chemical interests. However, Assembly Member Sher has announced his intention to continue his efforts to enact a program similar to AB 859 in the future.

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