CITY OF
VENTURA

July 11, 2007

Deborah J. Smith
Interim Executive Officer
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013

RE: City of San Buenaventura (Ventura) Additional Comments to Tentative Waste Discharge Requirement and National Pollutant Discharge Elimination System (NPDES) Permit and Time Schedule Order, City of San Buenaventura, Ventura Water Reclamation Facility (NPDES NO. CA0053651, CI NO. 1822)

Dear Ms. Smith:

The City of Ventura is fully committed to protecting the diversity of the natural environments we share and enjoy. In fact, it is the cornerstone of our 2005 General Plan, a twenty-year strategic vision that we have made our blueprint for a sustainable community. Our beaches, rivers, hillsides and the diversity of life they support enrich all of us who live here and their preservation has been and is one of the City's highest priorities. (See www.ci.ventura.ca.us/depts/comm_dev/generalplan/final/chapter1.asp)

Given that commitment and the recognition it has earned us for environmental leadership, we are concerned that your agency would consider, as part of the proposed NPDES permit for our Ventura Water Reclamation Facility a mandated action to withdraw flows from the Santa Clara River Estuary that clearly enhance and preserve these very values.

In particular, we are troubled by the detrimental effects this proposed permit will have on the survival and recovery opportunities for the endangered Tidewater Goby and Southern California Steelhead. Although the estuary is located in a watershed that has historically been significantly impacted by human activity, currently, the Santa Clara Estuary is thriving in comparison to many others in Southern California. For example, the Santa Clara Estuary goby population is a primary source for the U.S. Fish and Wildlife Service's efforts to repopulate the species in other Southern California estuaries. The current environmental values within the estuary are directly dependent on continued flows due to the existing condition of the watershed.

It appears that well-intentioned advocates for the environment are rigidly and narrowly interpreting laws and policies instead of applying them holistically and carefully to take into account specific local environmental impacts. We respectfully disagree with the assertion by Heal the Bay that the Board must act to remove the discharge from the estuary under provisions of the State Water Resources Control Board Policy for the Enclosed Bays and Estuaries of California. We can appreciate the complexity of law and regulation that bear on this permit process. They parallel the complexity of the estuary environment itself and make it difficult to identify whether it is possible to act in a way to avoid harming the estuary and the endangered species it supports, as the currently proposed NPDES Permit is certain to do. The complexity of the legal issues and estuary environment gives rise to extremely complex policy decisions for the Board and the City.

To help us better understand the implications of these laws and regulations, and related policy issues and decisions, we have sought help from legal experts at the firm of Nossaman, Guthner, Knox and Elliott, LLP. Their analysis, (Attachment A), indicates the Board has the authority to take alternative permit actions, consistent with applicable environmental regulations and policies and the City's policy goals, that both preserve the benefits of continuing the discharge to the estuary and conform to the requirements of law.

It has also been asserted by Heal the Bay, that rather than enhance, the discharge harms the Tidewater Goby. Out of our great regard for that organization and its director, we have re-examined the scientific studies done that come to quiet different conclusions. Their concerns have caused us to ask again how certain the environmental experts are about the evidence for enhancement and the evidence supporting their conclusions that withdrawal of the discharge will harm the current environmental values and species of the estuary. The experts reasoned response, also attached (Attachments B and C), indicates the concerns raised by Heal the Bay are not persuasive in light of the particular conditions in the Santa Clara River Estuary watershed. The overwhelming body of scientific evidence and opinion remains convincing that the outcome of removing the reclaimed water flows currently supporting the estuary habitat will be an estuary that is smaller and significantly less healthy than it is now. It will host fewer organisms, likely have less diversity, and there is significant risk that its continued viability as critical habitat for endangered and threatened species such as the Tidewater Goby and Southern California Steelhead, will be lost.

Several participants in the study review process have suggested that reclamation should be expanded. We agree that reclamation is beneficial and desirable. Our Ventura Water Reclamation Facility has reclaimed water for irrigation since the 1960's and we continue to do so to the maximum extent allowed by existing permit conditions. While it may be possible to increase reclamation further, the science is clear that

diverting all flow from the estuary to any other purpose, including reclamation, will damage the estuary and its endangered species and habitat.

We are aware that a number of measures have been suggested to mitigate the damage that would result from ceasing discharge. They have included redirecting the discharge a short distance upstream so the benefits to the estuary are still obtained without technically discharging to the estuary and potentially reducing upstream diversion of natural river flow. None of these mitigations are without impacts, reducing upstream diversions is not a measure within the City's jurisdiction or control, and worse, the evidence indicates that none provide the same value to the estuary provided by continuing flows.

For example, moving the discharge upstream (what our engineers describe as an "infall" alternative), may avoid having a direct pipe from the wildlife ponds into the estuary, but it accomplishes little else. If implemented, some water losses would occur before flows reach the estuary, requiring larger releases to achieve the same benefit, and the off-channel refuge so critical to the Tidewater Goby currently provided would be gone. In exchange for these lesser benefits, we would expend power to pump water upstream, further burdening our energy systems and increasing the carbon footprint of our wastewater treatment.

Similarly, while it may be possible to "take" water from current uses upstream to replace the reclaimed water discharge, that alternative is not within the control of the City as proposed permittee. Further, the alternative raises many water rights and other legal questions we cannot speculate on here. Potential impacts of such an action are easier to grasp. Reducing the diversion of water now supporting the rich agriculture of the Santa Clara River Valley would have broad economic and social impacts for valley communities and Ventura County as a whole. Reductions in diversions at the Freeman Diversion by the United Water Conservation District (United) as suggested during this process has even broader implications for agriculture across the Oxnard Plain and lessens the ability of United to effectively combat saltwater intrusion into the underlying aquifer.

It is also easy to speculate that water conservation can create enough "new" water in the river system to offset the loss represented by the removal of the discharge. We too are hopeful that conservation technologies will continue to improve over time, but the timing on these future improvements and whether water made available by these improvements would benefit or even reach the estuary is highly uncertain. As a result, the risks posed by this alternative to the estuary are too substantial, given the certainty of environmental harm associated with removal of flows upon the estuary, and the uncertainty surrounding the creation of "new" water both with respect to timing and quantity.

Considering potential environmental impacts of these alternatives to the estuary alone, and disregarding the cost of alternative facilities, the cost of operating these facilities and all the negative social outcomes, we question whether it is prudent to proceed with the present proposal mandating removal of flows from the estuary. In every potential alternative proposed, both the estuary and at least one other environment are degraded. It therefore does not appear reasonable to proceed down this path.

The City began this current permit renewal process in 2000 by expressing our conviction based on past scientific and technical evidence that continuing to support the estuary with reclaimed water is essential to maintaining this valuable resource. But we qualified that conviction with our willingness to be shown wrong by newly developed objective scientific studies and evidence addressing specifically the Santa Clara Estuary and watershed, its species and habitats. In preparing to embark on these studies, we heard and included specific questions Board Staff felt were critical to understanding the estuary system and the values and risks associated with either sustaining or stopping the discharge of flows. We invited other interested parties, including Heal the Bay, to review the scope of the proposed analyses and similarly provide their questions to be addressed during the studies and process.

After concluding the studies involved in this process, a new and better understanding of the estuary and of the river system has resulted in underscoring the environmental benefits of supporting the estuary habitat with reclaimed water originally established in 1976. We will be the first to acknowledge that future change will occur. Conservation technology will change, treatment technology will change, our scientific understanding will change and our social and economic priorities will change. Based on the direction of change in water supply and availability apparent today, it will likely be toward less abundant and more costly water. Still, it would be tragic for the estuary if we were to take this action to remove water from the estuary so critical to it's health and the survival of species such as the Tidewater Goby based only on the speculation that the direction of change in water supply conditions will reverse itself and other water will become available to replace the loss.

Given the expert conclusions and recommendations that have been submitted to the Board regarding the environmental consequences of the proposed permit, including the opinions of trustee agencies, the City believes it's inappropriate for the Board to take final action on the permit at the upcoming public hearing scheduled for August 9, 2007. We understand at the meeting the Board will be hearing testimony pertinent to the City's discharge, the tentative permit and the tentative Time Schedule Order. The City strongly supports and recommends changing the format of the Board's consideration of this matter on August 9 from that of a permit action to a workshop or study session. This will provide the Board additional time to evaluate how the relevant technical and other commentary can and should inform the Board's decision in developing environmentally prudent permit conditions (see Attachment A, pages 2-3).

We urge you to reject, as did the framers of the Policy for the Enclosed Bays and Estuaries, the idea that one regulatory size fits all environmental situations. Instead we welcome working collaboratively with you to help us preserve a healthy, vital and essential habitat in the Santa Clara River Estuary.

Sincerely,

Rick Cole

Rick Cole
City Manager

Attachment A - Legal and Policy Analysis by Nossaman, Guthner, Knox and Elliott
Attachment B - Comment letter by Dr. Howard Bailey, Nautilus Environmental
Attachment C - Comment letter by Dr. Camm C. Swift, Entrix

cc: City Councilmembers
Ron Calkins, Director of Public Works
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July 11, 2007

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REFER TO FILE NUMBER
300021-0001

VIA EMAIL AND U.S. MAIL

Mr. Rick Cole
City Manager
Ventura, City of
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Ventura, CA 93002-0099

Re: City of San Buenaventura (Ventura) (the "City") Supplemental Comments to Tentative Waste Discharge Requirement (Order No. R4-2007-xxxx, NPDES No. CA0053651) Regarding Effects of Proposed Limitation and/or Elimination of Ventura Water Reclamation Facility Flows on Wildlife and Habitat Within the Santa Clara Estuary

Dear Mr. Cole:

We understand that one of the City's highest priorities is the protection and preservation of the diverse natural environments shared and enjoyed by its citizens. Accordingly, the City has for many years, and today remains fully committed to the protection of the Santa Clara River Estuary (SCRE), a significant environmental resource for the City and the region.

Because the City is concerned about the adverse environmental impacts to the SCRE that scientific and technical studies establish will result from implementation of the proposed conditions of Tentative Waste Discharge Requirement Order No. R4-2007-XXXX (Proposed Order), you have asked us to provide advice and counsel regarding the legal authority that the Los Angeles Regional Water Quality Control Board (RWQCB) has to protect the environmental values of the SCRE in issuing the Proposed Order. You have also requested that we identify the legal and policy issues that the RWQCB and City should resolve in considering appropriate conditions for the Proposed Order.

Based on environmental studies and analyses completed to date by biologists and state and federal wildlife agencies, the City is particularly concerned about the adverse effects of conditions of the Proposed Order mandating reduction and, eventually elimination of tertiary treated reclaimed water flows produced by the Ventura Water Reclamation Facility (VWRF),

which currently support the SCRE. A broad range of species and habitats currently comprise the SCRE. The estuary provides habitat for, and is occupied by migratory birds and the endangered tidewater goby, and it provides potential habitat for a variety of other species, including the endangered steelhead trout. The studies in the record for the Proposed Order indicate that the SCRE is a valuable asset not only to City, but to the entire Ventura region. For example, biological experts, endangered species experts and the United States Fish and Wildlife Service (USFWS) have all concluded that the SCRE provides habitat vital to the region for survival and recovery of the tidewater goby and steelhead trout. These same experts have concluded that, given the current condition of the SCRE watershed, removing VWRF flows from the SCRE will adversely affect SCRE water quality and harm the species and habitats of the estuary, including the tidewater goby and its habitat. These experts recommend that the RWQCB should direct no action that would threaten this habitat with reduced flow and water quality without first completing steps to comply with the Endangered Species Act (ESA)requirements that protect endanger species habitat.[1]

In summary, the SCRE is a sensitive habitat for wildlife and endangered species currently supported by VWRF flows. Thus, the Federal Clean Water Act (CWA), the California Porter Cologne Water Quality Control Act (Porter Cologne Act), the Federal Endangered Species Act (ESA), and their associated regulations, indicate that, at a minimum, further evaluation and consideration of the Proposed Order is appropriate, particularly for the proposed permit conditions requiring the reduction/elimination of VWRF water flowing to the SCRE.

Further evaluation is needed to address several legal and policy issues that will result from adoption and implementation of the proposed conditions. For example, the RWQCB should carefully and fully evaluate the input provided from other federal, state and local agencies, scientific reports from qualified experts in the their field, and the input from stakeholders that are impacted by the permit. Under the resolutions and policies adopted by regulatory agencies to implement the CWA, Porter Colgne Act and ESA, the conclusions and recommendations of these studies and analyses need to be fully assessed. Unless the RWQCB determines that there is a specific disagreement among scientific and technical experts, the conclusions and recommendations of the experts should be incorporated into permit conditions to assure protection of the SCRE and its species and habitats, including the tidewater goby and other endangered species. A thorough evaluation of the harm that may occur to the SCRE under the Proposed Order issue is particularly critical because the RWQCB is authorized under State law to allow continued discharges of treated wastewater if the flows are consistently treated and discharged in such a manner that it would enhance the quality of receiving waters above that which would occur in the absence of the discharge.[2] Therefore, we recommend that the City request the RWQCB hold a

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1 *See, inter alia*, Howard C. Bailey, Ph.D., R.P. Bio, Nautilus Environmental Memorandum, dated July 11, 2007, submitted concurrently.

2 SWRCB Resolution 95-84, "Water Control Policy for the Enclosed Bays and Estuaries of California," Chapter I.A.; Chapter III. *See also* Chapter IV.C.

workshop, rather than an adoption hearing in August 2007 to fully assimilate and evaluate the technical information and expert conclusions and recommendations that have been submitted, and to ascertain direction with respect to integration of this information into Proposed Order conditions. The adoption hearing should be continued to the September 2007 RWQCB meeting or as soon thereafter as the RWQCB deems appropriate.

In addition, the USFWS has concluded that implementing the proposed permit conditions, even with monitoring in place, could result in "take" of federal endangered species.[3] This will impair or eliminate environmental species-related beneficial uses of the estuary and the associated wildlife ponds. Thus, the RWQCB should obtain the required ESA incidental take permit before adopting conditions mandating reduction/elimination of VWRF flows to avoid a violation of the ESA § 9 take prohibition. Further, the RWQCB should amend the SCRE basin plan, and/or seek a variance to the State Implementation Plan prior to adopting such conditions due the effect of the conditions on beneficial uses.

Finally, given the environmental values that must be protected in issuing the Proposed Order, we recommend that the RWQCB carefully delineate the types of conditions that it is adopting, whether technology based, water quality based, or based on and adopted pursuant to other state or federal laws.[4] This will determine the process that should be followed, and considerations that should be taken into account prior to adopting the proposed flow reduction/elimination measures in the Proposed Order.

Regardless of the type of permit condition being proposed, at a minimum, the RWQCB should provide a clear analysis of the water quality benefit to be derived from removing the VWRF water from the estuary and for the new VWRF water outfall. While applicable law requires balancing of costs and benefits of proposed permit conditions, the key issue for the City with respect to the Proposed Order is the lack of water quality benefit, and, in fact, the likelihood of harm that will result from imposition of the condition of the Proposed Order. A benefits analysis, including appropriate consideration of costs, is needed for the conditions requiring reduction/elimination of flow, as well as for discharge permit limitations for ammonia and nitrates. Ultimately, the discharge limits proposed for adoption should be protective of the SCRE and its

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3 Steve Henry, U.S. Fish and Wildlife Service, Comments on the Issuance of National Pollutant Discharge Elimination System (NPDES) Permit No. CA0053651, Ventura Water Reclamation Facility, Ventura County, California, dated May 30, 2007 (USFWS Comment Letter).

4 Our analysis indicates that elimination of VWRF flows to the estuary is not required under federal law. Further, while not required under State law, the RWQCB appears to state that its authority to impose a permit condition to reduce/ eliminate VWRF water to the SCRE is derived from SWRCB Resolution 95-84, "Water Control Policy for the Enclosed Bays and Estuaries of California." In this regard, it is important to note that Article XIIIB, § 6 of the California Constitution requires that, "[w]henever . . . any state agency mandates a new program . . . on any local government, the State shall provide a subvention of funds to reimburse that local government for the costs of the program . . .." See County of Los Angeles v. Commission on State Mandates and the Regional Quality Control Board (May 10, 2007) 2007 Cal.App.Lexis 711.

habitat and species in accordance with California Water Code §§ 13241 and 13263 cost/benefit requirements of the Porter Cologne Act.

I. HISTORY OF VWRF COMPLIANCE WITH THE ENCLOSED BAYS AND ESTUARIES POLICY

The VWRF began operation and discharging water to the SCRE over 45 years ago. The discharge is and has been subject to the CWA and Porter Cologne Act and associated regulations, policies, permits and orders adopted pursuant to these acts. While prior permits mandated a minimum level of discharge to the SCRE to support its environmental values—including provision of occupied endangered species habitat—recently proposed conditions in the Proposed Order require VWRF to eliminate flows of reclaimed water to the SCRE. These recently proposed conditions focus on the SWRCB Enclosed Bays and Estuaries Policy. However, the CWA, the Porter Cologne Act and the ESA contain many statutory requirements that protect the species and habitat related beneficial uses of the SCRE, and that prohibit degrading the beneficial use of the SCRE as a wildlife habitat for, among other aquatic species, rare and endangered species. The RWQCB has the authority and the obligation to consider the effect of the proposed permit conditions under all of these provisions of applicable law.

The record indicates that, to date, the RWQCB has focused on the following requirement of the 1995 (update to SWRCB resolution 74-43) Policy for the Enclosed Bays and Estuaries of California (No. 95-84):

> "It is the policy of the State Board that the discharge of the municipal wastewaters and industrial process waters . . . to estuaries . . . shall be phased out at the earliest practicable date. Exceptions to this provision may be granted by a Regional Board only when the Regional Board finds that the wastewater in question ***would consistently be treated and discharged in such a manner that would enhance the quality of receiving waters above that which would occur in the absence of the discharge***." (Emphasis added.)

In accordance with this policy, the RWQCB should require discharges to be phased out, *but not if it determines that the VWRF flows enhance the SCRE water quality above that which would occur in the absence of the discharge.*

While the RWQCB has been urged by at least one stakeholder to focus only on the provisions of the Policy supporting the elimination of reclaimed water discharges to the estuary, the provisions of the Policy authorizing exceptions to assure that the quality of receiving waters will not be degraded by elimination of the discharge are equally important. The policy does not, as some stakeholders suggest, categorically require the further treatment of VWRF water, reclamation of additional water, or relocation of the current VWRF outfall discharge point to a place other than the wildlife ponds. Uncontroverted expert scientific evidence and analysis in the record details specific adverse environmental effects on the beneficial uses of the SCRE and the

adverse affects associated with other suggested alternatives to VWRF discharges to the wildlife ponds and then the estuary.[5] This record evidence clearly support a finding by the RWQCB that water quality in the SCRE would be better with the VWRF tertiary treated flows than without this water.

A. Scientific Studies Since 1976 Demonstrated that VWRF Outfall Water Enhances SCRE Water Quality In Compliance with the SWRCB Enclosed Bays and Estuaries Policy

In response to the original 1974 Enclosed Bays and Estuaries Policy and again in response to the 1995 Updated Policy, Ventura, with input and guidance from RWQCB staff, asked biologist and water quality experts to evaluate the impacts of VWRF water on the beneficial uses of the SCRE. These experts have generated reports documenting their findings, beginning with the 1976 Enhancement Study.[6] These reports were provided to the RWQCB, which has since issued NPDES permits for the VWRF facility, including a permit condition that required the VWRF to discharge a minimum flow of 5.6 million gallons per day (MGD) to the wildlife ponds as a means to enhance SCRE water quality. Recent studies by world class biologist Dr. Camm Swift of ENTRIX, Inc. confirm the prior studies that conclude that VWRF outfall water is essential for the survival of the tidewater goby.[7] Dr. Swift's findings are supported by Steven R. Howard (United Water Conservation District fishery biologist) and Steve Henry of the United States Fish and Wildlife Services, who caution that the permit requirement to reduce VWRF flow to the estuary may result in take of the tidewater goby and recommend that the RWQCB seek a ESA § 7 consultation or obtain a ESA § 10(a) permit.[8]

B. Scientific VWRF Water Quality Reports and Biological Assessments Are Conclusive and Uncontroverted by Other Stakeholders

The water quality reports submitted to date have been characterized as "inconclusive," based in part on the absence of input from other state agencies such as the California Department of Fish and Game. However, the abundance of the biological and water quality technical information, including comments from other agencies, that has been provided to the Regional Board cannot, and should not, be dismissed as "inconclusive" simply because not all

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5 We note for the administrative record that the VWRF flows are discharged first to manmade wildlife ponds for polishing prior to discharge to the estuary.

6 *See* Engineering Science, Inc., Facilities Plan for Effluent Utilization, April 1976, previously submitted to the RWQCB and on file with the City of Ventura.

7 *See* ENTRIX, Inc., VWRF Discharge Beneficial Uses on the Distribution and Utilization of SCRE Tidewater Goby, September 17, 2004, previously submitted to the RWQCB.

8 Steven R. Howard, United Water Conservation District, Comment on the Tentative Waste Discharge Requirement (Order No. R4-2007-XXXX, NPDES No. CA0053651) for the Ventura Water Reclamation Facility, dated May 29, 2007 (UWCD Comment Letter) at p. 4; USFWS Comment Letter at p. 4.

the relevant agencies have submitted comments. The RWQCB may consider using its authority under California Water Code § 13225(c) to solicit the necessary input from the other state agencies.

The record to date includes the USFWS Comment Letter to the Regional Board that raises significant issues with the proposed Permit and notes that, "we believe the wastewater discharge the City provides to the estuary is likely stimulating a more 'natural' state than no discharge at all because it replaces water removed from the Santa Clara River upstream, before it reaches the estuary."[9] USFWS also concludes that "toxicity testing of the wastewater discharge shows very little toxicity, probably less than the river input."[10] The Regional Board should not disregard these comments and other information submitted, which shows that the discharge from the VWRF is not significantly contributing to toxicity in the Estuary, and the importance of that discharge to the continued viability of the Estuary and its resident species, including the tidewater goby. The record also includes several reports generated by highly respected scientist and consultants, including ENTRIX, Inc. (Dr. Camm Swift), Kennedy Jenks, and Nautilus Environmental. These reports support a finding that the VWRF outfall water enhances the SCRE water quality.

Given the fact that these expert reports are uncontroverted, the RWQCB should not be unduly influenced by comments made by Heal the Bay. Heal the Bays' comments are not supported by tangible evidence and should be weighted accordingly. For example, Heal the Bay's June 6, 2007 letter does not cite to any scientific studies or any other evidence that compares current SCRE water quality with the water quality from other sources that feed the SCRE.[11] Instead, Heal the Bay vaguely states removal of the VWRF from the SCRE will restore the estuary to a "more 'natural' condition."[12] This comparison is not only unscientific and extraordinarily vague, but not relevant to the standards set forth in Enclosed Bays and Estuaries Policy and does not negate the scientific studies that clearly show that VWRF water enhances the SCRE water quality and is critical to the survival of the tidewater goby.

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9 USFWS Comment Letter at p. 2.

10 USFWS Comment Letter at p. 2.

11 Heal the Bay Comments on the Tentative Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System Permit (NPDES) – City of San Buenaventura Ventura Water Reclamation Facility (NPDES Permit No. CA0053651) and Tentative Time Schedule Order (TSO) for the Ventura Water Reclamation Facility, dated June 6, 2007 (HtB Comment Letter).

12 HtB Comment Letter at p. 1.

II. DEGRADING THE ESTUARY WATER QUALITY REQUIRES A FEDERAL AND STATE MULTI-AGENCY REVIEW

The USFWS concluded in its Comment Letter of May 30, 2007 that the proposed permit condition to reduce and eliminate VWRF water from the SCRE can result in a ESA "take" of the tidewater goby and warns that RWQCB's requirement to reduce VWRF flow to the estuary is risky, stating: "Managing the estuary based on a single factor without considering the others . . . is likely to result in a ripple of unintended consequences to other components of the system. We recommend that a long term decision of how to manage the wastewater discharge and the estuary in general, be considered by a larger body of stakeholders . . . ."[13] The scientific (and only actual) evidence presented to date verifies the beneficial impacts of VWRF discharges to the SCRE. Thus, the CWA, Porter Cologne Act and the ESA require that the RWQCB consider information derived from a multi-agency review of the revised NPDES permit. Specifically, a RWQCB permit condition that demonstrably impairs the beneficial use of the SCRE must at a minimum be preceded by, and include, the following:

1. **USEPA Review and Approval** - The degradation of the SCRE conflicts with both the Federal and State Antidegradation Policies. Any action by the RWQCB to degrade the beneficial use of the SCRE requires review and approval by the USEPA in accordance with SWRCB October 7, 1987 Memorandum of Understanding regarding compliance with the Federal Antidegradation Policy (Antidegradation MOU). Under the Antidegradation MOU, the RWQCB must conduct a cost/benefit analysis to determine if the expenditures involved in installing a VWRF outfall ocean discharge line or similar infrastructure required for any other alternative discharge point are justified by the degradation of the SCRE. Impairing the beneficial uses of the SCRE as an estuary and wildlife habitat will require the RWQCB to amend the Basin Plan or seek a variance from the State Implementation Plan, both of which will require the review and approval of the Unites States Environmental Protection Agency (USEPA).

2. **Department of Interior - United States Fish and Wildlife Services and Department of Commerce – National Marine Fisheries Service Review** - The estuary is habitat for the federally endangered tidewater goby and Southern California steelhead. Thus the reduction of discharge to the SCRE will foreseeably result in "take" under the ESA. This will require the RWQCB (as the proponent of the project) to obtain an ESA § 10(a) permit or the USEPA to seek a ESA § 7 consultation.[14]

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13 USFWS Comment Letter at p. 3.

14 A further review of Enclosed Bays and Estuaries Policy may also be warranted under ESA section 6(f), which, prohibits states from adopting laws that are less stringent than the federal ESA.

A. Federal and State Antidegradation Policies Support Maintenance of POTW Discharge

As discussed above, biologists and water quality experts have provided uncontroverted expert evidence regarding the substantial adverse impact of reducing or eliminating VWRF outfall water on the water quality of the SCRE. These experts conclude that the removal of the VWRF outfall water will degrade beneficial use of the estuary for many wildlife uses and in particular as a rare and endangered species habitat for the tidewater goby and the steelhead trout.[15] The unintended, but inevitable degradation of the SCRE that would result from implementing the flow reductions will require a variance from the Federal Antidegradation Policy, and may also require that the State Implementation Plan (SIP) be revised to eliminate the beneficial uses that rely on POTW outfall water discharge to the estuary.[16] The Federal and State Antidegradation Policies require the SWRCB to obtain either a variance or an amendment to the SIP -- the variance or amendment will require EPA approval.

CWA regulations require each state to develop an antidegradation policy which at a minimum achieves the following objectives: 1) maintains and protects existing in-stream water uses; 2) maintains and protects existing water quality where it exceeds the level necessary to support propagation of fish and recreation, unless the state finds, after public participation, that allowing lower water quality is necessary to accommodate important economic interests, and 3) maintains and protects high-quality waters that constitute an outstanding natural resource (Federal Antidegradation Policy).[17]

California has adopted an antidegradation policy consistent with the Federal Antidegradation Policy, which provides in pertinent part:

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15 The SCRE beneficial uses include:

- marine habitat (MAR),
- wildlife habitat (WILD),
- rare, threatened, or endangered species (RARE),
- migration of aquatic organisms (MIGR), spawning,
- reproduction, and/or early development (SPWN),
- wet land (WET),
- contact and non-contact water recreation,
- navigation and commercial and sports fishing

16 *See* 40 C.F.R. §§ 131.12, 131.13

17 *See* 40 C.F.R. § 131.12.

> "Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with the maximum benefit to the people of the State, *will not unreasonably affect present and anticipated beneficial use of such water* and will not result in water quality less than prescribed in the policies." SWRCB Resolution 68-16. (State Antidegradation Policy)(Emphasis added).[18]

Thus, both the Federal Antidegradation Policy and State Antidegradation Policy require the state to take affirmative steps to protect the existing level of water quality.

The discharge from the VWRF provides the primary source of water for the Estuary; this is especially true during periods of drought. As is discussed in more detail below, the Estuary provides important habitat for the tidewater goby and critical habitat for the Southern California steelhead.[19] Moreover, discontinuation of the discharge is likely to result in the introduction of groundwater into the Estuary; groundwater that is of lesser quality than the discharge from the VWRF because it is not subject to the same treatment requirements. *See* Nautilus Environmental Memorandum submitted with the City's comment letter.

The Federal Antidegradation Policy does not allow the RWQCB to degrade the beneficial use of the SCRE.[20] Eliminating the discharge from the VWRF could partially or completely eliminate the existing beneficial uses related to recreation and fishing, and could significantly affect the habitat of the tidewater goby and Southern California steelhead. Such an action is prohibited by the Federal and State Antidegradation Policies.[21] Should the RWQCB impair the existing beneficial use of the SCRE, it must amend the State Implementation Plan or seek a variance of the Basin plan from the USEPA, likely triggering an Endangered Species Act

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18 Because the VWRF has discharged to the SCRE for at least 45 years, this VWRF discharge does not violate the antidegradation policies even if the estuary does not meet the water quality standards of the SCRE basin plan. The California Antidegradation Policy applies to changes reductions in water quality after the 1968 adoption date. Similarly, the Federal Antidegradation Policy only applies to changes in water after the 1975 adoption date. Memorandum from William Atwater, Chief Counsel, SWRCB Re: Federal Antidegradation Policy (October 7, 1987), pp. 5-6.

19 Recently, the Fish and Wildlife Service has proposed to designate the SCRE, among other areas, as critical habitat for the tidewater goby. 71 Fed. Reg. 68,913, 68,925, 68,935, 68,992 (Nov. 28, 2006). The SCRE is already designated critical habitat for Southern California steelhead. 70 Fed. Reg. 52,488 (Sept. 2, 2005).

20 *See* EPA Water Quality Standards Handbook, Appendix G (August 1985), p. 3 ("No activity is allowable under the antidegradation policy which could partially or completely eliminate any existing use.").

21 EPA Water Quality Standards Handbook, Appendix G (August 1985) p. 7; EPA Water Quality Standards Handbook: Second Edition (August 1994), p. 4-5.

§7 consultation by the Fish and Wildlife Service and by the National Oceanic and Atmospheric Administration.[22]

Finally, in removing any permit limitation that will degrade the SCRE water quality during this permit renewal process, the RWQCB must comply with CWA regulations. Specifically, 40 C.F.R. § 122.44(l) requires that reissued permits contain conditions that are at least as stringent as in the previous permit, "*unless the circumstances on which the previously permit was based have materially and substantially changed since the previous permit was issued . . . .*" (Emphasis added.) The current permit condition requiring flow to the SCRE is based on water quality improvement to the estuary.

Thus, before the RWQCB can impose a permit condition to reduce or eliminate the VWRF water to the SCRE, it must determine that there has been a substantial and material change has occurred since it issued the prior permit and that there is an important academic or social development in the area that justifies the SCRE degradation.

B. Changing the Estuary Habitat Water Quality by Reducing VWRF Flows to the SCRE Implicates the ESA

Both the tidewater goby and Southern California steelhead are listed as Federally endangered species.[23] California has designated both as species of special concern.[24] According to wildlife and biological experts, under its current conditions, the SCRE provides important habitat for both species.

The Fish and Wildlife Service has published a recovery plan for the endangered tidewater goby.[25] Nowhere in that plan does it call for a reduction in the extent or quality of habitat, nor would a reduction that could cause take be allowed under the ESA. Instead, the Recovery Plan notes that prevention of habitat loss or degradation is an essential part of the recovery of the tidewater goby.[26] It emphasizes that:

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22 *See* 40 C.F.R. § 131.12.

23 *See* 59 Fed. Reg. 5494-5499 (Feb. 4, 1994) (listing the tidewater goby as endangered throughout its range). Both the Southern California Evolutionarily Significant Unit (ESU) and the Distinct Population Segment (DPS) of Southern California steelhead of West Coast steelhead are listed as endangered. 62 Fed. Reg. 43,937 (Aug. 18, 1997) (listing the ESU); 71 Fed. Reg. 833 (Jan. 5, 2006) (listing the DPS).

24 Cal. Dept. of Fish and Game, Species of Special Concern in California 79, 235 (2d ed. 1995). Species of special concern are those with low, scattered, or highly localized populations and require active management to prevent them from becoming threatened or endangered. *Id.* at 3.

25 Fish and Wildlife Service, Pacific Region, Recovery Plan for the Tidewater Goby (Eucyclogobius newberryi) (Recovery Plan) (issued Jan. 7, 2005) (available at http://www.fws.gov/pacific/ecoservices/endangered/recovery/documents/TidewaterGobyFinalRecoveryPlan.pdf).

26 *Id.* at 29.

> "Past and current land use practices have degraded tidewater goby habitat. If the tidewater goby's current habitat conditions are secured or enhanced, recovery of the species would likely be ensured. However, *competing demands upon limited resources continue to directly and/or indirectly affect the quality of tidewater goby habitat* (e.g., *upstream water diversions, pumping of groundwater, erosion, etc.*). Furthermore, other anthropogenic activities and stochastic events are known to adversely affect tidewater gobies (e.g., introduction of exotic predators or competitors). *Management plans must be established for tidewater goby habitat that are sufficient to ensure necessary water quality and flow, prevent loss or degradation of habitat* (by coastal development projects, canalizations, etc.), *and preclude exotic species from adversely affecting the viability of populations.*"[27]

The Fish and Wildlife Service's Recovery Plan for the tidewater goby calls for management plans to address the specific "threats and physiographic features associated with individual sites" and concludes that "additional research is necessary to determined the tidewater goby's tolerance levels for *water quality and flow*, and optimal habitat diversity." *Id.* (emphasis added).

As explained in the Nautilus Environmental Memorandum by Dr. Howard Bailey submitted with the City's comment letter, given the unique hydrology and other contributing flows of water to the SCRE, discharge from the VWRF is beneficial to the tidewater goby in important ways that comport with the Recovery Plan.[28] Also, as the Nautilus Environmental Memorandum explains, to reduce/eliminate discharge—even with monitoring—would result in harm to the tidewater goby and its habitat.[29] Given the significance of discharge water for tidewater goby and steelhead trout, and the foreseeability of "take" under the ESA, the permit condition requiring VWRF to reduce/eliminate flows of tertiary-treated fresh water to the SCRE should be carefully scrutinized and reconsidered in light of input from all relevant resource agencies, as well as experts on the SCRE habitat, the tidewater goby and Southern California steelhead. As detailed below, this step is essential to comply with both the spirit and the letter of the ESA.

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27 *Id.* at 29 (emphasis added).

28 Nautilus Environmental Memorandum, passim.

29 It is important to note that the Fish and Wildlife Service and United Water Conservation District concur in this conclusion.

1. Pursuant to the Policies of both the Federal ESA and California ESA, the RWQCB Should Cooperate with State and Federal Agencies to Resolve Water Resource Issues in Concert with Conservation of Endangered Species

The ESA is designed to ensure the protection and recovery of endangered and threatened species by focusing on the conservation of habitat: "The purposes of this Act are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved . . . ."[30] When Congress enacted the ESA, it further declared that "[i]t is . . . the policy of Congress that Federal agencies shall cooperate with State and local agencies to resolve water resources issues in concert with conservation of endangered species."[31]

The State Legislature expressed a similar policy in the California Endangered Species Act, finding that endangered species "are of ecological, educational, historical, recreational, esthetic, economic, and scientific value to the people of the state, and *the conservation, protection, and enhancement of these species and their habitat is of statewide concern.*"[32] It further found that "it is the policy of this state that all state agencies, boards, and commissions shall seek to conserve endangered species and threatened species and shall utilize their authority in furtherance of the purposes of this chapter."[33]

Indeed, the RWQCB considers itself bound by a Memorandum of Agreement (MOA) between EPA and the Fish and Wildlife Service and the National Marine Fisheries Service (NMFS) for enhancing coordination for the protection of endangered and threatened species under Section 7 of the ESA, on the one hand, and the Clean Water Act's water quality standards and NPDES programs on the other.[34] The MOA establishes a framework for coordination of actions by EPA, the Services and the CWA delegated States on the CWA permit issuance under Section 402 of the Clean Water Act.

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30 ESA § 2(b) (codified at 16 U.S.C. § 1531(b)).

31 ESA § 2(c)(2) (16 U.S.C. § 1531(c)(2)).

32 Fish & Game Code § 2051(c) (emphasis added).

33 Fish & Game Code § 2055 Although the tidewater goby and Southern California steelhead ESU are not listed as state endangered or threatened species, the policy concerns of the Legislature nevertheless recommend that the LARWQCB and other state agencies, boards and commissions use their authority to further the conservation of all Federal and state listed endangered species.

34 USEPA Office of Water, Memorandum of Agreement Between the Environmental Protection Agency, Fish and Wildlife Service and National Marine Fisheries Service Regarding Enhanced Coordination Under the Clean Water Act and Endangered Species Act, EPA-823-F-01-002 (January 2001) (available at http://www.fws.gov/midwest/RockIsland/activity/env_cont/Files/CWA_MOA.pdf); *see also* 66 Fed. Reg. 11,202-11,217 (Feb. 22, 2001).

Pursuant to Federal, State and even RWQCB policy, the RWQCB has an obligation to carefully consider the implications of requiring the VWRF to reduce/ eliminate flows to the SCRE. Consistent with these policies, the RWQCB should solicit and consider input from other federal, state and local agencies, and consider scientific reports from qualified experts as well as the input from stakeholders. Thus, at a minimum the RWQCB should consider the commentary from all these trustee agencies and other stakeholders before establishing any permit conditions that would result in reduction of support flows to the estuary. The permit should be finalized only after relevant resource agencies are satisfied that it does not require reductions that are likely to result in loss of endangered species and their habitat.

2. Implementing the Proposed Permit Condition Reducing Discharge to the SCRE will Result in Degradation of Critical Habitat and Take of Endangered Species

Under the ESA, "'take' means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."[35] The regulations implementing the ESA define "harm" to include significant habitat modification, loss of refuge or cover, or degradation that results in the killing or injury of wildlife, and they define "harass" as "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering."[36] A reduction in habitat or degradation of water quality could stress the resident population of tidewater goby by reducing shelter, increasing competition, lowering reproduction rates, or increasing risk of disease, any of which would constitute "harassment" if not "harm," thus resulting in "take" within the meaning of the ESA.

In its current form, the proposed permit requires Ventura to reduce its flows of tertiary-treated water to the SCRE by 1 MGD each year beginning in 2008 until the discharge is eliminated. Experts, including those at the Fish and Wildlife Service, have concluded that this will result in the degradation and loss of tidewater goby habitat.

In fact, expert studies have shown that the freshwater discharge from the facility *enhances* habitat for the federally endangered tidewater goby. For instance, the Fish and Wildlife Service concluded that "[t]he discharge channel, with its deeper low-salinity water and sheltered side channel protected from floods and currents during estuary breaches, is an important refuge for tidewater gobies and may play a pivotal role in re-populating the estuary after large disturbance events."[37] It also noted that without the discharge from the facility, "take of the tidewater goby is likely to occur . . ." as "the tidewater goby are currently dependent on the wastewater discharge

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35 ESA § 3(19) (16 U.S.C. § 1532(19).

36 50 C.F.R. § 17.3.

37 USFWS Comment Letter at pp. 3-4.

(for freshwater, breaching cycle/invasive species control, and refuge) . . . ."[38] Thus, the Regional Board's requirement that all discharge to the Estuary from the Ventura Water Reclamation Facility be eliminated will foreseeably result in take of endangered tidewater goby.

According to the notice of the proposed designation of the SCRE as critical habitat for the tidewater goby, "[t]his unit [SCRE] will reduce the chance of losing the tidewater goby along this portion of the coast, help conserve genetic diversity within the species, and help facilitate colonization of currently unoccupied locations."[39] USFWS further noted that "[t]his critical habitat unit is known to have tens of thousands of tidewater gobies during certain times of the year (Swift 2006), and is considered one of the largest tidewater goby populations in southern California."[40]

Among the known threats to the SCRE habitat are water diversions, alterations of water flows, and groundwater overdrafting upstream, and non-point and point source pollution or discharge of agricultural and sewage effluents that negatively impact the species' breeding and foraging.[41] *These are precisely the kinds of threats that the VWRF's discharge helps to ameliorate*. Thus, VWRF discharge plays an important role in the recovery of the tidewater goby by providing and improving habitat for one of the largest goby populations in Southern California.[42]

As the Nautilus Environmental Memorandum explains, even the best monitoring plan cannot prevent incidental take of endangered species in the SCRE, since the monitoring would only reveal take *after* it has occurred. The Fish and Wildlife Service has further cautioned that reducing discharge to the SCRE could lead to extreme fluctuations in dissolved oxygen that would suddenly decimate the tidewater goby population. Even absent a sudden die-off, reducing the water quantity and quality in the SCRE by reducing discharge from the VWRF would likely cause take as defined under the ESA.

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38 USFWS Comment Letter at p. 4.

39 71 Fed. Reg. 68,913, 68,935 (Nov. 28, 2006).

40 *Id.*

41 71 Fed. Reg. at 68,925.

42 The Fish and Wildlife Service's Recovery Plan for the Tidewater Goby lists discharge of treated sewage as a threat to tidewater goby habitat as well. Recovery Plan at p. E-6. However, as the Fish and Wildlife Service concluded in its May 30, 2007 Comment Letter: "Based on the current and historical status of tidewater gobies in the Santa Clara River estuary, we believe that under current conditions in the watershed, the wastewater discharge provides conditions that are beneficial to this population of tidewater gobies." USFWS Comment Letter at p. 3; see also id. at p. 4 ("[T]idewater goby are currently dependent on the wastewater discharge (for freshwater, breaching cycle/invasive species control, and refuge) . . . ."). Moreover, USFWS concluded that a comprehensive plan to manage the entire watershed is needed. VWRF only controls one aspect of that complex system, but as the experts agree, it is an essential aspect for the tidewater goby under current conditions.

In addition to potentially causing take of the tidewater goby in the SCRE, the requirement to eliminate estuary discharge could also cause take of the federally endangered Southern California steelhead. As explained in the Resident Species Study, "[t]he SCRE is also a critical waterway for migrating steelhead . . . Treated effluent from the City's facility augments water in the lagoon for [the] rescue efforts [undertaken by United Water Conservation District], especially during years of low flow."[43]

According to Steven R. Howard, the Fisheries Biologist for the United Water Conservation District (UWCD), "[t]he reduction and eventual elimination of treated wastewater discharge to the estuary would reduce the wetted perimeter of the estuary[,] eliminating backwater and adjacent littoral habitats that provide cover for refuge to steelhead."[44] Thus, issuance of the permit condition to reduce/eliminate discharge to the SCRE would foreseeably result in take of *two* federally endangered species.

The ESA prohibits *any* take without prior authorization. ESA § 9(a)(1)(B) (16 U.S.C. § 1538(a)(1)(B)). Without first obtaining an incidental take permit granted through the habitat conservation planning (HCP) process specified in § 10 of the ESA, the RWQCB cannot require VWRF to begin reducing flows without violating Federal law. Furthermore, the HCP process frequently takes years to complete, even for fairly simple, limited-term incidental take permits.[45] The current permit conditions requiring reductions beginning by the end of 2008 would not afford the RWQCB enough time to complete the HCP and receive an incidental take permit. Thus, the very terms of the proposed permit would impose incompatible requirements on Ventura, forcing it to choose between violating its NPDES permit and violating the ESA.[46]

An alternative approach would be for the RWQCB to join with the United Water Conservation District, the City of Ventura and other interested stakeholders in United's initiative to create a Habitat Conservation Plan for the Santa Clara River. Such an effort would seem to meet the underlying desire of all parties to manage the river system in ways that maximize benefit to the habitat as a whole rather than focus on separate competing components. It is this isolated

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43 ENTRIX, Inc. 2002, Resident Species Study Santa Clara River Estuary, Ventura Water Reclamation Facility NPDES Permit No. CA0053651, CI-1822, Prepared for City of San Buenaventura September 17, 2002 (2002 Resident Species Study), p. 7-1.

44 UWCD Comment Letter at p. 4.

45 *See* Patrick Ryan, Galen Schuler & Jennifer Bell, ESA Compliance Options: Section 10 and Other Tools in Endangered Species Act, Law, Policy, and Perspectives 300-08 (Ronald C. Baur & Wm. Robert Irvin eds., 2002) (explaining that HCP development can take 8-24 months for simple projects, and the formal permit review and concurrent NEPA process typically take an additional 10-12 months to complete).

46 It is important to note that the reduced/eliminated discharge condition is based on state policy, whereas the ESA is Federal law. If the proposed permit issues without revision, Ventura may have no alternative but to comply with the Federal ESA and violate the state-issued permit condition since it is obliged to respect the supremacy clause of the U.S. Constitution.

approach that pits the RWQCB desire to remove the discharge against the USFWS statutory obligation to protect an endangered species.

3. The RWQCB Cannot Issue the Proposed Permit as Written Without First Creating a Habitat Conservation Plan and Obtaining an Incidental Take Permit

As noted above, the ESA prohibits any take without prior authorization.[47] Thus, absent an incidental take permit granted through the HCP process specified in § 10 of the ESA, the RWQCB cannot require VWRF to begin reducing discharge to the SCRE without violating Federal law.[48]

The Draft Permit requires the City to comply with the ESA in carrying out the Board's mandate to step down and ultimately eliminate discharge to the SCRE.[49] However, it would be the RWQCB's action in issuing the permit that would cause any take of endangered species, not the City's compliance. As the Supreme Court concluded in *Dept. of Transp. v. Public Citizen*, 541 U.S. 752 (2004), "where an agency has no ability to prevent a certain effect due to its limited statutory authority over the relevant actions, the agency cannot be considered a legally relevant 'cause' of the effect." *Id.* at 770. The same principle applies here: The City would not be the legally relevant cause of the take because the Draft Proposed Order and Draft Permit leave the City no discretion in whether or how to achieve the mandate to eliminate SCRE discharge. The mandate would be imposed by the RWQCB in exercising its discretion under the Enclosed Bays and Estuaries policy. Thus, the Regional Board would be the legally relevant cause of the take, and the Regional Board would have to obtain incidental take authority before imposing such a mandate on the City.

If the RWQCB wishes to impose the requirement to eliminate discharge to the SCRE, it will have to seek an incidental take permit prior to imposing that condition.[50] As

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47 ESA § 9(a)(1)(B) (16 U.S.C. § 1538(a)(1)(B)).

48 If Federal agency action, authorization, or funding is required to implement the proposed permit, the alternative to an HCP and incidental take permit would be an incidental take statement (ITS), issued as a result of interagency Federal consultation under § 7 of the ESA. 16 U.S.C. § 1536; *see also Defenders of Wildlife v. Administrator, EPA*, 882 F.2d 1294, 1300-01 (8th Cir. 1989) (a Federal agency must acquire an ITS before take occurs to avoid violating the ESA).

49 *See* Draft NPDES Permit at § III.A.

50 Alternatively, if a federal agency must authorize the NPDES permit, then it would have to undertake inter-agency consultation. As explained in Section II above, the permit condition will adversely impact several beneficial uses of the SCRE, and this would require the RWQCB to seek authorization from EPA to alter these uses. At that point, EPA, as a Federal agency taking action that could adversely impact endangered species, would have to undertake § 7 consultation in order to receive incidental take authority to grant the modifications. See ESA § 7(a)(2) (16 U.S.C. § 1536(a)(2)). Until the § 7 consultation has been formally initiated, no take can occur.

explained above, the HCP process usually takes years to complete before the incidental take permit issues. The process involves development of a habitat conservation plan, required NEPA analysis, and intra-agency consultation with the Federal agencies that oversee the endangered species that will be impacted.[51] The RWQCB could choose to initiate the process itself, or it could join with others in a more comprehensive HCP as noted above.

As noted above, the City is eager to cooperate with the RWQCB, United Water Conservation District, the Fish and Wildlife Service, the Department of Fish and Game, and any resource agencies in a mutual effort to preserve and enhance the wildlife and habitat in the SCRE.

The best scientific information available on the SCRE demonstrates that discharge from the VWRF to the SCRE is beneficial to its wildlife and habitat. Therefore, altering the discharge requirements without the necessary incidental take authorization and mitigation measures to safeguard endangered species and other wildlife in the SCRE is inappropriate.

4. The Comments by Heal the Bay Regarding the Need to Reduce/Eliminate Discharge to the SCRE Provide No Relevant Evidence that the Tidewater Goby will not be Harmed by the Reduction

Ventura shares Heal the Bay's concern for the conservation of sensitive habitat and the protection and recovery of endangered species. However, Heal the Bay's comments appear to be based on experience with other, dissimilar estuaries, and it is important to assess the soundness of its reasoning before taking steps that may adversely impact SCRE habitat.

The suggestion by Heal the Bay that eliminating the discharge "will return [the Estuary] to more 'natural' conditions and water quality will increase" and that this, in turn, "will greatly improve species habitat[]" is pure speculation.[52] Heal the Bay's argument is flawed in two ways: First, the inference that if the discharge ever exceeds applicable water quality standards for tertiary treated water, then the Estuary must be "negatively impacted" is invalid. It fails to allow

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Pacific Rivers Council v. Thomas, 30 F.3d, 1050, 1056 (9th Cir. 1994). Once formal consultation has begun, neither the agency nor any permit applicant may make any "irreversible or irretrievable commitment of resources" that might prevent them from implementing any reasonable and prudent alternatives that might be developed in the consultation process. 16 U.S.C. § 1536(d); 50 C.F.R. § 402.09. Thus, even if EPA must undertake § 7 consultation instead of RWQCB seeking an incidental take permit, RWQCB cannot require Ventura to begin reducing discharge until the consultation is complete.

51 U.S. Fish and Wildlife Service & National Marine Fisheries Service, Habitat Conservation Planning Handbook, 6-9 – 6-13 (Nov. 4, 1996) (HCP Handbook), as amended by the Final Addendum to the HCP Handbook, 64 Fed. Reg. 11,485 (June 1, 2000).

52 HtB Comment Letter at p. 1.

that the discharge, even if it occasionally exceeds certain tertiary treatment standards, is cleaner than the water entering the estuary from other sources such as agricultural runoff upstream.[53]

Second, Heal the Bay equates more natural conditions with benefit to the tidewater goby and other species that inhabit the SCRE. "More natural" is a loaded and potentially misleading phrase, since upstream diversions, overdraft of groundwater and agricultural runoff have rendered flow to the SCRE "unnatural" relative to what they would be under pristine conditions. It can be argued with equal or greater force that the VWRF's discharge renders conditions in the SCRE "more natural."[54] There is no evidence in the record that "more natural" conditions in Heal the Bay's sense (i.e., no discharge) will improve water quality or the benefit to SCRE species. The record evidence is unanimous and uncontroverted that discharge benefits both water quality and the endangered species in the SCRE.

The toxicity studies of Estuary water and sediment samples show that what toxicity exists in the SCRE originates elsewhere. The only reasonable conclusion in light of the only scientific evidence in the record is that the discharge improves the water quality of the SCRE. As noted above, Dr. Camm Swift has studied the SCRE and concluded that VWRF outfall water is essential for the survival of the tidewater goby in the SCRE.[55] Experts from UWCD and the Fish and Wildlife Service have concurred on the record.

This evidence shows that the City has re-established that an exception to the Enclosed Bays and Estuaries policy is, and previously has been, fully warranted. But it also shows beyond question that the RWQCB cannot proceed to imperil the tidewater goby and Southern California steelhead by requiring the reductions of VWRF flows in the proposed permit without first developing an HCP and obtaining an incidental take permit.

Heal the Bay further argues that the Fish and Wildlife Service's "hypothesis" that more frequent breaches in summer (dry) months may serve to enhance tidewater goby habitat is unsupported by any "studies or other evidence."[56] This is incorrect. Fish and Wildlife Service

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53 Nautilus Environmental, Comprehensive Analysis of Enhancements and Impacts Associated with Discharge of Treated Effluent from the Ventura Water Reclamation Facility to the Santa Clara River Estuary Toxicology, Ecology and Hydrology Final Report, dated May 2005 (2005 Enhancement Study), pp. 214-215.

54 The USFWS concluded "we believe the wastewater discharge the City provides to the estuary is likely stimulating a more 'natural' state than no discharge at all because it replaces water removed from the Santa Clara River upstream, before it reaches the estuary." USFWS Comment Letter at p. 2.

55 *See* ENTRIX, Inc., VWRF Discharge Beneficial Uses on the Distribution and Utilization of SCRE Tidewater Goby, September 17, 2004, previously submitted to the RWQCB; *see also* Camm C. Swift, Ph.D., ENTRIX, Inc., Comments on the Tentative Waste Discharge Requirements (WDRs), National Pollutant Discharge Elimination System (NPDES) permit and Time Schedule Order (TSO) for the City of San Buenaventura, Ventura Water Reclamation Facility (NPDES No. CA0053651.CI NO. 1822), dated July 10, 2007 (Swift Comment Letter).

56 HtB Comment Letter at p. 3.

pointed to evidence from over the last 45 years that the tidewater goby have done quite well in the Estuary where the discharge from the facility has been at or above 5.6 MGD.[57] It also noted that while breaching causes fluctuations in water levels that can compromise shallow breeding grounds as well as spikes in salinity, "tidewater gobies are adapted to such fluctuations and have fared will in the Santa Clara River estuary for over 45 years under the current conditions."[58]

Furthermore, as the Fish and Wildlife Service noted, the laboratory tests suggest that what toxicity results from the sediment and water samples is not caused by the VWRF's discharge, and "when enough stormwater enters the watershed to flow to the estuary, the runoff is often of very low quality due to land uses higher in the watershed."[59]

The only evidence Heal the Bay points to in its attempt to rebut this evidence comes from "Heal the Bay's extensive monitoring experience in the Malibu Creek Watershed over the last eight years . . ." and other studies of the Lower Malibu Creek and Lagoon.[60] There is no evidence in the record to suggest that conditions in Malibu Creek are representative of those found in the SCRE. In fact, the Nautilus Environmental Memorandum explains the fundamental ways in which the hydrology and other conditions of the two estuaries differ. Therefore, Heal the Bay's experience with Malibu Creek provides little, if any, insight about the SCRE itself, and certainly does not refute the conclusions of experts who have studied the SCRE and tidewater goby populations in it. Thus, Heal the Bay's comments fail to show that reducing discharge to the SCRE will not cause take of federally endangered species.

The City has expressed an appreciation of Heal the Bay's concern for the conservation of sensitive habitat and the protection and recovery of endangered species. However, in light of the best science available that relates directly to the SCRE, Heal the Bay's support for the reduced/eliminated discharge permit condition is misplaced. Such a requirement is neither beneficial to habitat and species in the SCRE, nor mandated by the Enclosed Bays and Estuaries policy, nor is it permitted under the ESA.

III. THE RWQCB IS REQUIRED TO WEIGH THE PUBLIC BENEFIT OF THEIR PERMIT CONDITIONS AGAINST THE ECONOMIC COSTS OF COMPLIANCE WITH SUCH CONDITIONS.

Although the RWQCB enjoys substantial discretion when establishing permit requirements, that discretion is not unfettered. Specifically, the RWQCB must weigh the water

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57 The Nautilus Environmental Memorandum explains in detail why this constitutes strong evidence, not mere "speculation."

58 USFWS Comment Letter at p. 2.

59 USFWS Comment Letter at p.2 (citing the 2005 Enhancement Study).

60 HtB Comment Letter at pp. 3-4.

quality benefit against the economic costs of imposing permit conditions when it applies "technology-based limitations" under the CWA and the Porter Cologne Act.[61] As discussed below, a cost and benefit analysis to relocate the VWRF outfall water discharge to the ocean must also be evaluated under CWA and California Water Code § 13241 to determine if the costs of the discharge line is justified by the reduction in SCRE quality.

A. Degrading Tidewater Goby Habitat by Eliminating VWRF Water From the SCRE Does Not Justify the High Cost of Relocating the Outfall

The WDR Proposed Order references technology-based limitations (*see*, Proposed Order, pp. 8-9) and the RWQCB purports to consider them. But there is no evidence that the RWQCB adequately analyzed all applicable technology-based limitations and economic factors. In particular, the Proposed Order fails to adequately consider and determine whether the provisions of California Water Code §§ 13241 and 13263 are satisfied. These sections require the RWQCB to weigh economic considerations or the "cost of compliance" when setting effluent limitations in wastewater discharge permits. Thus, reconsideration pursuant to these federal and state standards is warranted.

"The objective of the CWA is to restore and maintain the chemical, physical and biological integrity of the Nation's waters."[62] To this end, "the CWA directs EPA to formulate national effluent limitation guidelines for those entities that discharge pollutants into the navigable waters of the United States."[63] However, "Congress intended EPA to consider numerous factors in addition to pollution reduction," including "a reasonable relationship between the costs and benefits" of any reduction if there is to be a "workable program."[64] This direction is reflected in the adoption of many of the standards for reduction or limitation of effluents from point sources generally.

For example, in California governs the issuance of wastewater permits such as this one is section 13263 of the Porter Cologne Act. "Section 13263 provides in relevant part: "The regional board, after any necessary hearing, shall prescribe requirements as to the nature of any proposed discharge [of wastewater]. The requirements shall implement any relevant water quality control plans that have been adopted, and *shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste*

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61 33 U.S.C. § 1314; 40 C.F.R. §§ 122.44, 122.45; *see also, City of Burbank v. State Water Resources Control Bd.*, 35 Cal. 4th 613, 625 (2005).

62 *BP Exploration & Oil Co. Inc. v. United States Environmental Protection Agency*, 66 F.3d 784, 789 (6th Cir. 1995).

63 *Id.*

64 *Id.* (citing CWA of 1972, Pub. L. No. 92-500, 1972 U.S.C.C.A.N. (86 Stat) 3173).

discharges, the need to prevent nuisance, and the provisions of Section 13241."[65] Section 13241 provides that each regional board, in establishing water quality objectives, shall take into account "economic considerations" among others.[66]

In interpreting the interplay of the CWA's cost/benefit requirements and sections 13241 and 13263 of the Porter Cologne Act, the California Supreme Court has explained that CWA specifically grants the states authority to enforce any effluent limitation that is not less stringent than the federal standards; and it does not "*prescribe or restrict the factors that a state may consider when exercising this reserved authority, and it does not prohibit a state -- when imposing effluent limitations that are more stringent than required by federal law -- from taking into account the economic effects of doing so.*"[67] In brief, pursuant to the Porter Cologne Act, if the SWRCB or a RWQCB chooses to impose requirements more stringent that required by the CWA upon the discharger, then economic considerations and the other relevant factors are to be considered pursuant to sections 13241 and 13363. Thus, the RWQCB should expressly weigh the costs, both economic and environmental, against any perceived benefits that reducing the outfall will achieve.[68]

Here, the RWQCB proposes to impose more stringent requirements (i.e., eliminating VWRF water from the SCRE and establishing permit effluent limitations based on saltwater rather than freshwater receiving water objectives) on the VWRF than the CWA requires. As it stands now, however, the Proposed Order Proposed Order fails to contain any factual findings concerning the stringency of the effluent discharge requirements as compared to the federal CWA discharge requirements.

In addition, the Proposed Order fails to adequately weigh the factors of cost or economic achievability of achieving effluent reduction, and the non-water quality environmental impact, as required under *Burbank* and sections 13241 and 13263. As set forth below, if such a balancing or consideration were conducted, it would become clear that the high cost of achieving compliance with the Proposed Order is not warranted because there are no other benefits associated with it. Accordingly, Ventura respectfully requests that the RWQCB reconsider its proposed Order and undertake the balancing discussed above.

With respect to the cost of achieving effluent reduction, it is currently impossible for Ventura to lessen the amount of flow to the SCRE by 1 MGD per year because the facilities or pipelines to accomplish these reductions simply do not exist. Moreover, to construct and operate

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65 Wat. Code, § 13263 (as quoted in *City of Burbank v. SWRCB* (2005) 35 Cal. 4th at p. 624 (*City of Burbank*) (emphasis added; emphasis removed).

66 Wat. Code, § 13241(d).

67 *City of Burbank*, 35 Cal. 4th at pp. 627-628 (emphasis added).

68 See California Water Code § 13241.

such a pipeline or facility would be a waste of public resources, particularly if the goal is to stop discharging altogether to the estuary. Indeed, it would, hypothetically, be much cheaper, and much more efficient, to simply construct one pipeline to the ocean as soon as feasible. But, as the Proposed Order implicitly recognizes, stopping all outflow to the estuary immediately will have an adverse impact on several endangered species, including the tidewater goby and the Southern California steelhead.

Even if Ventura could as a practical matter finance and construct the necessary facilities in the time schedule currently proposed, the cost of the pipeline construction is far outweighed by the adverse environmental impact that removing the outfall from the estuary will have. As stated above, uncontroverted studies show that removing the outfall from the estuary will degrade the quality of the water recharging the SCRE. This is because the VWRF outfall is the primary source of freshwater discharge to the estuary, and the facilities necessary to comply with the permit conditions that the RWQCB proposes will cause the VWRF outfall to be rerouted from the SCRE. Once the discharge is reduced, the SCRE will be recharged with groundwater and with agricultural runoff that is poorer in chemical and bacteriological quality. Such an action has the potential to significantly degrade overall water quality in the SCRE, cause take of federally endangered species, degrade habitat, and harm other wildlife in the SCRE.

The scientific evidence in the record shows that reduced discharge will adversely impact critical habitat for endangered species such as the Southern California steelhead and tidewater goby. Reducing VWRF outfall water by 1 MGD per year will degrade the goby habitat and allow natural predators to proliferate and to prey upon the tidewater goby.[69] Similarly, undisputed evidence shows that reduction of the VWRF outfall to the estuary will adversely impact the federally endangered Southern California steelhead by reducing cover for refuge.[70]

Finally, and significantly, there has been no adverse environmental impact on the tidewater goby or the steelhead trout from the effluent being discharged into the estuary. Rather, the estuary supports a wide diversity of rare, threatened and endangered species.[71] Thus the environmental and economic costs associated with complying with the Proposed Order as it currently stands are extraordinarily high, especially compared with the rather speculative benefits.

B. The Board Should Consider Design Flow Factors in Calculation of Permit Conditions.

In addition to the balancing provisions of the Porter Cologne Act discussed above, the RWQCB should also consider applicable CWA regulations that address the design flow

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69 Swift Comment Letter at p. 3; Nautilus Environmental Memorandum at pp. 6-7; USFWS Comment Letter at pp. 2-3.

70 UWCD Comment Letter at pp. 3-4; 2002 Resident Species Study at p. 7-1.

71 *See, generally*, 2002 Resident Species Study.

calculations for POTW discharges. Any permit effluent limitation, standard or prohibition in an NPDES permit issued to a POTW must be calculated based on design flow.[72] Current discharge from the VWRF run between 7-10 MGD and the facility is designed to handle up to 14 MGD.[73] The only evidence in the record to date is that the POTW discharges 7-10 MGD of treated municipal wastewater into the SCRE and reclaims approximately .7 MGD for landscape irrigation use.[74] It is possible that in a wet year or under certain other conditions, Ventura would need to discharge more than 10 MGD of effluent. Thus overflow or maximum discharge limits of 14 MGD are necessary. Since it does not appear the RWQCB considered these issues when drafting the Proposed Order, it should take the opportunity to revisit and reconsider them now.

C. Ammonia and Nitrate Effluent Limits Developed to Maintain the Beneficial Uses of the SCRE, Including the Tidewater Goby Habitat, Must Be Scientifically Appropriate and Cost Effective.

Based on the studies of expert biologist and water quality experts, the current levels of ammonia and nitrate concentrations in the VWRF water have not resulted in adverse effects to the beneficial uses of the SCRE and have not resulted in adverse effects to the tidewater goby.

1. Freshwater CTR Criteria Should Be Applied to the VWRF Discharge.

Substantial scientific evidence has been presented that the resident species occupying the SCRE are dominated by freshwater organisms or organisms adapted to conditions ranging from fresh to brackish.[75] These conditions and the complete lack of evidence for any bioaccumulation of pollutants regulated differently under the saltwater rather than the freshwater criteria indicate that freshwater criteria are adequately protective of the beneficial uses of the SCRE.[76] Use of the freshwater criteria under these circumstances is supported by the California Toxics Rules regulations.[77]

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72 40 C.F.R. § 122.45(b)(1).

73 2002 Resident Species Study at p. ix.

74 2002 Resident Species Study at p. 1-1.

75 *See* Swift Comment Letter.

76 "Fresh water and salt water (including both estuarine and marine waters) have different chemical compositions, and freshwater and saltwater species often do not inhabit the same water. To provide additional accuracy, criteria are developed for fresh water and for salt water." 40 C.F.R. § 131.

77 "In the brackish water transition zones of estuaries with varying salinities, there generally will be a mix of freshwater and saltwater species. Generally, therefore, it is reasonable for the more stringent of the freshwater or saltwater criteria to apply. In evaluating appropriate data supporting the alternative set of criteria, EPA will focus on the species composition as its preferred method." 40 C.F.R. § 131 (emphasis added)

2. The Proposed Effluent Limits are not Mandated by the CWA and Thus Additional Factors Must be Considered by the Regional Board Prior to the Adoption of Such Limits.

As discussed above, pursuant to *City of Burbank v. State Water Resources Control Board*, 35 Cal.4th 613 (2005), although a Regional Board may have the authority under the Porter Cologne Act to impose limits and standards that are more stringent than what is required by the CWA, when it does so, it is acting pursuant to its authority under Porter Cologne, and thus must consider the factors set forth in Cal. Water Code § 13241.

Section 13241 requires the RWQCB to consider a number of factors when setting effluent limits, including the relevant beneficial uses of the waterbody, other environmental characteristics of the hydrologic unit, and economics. *City of Burbank* thus requires "that a regional board consider the *cost of compliance* [with numeric pollutant restrictions] when setting effluent limitations in a wastewater discharge permit" when those limitations go beyond what is required by the CWA.[78]

As established above, the proposed ammonia and nitrate effluent limits go beyond the standard that is applicable to discharges from POTWs under the CWA. The Regional Board proposes these limits as WQBELs; however, as derived, these limits are not properly promulgated as WQBELs pursuant to the CWA.[79] Thus, they must be promulgated under state law (i.e., Porter Cologne and/or the State Enclosed Bays and Estuaries Policy), which mandates consideration of the factors set forth in Cal. Water Code § 13241.[80]

When "determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water." 40 C.F.R. § 122.44(d)(1)(i), (ii). If the Regional Board proposes these limits as WQBELs, it is required to follow the method required by the CWA to adopt WQBELs for ammonia and nitrates, including consideration of the variability of the pollutant in the VWRF's discharge (e.g., factors related to when exceedances have occurred), and consideration of evidence that indicates that the

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78 *City of Burbank*, 35 Cal.4th at 625.

79 CWA regulations require that WQBELs "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality". 40 C.F.R. § 122.44(d)(1)(i).

80 *City of Burbank*, 35 Cal.4th at 625.

discharge from the VWRF is not toxic to sensitive species in the SCRE, including the tidewater goby. As such the proposed limits are not properly derived WQBELs pursuant to the CWA.

Because the proposed effluent limits for ammonia and nitrate are not proper interpretations of the standards applicable to POTWs, and are not properly derived WQBELs, they must be proposed pursuant to state law, and as such the Regional Board is required to consider the factors set forth in Cal. Water Code § 13241 in order to adopt such standards.[81]

Specifically, California Water Code section 13241 provides:

"Factors to be considered by a regional board in establishing water quality objectives shall include, but not necessarily be limited to, all of the following:

(a) Past, present, and probable future beneficial uses of water.

(b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.

(c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors that affect water quality in the area.

(d) Economic considerations.

(e) The need for developing housing within the region.

(f) The need to develop and use recycled water."

The Regional Board must adequately consider the above factors before proposing effluent limits that go beyond that which is mandated by the federal CWA, specifically the proposed limits for ammonia and nitrates.[82]

As set forth above, scientific studies indicate that the current levels of ammonia and nitrate concentrations in the VWRF discharge have not resulted in adverse effects to the beneficial uses of the SCRE and have not resulted in adverse effects to the tidewater goby.

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81 *City of Burbank*, supra.

82 In addition, because the limits imposed on the VWRF discharges are not required by the CWA but rather are imposed pursuant to the RWQCB's authority under the Porter Cologne Act and/or the Enclosed Bays and Estuaries Policy, this requirement constitutes an unfunded state mandate and the requirements to comply with limits that do not degrade the SCRE should be funded by the State. Article XIIIB, §6 of the California Constitution.

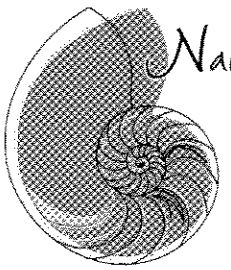
Ventura's primary interest is to preserve the beneficial uses of the SCRE, including the habitat of the federally endangered tidewater goby and Southern California steelhead. The available scientific evidence indicates that current levels of ammonia and nitrates in the discharge from the VWRF do not adversely impact the beneficial uses of the SCRE for these or other sensitive species. Such an approach to development of effluent limits for the VWRF would be cost-effective, technically appropriate, and consistent with the goal of preserving and enhancing the habitat values in the SCRE.

Sincerely,

Mary Lynn Coffee
of NOSSAMAN, GUTHNER, KNOX & ELLIOTT, LLP

MLC/bpg

cc: City Councilmembers
Ron Calkins, Director of Public Works
City Attorney



Nautilus Environmental

MEMORANDUM

Date: 9 July 2007

To: Mr. Dan Pfeifer, Interim Utilities Manager, Ventura Wastewater Reclamation Facility

From: Howard C. Bailey, Ph.D., R.P.Bio.

Subject: Response to Comments re City's Discharge into the Santa Clara River Estuary

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Further to your request, we have prepared this response to the Regional Board's request for additional comment related to impacts of the City's discharge on the tidewater goby. The response is divided into two parts; the first specifically addresses perceived negative impacts to the goby that have been raised in comment letters to the Board, whereas the second section addresses the positive benefits of the discharge.

1. Perceived "negative" impacts of the discharge

The following negative impacts were specifically noted in a letter from Heal the Bay (HtB) to the Regional Board dated June 6, 2007.

1.1. Continuing the discharge will negatively impact resident species, including the federally endangered tidewater goby

The discharge has been in place for over 45 years, during which time there has been no recorded fish kills. During this same time period, goby populations have undergone dramatic reductions and localized extinctions in many lagoons (including Malibu Lagoon) in southern California, leading to their listing as endangered. The fact that the goby population has remained robust in the Santa Clara River Estuary (SCRE) during this time period, the fact that the estuary is not listed as impaired, and the fact that the City continues to improve the quality of effluent discharged into the SCRE all render the above assertion fundamentally without merit or basis in fact. Moreover, topsmelt, one of the required toxicity test species used in California to monitor marine discharges for toxicity, are commonly found in the estuary, further discrediting the above assertion. In addition, annual biomonitoring studies continue to demonstrate the presence of a diverse benthic macroinvertebrate community, and periodic goby monitoring studies also demonstrate the presence of a diverse fish community.

1.2. High nutrient loadings likely impact resident species by spurring algal growth and lowering dissolved oxygen (DO) levels

The basis for this assertion appears to be experience obtained in Malibu Creek and Lagoon where excessive nutrient levels were related to reductions in water quality. Aside from the fact that HtB fails to recognize fundamental differences in hydrology between a small coastal creek and southern California's largest intact river system, it is again notable that tidewater gobies have flourished in the SCRE concurrently with over 45 years of discharge, the lagoon is not impaired, and that no fish kills have been recorded. It is widely known that the impacts of various parameters on water quality, including nutrients, vary among systems and that water quality objectives derived for one system are not necessarily appropriate for another, despite the temptation to apply a "one size fits all" model. Indeed, if nutrients were a "real" issue in the SCRE, there would have been ample evidence, as historically observed in Malibu Creek. Moreover, in extensive meetings with Regional Board staff that preceded the design of the "Enhancement Study", nutrients were never raised as an issue.

It is interesting that the one data point exhibiting low DO found (0.28 mg/L—see Resident Species Study, Table 4-1a), and the one chosen by Heal the Bay to illustrate low DO impacts in the estuary, was an apparent anomaly. This observation was made during the fall, when the lagoon was full and the berm closed, and was an order of magnitude lower than values measured at 8 other stations in the lagoon (including the effluent discharge channel), which ranged from 3.81 to 7.22 mg/L. Thus, this value has no relationship to the effluent discharge, and likely reflects a localized condition, possibly surfacing groundwater. Presumably, HtBs point is to implicate the discharge as the cause of low DO, but a more realistic assessment of the data would be that the low DO is occurring at location B-2 due to some unknown cause, and these conditions are being partially relieved by mixing with the rest of the lagoon. Considering that this observation was made during the fall, effluent flows would be the dominant input to the lagoon, and would be responsible for ameliorating this localized condition. Although HtB did not comment on this fact, with the berm open, the lowest DO values were associated with the upstream river site, reaching as low as 1.3 mg/L. Collectively, these data further support the hypothesis that the consistently good quality of the discharge tends to ameliorate the impacts of other sources of water on the lagoon.

Ultimately, estuaries are complex systems, typically depositional energy-rich areas where wide swings in dissolved oxygen are expected on a diurnal basis or localized spatially. Thus, the values observed are not unexpected. However, the conclusion that they could lead to "deadly impacts" is entirely speculation because, if true, there would be fish kills and an absence of fish populations. Clearly, such is not the case. While it may be that nutrients from the treatment plant should be investigated in the context of an overall nutrient budget for the estuary, there is certainly no evidence that remotely suggests that nutrients from the treatment plant are affecting resident species, particularly tidewater goby. Thus, on the basis of over 45 years of evidence in

the SCRE, as well as the experience in Malibu Creek that suggests that if there were impacts they would be apparent, the above assertion is speculative and without merit.

1.3. Un-natural breaching will likely negatively impact the goby

Again, given the long history of the discharge, and the continued presence of a robust population of tidewater goby in the SCRE, it is difficult to imagine how HtB can reach the conclusion that breaching events related to effluent discharge will negatively impact the goby. As noted before, goby populations have been extirpated in many coastal lagoons in southern California during the same period that the City has continuously discharged into the SCRE. Clearly, if the effluent discharge, including related breaching events, was having a significant negative impact on parameters necessary for survival of the gobies, these impacts should have had ample time to manifest themselves during over 45 years of discharge.

Having established this fact, it may also be helpful to distinguish between different types of breaching and their relative impacts on goby populations. Gobies are considered poor swimmers and vulnerable to being swept to sea during high outflow events. Thus, when breaching occurs during high winter outflow events, and the berm "blows out", goby populations are at increased risk. Similarly, when lagoons are mechanically breached (e.g., Malibu Lagoon), the outflows tend to be dramatic since the berm is undercut from the beach face, usually during low tide to maximize drainage. In contrast, dry-weather breaches in the SCRE tend to be "overtopping" events that are comparatively gentle with respect to abrupt outflow events. It is true that there is some loss of habitat when the berm is open, but the lagoon fills and drains with every tidal cycle so there is plenty of habitat available to utilize opportunistically on every cycle. In addition, the surfacing groundwater that uniquely characterizes the SCRE likely minimizes impacts to goby burrows by maintaining extensive wetted areas.

Finally, there is the issue of focusing on one cause of breaching, in this case, the discharge, whereas the frequency has also been affected by reduced lagoon size, and by reduced deposition to the beach face associated with development of the Ventura Harbor. In addition, while ground water flow to the lagoon remains significant, surface flows to the estuary during the summer dry period have been essentially eliminated in the 20th century. Thus, the ability to compare natural historical flow and breach conditions to the present, and conclude that something is or isn't "natural", or within or not within the range of "natural variability", is not definitively possible. However, simple calculations show that the City's discharge is within range of historical descriptions of summer flows in the lower river that were made prior to the development of intensive agriculture and associated water use in the region. Ultimately, the contention that breaching events associated with the City's discharge will negatively affect the goby at a population level remains speculative, and is without basis in actual fact. In contrast, inspection of seine hauls taken in the SCRE during breached and unbreached conditions shows similar numbers of gobies were collected along the same sections of shoreline, providing no evidence of changes in population numbers that the above assertion suggests would occur.

Summary

If these perceived "negative' impacts of impaired water quality and breaching events are viewed collectively, they should result in substantial cumulative impacts to the goby. However, in spite of these perceived cumulative "impacts", the goby population has thrived in the SCRE over the past 45 years, while going extinct in many other southern California lagoons. Based on this evaluation, simple logic leads to the conclusion that any actual effects due to these "impacts" have not been apparent, and to suggest that "negative" effects on the goby are likely to continue into the future has no basis in actual fact.

Along these lines, Heal the Bay and Regional Board staff have suggested that the proposed phased reduction of the discharge will be accompanied by monitoring goby populations to avoid impacts to the population. In fact, monitoring would alert the City to the fact that "take" has occurred only after an appreciable impact has been observed, and possibly too late to allow corrective adjustments to be effective. The limitations of monitoring need to be fully understood in the context of a population that exhibits patchy distributions and potentially large temporal fluctuations in population. In this context, monitoring is useful for establishing presence/absence, but not for detecting trends over time. For example, data from the recent surveys exhibit standard deviations that are 1.2 to 1.5 times the means of replicate seine captures (this is not the result of poor technique, as the sampling has been conducted by Camm Swift, and similar results are also noted elsewhere in the US Fish & Wildlife Service's Tidewater Goby Recovery Plan). Given these inherently patchy distributions and wide variations in sampling data, there would have to be approximately a 50-percent reduction between the sampled means in order to detect a statistically significant difference, even using 30 replicates. Clearly, such a reduction in the population would be considered biologically significant, and would not be acceptable within the definition of "take". Thus, this action would not be consistent with the City's responsibilities under the Endangered Species Act.

2. Benefits of the discharge

According to the U.S. Fish and Wildlife Service's (USFWS) Recovery Plan for the tidewater goby, the SCRE is the largest single habitat unit supporting gobies within the Los Angeles/Ventura Recovery Unit. It is of interest that populations in all of the local sub-units, other than the Ventura and Santa Clara Rivers, have undergone recent localized extirpations, with some subsequent occurrences of natural and artificial recolonization. Thus, the importance of the SCRE to the viability of goby populations in smaller drainages within this unit cannot be over-stated, as it serves as an important reservoir of fish to repopulate other sub-units during dispersal events.

The fact that the SCRE population has remained viable even as other sub-units have been recently extirpated, strongly suggests that the City's discharge has had no discernible negative impact on goby populations within the estuary. Furthermore, the continued presence of gobies in the SCRE suggests that the discharge actually benefits the goby population. These potential benefits are explored below in the context of major factors identified by the USFWS as limiting goby populations, including habitat, pollution, and the presence of non-native predators.

2.1. Side channel marsh habitat

The USFWS Recovery Plan for the tidewater goby lists loss and modification of habitat as a primary threat to goby populations. Major habitat features important to the goby include marsh habitat that provides cover and source of food, as well as backwaters that provide off-channel habitat during significant high-outflow events that tend to flush gobies from coastal lagoons. In many coastal lagoons, this flushing effect has been exacerbated by constraining the lagoon by levees that eliminate marsh and associated off-channel habitats (e.g., sloughs); thus, not only eliminating places of refuge during high-flow events, but also focusing the outflows, creating higher velocities and scouring effects. As habitat, the current effluent discharge channel supports a freshwater marsh that provides substrate, food and cover for various organisms, including tidewater goby. The stability of the marsh and channel also provide an important refuge during high outflow events. It is notable that the goby population remained abundant in the SCRE, in spite of the recent 100-yr flood event that took place in the Santa Clara River.

In addition, the channel receives continuous flows from the VWRF, which means that it remains wetted even during periods when the berm is opened and the lagoon drains on low tide, thus providing additional habitat during these periods. Collectively, the discharge channel and associated marsh provide additional habitat stability during all periods associated with lagoon function and river outflows.

2.2. Water quality

The USFWS Recovery Plan considers water quality (e.g., excessive nutrients and contaminants) another one of the principle threats to goby populations. While the long-term stability of the goby population in the SCRE suggests that water quality is not limiting, it is important to note that water discharged from the City is of consistently higher quality, compared with other potential sources of water to the lagoon, such as groundwater, agricultural return water, and run-off from golf courses and urban areas located upstream. For example, during the course of the "Enhancement Study", approximately 100 sublethal toxicity tests were performed on samples from the SCRE using sensitive marine and freshwater test organisms. During this extensive (and probably unequaled in scope in southern California estuaries), virtually no adverse effects were observed in samples collected from the discharge, or during sampling events that occurred when the berm was intact and the lagoon filled (i.e., effluent dominated). Conversely, toxicity was observed in a number of samples collected during periods when the lagoon was draining, and inflows at most sites were dominated by groundwater (dry weather) or the Santa Clara River (wet weather). Thus, the effluent improves water quality by actively reducing the influence of inputs associated with groundwater and upstream sources. This observation has largely been ignored by Heal the Bay and Regional Board staff, who have pointed out that the lagoon will at least partially fill with groundwater in the absence of the discharge, and that the total dissolved solids of the groundwater is compatible with the goby. However, these advocates ignore the fact that samples of surfacing groundwater and river water exhibited toxicity when tested during the "Enhancement Study". Finally, it should go without saying, but probably needs to be

emphasized at some point, that the current quality of the City's discharge bears no resemblance to the quality of discharges that originally led to the State's policy of eliminating such discharges from enclosed bays and estuaries. Thus, the City's discharge should be considered on its own merits, rather than through inferred comparisons to past practices.

2.3. Water quantity

Water quantity is another threat to goby populations cited in the USFWS Recovery Plan. Indeed, many localized goby populations went extinct during the drought that occurred in the mid-1980s, as freshwater inputs to many estuaries declined or ceased completely. As a result, the USFWS notes that secure sources of freshwater, particularly during the dry season, are an important component of long-term goby recovery. Currently, and through the past several decades, the discharge comprises virtually all of the water that reaches the SCRE during summer dry periods, the remainder being local urban and agricultural run-off and groundwater inputs (see note on *water quality* in section above). Moreover, water discharged from the City makes up a portion of *surface* flows that would have historically reached the SCRE, but have been diverted for other uses upstream as part of the intensive agricultural and urban development of the region. Thus, the discharge is an important component of the current water budget for the estuary that has consequences from both a water quality and water quantity perspective.

2.4. Competition and predation by non-native species

This is another threat to tidewater goby identified in the Recovery Plan by the USFWS. It is interesting to speculate on why various freshwater species that have contributed to goby declines or extirpations in other locations, have not established themselves in the SCRE, in spite of the lagoon being a predominantly freshwater system and the fact that these organisms are present upstream and occur periodically in the lagoon. The most likely reason that these species have not become established in the lagoon is the periodic tidal flushing of the lagoon with seawater that occurs when the berm is breached. During these periods, the lagoon is flushed with seawater with every high tide until the berm reforms. These flushing events create conditions that are readily tolerated by the gobies and other estuarine organisms, but cannot be tolerated for extended periods by freshwater species. Even during the summer, the effluent provides sufficient flow to periodically overtop the berm, and create a breaching event that persists for some period of time, resulting in flushing of the estuary. These periodic inundations with seawater likely prevent freshwater species from establishing themselves in the estuary, functionally achieving one of the management objectives in the USFWS Recovery Plan. Note that this is another drawback of the planned elimination of the discharge; letting the lagoon fill with groundwater will not achieve a water level sufficiently high to overtop the berm and create a breaching event. Thus, freshwater conditions will prevail in the estuary throughout most of the year, creating habitat conditions much more conducive for freshwater organisms (e.g., green sunfish, African clawed frog) to establish themselves.

Summary

The "Enhancement Study" was a detailed assessment of impacts and benefits associated with the City's discharge to the SCRE (Nautilus Environmental 2004). The study plan was developed in close consultation with Regional Board staff, and was intended to fully address all identified potential issues surrounding the discharge, since it would be problematic to evaluate "enhancements" without consideration of "impacts". The Report reflects the involvement and consultation of experts in ecology and toxicology and, specifically, the tidewater goby. Moreover, the report's conclusions reflect the integration of probably the most intensive investigation of the SCRE made to date, including identifying historical conditions and changes that have occurred over time.

The results of this, and other studies (e.g., benthic macroinvertebrate monitoring), suggest that the SCRE is currently operating as a viable, if highly modified, ecological unit. Both water and sediment quality are generally good, and habitat conditions appear to be relatively stable. These observations are consistent with the robust population of tidewater gobies that has persisted in the SCRE, in spite of localized extinctions that have occurred in numerous other estuaries in California over the past 25 years. Moreover, the data suggest that the City's discharge has played an important role in terms of ameliorating a number of threats to the goby that have been identified by the USFWS. The discharge and associated side-channel provide a usable habitat option even during high outflow events, while the discharge itself provides a consistent source of high-quality water even during summer dry periods. In addition, the discharge ensures that the berm will be periodically breached, and that flushing of the lagoon will occur on a regular basis. These events likely help limit the colonization of the lagoon by strictly freshwater species, and maintain water quality, access to and from the ocean for different life-history stages, and discrete habitat features that contribute to overall diversity (e.g., salt and freshwater marsh).

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July 10, 2007

Ms. Blythe Ponek-Bacharowski
Dr. T. Don Tsai
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Re: Comments on the Tentative Waste Discharge Requirement (Order No. R4-2007-XXXX), National Pollutant Discharge Elimination System (NPDES) permit and Time Schedule Order (TSO) for the City of San Buenaventura, Ventura Water Reclamation Facility (NPDES No. CA0053651).

Dear Ms. Ponek-Bacharowski and Dr. Tsai:

With this letter I would like to take advantage of the additional Public Comment Period (your letter of 14 June 2007) to respond specifically to issues surrounding these requirements and permit relative to the populations of the federally endangered tidewater goby (*Eucyclogobius newberryi)* in the lower Santa Clara River and its lagoon at the ocean. This additional comment period is specifically for addressing the effects on the health of this species at this site by these actions. This letter is written on behalf of the City of San Buenaventura. My experience with the tidewater goby is based on more than 30 years experience working on the biology and distribution of this species as well as serving on the Technical Recovery Team for the species through the U. S. Fish and Wildlife Service (USFWS), Ventura Office. The vast majority, if not all, the pertinent background information supporting my comments can be found in the USFWS Tidewater Goby Recovery Plan and documents posted on your website for this Permit and Comment Period.

TIDEWATER GOBY

This federally endangered species has occurred in relatively large numbers for the last ten years or more in the Santa Clara River lagoon and to our knowledge has continuously inhabited the lagoon. It is part of a distinct genetic grouping (the LA/VENTURA Unit of the Recovery Plan) consisting of only three native populations: Ventura River, Santa Clara River, and the Ormond Beach lagoon. The populations at Malibu and Topanga creeks were artificially created when fish from the Ventura River were placed into Malibu Lagoon in 1991. Some of the descendents of these apparently dispersed to Topanga Creek where they appeared for the first time about 10 years later. Thus only three native, original populations of the LA/VENTURA Unit exist and the Santa Clara River population is the largest and most

robust in this Recovery Unit. Thus it is indispensable for ultimate recovery of this unique genetic unit.

Tidewater gobies occur exclusively in coastal lagoons or near stream mouths in larger estuaries like San Francisco Bay. Adapted to the low salinity areas of estuaries, they are isolated by long expanses of coastal marine water separating such estuaries in California's Mediterranean climate regime. They can disperse a few miles upstream of lagoons into low gradient streams like the lower Santa Clara River, but have not been documented to do so in the Santa Clara. They do not willingly enter the marine environment and the evidence indicates that larger juvenile or adult fish can be washed out and occasionally colonize nearby sites, typically less than about 10 miles down coast. All reproduction takes place in coastal lagoons and not in tributary streams or coastal marine waters, even though there is evidence of spawning in a wide variety of salinities in the laboratory. The coastal lagoons are critical to the survival of tidewater gobies.

SANTA CLARA RIVER

The long term historical changes in southern California rivers over the last few hundred years have been documented extensively and have largely reduced the amount of coastal lagoon habitat available at sites like the mouth of the Santa Clara River (Swanson et al. 1990, U. S. Fish and Wildlife Service 2005; Boughton et al. 2006). The combination of Mediterranean climate, storm direction, and extensive sandy sediments carried down by rivers created a system of lagoons closed off to the ocean for most of the dry season. The original concentrated winter runoff and brimming groundwater basins kept the coastal lagoons perched higher than the adjacent ocean and maintained relatively low salinities. Tidewater gobies, as well as a great suite of organisms, adapted to and require these habitat conditions to survive. From the earliest European contact, a wide variety of uses developed for the water in the drainage and its removal began very early. By the early 1900s more water was extracted than was available and such overdraft allowed saline water to invade inland and to contaminate wells near the coast. Since that time various efforts directed some flows back into the river to recharge the water table to prevent salt water intrusion. The Ventura Water Reclamation Facility (VWRF) is one of the largest contributors of relatively high quality freshwater to the Santa Clara drainage near the coast and on the balance is beneficial to the population of tidewater gobies.

BENEFICIAL USES

The input of the VWRF affects the lower river in several ways including: 1) size or aerial extent of habitat, 2) depth of the habitat, 3) frequency and intensity of breaching and draining events, and 4) water quality.

1. All the recent studies agree that the VWRF inputs maintain the lagoon in a larger size for most of the dry season than it would be with only the remaining inputs of the now largely appropriated upstream drainage flows. Larger lagoon size maximizes the available habitat for tidewater gobies and undoubtedly has allowed the large populations documented for at least the last 10 years. This size also maximizes marginal habitats that are important as refuges during high winter flows to prevent fish from being washed into the ocean and lost to the population. Many former marginal areas undoubtedly were lost as the river has become progressively constrained between levees down to Harbor Boulevard and the backwater area and outflow channel of the VWRF provides by far the largest such refuge in the system today. Other refuge areas on the south side are much smaller and vary depending on the level of the lagoon. In addition they do not have inputs of freshwater to maintain connectivity between refuge and lagoon and are more likely to strand fish after flood waters recede. The refuge area in and near the VWRF are most important during "average" and stronger than normal rainfall years when the majority of the lagoon loses virtually all of its vegetative cover, exposing fish to predation. Our surveys for tidewater gobies in the system have documented individuals all the way up the channel to its outfall from the plant.

2. The greater the lagoon size, the deeper some parts of the lagoon will be and typically a deeper (2 meters or more) central area of the lagoon exists just inside the barrier sand berm. Often higher salinity water can be trapped and will occupy the bottom water layer in these deeper areas and can provide the tidewater gobies a refuge from freshwater predators like African clawed frogs and green sunfish that can be abundant in the lagoon in some years (but are intolerant of marine waters). Tidewater gobies are euryhaline (can tolerate a wide variety of salinities) and can reproduce in waters of low salinity that also deter these non-native freshwater predators. Saline areas also satisfy the needs of young steelhead for exposure and acclimation to marine waters before departing to the ocean in the late fall or winter.

3. Breaching of the lagoon can be detrimental to the tidewater gobies since the habitat can be greatly reduced in size in a short period of time (hours to a few days). This can expose fish to desiccation and predation as well as depleting food organisms in the substrate. The severity of breaching depends on beach dynamics and tide levels at the time of breaching. During high tide the breaching will have much lower effect than during extreme low tides. If water seeps through the barrier berm fast enough it may prevent over topping of the barrier sand berm and prevent breaching from taking place. The adverse effects of lagoon breaching on tidewater gobies are related to the extent and duration of the resulting lowered water levels. The large local contribution of water from the VWRF undoubtedly allows a rapid recovery of the lagoon, certainly much faster than would normally be the case in the dry season. Lagoons that breach in the dry season without

freshwater inflow can retain saline conditions and adversely affect tidewater gobies. Since the discharge water is beneficial to the lagoon in general, possibly some management practices that reduce or eliminate breaching can be developed.

4. Water quality is comprised of several factors of real or potential effects on tidewater gobies such as salinity, nutrients, toxic substances of various kinds, and the actual temperature of the water. Except for salinity tolerance, the actual effects of most kinds of water quality parameters are poorly understood for tidewater gobies.

    A. Relatively low salinities appear to be optimal for the life history of the tidewater goby despite their tolerance of a wide range of salinity. Large inputs of freshwater maintain such low salinities even if summer breaching introduces large amounts of marine water. The study by Kamman Engineering shows that brackish (low salinity) water conditions will be maintained by several combinations of breaching and outflows from VWRF, even with no outflows. However, their study does not take into account the loss of total habitat under low or no flow scenarios. The VWRF flows would maintain the greatest amount of low salinity habitat on a year round basis in the lower Santa Clara River. The VWRF flows would also minimize the influence of salt water in the dry season when lenses of salt water on lagoon bottoms can abnormally increase water temperatures and contributing to anoxia. In addition excessive salinities adversely affect other native sensitive species like southwestern pond turtles and redlegged frogs.

    B. Nutrients contained in effluent water can be detrimental as a general cause of eutrophication; high nutrient levels stimulate overproduction of planktonic and macroalgae. The overabundance of algae can cause anoxia which can lead to fish kills. Tidewater gobies actually have been observed to come to the surface and utilize aerial oxygen and may not be adversely affected by periodic brief anoxic events (a few hours) in the water column. More serious are anoxic sediments that the gobies cannot use for breeding burrows constructed by the males. Excess planktonic algae can block the sunlight from reaching the bottom of the lagoon. Thus macrophytes do not develop, reducing the amount of protective cover for tidewater gobies and other organisms. The water from the VWRF has fewer nutrients than upstream water inputs, likely reducing potential effects of nutrient enhanced freshwater. . The reduction of nutrient input is probably one of the most important issues that needs to be addressed in restoration of coastal lagoon habitats.

C. The VWRF flows are relatively constant temperature and well within the tolerance limits of tidewater gobies. However, since they remain warmer than ambient in the winter its possible they could support exotic species that otherwise would die out in winter. While some exotic fish exist in the lagoon area, no evidence exists that the discharge channel serves as a refuge for them since they also occur in the main lower Santa Clara River. Wastewater discharges have provided refuge for warm-water exotics in other situations in the southwestern United States, including coastal estuaries in the southern Los Angeles Basin. The VWRF outfall was even a recipient of young steelhead transferred from the Freeman Diversion during dry years. The temperature and oxygen requirements for steelhead are more stringent than for tidewater gobies so no adverse effects on tidewater gobies should be anticipated.

D. The effects of other toxic substances on tidewater gobies have not been studied. Since the VWRF water is lower in most if not all of these than other local inputs and the tidewater goby population is robust, little or no current effect is apparent. It could be that the dominance of the VWRF flows is buffering the effects of other lower quality flows. If so, reduction of VWRF flows might allow these lower quality flows to dominate and degrade the water quality of the lagoon.

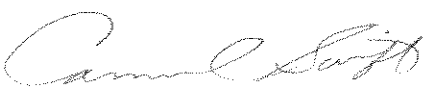
E. As noted above, tidewater gobies appear to be relatively tolerant of varying oxygen concentrations, even periodic low values that can be detrimental to other fishes like topsmelt or steelhead. Oxygen content of the water depends on the temperature, amount of nutrients, and degree of mixing of the lagoon water. Typically mixing is achieved by wind and since most of the lagoon is relatively shallow (a meter and a half or less deep) the water stays oxygenated. The strong flow of the input channel of the VWRF should provide strong mixing and oxygenation in the channel and nearby arm of the lagoon. This is important on this northwest corner where tall willows and Arundo tend to block the effects of the wind. Wind more strongly effects the southern and inland margins of the lagoon. At times during the warm months mats of floating green algae can develop and these act to prevent wind mixing of the lagoon as well as preventing light penetration into the water column. Both effects can contribute to low oxygen levels in the water column. The strong flow from the outfall channel counters these impacts.

As documented above many of the desirable features of habitat for tidewater gobies are provided by the discharge of the VWFT. In many ways it is substituting for substantial freshwater inflow that existed before about 250 years ago at the initiation of European

influences on land use. Although monitoring efforts have documented a robust population in the Santa Clara River estuary, the benefits to the tidewater goby population have not been studied specifically to allow conclusive judgments connecting changes in the fish populations to environmental factors in the lagoon, including the input of the VWRF.. The methods for accomplishing such a monitoring program for fishes are well known (for example see chapters in Schmitt and Osenberg 1996 and Busch and Trexler 2003). As pointed out in the Comment letter from the U. S. Fish and Wildlife Service, such efforts should be a multi-agency responsibility via some kind of overall drainage or lagoon management or land-use plan. Clearly a variety of environmental and land use issues impinge on the Santa Clara River drainage and will be best addressed for the long term by an overall plan that incorporates as many issues and stakeholders as possible. Regardless of the long term outcome, clearly the current conditions are largely favorable for, and support, a robust population of tidewater gobies. Any change in these conditions needs to take into account maintaining this population during any transition to similar or changing hydrological conditions.

Sincerely,

ENTRIX, Inc.



Camm C. Swift, Ph.D.
Senior Project Scientist

cc: Steve Henry, USFWS
Dan Pfeifer, City of Ventura
Mark Gold, Heal the Bay
Steve Howard, United Water Conservation District

REFERENCES (only those not accessible via sources on the web site)

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