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August 23, 2009

Ms. Myra Herrmann
Development Services Center
1222 First Ave MS501
San Diego, CA 92101

Via Email: DSDEAS@sandiego.gov

Dear Ms. Herrmann:

SUBJECT: City of San Diego Master Storm Water System Maintenance Program (MSWMP), SDAS comments on PEIR

The San Diego Audubon Society is very concerned with the potential impacts of the MSWMP on riparian and aquatic wildlife habitat value, wildlife movement corridors, watershed functioning, downstream wetlands, water quality, and flood risk. These impacts are not adequately addressed in the PEIR. We urge that the PEIR improve the project and identify workable alternatives to avoid impacts wherever possible, to minimize the unavoidable impacts, and to fully mitigate the remaining impacts. Doing so is essential to satisfy the minimum requirements of the California Environmental Quality Act, CEQA.

The vegetation and the soil in stormwater conveyance channels provide habitat or foraging area for a broad spectrum of wildlife, which can include federally listed species such as Least Bell's Vireos, Southwest Willow Flycatchers, California Brown Pelicans, and California Gnatcatchers. Most of these conveyance channels are natural waterways or have evolved from natural waterways. The organisms in the soil break down many contaminants such as hydrocarbons. The plants use the excess nutrients in the water and add oxygen to the soil, water, and atmosphere. The plants also consume large amounts of nutrients from the runoff water, reducing eutrophication in downstream wetlands and waterways. The linear extent of the conveyance channels with their biologically rich vegetation make them prime corridors for wildlife to move from one habitat area to another for foraging, dispersing into new habitat, or seasonal movement. These waterway functions are more and more important since we have eliminated something like 90% of our wetlands and natural waterways, have fragmented habitat areas making connectivity more essential, and continue to discharge large quantities of urban runoff that contains excess contaminants, metals, and nutrients that can be reduced by vegetation and soil in these channels. We need to find ways to safely convey stormwater while enhancing the watershed values of our remaining waterways as much as possible, and surely not degrading them.

This vegetation and soil also tend to retain low flow water so that evaporation and evapotranspiration will reduce dry weather flows so their pollutants will never reach receiving waters.

We understand that some conveyances will require total clearance to avoid flooding important improvements. But there are many reaches for which more environmentally benign

alternatives are appropriate. This PEIR does not identify the latter. We strongly urge that the project be modified so that flood risks can be minimized in ways that will preserve and, wherever possible, enhance the habitat and water quality value of these waterways.

The following headings will address specific concerns regarding the environmental impacts of this project.

PROGRAM DOES NOT COMPLY WITH MANY COMMUNITY PLANS - PEIR IDENTIFIES MANY OF THE CONFLICTS BUT DOES NOT IDENTIFY OTHERS

The PEIR provides an analysis of the consistency with General, Community, and area plans in Table 4.1-1, starting on Page 4.1-12. We appreciate the clarity of the presentation. The various Plans indicate levels of protection for wetlands, riparian habitat, natural waterways, scenic values, etc. that are desired by the communities. The table identifies many conflicts between the Program and the listed plans. But it fails to identify others. The Program needs to be revised to identify a more environmentally sensitive overall approach that will allow the Program and the resulting Projects to comply.

Table 4.1-1 indicates that the Program does not comply with the environmental goals of the following plans:

- City of San Diego General Plan
- Clairemont Mesa Community Plan
- Linda Vista Community Plan
- Mid-City Communities Plan
- Mira Mesa Community Plan
- Navajo Community Plan
- Scripps Miramar Ranch Community Plan
- Skyline-Paradise Hills Community Plan
- Southeastern San Diego Community Plan
- Torrey Pines Community Plan
- University Community Plan
- Chollas Creek Enhancement Plan
- Otay Valley Regional Park Concept Plan
- Western Otay Valley Regional Park Natural Resources Management Plan

The information on Table 4.1-1 shows that the Program will conflict the following plans, but the PEIR does not acknowledge those conflicts:

- Kearney Mesa Community Plan
- Torrey Pines Community Plan

Though not addressed in Table 4.1-1, the Program also conflicts with the goals of Section 3 of the California Coastal Act and Section 404 of the Federal Clean Water Act.

We strongly urge that the Program be modified to incorporate alternative approaches that will substantially reduce or avoid the conflicts with these Plans wherever possible.

PROGRAM DOES NOT COMPLY WITH MSCP - PEIR DOES NOT IDENTIFY MANY OF THE CONFLICTS

The PEIR provides an evaluation of the Program's consistency with the MSCP in Table 4.1-2. It demonstrates that the Program does not comply with MSCP, but the PEIR denies many of the inconsistencies between the Program and the MSCP. The Program could

be made to comply if many of the recommendations that are contained in this and other comment letters would be incorporated into the Program and be made elements of the PEIR. Unfortunately, the PEIR does not number the paragraphs of that evaluation, making it difficult to comment on. In the following paragraphs we identify the items in Table 4.1-2 by the page number and the number of the particular box on that page, counting down from the top box on the page.

Page 4.1-53, box 1: The MSCP requires that the need for flood control measures in the MHPA must be “based on a cost-benefit analysis and pursuant to a restoration plan.” The program lacks a cost-benefit analysis but assumes that channel clearance is the only solution. The MSCP requires that floodplains in and leading to the MHPA remain in a natural condition, if feasible. This PEIR does not evaluate whether other less damaging alternatives would be feasible alternatives. Thus the Program is not consistent with the MSCP in spite of the PEIR’s conclusion that it is.

Page 4.1-53, box 4: The MSCP requires that construction of staging area and roads, temporary or permanent, must not disturb habitats unless unavoidable. This PEIR does not explore a vast range of alternatives that would avoid impacts. The MSCP states that “All such activities must occur on existing agricultural lands or other disturbed areas. Since this PEIR fails to analyze the impacts of roads and staging areas, there is no evidence to support the assertion that this project will be consistent. The MSCP also required that if a temporary habitat disturbance is unavoidable, the area will be restored or mitigated. Again this PEIR cannot claim consistency since it does not address the impacts or mitigation for access, haul ways, or staging areas, in spite of the conclusion of the PEIR.

Page 4.1-54, box 3: The MSCP requires that roads within the MHPA be narrow and in lower quality habitat and disturbed areas to the extent possible. The PEIR concludes that it is consistent, but it does not address the issue of placing the roads in lower quality habitat or disturbed areas. And since the PEIR does not address access, haul ways, or staging areas it provides no evidence to support its assertion that it is consistent.

Page 4.1-55, box 1: The MSCP requires that “Uses in or adjacent to the MHPA should be designed to minimize noise impacts.” The Evaluation column only addresses reducing noise during the nesting season for sensitive bird species, and it concludes that it is consistent. However, the MSCP’s requirement is not limited to impacts to sensitive bird species during nesting season. High noise levels have many other impacts that detract from the habitat goals of the MSCP. Thus, the Program has only provided for consistency in a very small subset of the situations in which noise must be minimized. So, it is not consistent and needs to acknowledge it. Also, since the PEIR does not address or evaluate the noise impacts of access, haul ways, and staging areas that will be part of the program, it can not claim to be consistent.

Page 4.1-55, boxes 2 and 5: The MSCP states that “No invasive non-native plant species shall be introduced into areas adjacent to the MHPA.” The Evaluation states that invasive plants will not be used in revegetation efforts. But that does not address many of the other the ways in which construction activities can introduce invasive species to habitat areas. The PEIR must address thorough removal of seeds, rhizomes, and living fragments of invasive species from equipment, vehicles, materials, boots, and clothing before they enter the habitat area. It must provide for these measures for the construction activity related to channel clearance and to access, haulage, and staging areas. To be effective the PEIR must also define a program to revisit construction areas for many years to remove invasives that occur in the previous work

areas to satisfy this requirement of MSCP. The PEIR fails to adequately address these issues so it cannot support its allegation that the Program is consistent.

Channel maintenance projects have helped Arundo expand in habitat areas in the past. We urge that the Program fully adopt the most effective measures available for thoroughly killing Arundo before removing it and then carefully removing any remaining fragments. See the paragraphs about Arundo removal later in this letter. We urge that the PEIR be very specific about these measures. If removal is done without these measures being fully implemented, the Program is sure to be inconsistent with the MSCP

Page 4-1-55, box 7: The MSCP requires, "Review existing flood control channels within the MHPA periodically (every 5 to 10 years) to determine the need for their retention and maintenance and to assess alternatives such as restoration of natural rivers and floodplains." The MSCP has been in place since 1992. This and many other comment letters have pointed out the need for this PEIR to consider flood management measures besides channel maintenance. Thus, the lack of evaluating less damaging alternatives and the removal of hardened channels by this Program for MHPA areas is not consistent with the MSCP in spite of the conclusion of the PEIR.

PEIR DOES NOT IDENTIFY WATER QUALITY IMPACT OF THE PROJECT

As mentioned above, the soil and vegetation that will be removed under this program currently remove large quantities of contaminants, metals, hydrocarbons, and nutrients from the urban runoff. Removal of the soil and vegetation will reduce or eliminate that capability to prevent future pollution moving downstream in our waterways to our receiving waters. Many of those waterways and receiving waters are subject to Total Maximum Daily Load (TMDL) restrictions. The PEIR does not identify or quantify the potential increase in pollution, nor does it identify alternative configurations or mitigation measures to offset those increases. This PEIR must address the separate and cumulative water quality impacts of the projects that it will cover.

Measures to assure that water quality is protected in the design of the subprojects must be fully identified. If the subprojects of the Master Project have a cumulative negative water quality impact in a particular portion of a watershed, the Master Project must include separate water quality mitigation measures to offset that impact, in addition to habitat mitigation.

The PEIR asserts that removing soil and vegetation will, in itself, result in an improvement to water quality. It offers no information to substantiate that unlikely assertion. Overwhelming information shows that vegetation and the soil around its roots trap and break down large amounts of contaminants.

We do agree that, for many lined channels, a program of removing some vegetation and soil each year, while leaving a strategic portion of the vegetation to absorb contaminants and collect sediments, may well be an effective approach. But doing so will require careful design, analysis, and tradeoff at the Programmatic level and the Project level. This PEIR alludes to that possibility, but does not provide the process or the program-level analysis to implement such an approach.

EROSION INDUCING IMPACT OF CHANNEL CLEARING NOT AVOIDED OR MITIGATED

It is well known that removing vegetation from unpaved channels often causes the channel bottoms to erode. That erosion can result in deeply incised channel bottoms which are safety risks, can collapse stream banks, can risk infrastructure such as wastewater pipes and headwalls, and can threaten adjacent streets, homes, and businesses. There are examples all

over San Diego of deeply incised erosion in stormwater fed streams where vegetation has been removed or has eroded away. This issue is not addressed in the PEIR, nor does it provide measures to manage, avoid, or mitigate the problem.

The soils that are eroded from these newly unvegetated channels can be deposited downstream in biologically sensitive areas causing significant loss of habitat value. It can also clog downstream culverts causing flooding downstream. This potential downstream impact of channel maintenance has not been seriously addressed in the PEIR. Although strategic partial clearing is briefly mentioned in the PEIR it is not identified as a serious alternative of the Program. We urge that the PEIR be revised to seriously evaluate and avoid the degradation of channels by erosion and the downstream impacts of the resulting sedimentation.

PEIR DOES NOT ADDRESS THE POTENTIAL INCREASES IN DOWNSTREAM FLOOD RISK THAT CLEARING WATERWAYS MIGHT PRODUCE

Several areas near the bottom of watersheds are vulnerable to flooding such as Ocean Beach, northeast Pacific Beach, the west end of Chollas Creek, Sorrento Valley, Nestor, etc. Eliminating the vegetation in upstream stormwater conveyances will tend to mean that the stormwater from the watershed will converge on these lower areas more quickly and increase the flood risk there. This poses a risk that the City will need to channelize these areas even more than they are now. The permit does not provide any information about the likelihood of the project increasing flood risk in certain areas and possibly requiring additional channelization to carry that additional flow in the lower reaches of some of the watersheds.

PEIR DOES NOT INCLUDE PROACTIVE MEASURES TO REDUCE THE NEED FOR FUTURE CHANNEL MAINTENANCE

The channel maintenance proposed in this program is very costly and will result in significant environmental loss in most cases. Since this is a 20-year Program it should include measures to reduce the need for future maintenance and thereby reducing the environmental impact. Incorporating sediment and trash traps in catchment basins and other locations upstream from creeks and channels would significantly reduce the need for and the impact of future channel maintenance and would reduce future flood risk as well as improve habitat and water quality. The PEIR does not address this proactive method for protecting streams and channels from future obstruction. This is another example of the PEIR's lack of a programmatic approach, which should be corrected before a Final PEIR is produced.

LESS ENVIRONMENTALLY DAMAGING ALTERNATIVES ARE NOT INCORPORATED IN THE PROGRAM

There are many ways to improve the peak water carrying capacity of a watershed. They could have less environmental impact than removing all the vegetation. None of these alternatives are identified or evaluated in this application even though "avoidance" is the first step of the Clean Water Act permitting process. The locations in which alternatives might fulfill the flood avoidance objectives are not identified. A few of these less damaging alternatives that should have been evaluated will be described in the following paragraphs.

Examples of more benign alternatives that should be seriously evaluated for each channel segment are:

- partial removal of soils and vegetation vs. complete removal,
- removal of invasive vegetation and sediments leaving native wetland and riparian vegetation where possible,
- constructing retention basins above the constricted channels to reduce peak flows,

- implementing Low Impact Development measures to reduce peak flows,
- capturing sediments and trash before they enter the storm water system,
- widening streams or channels to increase carrying capacity,
- constructing bypass culverts that would reduce the high flow volume of the segment,
- reconstructing parallel waterways to reduce the load on segments that are at risk, and,
- removing developments from flood prone areas.

Many of these alternatives will be discussed in more detail in later paragraphs.

The “Avoidance and Minimization” heading on Page 13 of the Public Notice casually states that some of these alternatives will be incorporated in the project, but no specifics are provided, and none of the rest of the document reflects that they have been adequately evaluated.

Appendix C of the PEIR includes a high level discussion of some of the alternatives, on pages 71 through 73, but the process of conducting a meaningful analysis of all the potential environmentally superior alternatives in the design of each segment is not specified in the analysis and design steps of the program.

Many of the potentially environmentally superior alternatives are not mentioned at all since this PEIR is focused purely on channel maintenance. Many of the most promising flood management measures that should be considered are outside of channel maintenance. This program and this PEIR need to be refocused on flood damage reduction, not just channel maintenance.

ALTERNATIVES: REDUCING LEVEL OF CLEARANCE TO THAT WHICH IS SPECIFICALLY NEEDED FOR EACH CHANNEL

The program intends to remove all vegetation for the identified channels, or possibly all of the vegetation on the bottom of the channels. The City has not presented any information about what level of vegetation each channel was designed to accommodate. They assume that it is zero in spite of normal engineering practice. The City has also not presented any information about the needed water carrying capacity of each channel. They clearly cannot evaluate how much clearance is needed to accommodate that flow. The City is assuming that the channels must all be fully cleared with no analysis of a less damaging alternative level of clearance for each channel segment. They have provided no evidence to support that questionable assumption.

ALTERNATIVES: IMPROVING STORMWATER RETENTION WITHIN WATERSHEDS

The City of San Diego and the Regional Water Quality Control Board encourage the implementation of Low Impact Development (LID) for retention of Stormwater within developments for water quality reasons. The PEIR does not address accelerating the LID type improvements to reduce peak stormwater flows and thus reduce the need for wholesale channel clearing. This approach is being used for improving flood control in the Los Angeles River.

ALTERNATIVES: WIDENING FLOOD CONVEYANCES SO MORE VEGETATION COULD BE RETAINED

There are many areas where natural streams could be widened so that a higher level of vegetation could be allowed and still prevent flooding. Doing this would improve water quality and habitat value. The additional wetland area of the expanded channel could mitigate the loss of water quality and habitat value in other segments of the project.

Appendix C of the PEIR provides some high level discussion of this alternative, but assumes that the vegetation in the channel would have to be removed as part of the channel widening. As a result the widening would have the same short term impact as channel clearance. But, removal of the vast majority of the existing vegetation would not be necessary, so the impacts and the mitigation required could be considerably less.

ALTERNATIVES: ADDITIONAL CONVEYANCES TO REDUCE LOAD ON EXISTING CHANNELS

The project does not identify where additional creeks, channels, or culverts could be constructed to reduce the capacity needed for existing waterways so more vegetation could be safely left in place.

ALTERNATIVES: STORMWATER RETENTION BASINS

It is common to construct stormwater retention basins in watersheds to manage and reduce peak flows to avoid flooding while preserving the health of the watershed. This project does not identify opportunities to construct retention basins as an alternative to the need for wholesale removal of vegetation from conveyances

ALTERNATIVES, RELOCATING FLOOD PRONE DEVELOPMENT

It is common and often cost/effective in the long run to relocate flood prone development to safer areas rather than to increase flood control measures to the detriment of the watershed. It is very likely that there are some locations for which relocation would be the best solution environmentally, and possibly economically and for public safety. Relocation of developments has been recommended for homes and stables in the Tijuana River Valley. It is likely that it would have value in other flood prone areas. This project does not address or analyze this alternative.

ALTERNATIVES, PARTIAL REMOVAL

Many channels can be partially cleared in ways that incrementally remove vegetation so the runoff is always exposed to significant portions of soil, roots, and vegetation, but at lower heights and/or occupied with vegetation that bend to accommodate flood flows. One way to do this is to clear alternating cells along the channels and leave vegetation in the remaining cells. At the next maintenance period, the opposite cells would be cleared. That way a significant amount of soil and vegetation is always in the channel, while the channel roughness is dramatically reduced and channel capacity is largely restored. This technique was implemented successfully for many years at Channel Segment 83, Famosa Boulevard and Valeta Street, by the Streets Department. The technique has not been evaluated in this PEIR, but might be in the annual project level analysis. The PEIR needs to identify benign alternatives that should be considered in the annual analysis. Otherwise the PEIR is not really providing a context for the Project level environmental review process. If the PEIR does not provide such a framework, Projects should continue to be analyzed on a case by case basis.

ALTERNATIVE: FOR SENSITIVE SEGMENTS, REDUCE FLOW IMPEDANCE IN A DOWNSTREAM SEGMENT INSTEAD

It is very likely that there are some waterways in which a segment contains healthy levels of wetland or riparian habitat that is upstream of an area that is obstructed by non-natives or invasives. In such cases removing the non-natives downstream will substantially improve the capacity of the upstream portion with no or little removal of the sensitive wetland or riparian vegetation. The PEIR should acknowledge this possibility and identify and evaluate segments in which this alternative might be employed to avoid environmental impacts.

ALTERNATIVE: DISTINGUISHING BETWEEN NATIVE VEGETATION AND INVASIVE VEGETATION

Some of our stormwater conveyances are obstructed with non-native, invasive vegetation that have limited value for local wildlife, are known to aggressively displace native vegetation, and tend to have severe flood risk impacts. These include species such as Arundo, Pampas Grass, Brazilian Pepper, Myoporum, Tamarisk, Castor bean, etc. Such cases should be approached in a completely different manner. Mitigation elsewhere should not necessarily be required, but the segment should be revegetated with low growing and low resistance native wetland or riparian plants to provide the environmental benefits mentioned above while dramatically reducing impedance to flood flows.

Many of our conveyances contain vegetation that is very important and productive environmentally such as bulrush, cattails, willows, mulefat, etc. Some of the conveyances even contain brackish and saltmarsh species which are even more important to protect. The conveyances that contain native wetland and riparian species should be identified in the PEIR and handled in a much more protective manner than those that are dominated by invasives. Measures that avoid or minimize removal should be fully explored for these segments.

There will be some segments that contain a mix of invasive and native vegetation. The project should seriously consider thoroughly removing the invasives and leaving the natives and enough soil for them to survive as a means to reduce the flood risk.

ADEQUACY OF HYDROLOGICAL DATA

It is important that hydrologic data be reasonable accurate and current to evaluate the suitability of alternatives. I have been told that FEMA data will be used instead of updated hydrological studies. It is likely that current hydrological studies would be far more accurate and more appropriate for the analysis needed to evaluate any alternative approaches. We urge that the PEIR provide information to show whether or not the flow data used to evaluate the need for clearing and the suitability of various alternatives is adequate.

ACCESS, HAULING, AND STAGING, A SIGNIFICANT IMPACT NOT IDENTIFIED AND NOT MITIGATED

Many of the segments to be maintained are difficult to get to, to haul vegetation and soil out of, and to stage equipment and materials near. In many cases construction of access roads and staging areas will cause a significant environmental impact. These may impact wetlands, riparian habitat, or sensitive uplands. In some cases the access and staging may result in more impact than the channel maintenance itself. The impacts can include:

- loss of habitat,
- road kill,
- disturbance of animals,
- soil compaction making future habitat recovery or restoration unlikely,
- introduction of non-native and invasive plant species,
- increase in erosion, and
- increased access for future inappropriate uses.

The PEIR does not address the impacts that will result from access, hauling, and staging. Selecting a more benign flood avoidance measure at a site might also avoid substantial access and staging impact. Therefore the impacts of access, hauling, and staging need to be identified and be treated as a major determinant of what alternative is appropriate for a particular

segment. But, the PEIR does not identify these impacts, does not require that they be considered in tradeoffs leading to Individual Maintenance Plans, and does not identify mitigation to offset them.

This is a major deficiency in this PEIR and must be resolved before it is certified.

SPECIFIC DEFICIENCY OF THE PEIR, LENGTHS OF EACH SEGMENT NOT SPECIFIED

Table 3.1 identifies the over 173 conveyance segments that were addressed in the PEIR. It defines the width of each segment, but it does not identify the length of each. It is important that a reader be informed of the length of each segment for programmatic and project level reasons. In the large scale, a reader should be able to find the lengths to assess impact areas, disruption of habitat continuity, suitability of alternative approaches, etc. On a project level approach a reader needs to be able to know the extent of the impact on a specific segment that the reader is concerned about to write informed comments and to inform decision makers. We strongly urge that the length of each identified segment to be maintained be listed as well as the width in the draft PEIR and the comment period extended to allow reviewers to use this information.

SPECIFIC DEFICIENCY OF THE PEIR, NO LEGEND ON TABLE 3-1

Table 3-1 lists all the segment map numbers, the width of the disturbance, and the "Type" and "Maintenance measure" for each. However the PEIR does not include a key that identifies the code used in the latter two columns. Thus the reader is not able to infer either of these two important parameters. Also the length of each segment and the length of the segment for which clearance is planned should be included on this list. We were provided with the code for the two columns on August 18 after we requested it. But other readers have had to review the PEIR without this information. We urge that this information be provided and the deadline for comments be extended to allow readers to use this information.

MITIGATION IS INADEQUATE

We are concerned that the mitigation being offered will not offset the habitat, habitat connectivity, or water quality impacts of the project. We do appreciate that the City is generally offering to do mitigation in problem areas of each HU, except for the Pueblo San Diego HU. But, with the TMDL and quality of life problems in the Chollas Creek HU, we strongly urge that any needed mitigation be done within that HU. It has a lot of very good areas for mitigation. We agree with the "Army Corps Mitigation Disclaimer" that the City's mitigation is not adequate.

Each of the Hydrographic Units (HUs) discussed has ample opportunities for mitigation projects, except maybe for Pueblo San Diego. These mitigation projects can be coordinated with other mitigation and restoration needs within that HU to provide comprehensive mitigation projects. We urge that the mitigation not be moved to offsite upstream mitigation sites that will not offset the natural functions and values being lost, especially habitat value and water quality value.

MITIGATION SHOULD BE SUPPORTED FOR AS LONG AS THE MAINTENANCE WILL OCCUR

We are very concerned with the proposal that for infrequent clearing, mitigation will consist of only removing non-natives and keeping the area clear for two years. Such mitigation is essentially meaningless. After the two years is over the invasives will return by the same means that they got there in the first place and nothing will be accomplished. The mitigation should be maintained as long as the channel maintenance will occur.

The cumulative treatment of mitigation discussed on page 12 is essentially an incremental mitigation bank. The mitigation for the frequently maintained channels should be maintained in perpetuity as any mitigation bank is.

MITIGATION, WATER QUALITY

No mitigation is proposed for the water quality impacts of removing these miles of vegetation that provide natural water quality filters. The project must identify what increase in pollution will reach receiving waters and provide measures to fully offset that increase. Even if off-site mitigation for the wetland impacts is allowed, the city must provide additional on-site mitigation for the loss of the water quality improvement that the vegetation would have provided had it not been removed. Our region's waterways and receiving waters are too badly degraded already. This project must not be permitted in a way that will make it worse.

TRANSPARENT YEAR TO YEAR REPORTING AND DECISION-MAKING

The annual information for each Individual Maintenance Plan for the coming year should be presented to the public in writing and in time that the public can have some real impact on the design and selection. This information should at least include:

- what waterways will be cleared and the dimensions and degree of clearance,
- the current state of the waterways to be cleared
- why were those waterways selected,
- what the target storm flow will be in that segment,
- what the segment is capable of carrying in its current state and after the proposed clearing,
- what other alternatives have been analyzed for each and why they were rejected,
- what the environmental impacts are anticipated for each, including water quality, habitat, and downstream flood risk,
- how will access be provided for each segment and what impacts will result from that, and,
- what mitigation is being proposed?

This information would be analogous to that provided for the public by the Wastewater Department when preparing for Canyon Sewer Access projects.

The annual report should also cover the results of the projects that were implemented in the previous years including:

- what projects have been completed,
- what projects are still underway,
- what impacts have resulted,
- what unintended consequences have been observed,
- what mitigation has been implemented and how successful is it,
- what mitigation has not yet been completed,
- what water quality measures have been implemented to offset the flood control measures, and
- what water quality impacts have been identified that may have resulted from each project?

The PEIR should specify this public information process. It should also define how the project and mitigation problems from the previous projects will be corrected and how they will be used to prevent deficiencies in the projects of the upcoming years. The PEIR should state that this corrective feedback process should be a part of each year's report.

ARUNDO REMOVAL PROTOCOL

Arundo removal is mentioned on page 14. New research on the removal of Arundo makes it clear that Arundo is spread by bulldozers and other earthmovers. In order to combat this, Arundo clumps should be sprayed with herbicide before, during, and/or after earthmoving activities. Also all plant debris that is removed from the site should be treated appropriately to prevent the spread of Arundo. Finally, after the mechanical removal all remaining Arundo material, particularly rhizomes, must be picked up and removed. Otherwise the removal operation will simply spread more Arundo into more waterways, increasing flood risk. The procedure and the rationale are fully explained in a paper by Dr. John Boland (2008), a local expert in wetland ecology (see citation below). Much of the Arundo infestation that is causing our current flood control risk has been exacerbated by previous inappropriate removal protocols. We urge that the protocol identified by Dr. Boland be fully implemented in this program..

This protocol and the strategy in the next heading are relevant when Arundo is removed from waterways for flood protection and when Arundo removal is used as mitigation for impacts elsewhere.

ARUNDO REMOVAL STRATEGY

The Public Notice, on page 14, states that invasive removal mitigation will be done from the top of a watershed down (the “top-down” strategy) to prevent reinvasion by the invasive plants. This strategy has been commonly applied to large Arundo removal projects but has recently been shown (by Boland 2006) to be counter-productive! This is because: (a) Arundo reinvasion via fragments of stalks is very rare; and (b) Arundo plants inside the flood zone are expanding much faster than Arundo plants outside the flood zone. Therefore, while controlling some slowly-expanding Arundo in the upper reaches, other clumps are rapidly expanding in the flood zone in the lower reaches. By the time a top-down project makes it to the coastal flood plain, it is likely that the area has been choked with Arundo, is badly degraded, and the costs of control have greatly increased.

A more productive management strategy for Arundo is to work “inside-out.” Under this strategy, treatments would be conducted within the flood zone first and then later in sites outside the flood zone, and treatments can be started anywhere within a watershed.

We urge that the PEIR specify that any project-level environmental document require that the Arundo removal protocol and strategy be based on the new information provided by Dr. Boland’s papers.

Citations:

Boland, J. M. 2008. The roles of floods and bulldozers in the break-up and dispersal of *Arundo donax* (giant reed). *Madroño* 55 (3): 216-222.

Boland, J. M. 2006. The importance of layering in the rapid spread of *Arundo donax* (giant reed). *Madroño* 53 (4): 303-312

RECOMMENDATION FOR A PARTICULAR SEGMENT: SAN DIEGO RIVER MOUTH

Segment 152 includes the portion of the San Diego River Mouth east and west of Interstate 5. The southern portion of the river bottom in this area, probably a little over one acre, is paved with a layer of cobble stone that was placed there to allow equipment to work in the river bed for infrastructure projects that were completed years ago. Only a small portion of the cobble is currently needed for access to a wastewater manhole. If that cobble were removed, it would provide multiple flood control, water quality and habitat benefits. It would lower the channel

bottom a few feet allowing more floodwater retention and flow. It would allow more marsh vegetation which would improve water quality and would provide more habitat for sensitive wildlife.

From the I-5 bridge going north the river contains very large amounts of obstructive non-native vegetation such as Brazilian Pepper, Myoporum, Arundo, palms, etc. All of these are well know for obstructing water flow in flood plains. If those invasives were removed and the native vegetation is left, the flow impedance, and the flood risk, would be substantially reduced We urge that the removal of only those non-natives be done in this area.

RECOMMENDATION FOR A PARTICULAR SEGMENT: VALETA STREET CHANNEL FEEDING FAMOSA SLOUGH:

Table 4.1-1 states that maintenance of the storm water trapezoidal channel leading into Famosa Slough is prohibited due to environmental constraints. That channel is physically isolated from the Slough so that it can be maintained by an excavator. The vegetation between the channel and the access parking lot is intentionally low to allow access by an excavator in the parking lot. The one large saltbush can be removed if needed. It is important that the channel be maintained in stages or that BMPs be implemented between the channel and the Slough to avoid unnecessary passage of sediments, trash, or contaminants.

RECOMMENDATION FOR A PARTICULAR SEGMENT: TIJUANA RIVER PILOT CHANNEL

The Tijuana River certainly has flooding problems, and removal of sediments and Arundo from the Pilot Channel, as shown in Maps 137 a, b, & c will help somewhat. But it must be remembered that this channel was not designed or permitted to prevent major floods and it has very little capacity for it. It was to allow dry weather and low intensity flows to move through the River Valley.

The reduction of flood damage was to be made by removing inappropriate and unpermitted fill from the valley. This was to include the removal of the unpermitted Brown Fill, that stops the flow under the vast majority of the Hollister Street Bridge, and the removal a few unpermitted north-south berms that were installed to protect specific properties with no regard to their impact on flooding elsewhere. None of those measures have been implemented even though they were recommended about 15 years ago when the flood damage of 1993 was still in people's minds. The plan also included the acquisition of developments that frequently flood because they are located well within the floodplain where they will flood in spite of any flood control measures. Unfortunately none of those comprehensive measures have been implemented.

We urge that this PEIR, when revised, include more systematic approaches to flood protection such as those identified in the "Tijuana River Valley, Two Alternatives Report, Flood Control and Infrastructure Study", dated November 1994. We also urge that the aforementioned report be identified in the PEIR as an important source of information on flood management for the Tijuana River Valley.

Unfortunately the City has recently terminated the stakeholder group that worked to produce that report and that have worked to keep the City and the County moving in a systematic and thoughtful manner with respect to the Tijuana River Valley.

CONCLUSION: THE STORM WATER SYSTEM MANAGEMENT PROGRAM NEEDS TO BE PART OF A COMPREHENSIVE WATERSHED IMPROVEMENT, WATER QUALITY, AND FLOOD MANAGEMENT PROGRAM

In the previous paragraphs we have suggested several structural alternatives such as retention basins, expanded streams, additional streams or channels, relocating development out of flood prone areas, focusing on removal of invasive vegetation, seeking to improve water quality as well as flood avoidance, and Low Impact Development. We strongly urge that the City consider the development of a comprehensive program to improve the functioning of each of the watersheds in ways that will resolve flood risk, water quality, habitat, habitat continuity, endangered species conservation, and in some places ground water recharge and water supply. This program addresses only one approach to one aspect of our watershed needs, and it does it in a way that will tend to set back all of the rest of them. It is clearly inappropriate.

The CEQA analysis is totally inadequate as it does not clearly identify that this program is piece-mealing the planning of our watersheds as described in the preceding paragraph. We urge that the City:

- identify its most immediate flood risk segments,
- identify the most environmentally benign way of addressing them,
- write a project level EIR for them, using data from this draft PEIR, and then
- rewrite this PEIR in a way that will resolve our many watershed problems in a comprehensive and holistic manner.

At this point, that is the only way to satisfy the letter and the intent of CEQA for this Program.

In case of questions or follow-up, I can be reached at 619-224-4591 or peugh@sandiegoaudubon.org.

Respectfully,



James A. Peugh
Conservation Committee Chair