April 15, 2010

U.S. Army Corps of Engineers,
Attn: CECW–CE, Douglas J. Wade
441 G Street, NW
Washington, DC 20314–1000

Dear Mr. Wade:

The California Department of Water Resources (DWR) and the California Department of Fish and Game (DFG) appreciate the opportunity to provide comments on the process for requesting a variance from the U.S. Army Corps of Engineers' (Corps) vegetation standards for levees and floodwalls. Our joint comment letter reflects the critical importance of coordinating public safety improvements with protection of the unique and irreplaceable fisheries and wildlife habitats associated with the Central Valley state-federal flood protection system. Although focused on the Central Valley, our comments are generally applicable to other levee systems throughout the state of California.

Our agencies value the historic collaboration we have shared with the Corps and we look forward to continuing this positive relationship. Over several decades, we have worked closely with the Corps to address flood safety and environmental issues in a balanced approach. This successful relationship is manifested in emergency levee repairs, capital improvements, operations and maintenance improvements, and is all the more notable in view of the growing framework of federal and state environmental protective laws, regulations and procedures. Most recently, these collaborative efforts led to the joint issuance, by the California Levee Roundtable (Roundtable), of the *California's Central Valley Flood System Improvement Framework* (Framework) in February 2009. This successful collaboration of local, state and federal agencies provides a balanced approach to interim levee management while the Central Valley Flood Protection Plan is being prepared.

Against this backdrop of thoughtful and strategic collaboration, the Corps' issuance of the 2009 ETL 1110-2-571, coupled with the proposed national Vegetation Variance Process (VVP), represent a major departure in both process and substance, and are a cause for grave concerns by our departments. We urge the Corps to cease implementation of this new policy and procedures and continue our successful collaboration to develop a regional variance process that serves both the Corps' and California's mutual interests.

We agree with the Corps that public safety is the highest priority in the management of the Central Valley state-federal flood protection system. Moreover, we believe that the proposed Corps vegetation policy contained in the ETL and VVP will have the unintended effect of impairing public safety primarily through several mechanisms, none of which is recognized in the ETL and VVP:

- The extremely high costs of levee construction and mitigation resulting from this policy will divert limited resources from the remediation of critical risk factors, with little or no improvement in public safety.
- Existing waterside vegetation that currently provides erosion protection and soil reinforcement would be eliminated, thus increasing the risk of waterside scour and slope failures.
- Wholesale clear cutting of established trees and other vegetation along hundreds of miles of levees may also lead to other negative effects on levee integrity.

Whereas overtopping, underseepage, through-seepage, erosion and other high-risk modes of failure are well-documented in the Central Valley, we have not seen evidence that well-managed vegetation poses significant risks. We are not aware of any levee failures in the Central Valley that were caused by woody vegetation on levees, and interim studies suggest that woody vegetation has negligible detrimental effects on levee performance as well.

When the Central Valley flood protection system was turned over to the state to operate and maintain, woody vegetation was already an integral component of the levees and channels. Thus, we believe that the Corps should make a clear distinction between existing levee systems and new federal project improvements. We accept the concept that new levees should be constructed and maintained in compliance with the ETL, but a more regionally adaptable approach that recognizes the integration of woody vegetation is imperative for existing levees.

The proposed vegetation policy will likely have devastating environmental impacts, as the remnants of the once vast riparian forests and adjacent riverine ecosystems of the Central Valley are now concentrated on the banks and levees of its flood channels. Many of California's fish and wildlife resources evolved in this complex and diverse natural community and are listed as state or federal threatened or endangered species due to the cumulative loss of habitat along riparian corridors. The proposed policy would greatly contribute to those cumulative losses and could result in the removal of mitigation vegetation planted in association with earlier flood management projects. Because of the foreseeable environmental impacts that would result from implementing the Corps' proposal, we believe there is a legal necessity for the Corps to initiate the preparation of an environmental impact statement (EIS) under the National Environmental Policy Act (NEPA), and consultation under the Endangered Species Act (ESA), to explore the full effects, including cumulative impacts, of the ETL and the VVP on the natural and human environment, including socioeconomic consequences.

The Corps ETL and VVP will inappropriately shift the burden of implementation, including environmental compliance, to state and local agencies. This represents a dramatic departure from the balanced and collaborative approach we have mutually achieved over time.

While the stated intent of the VVP is to provide a process for obtaining an exemption from the ETL's prohibition on woody vegetation, in practice the proposed requirements are so stringent and ambiguous that variances are unlikely to be issued except perhaps under specialized, local circumstances.

In cooperation with the Corps, DWR is conducting an engineering evaluation of 2,100 miles of project and appurtenant non-project levees in the Central Valley. This study is central to formulation of the Central Valley Flood Protection Plan, a system-wide approach to Central Valley levee management that recognizes the various levels of flood protection needed for urban areas, small communities, and agricultural areas, as well as the beneficial habitat and structural values provided by properly managed vegetation. As written, the Corps' vegetation policy will make it extremely difficult for the state to implement this system-wide approach by prematurely implementing rigid and uniform standards before completion of the Central Valley Flood Protection Plan.

We commend the Corps for its willingness to collaborate with state and local agencies to develop the scientific knowledge needed to better understand and quantify the benefits and risks associated with woody vegetation on levees. Rather than proceeding ahead of this research, we urge that the Corps allow the research results to inform its regulatory processes.

Our comments are discussed in greater detail in the attachment. We believe that a variance process can be attained that is practical, integrated and regionally adaptable, but not under the Corps' current implementation of new policy and procedures. To this end, we look forward to continuing our collaboration with the Corps to develop an approach to levee vegetation management that is fully responsive to public safety needs, informed by scientific research, and consistent with our mutual commitments to environmental protection and enhancement.

Sincerely,

Mark W. Cowin, Director
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cc: (See attached list.)

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ATTACHMENT TO APRIL 15, 2010 LETTER FROM CALIFORNIA DEPARTMENT OF WATER RESOURCES DIRECTOR MARK COWIN AND CALIFORNIA DEPARTMENT OF FISH AND GAME DIRECTOR JOHN MCCAMMAN

COMMENTS OF THE STATE OF CALIFORNIA, DEPARTMENT OF WATER RESOURCES AND DEPARTMENT OF FISH AND GAME ON THE "PROCESS FOR REQUESTING A VARIANCE FROM VEGETATION STANDARDS FOR LEVEES AND FLOODWALLS" AND ASSOCIATED DRAFT ENVIRONMENTAL ASSESSMENT/ FINDING OF NO SIGNIFICANT IMPACT, DOCKET NUMBER COE–2010–0007, 75 FED. REG. 6364-68.

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I. INTRODUCTION

The following comments are provided by the State of California, Department of Water Resources (DWR) and Department of Fish and Game (DFG) on the Corps of Engineers' (Corps') February 9, 2010, public notice titled a "Process for Requesting a Variance From Vegetation Standards for Levees and Floodwalls" (75 Fed.Reg. 6364-68) (Public Notice) and the Associated Draft Environmental Assessment/ Finding of No Significant Impact (EA/FONSI), Docket Number COE–2010–0007.

At the outset, we wish to emphasize that we agree with the Corps that public safety is the highest priority in the management of the Central Valley State-federal flood protection system. We also agree that a variance or similar process is needed to moderate the adverse impacts of a strict enforcement of the Corps' nationwide vegetation management policy. Our joint comments reflect the critical importance of coordinating public safety improvements with protection of the unique and irreplaceable fisheries and wildlife habitats associated with the flood protection system. Although our comments focus on the Central Valley, most are generally applicable to other levee systems throughout the State of California.

The Public Notice sets forth a draft Vegetation Variance Procedure (VVP) that would make several important proposed changes to the Corps' nationwide vegetation management program. 75 Fed.Reg. 6364. The VVP clarifies that previous actions of the Corps established **mandatory** vegetation removal requirements, in particular ETL 1110-2-571 (ETL) "Guidelines For Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams, and Appurtenant Structures" adopted April 10, 2009. The VVP would also establish significant new limitations on the availability of variances and thereby mandate removal of substantial vegetation without an opportunity for a variance in many situations.

These comments begin with an overview of the pertinent features of the Central Valley State-federal flood protection system. We next summarize the conditions faced in California and the special policy considerations that should be applied by the Corps to the management of the Central Valley State-federal flood protection system. Third is a summary of the chronology of the evolving Corps approach to vegetation on levees – from a nuanced and flexible program to one that is becoming increasingly rigid. We then discuss the legal implications of the Corps' vegetation management program, in particular the Corps' stance that full environmental evaluation under NEPA and the ESA can be avoided, or deferred from the current program development phase to the consideration of individual variances. We conclude with a discussion of additional legal, procedural and practical problems with the Corps' proposed variance approach.

II. OVERVIEW OF THE CENTRAL VALLEY STATE-FEDERAL FLOOD PROTECTION SYSTEM

The State-federal flood protection system is in California's Central Valley and is composed of many projects along the Sacramento and San Joaquin rivers and tributaries. The flood protection system has about 1,600 miles of federal project levees, 1,200 miles (148,000 acres) of designated floodways, 26 project channels covering several thousand acres, and 56 other major flood protection works including overflow weirs, flood relief structures, outfall gates, and pumping plants (see Figure 1). Over time, several multipurpose dams and reservoirs were added to the system including Shasta, Oroville, and Folsom Dams and lakes, which provide flood storage during the winters and complement the aforementioned flood protection system.

The system includes federally authorized projects in which the State participated and provided the federal government assurances of continued cooperation such as continued operations and maintenance. Projects within the system, for which the Central Valley Flood Protection Board (CVFPB; formerly the Reclamation Board) has provided the assurances of nonfederal cooperation to the United States, are considered the Central Valley State-federal flood protection system. However, the Central Valley also includes facilities where local entities gave assurances directly to the federal government and other facilities that are owned and operated by local entities.

Since the beginning of federal participation, the flood protection system has been constructed, expanded, improved, and repaired through a series of federal authorizations. Congress authorized the Sacramento River Flood Control Project (SRFCP) in 1917, and subsequent supplemental authorizations (for example Sacramento River and Major and Minor Tributaries, American River levees, etc.) have added projects to the SRFCP over the years. The San Joaquin River Flood Control Project consists of a number of separate federally authorized flood protection projects, most of which have been built since the 1940's (for example: Merced County Stream Group, Lower San Joaquin River, etc.)

The figure on the following page shows the general extent of the State-federal flood protection system levees (known as "project levees" or State Plan of Flood Control (SPFC) levees).

Figure 1
Geographic overview of SPFC (or "project") levees in the State-Federal Flood Protection System

Title 33 of the Code of Federal Regulations, Section 208.10 (33 C.F.R. § 208.10) outlines federal regulatory requirements for the operation and maintenance (O&M) of structures and facilities that comprise the Central Valley State-federal flood protection system. Standard and Supplemental O&M Manuals were prepared by the Corps, Sacramento District, for project levees and flood protection works in the Central Valley. A Standard O&M Manual was published for the Sacramento River Flood Control Project in May 1955, and for the Lower San Joaquin River Levees, Lower San Joaquin River and Tributaries Project in April 1959. The purpose of these Standard O&M Manuals is to present general information for use by local interests who maintain and operate the various geographical units comprising the Projects. Both of these manuals provide that: "brush and small trees may be retained on the waterward slope where desirable for the prevention of erosion and wave wash." "Standard Operation and Maintenance Manual for the Sacramento River Flood Control Project", prepared by the Sacramento District Corps of Engineers, May 1955, (Sacramento Manual) at page 13; "Standard Operation and Maintenance Manual for the Lower San Joaquin River Levees, Lower San Joaquin River and Tributaries Project, California", prepared by the Sacramento District Corps of Engineers, April 1959, (San Joaquin Manual) at page 12.

As construction of federally authorized project units was completed, the Corps prepared unit-specific operation manuals[1] and transferred the projects to the State. In many cases, the State officially transferred operation and maintenance responsibilities to local entities and the local entities provided assurances to the State for continued operation and maintenance.

Flood protection features for which operation and maintenance are not performed by local entities are those Sacramento River Flood Control Project (SRFCP) works maintained by DWR in accordance with Water Code §8361; and those facilities within Maintenance Areas (MA) that are maintained by DWR, with local beneficiaries paying costs under Water Code §12878. For the SRFCP, the local maintaining agency (LMA) responsibilities were set forth in Water Code §8370 with the exception of enumerated works identified under Water Code §8361 and those for which provision is made by federal law. Flood protection project responsibilities in the San Joaquin River basin are based upon assurance agreements between the Board and each LMA. Operation and maintenance responsibilities for the Central Valley State-federal flood protection system levees currently are carried out by 106 individual State and local maintaining agencies.

[1] The Corps has prepared about 118 Supplemental O&M manuals to supplement the respective Standard O&M manuals. These supplemental manuals serve as project specific guides to assist each LMA in carrying out its responsibilities for levee maintenance. Section 4 of the Standard O&M Manual and Section 2 of the supplements describe some of the standards to be met by LMAs in the performance of their routine maintenance. More detail on facilities and O&M manuals can be found in DWR's January 2010 *DRAFT State Plan of Flood Control Descriptive Document* or subsequent updates.

From California's perspective, the national levee vegetation management approach being taken by the Corps needs to account for conditions encountered in different regions. Most of the project levees in California's Central Valley are different than the great majority of project levees throughout the nation in the following respects:

- Many of the Sacramento River levees were built close together to create high river velocities that scoured away tailings from 19th century hydraulic mining. The tailings are gone and now these high velocity flows are scouring the levees and channel banks.
- Levee slopes in the Central Valley often contain brush and trees that are only small remnants of the vast riparian forests that once extended across the valley floor adjacent to the rivers – much of this vegetation provides important environmental, recreational, and cultural benefits.
- Many project levees of the Central Valley State-federal flood protection system existed before the first federal project authorization in 1917. In some cases, the levees were incorporated into the system without modification if the Corps believed they met standards existing at that time. In other cases, the Corps modified levee cross sections to meet standards.
- Trees and other woody vegetation existed on many of the levees when the Reclamation Board assumed responsibility for the levees from the Corps (see Figure 2). In addition, many levee slopes were too steep, levee erosion required ongoing maintenance, and levee under-seepage continues to be a persistent and dangerous problem.
- The State is funding levee repairs and improvements that, until recently, have been the responsibility of the federal government.

For these reasons, measures that may be relevant elsewhere in the nation are often inapplicable or even counter-productive in California. Rather than simply removing the vegetation from project levees, greater consideration needs to be given to variances that allow incorporating vegetation corridors into the Central Valley State-federal flood protection system.

Figure 2
Sacramento River levees looking towards the City of West Sacramento in 1955, prior to acceptance of the Sacramento River Flood Control System by the State of California in 1958—note mature trees along both levees.

III. THE CORPS' NEW VEGETATION POLICY FAILS TO ACCOUNT FOR ENVIRONMENTAL AND OTHER PRACTICAL CONSIDERATIONS

The following sections elaborate on the principal practical and policy considerations that set the context for consideration of the Corps' vegetation removal program and the associated VVP.

A. The Preponderance of Evidence Suggests that Well-Managed Vegetation Poses Very Little Risk to Levee Integrity in Comparison with other Well-Documented Concerns

The following is a brief summary of the evidence supporting California's experience that woody vegetation has not been demonstrated to have an adverse effect on the performance of its levees.

- **Pilot Levee Maintenance Study** (DWR, 1967). In 1967, results of a 5-year study to test alternative methods of levee maintenance were published in a Pilot Levee Maintenance Study (Davis, Ito, and Zwanch 1967). The study concluded that native riparian as well as other plant species could be maintained and propagated compatibly with the flood control function. In conjunction with the publication of this study, the Reclamation Board released a guide for encroaching vegetation on project levees that in turn was adopted by the Corps' Sacramento District and served as the basis of management actions since that time.
- **Shields Studies** (Corps, 1991-92). In 1991 the Army Corps Waterways Experiment Station and the U.S. Department of Agricultural Research Service in California, evaluated a leveed section of the Sacramento River between the Fremont and Tisdale weirs (35.6 miles of river), observed after the 1986 flood of record, and determined that damage rates for levee revetment supporting woody vegetation were lower than for un-vegetated revetments (Shields, 1991). Subsequently, the fear of potential hazards associated with the piping of water through levees via dead woody root zones was addressed with research conducted on a sandy levee near Elkhorn, California. The levee was excavated to quantitatively observe root penetration zones and "…no open voids clearly attributable to roots were observed. Roots reinforced the levee soil and increased shear resistance in a measurable manner." (Shields, Gray, 1992) (See discussion of REMR-EI-5 below).
- **Post Flood Assessment** (Corps, 1999). The Post Flood Assessment focuses on the impact of major floods in the Sacramento River and San Joaquin River basins during 1983, 1986, 1995, and 1997. The report describes system problems (including reservoir management concerns, levee failures, and extent of flooding), but only addresses vegetation in terms of how it can limit channel capacity. The Post Flood Assessment did not identify vegetation as a factor in any levee failure (http://www.spk.usace.army.mil/projects/civil/compstudy/docs/post_flood/START.pdf)

- **Sacramento and San Joaquin River Basins Comprehensive Study Interim Report** (Corps and The Reclamation Board, 2002). State and federal legislation authorized the development of comprehensive plans for flood damage reduction and ecosystem restoration along the Sacramento and San Joaquin rivers following the disastrous floods that occurred in January 1997. The authorizing legislation for the study recognizes that a durable flood system that can be effectively maintained on a long-term basis requires a design to accommodate and respect natural processes and the current benefits and uses offered by the river systems. The study strived for a comprehensive solution that avoided the single-objective approach that had placed public safety projects in gridlock (http://www.spk.usace.army.mil/projects/civil/compstudy/docs/interimreport20021220/interimrpt-cover.pdf). The Comprehensive Study concluded that: "While many people are concerned that vegetation is incompatible with a flood conveyance system, hydraulic modeling has shown how vegetation can be incorporated without adversely affecting flood stages or levee reliability" (Corps and The Reclamation Board, Comprehensive Study, 2002, page 34).
- **January 2008 High Wind Event Lessons Learned** (DWR, 2008)**.** High winds during January 2008 provided an opportunity to view wind fallen trees and root ball damage to the ground. DWR recorded fallen trees in select reaches of the Central Valley and found that the area of ground damage at a fallen tree was generally shallow and limited in extent. Comprehensive research is currently underway.
- **FloodSAFE Levee Evaluations Program** (DWR, ongoing). The California Department of Water Resources (DWR) is conducting an unprecedented evaluation of 2,100 miles Central Valley levees under the Urban and Non-Urban Levee Evaluations (ULE/NULE) Program. This mileage includes 1600 miles of Central Valley State/federal Flood Protection System levees as well as 500 miles of appurtenant non-project levees. This study is roughly 70 percent complete. In addition, the recently completed DWR Delta Risk Assessment Study (DRMS) has also evaluated more than 600 additional miles of non-project levees in the Delta. Both of these programs included a comprehensive data collection process. Historic performance data was collected from numerous sources including federal, State and local agencies. Collected data included reports, interview records, reconnaissance study reports, past maintenance records, maps, as-built records and relevant newspaper records. This comprehensive data collection effort resulted in a large amount of data that was electronically scanned and catalogued in a levee evaluation database. The database currently consists of more than 10,000 records. This data was evaluated to understand the statistical trends in levee performance data.

  An interim review of performance data was conducted to understand the significance of vegetation on levee performance. Based on this review, vegetation did not appear to have played a role in any of the 179 records

of levee breach in the Central Valley and 150 recorded breaches in the remaining Delta levees. Review of the collected data also discloses that the effects of vegetation on levee performance is of low importance: out of the 5,089 records of significant performance issues collected to date, only 8 records could be associated with levee vegetation.

- **Central Valley Flood Protection Plan** (DWR, ongoing). As part of California's FloodSAFE initiative, DWR and partners are conducting a system-wide evaluation of the flood protection system in the Central Valley, including the State-federal flood protection system. This plan will integrate public safety provisions with ecosystem protection and enchancement as well as many other factors. The plan will consider available vegetation management research, including ongoing research on the effects of levee vegetation on levee performance.

In summary, these past and ongoing important system-wide studies have not identified existing levee vegetation as a safety problem. The large cost to mitigate the widespread loss of vegetative erosion protection would detract from spending on the important risk factors, such as underseepage.

B. Vegetation Often Improves Public Safety by Reducing the Potential for Levee Erosion

Tree growth, especially on the lower portions of the levees in the native banks or waterside slope, often has beneficial effects, including the stabilization of levee materials, the reduction of erosive forces and the slowing of higher flows, which in turn encourages the deposition of sediments.

The Corps' regulations, 33 CFR, Part 208 recognize that vegetation can improve public safety by reducing the potential for levee erosion - "Where practicable, measures shall be taken to retard bank erosion by planting of willows or other suitable growth on areas riverward of the levees." This is supported by provisions of the Standard Operations and Maintenance Manuals discussed previously for the Sacramento River and San Joaquin River portions of the flood protection system.

In addition, the Corps Technical Report REMR-EI-5 (Corps, Effects of Vegetation, 1991), "The Effects of Vegetation on the Structural Integrity of Sandy Levees," reported on a field study conducted on a reach of a sandy channel levee along the Sacramento River near Elkhorn, California. The report concluded that "even low root concentrations as measured along selected transects in the sandy levee sufficed to make the slope more secure under 'worst case' scenario conditions."

C. Unless Done Properly, the Removal of Vegetation Can Threaten Public Safety

In some cases, the removal of trees may actually have a detrimental effect on the integrity of the levee unless proper engineering and costly remediation is included in the process. It may be necessary to over-excavate the levee, install sand filters to address seepage along decaying root systems, and/or construct expensive slurry walls through the center of levees. The Corps' policy provides

inadequate guidance for this element. Having hundreds of thousands of trees clear cut all at once without allowing new trees to re-colonize old root paths is a situation that could become unmanageable and lead to levee failures.

While scientific evidence is limited, much of the available information, ranging from 1880 Corps studies (Corps, 1880) of bank erosion along clear-cut banks along the Mississippi River to the aggravation of underseepage problems at a levee in East St. Louis during the 2008 Midwest floods, points to significant negative consequences associated with clear-cutting woody vegetation (Corps, Midwest Flood, 2009). Following the 2008 Midwest floods, it was found that the clearing of trees at the toe of the East St. Louis levee without treatment appeared to exacerbate a marginal underseepage problem and lead to the formation of sand boils where no sand boils had appeared previously in a much stronger flood.

During presentations at the August 2007 vegetation symposium in Sacramento (see Section 4), questions were raised regarding the economic feasibility of dealing with existing roots in the event that massive tree clearing effort actually occurred. Clearing woody vegetation, if done improperly and particularly if done en masse, could initiate a rapid decay process that might otherwise be mitigated with other biological processes. In addition, removal of woody vegetation from many sandy levees and banks would rapidly accelerate erosion over vast reaches that has been held at bay for many decades by this same vegetation.

There is also emerging research that suggests that burrowing animals prefer levees without trees present. The recent case histories of levee/canal failures or near failures due to burrowing animals all involved soil levees or embankments that were free of trees (see 2006 near failure of Chowchilla Bypass levee, CA; 2007 near failure of Pleasant Grove Creek Canal levee, CA; 2008 failure of Truckee Canal Embankment, NV; and 2008 failure of Pin Oak Levee, MO). Animal burrowing is currently being recognized as a more serious threat than previously thought to levee integrity, and it is uncertain what effects of the removal of levee vegetation may have on animal burrowing in levee systems.

D. The Economic Costs of Compliance With an Extensive Vegetation Removal Requirement Would be Substantial and Would Divert Funding From Other Important Flood Control Issues

Implementing the Corps' vegetation policy will be expensive and possibly unfeasible. Costs will be incurred for the vegetation removal itself, as well as for the associated engineering, permitting and mitigation requirements. Estimating the mitigation cost of vegetation removal is problematic since a very small remainder of riverine habitat and associated areas would be available, if at all, to mitigate the massive loss of vegetation. Moreover, the impacts to endangered species would likely result in a jeopardy biological opinion, rendering such cost estimates moot.

Nonetheless, DWR estimated the lower-bound cost of applying ETL 1110-2-571 with and without a variance to 116 Critical Levee Repairs performed during the period from 2006 to 2008. These costs were then extrapolated to the 1,600 miles of project levees. In the absence of any realistic reference, current mitigation

banking costs from the Critical Levee Repairs Program were assumed; the costs would likely be much higher.

DWR estimated the length of levees that are non-compliant with Corps' vegetation policy by analyzing aerial photographs available from various sources.

For the purposes of this cost estimate, it was assumed that all affected urban levees would be fixed in place (due to the high cost of urban right-of-way) and all non-urban affected levees would be remediated by constructing a widened levee section, sometimes referred to as an "adjacent setback levee" or "setback levee" that would allow vegetation and other encroachments to remain in place on the waterside.

To estimate costs for all 116 critical repair sites, site specific compliance estimates were prepared for both options using information for 30 critical erosion sites repaired by DWR in the Sacramento River Flood Control System and 13 PL84-99 sites in the Brannan Andrus Levee Maintenance District. Using site parameters and cost information from these 43 sites, a unit cost for a typical section representing each category was developed. This average cost of compliance for each category was then applied to all 116 critical repair sites and then extrapolated to the overall system of 1,600 miles of levees.

DWR's cost estimates considered two scenarios, one without a variance and one with a variance:

- Scenario 1 - Full compliance with the ETL was assumed, with vegetation removed for an area extending 15 feet on the waterside and landside of the main levee section. The estimated cost for extending this scenario to the overall system of 1,600 miles of project levees is $7.5 billion.
- Scenario 2 - Variance compliance assumed vegetation removal for all of the landside and the upper third of the waterside of the levee section, with the lower two-thirds of the waterside left intact with existing vegetation. The estimated cost for extending this scenario to the overall system of 1,600 miles of project levees is $6.5 billion.

Even under the lower-bound cost assumptions and the regulatory hurdles noted above, these numbers demonstrate that the costs will be very large if the ETL or VVP is implemented. These large investments would not address other far more significant levee deficiencies, such as seepage and erosion. Concentrating only on vegetation to satisfy the Corps' vegetation policy in the short-term could divert resources from other higher priority flood risk reduction efforts. Instead, risk assessments are needed so funding can be directed to the highest priority flood problems first. As an example, the entire remaining bond funds from Proposition 1E (Disaster Preparedness and Flood Prevention Bond Act of 2006) would need to be redirected to address vegetation management leaving no funding for higher priority risks.

E. Central Valley Levee Vegetation is Extensive in Area and in Ecosystem Importance

The riparian habitat, and the more restrictive shaded riverine aquatic (SRA) habitat that would need to be removed under a strict interpretation of the Corps' evolving vegetation policy has substantial environmental value, and such removal would likely need to be accompanied by extensive mitigation with significant associated costs. Key wildlife agencies, including the U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS, now commonly known as NOAA Fisheries), and the Department of Fish and Game, have expressed significant concerns over the habitat impacts that would result from the removal of vegetation, and have requested additional detail regarding a conservation strategy to compensate for those impacts. These agencies have made clear that they want the conservation strategy to minimize impacts in the first place, not just compensate for those impacts after they have occurred.

Vegetation removal under the Corps' new approach would have a devastating impact on California's riparian and adjacent riverine ecosystems. The levees that confine today's river systems in California are holding the last remnants of a once great riparian forest ecosystem that dominated the Central Valley. Many of California's fish and wildlife resources, such as Swainson's hawk and valley elderberry long-horn beetle, evolved in this complex and diverse natural community and are listed as State or federal threatened or endangered species due to the cumulative loss of habitat along riparian corridors. The habitats along these levees provide the SRA habitat necessary to support listed salmonids, such as winter-run and spring-run Chinook, and Central Valley steelhead. In addition, the Central Valley and Delta SRA habitats provide the critical rearing area for one of the last remaining commercial salmon stocks in California, the Central Valley fall-run Chinook. Other species that may be affected include the delta smelt, Valley elderberry longhorn beetle (VELB), late fall-run Chinook salmon, southern distinct population segment of the North American green sturgeon, long-fin smelt, giant garter snake, riparian brush rabbit, Swainson's hawk, and burrowing owl. Broad environmental consequences of removing riparian vegetation include real declines in available habitat and potential increase in petitions to list species under the State and federal Endangered Species Act that depend on the habitats along these levees. Indeed, the Corps' variance policy puts at risk habitat recently required as mitigation due to work on levees recently repaired under the federal Sacramento Bank Protection Project, Public Law 84-99, and California's Emergency Levee Repair Program. Given the sheer scale of the environmental impact that would result from the wholesale removal of vegetation under the Corps' Policy, the availability of adequate mitigation to compensate for these losses is at best questionable and extremely expensive, adding to the costs to be incurred.

F. Historically, the Corps has Allowed and Encouraged the Presence of Vegetation on Levees

The Central Valley State-federal flood protection system is a legacy system that has contained levee vegetation throughout its life. Over the years, the Corps and

the State had reached an agreement on how trees and other vegetation can co-exist with public safety function of levees in the Central Valley. This understanding was based upon on-the-ground experience with regional and site specific vegetation, climate, and flood conditions. As recognized in a September 22, 2007 *Sacramento Bee* article: "For decades, the Army Corps allowed trees and large shrubs on Central Valley levees -- and even encouraged planting more. They did so in cooperation with wildlife agencies because there is almost no other riverbank habitat left." See discussion above on vegetation allowed by the Standard Operation and Maintenance Manuals.

For many decades, the Corps' historic approach to vegetation on levees, particularly in California, has been to encourage such vegetation wherever feasible. As recognized in the April 2007 White Paper, "USACE guidance as far back as 1971 recognizes beneficial aspects as simple as ground cover protecting slopes from rain-induced surface erosion, and strategic plantings for aesthetics. Current guidance promotes vegetation in the floodway to provide habitat and protection for fish and wildlife species as long as it balances impacts on channel capacity, minimizes possible build-up of debris, and does not cause additional flooding" (White Paper, April 2007, page 8).[2]

The Corps recognizes, as a "key finding" in the April 2007 White Paper, that: "Until recently, some Districts did not identify large trees on levees as an issue for correction; therefore, sponsors did not remove trees. In addition, there are instances where Districts permitted vegetation as mitigation solutions and instances where sponsors did not maintain the mitigation in accordance with agreements" (White Paper, April 2007, page 20).

The critical sites repaired by the Corps and DWR since 2006 under the Sacramento River Bank Protection Project, the PL 84-99 Rehabilitation Assistance program and the California Critical Repairs program provided for new plantings on the water and landside to mitigate for the loss of shade and habitat

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[2] Similarly, in a September 21, 1972 letter to Congress from the Corps' Chief of Engineers regarding pending legislation to authorize additional remedial bank protection work in the Sacramento River basin, the Corps indicated:

> 43. Standards of Design. -- Design of the second phase bank protection program is based on adopted standards and criteria, and typical sections are shown on plate III. The bank protection work would generally follow procedures and standards developed and currently used in the initial phase bank protection program. **Efforts will be made to preserve and enhance environmental values** by protecting and stabilizing eroding berm areas before berms are completely lost and the threat to levee safety becomes critical, **by preserving riparian vegetation on berms**, and by restoring or stabilizing eroded berm areas where feasible.
>
> * * *
>
> 45. . . . **Existing vegetation would be preserved at the work sites where feasible, and appropriate replanting would be made to restore to the maximum practical extent the natural riparian environment.**
>
> (Emphasis Added).

affected by the repair. Almost all of the mitigation was onsite. Wherever possible, planting berms were constructed to accommodate new vegetation and in-stream woody materials for shade. In addition, off-site mitigation was provided for construction during winter and transplanting of elderberry bushes (habitat for VELB), which were removed to facilitate construction.

The Corps' characterization of the levee vegetation issue as "deferred maintenance" fails to recognize the extensive "legacy vegetation" in place at the time of system turnover in 1955, followed by the Corps' close cooperation with the State of California and local maintaining agencies over the past half-century in levee inspections, permitting, and construction of on-site riverine mitigation as part of Corps-managed construction projects. These facts argue for shared responsibility for any vegetation that needs to be removed as a result of the Corps' new approach.

Several successful examples exist in California that integrate levee improvement and maintenance, vegetation management for floodway conveyance and inspection purposes, regional conditions, the needs of several stakeholders, and potential impacts to species and habitats. These include, but are not limited to, the Levee Subventions Program (Assembly Bill 1803), American River Parkway Ecosystem Restoration Master Plan, the Sacramento River Conservation Area Forum, the San Joaquin River Restoration Plan and the CALFED Multi-Species Conservation Strategy. The Corps is a signatory to some of these plans and the Corps new policy would create conflicts with these efforts.

G. Further Research is Needed so the Best Available Science can Inform Maintenance Practices Before Significant Changes in those Practices are Mandated by the Corps

Further research needs to be done so that the best available science can inform the Corps' decision on its vegetation policy. The Corps has stated that its levee vegetation policy has been peer-reviewed, but ignores that this peer review resulted in significant concerns, including the lack of supporting research. Specifically, the 2008 Battelle peer review had criticisms of the policy and included the following comments rated as having a "high" significance in the peer review:

- Comment 4: "The policies and guidance lack scientific foundation, as evidenced by broad anecdotal assumptions and the lack of non-USACE literature citations. …The effects of regional differences in soils, plant species, and climate are not addressed … ETL1110-2-571 does not address the erosion control value of vegetation on levees. …The growth characteristics of roots vary substantially by plant species and regional growing conditions, yet policies and guidance are apparently based upon broad, general, and homogenous assumptions. … Plant roots serving as agents of piping levee soil is unproven and requires specific research per plant type. …The document is from the single perspective that vegetation on levees is bad and should be removed. Some vegetation may help stabilize the levee's structure."

- Comment 2: "One region's experience seems to be the basis for national policy and guidance, specifically with regard to the root-free zone, maintenance of flood damage reduction systems (FDRS), definition of unwanted vegetation, and removal of vegetation. …The environment and maintenance vary substantially among regions. … Regional differences must be considered in determining whether vegetation is undesirable or contributes to the preservation of natural resources. …FDRS using levees are often in less developed areas, near valuable habitat for sensitive species. The panel agrees that the overriding mission is flood protection, but care and consideration should be taken in removing vegetation that contributes to these habitats."

Battelle Memorial Institute, December 2008. "Revised Final Independent Peer Review for U.S. Army Corps of Engineers Vegetation Policy for Local Flood Damage Reduction Systems" (Battelle Peer Review, 2008) at A-5-7, 10-12.

Given these peer review comments, a more flexible policy recognizing regional differences and potential benefits of waterside vegetation could be developed. Since the science supporting the policy is incomplete, a more appropriate management approach would be to defer policy implementation until ongoing research provides guidance to both general and regional approaches. The policy should also consider other measures such as thinning and trimming where mature vegetation and habitat have become established. This would help recognize the differences between new levee design and managing existing levees once vegetation has been established. It would also demonstrate a balanced approach between levee and resource management.

The agencies of the California Levees Roundtable are conducting research that will determine the extent that woody vegetation, such as trees, impacts the safety of levees in California's Central Valley. These studies include a national program implemented by Corps as well as a parallel and complementary effort initiated in California referred to as the California Levee Vegetation Research Program (CLVRP). This research also informs the FloodSAFE Levee Evaluations Program, which is evaluating and prioritizing all geotechnical factors that impact the safety and performance of Central Valley levees.

The goal of the CLVRP is to collaboratively pursue objective research, using the scientific method, to create new knowledge or correct and integrate previous knowledge regarding levee vegetation. Research results will contribute to the scientific foundation for future policy about the management of vegetation on levees in California.

The Roundtable agencies sponsoring the CLVRP include NOAA Fisheries, USFWS, DWR, DFG, CVFPB, Sacramento Area Flood Control Agency (SAFCA), and Central Valley Reclamation Districts. Funding and project management for the CLVRP are primarily provided by DWR and SAFCA. CLVRP researchers include scientists from the Davis and Berkeley campuses of the University of California and from the University of Georgia, as well as a team of expert consultants in the fields of engineering and plant sciences.

The CLVRP studies address:

- Tree root architecture
- Susceptibility of trees on or near levees to windthrow
- Tree roots and the potential for seepage and piping through levees
- Slope stability
- Habitat use by burrowing rodents on levees
- Forensics of past levee failures in California

The Corps' Engineer Research and Development Center (ERDC) was charged with implementing the national levee vegetation research sponsored by the Corps. ERDC and the CLVRP have been collaboratively coordinating their research efforts. The Corps committed to mutual peer review at key milestones throughout the research process, conducting joint fieldwork in California, and mutual input on data analysis and reporting of results. However, the budget and timeframe for the ERDC research is so limited that conclusive, peer reviewed results are unlikely. Moreover, the Corps revised their vegetation policy without the benefit of even these interim research results.

Further, as part of California's FloodSAFE initiative, DWR and partners are conducting a system-wide evaluation of the flood protection system in the Central Valley, including the Central Valley State-federal flood protection system. Ongoing research on the effects of levee vegetation on levee performance will be incorporated into the Central Valley Flood Protection Plan.

Practical ways to mitigate the Corps' concerns about woody vegetation on levees could be employed. For example, inspection and flood fighting can be facilitated by trimming the lower branches from existing trees. Life-cycle management of trees could be employed using increased monitoring and maintenance. Levee penetrations by decayed roots can be mitigated by removing dying and dead trees, with proper excavation and re-compaction or other engineering solutions.

In addition, the risk of erosion and scour failure due to tree fall can be successfully mitigated by combining soil, vegetation, and revetment stone into an integrated system that is erosion resistant and more stable than stone or grass-covered soil alone. DWR's decades of flood fighting experience shows that where an adequate depth of stone cover is available around waterside trees, the stones will typically slide into the hole created by a tree fall, thus mitigating erosion risk. The Corps incorporated the same design concept into the American River erosion protection features, which were installed in 2004 by designing a "launchable toe" consisting of a mass of stones buried at the base of the waterside slope of the levee, which is designed to fall into, and seal any scour hole which might develop during a major flood (American River Common Features Project).

California believes that the Corps should not require implementation of its vegetation policy until the policy can be collaboratively reconsidered given the

benefit of further scientific research, especially given the expensive and environmentally damaging nature of the policy.

IV. THE CHRONOLOGY OF THE CORPS' EVOLVING VEGETATION MANAGEMENT POLICY REFLECTS A MAJOR NEW PROGRAMMATIC INITIATIVE

To provide the background for the discussion that follows, and to place the Public Notice and EA/FONSI in context, these comments next describe the chronology of events pertinent to the evolution of the Corps' vegetation policy. The Corps has generally portrayed its vegetation policy as the same as older policies. However, the chronology demonstrates that the Corps vegetation policy has evolved from a more flexible form to a more rigid form, which is a significant shift in requirements for levee maintaining agencies.

A. The Water Resources Development Act (WRDA) Of 1996

Under the authority of the Water Resources Development Act (WRDA) of 1996, the Corps established mandatory vegetation management standards for levees, floodwalls, and appurtenant structures. Section 202(g) of the Water Resources Development Act of 1996 directs the Corps to also provide a coherent and coordinated policy for vegetation management for levees that allows for regional variations in levee management and resource needs. Variances from the vegetation management policies may be granted if such variances are necessary to preserve, protect, and enhance natural resources or protect the rights of Native Americans, provided that the vegetation allowed to remain does not compromise the safety, structural integrity and functionality of the levee or frustrate accessibility for maintenance, inspection monitoring, and flood-fighting.

B. The 2000-2001 Draft USFWS and NOAA Fisheries Jeopardy Opinions and Establishment of the Interagency Collaborative

Expressing concerns over the relative lack of habitat features included in Sacramento River Bank Protection Project (SRBPP) repairs, the USFWS and NOAA Fisheries issued draft Biological Opinions for the project in November 2000 and February 2001, respectively. Of the species addressed in those opinions, the project was identified as jeopardizing the existence of five fish species (Sacramento splittail, delta smelt, winter-run and spring-run Chinook salmon, and steelhead). A particular concern expressed by USFWS and NOAA Fisheries was the general lack of habitat-improving vegetation included in the repair designs. Upon receipt of assurances that the repairs would include such vegetation, among other factors, "no jeopardy" opinions were issued in August and September of 2001.

Subsequently, the Corps convened the Sacramento River Bank Protection Interagency Working Group (IWG) to reconcile needs for continued bank protection with the impacts identified in the Biological Opinions. The resulting collaborative process includes DWR, the Corps, USFWS, NOAA Fisheries, State Water Resources Control Board (SWRCB), DFG, and other flood control agencies and stakeholders. The collaborative worked to coordinate and

streamline the planning and permitting of flood control activities. The IWG was successful during the repair of critical levee erosion sites, and the partners intend to continue working together to encourage flood control projects that can proceed quickly and effectively, in part by streamlining and coordinating regulation and by avoiding unnecessary environmental damage.[3]

C. The September 2001 Issuance of ER 500-1-1 and EP 500-1-1

On September 30, 2001, the Corps issued Engineering Regulation 500-1-1 (ER 500-1-1), and Engineering Pamphlet 500-1-1 (EP 500-1-1), addressing requirements under the Corps Rehabilitation and Inspection Program (RIP). ER 500-1-1 and EP 500-1-1 address a range of issues to be considered in the implementation of the PL 84-99 program. As pertinent to the Public Notice, Paragraph 5-22 of the Corps ER 500-1-1 allows a public sponsor of a flood control levee to seek a variance from standing Corps vegetation policy. This allows additional vegetation to grow on levees when such vegetation would preserve, protect, and/or enhance natural resources, and/or protect rights of Native Americans, while maintaining the safety, structural integrity, and functionality of the levee. The vegetated levee must retain accessibility for inspection and flood fighting purposes, and not allow the level of protection to fall below the minimum permissible for PL 84-99 acceptability, or for levee certification under the National Flood Insurance Program. (http://140.194.76.129/publications/eng-regs/er500-1-1/toc.htm).

Under EP 500-1-1, "[t]he use of Regional Variance Agreements (RVA) is encouraged … RVA's are intended to simplify the regional variance process and be a cost-saving measure…" EP 500-1-1 at E-1.

D. The April 2007 "White Paper"

On April 20, 2007, the Corps released a "Final Draft White Paper," *Treatment of Vegetation within Local Flood Damage Reduction Systems* (see http://www.familywateralliance.com/pdf/ACOE_Standards.pdf). The draft White Paper would call for the removal of wild growth, trees, and other encroachments that might impair levee integrity or flood fighting access in order to reduce the risk of flood damage. The policy would only allow a minimal number of trees smaller than 2 inches in diameter. The Corps proposes that levees which fail to meet

[3] A key product of the IWG was the development of a model, known as the Standardized Assessment Methodology (SAM) that evaluates repair project effects on listed fish species. (See description at http://www.stillwatersci.com/resources/sam_factsheet.pdf). Key inputs to the SAM include the vegetation projected to be incorporated into the subject repairs. The SAM methodology was integrated into the biological opinions supporting the issuance of federal permits during the Governor's declaration of emergency in 2006. USFWS, April 2007, "Endangered Species Section 7 Consultation for the Department of Water Resources Proposed Critical Levee Erosion Repair Project, 8 Critical Erosion Sites Along the Sacramento and Bear Rivers and Sutter Slough, California." The assurance that adequate vegetation for habitat purposes would be included in the repairs gave USFWS and NOAA Fisheries the basis for issuing a "no jeopardy" opinion for the 2006 repairs, conditional upon the inclusion of such vegetation.

these existing standards be rated as unacceptable, with the consequence that they could lose eligibility for federal assistance in post-flood levee rehabilitation. This could also lead to decertification under Federal Emergency Management Agency's (FEMA) National Flood Insurance Program, and further loss of federal funds for flood control projects.

The April 2007 White Paper indicated that the Corps was in the process of developing further guidance on how to address the perceived "deficiencies" in vegetation and on the procedures for taking corrective actions. The April 2007 White Paper described the effects of vegetation on levee reliability and risk, the status of the Corps' current vegetation policy and guidance, and some of the environmental considerations relating to vegetation removal, including the need to comply with the ESA. The White Paper recognized that until recently the Corps allowed vegetation on levees, including for the purpose of fulfilling environmental mitigation requirements.

The White Paper also acknowledged that: "The policy for vegetative-free-zone is relatively new; consequently, there are systems that do not meet current guidance" (Corps, White Paper, April 2007, page 2). The White Paper pointed out that local sponsors have claimed that ESA compliance in connection with vegetation removal is the Corps' responsibility; the White Paper did not evaluate or elaborate on this claim, but it indicated the Corps' position that the responsibility for ESA compliance lies with the local sponsors. Nonetheless, the White Paper recognized a potential federal liability: "USACE should prepare itself to advise the Administration and Congress as to the costs associated with complying with the ESA for both federal and non-federal systems, and anticipate funding compensation in the form of mitigation" (Corps, White Paper, April 2007, page 3). In addition, the White Paper acknowledges that, "Clearly, in many instances, clearing vegetation could be considered adverse modification to critical habitat and possible adverse effect on listed species." (2007 White Paper, page 19)

The White Paper recommended several specific measures for maintaining vegetation on levees, and it also recommended that the Corps issue further guidance to supplement and clarify existing Corps policies. The White Paper further recommended the need for an effective communications plan, as it recognized that vegetation management and removal "can become an emotionally and politically charged issue for [Corps] districts, local sponsors, and groups promoting environmental interests" (Corps, White Paper, April 2007, page 25). Without an effective plan, the White Paper states, "countervailing public pressure will make it difficult to implement the program and achieve its goal of assuring public safety." *Id*.

In response to the White Paper, DWR objected that the Corps' policy to begin rigidly enforcing standards for inspection and maintenance of levees "would constitute a significant shift in the Corps practice in California and would have serious and adverse public safety and environmental consequences" (May 11, 2007, Letter from Leslie Harder to Paige Caldwell). From the State's perspective, "Over the years, the Corps and the State have reached an agreement on how trees and other vegetation can co-exist with public safety

function of levees in the Central Valley. This long-lived agreement would now be ignored and set aside by the new, nationwide policy." *Id.*

E. The June 2007 Interim Guidance

On June 12, 2007, the Corps issued "Interim Vegetation Guidance for Control of Vegetation on Levees" (see http://www.iwr.usace.army.mil/nfrmp/docs/InterimGuidance-VegetationonLevees.pdf). The June 2007 Interim Guidance stated that its purpose is to "address correction of vegetation deficiencies for projects currently rated unacceptable," and that it "will be used to correct existing maintenance deficiencies for unacceptable vegetation on levee and floodwall projects." The Interim Guidance set forth specific standards for addressing vegetation on levees, and it enclosed detailed Flood Damage Reduction System Inspection criteria "that will be followed when inspecting projects and correcting unacceptable conditions due to vegetation growth on levees and floodwalls."

F. Public Statements by the Corps in the Summer and Fall of 2007

Following the issuance of the April 2007 White Paper and June 2007 Interim Guidance, and in response to the resulting outcry, the Corps informally announced delays in the effectiveness of the new policy. As reported in the Sacramento Bee on July 28, 2007, following a three day tour of the California levee system, Corps National Commander Lt. Gen. Robert Van Antwerp stated that: "he intends to create a flexible levee maintenance policy that allows California levee managers to keep vegetation that now covers many levees. … 'We'll be reasonable', he said. We're going to keep public safety job one. But these are multipurpose levees in that we have habitat and endangered species, and we're concerned about that too'" ("*Corps May Leave Most Levee Habitat,"* Sacramento Bee, July, 28, 2007). Similarly, in September, 2007, the Corps announced that it had "agreed not to enforce the vegetation component of its levee maintenance rules while a new policy is developed. The decision grants a reprieve to riverbank trees that their supporters throughout the Central Valley" ("*Pact Gives a Reprieve to Valley's Levee Trees,"* Sacramento Bee, September 22, 2007).

G. August, 2007 Commencement of the Vegetation Roundtable Process

In August 2007, a partnership of federal, State and local agencies known as the California Levees Roundtable (Roundtable) was formed to address the vegetation issues affecting the project levees in the Central Valley. The Roundtable recognized that vegetation management is only one of many issues that threaten levees and broadened its scope to address many threats to levee security.

In order to learn more about how levee safety goals can be met while protecting environmental assets, the Corps, the State of California, and SAFCA sponsored a levee vegetation symposium in Sacramento on August 28-29, 2007 (see http://www.safca.org/protection/leveevegetation.html). The symposium brought together more than 500 scientists, engineers, and policy-makers who shared important information about the risks, benefits, and methods to manage

vegetation on and near levees. Although no conclusions were drawn as a result of the symposium, significant issues arose both supporting and questioning the benefit to public safety if Corps vegetation standards are strictly implemented.

Following the symposium, the "Roundtable", a group of executives representing both flood management and resource protection agencies including the Corps, DWR, the CVFPB, USFWS, NOAA Fisheries, DFG, the Central Valley Flood Control Agency, and SAFCA, met to discuss the issue. The Roundtable agencies agreed to work together to draft a phased system-wide plan, with short and long-term elements.

The Roundtable participants – including the Corps – agreed to the following principles in formulating this plan (Framework 2009, page 60):

- Providing for public safety is the top priority of all involved federal, State, and local agencies
- Achieving and maintaining levee integrity is an urgent ongoing concern that needs to be addressed as rapidly as possible
- The Corps has lead responsibility to ensure that levee maintenance standards are enforced nationwide, including the management of vegetation on levees
- Vegetation on levees can sometimes compromise levee integrity or flood-fighting access, or provide valuable erosion control, depending on vegetation type and location
- In many cases, vegetation on levees provides important economic, aesthetic, recreational, and conservation benefits to the public
- The agencies need to use the best available science when making decisions about how to improve and maintain levee integrity, including decisions regarding vegetation management[4]

The agencies further agreed:

- To work together expeditiously to develop short- and long-term plans to achieve system-wide compliance with Corps standards

[4] The State also believes that the Framework makes it clear that the Corps' vegetation policy only would be used for new levee sections, but that the "legacy levees" built immediately adjacent to California's major riverine systems present unique challenges that will likely require regional variances or other engineered alternatives (see page 5 of Framework). A long-term strategy would be developed as part of the CVFPP (see page 67 of Framework). In contrast, the Corps would now strictly apply the vegetation policy to maintenance items such as erosion repairs. This characterization of the levee vegetation issue as "deferred maintenance" fails to recognize the extensive "legacy vegetation" in place at the time of system turnover in 1955, followed by the close cooperation among the Corps and the State of California and local maintaining agencies over the past half-century in levee inspections, permitting, and construction of on-site riverine mitigation as part of Corps-managed construction projects.

- That levee deficiencies will be addressed on a priority basis, with the most urgent and cost effective actions implemented first
- The plan will seek to reconcile the management of flood risk with the conservation of natural resources without compromising public safety

Id. at 60 – 61. The Roundtable subsequently prepared the *California's Central Valley Flood System Improvement Framework* in 2009 (Framework), discussed below.

Thus, recognizing that levee vegetation is only one of many risk factors that impact the flood system, State, local, and federal agencies including the Corps collaborated to arrive at a realistic approach to the levee vegetation issue. The agencies also recognized that the California has a "legacy system" different, than other flood systems in the Nation, and that special consideration needed to be given to ensure public safety while accounting for ecosystem needs.

H. Fall 2007 Adoption of Interim Levee Vegetation Inspection Criteria by DWR

The Corps has stated that there are two reliability factors that their vegetation standards are intended to address. One is the direct impacts that vegetation could have on levees, primarily due to plant roots. The second is how vegetation can obstruct flood fighting, maintenance, and inspection activities.

In the Fall of 2007, DWR responded to the second concern expressed by the Corps by adopting interim levee vegetation inspection criteria, addressing levee visibility and resulting inspection issues presented by vegetation on levees. The resultant interim vegetation inspection criteria will be used in the short-term until it can be revised using best available science and the Corps completes its review and revision of its levee vegetation standards. The inspection criteria are aimed at improving public safety by providing visibility for inspections, eliminating vegetation conflicts and encroachments that could hamper flood fight activities, and improving access for overall maintenance.

These criteria (see Figures in Framework 2009, pages 22 and 23) apply on the entire landside slope plus a 10-foot wide easement beyond the landside toe. On the waterside, these criteria apply to vegetation on only the top 20 feet (slope length) of the levee slope. Trees within these areas must be trimmed up 5 feet above the ground (12 feet above the crown road) and thinned enough for visibility and access. Brush, weeds, or other vegetation over 12 inches high blocking visibility and access within these levee areas should be trimmed, thinned, mowed, burned, dragged, or otherwise removed in an allowed manner.[5]

[5] It was acknowledged that DWR's interim criteria do not meet federal standards. *Roundtable Framework* at 4.

I. The April 2008 Supplemental Guidance

In April, 2008, DWR was provided a draft Corps memorandum that "supplemented" the June 2007 Interim Guidance. This supplemental guidance, which apparently was not finalized or executed by the Corps, states that prior to the implementation of vegetation removal, local project sponsors will be required to comply with appropriate environmental laws and regulations. The draft supplement takes the position that participation in the Corps' rehabilitation funding program is voluntary, and that as a result, vegetation removal needed to maintain eligibility for the program is the responsibility of the local sponsor and "is not considered a federal action." The draft supplement recognizes, however, that the approval by the Corps of a local agency plan to maintain and remove vegetation "may qualify as a Federal action for purposes of the [ESA]." Thus, the draft supplement indicates that the Corps will initiate consultation under Section 7 of the ESA before approving any local vegetation plan, but takes the position that no consultation is needed: (1) presently, before variance proposals are submitted, (2) where no local plan is submitted or (3) where the Corps disapproves a local plan. Even in those cases where the Corps will initiate consultation, the draft supplement states that the local sponsor will be responsible for preparing the required environmental studies and documentation and for complying with the terms of the biological opinion.[6]

J. The Corps' January 9, 2009 Memorandum Extending PL 84-99 Eligibility for California's Central Valley

The Corps announced a delay in implementation of its vegetation policy in a January 9, 2009 Memorandum. In that memorandum, the Corps temporarily extended P.L. 84-99 eligibility for certain non-federal sponsors implementing system-wide improvements. These extensions were stated to be effective year-by-year, and were not to extend for more than four years, matching the 2012 timeline of the Framework. Although not labeled a "variance," the January 9, 2009 Corps Memorandum, as clarified in the Framework, effectively suspended strict application of the Corps' evolving vegetation management policy in California until 2012.

K. The February 2009 Roundtable Framework

On February 27, 2009 the Roundtable issued a joint collaborative document titled "California's Central Valley Flood System Improvement Framework," and agreed to continued collaboration during its implementation. See the Central Valley Flood Protection Board's website for a copy of the report: (http://www.cvfpb.ca.gov/docs/031209flood_improvement.pdf). The Framework

[6] The draft supplement also states that "project delays due to the ESA process will not be sufficient justification to extend the correction period." It is not clear what the Corps intends by this statement. Read literally, the statement suggests that the Corps takes the position that its vegetation policy trumps the requirements of the ESA (i.e. removal may be required before necessary ESA authorizations can be obtained), and therefore the Corps intends to enforce the policy even if ESA violations would result.

set forth the fundamental conclusion that: “The Roundtable recognized that vegetation management is only one of many issues that threaten levees and broadened its scope to address many threats to levee security” (Framework 2009, page 1). The Framework called for a measured approach to vegetation management to avoid potential damage to levees that could occur from wholesale tree cutting and grubbing of root systems in the short-term. The document acknowledged that all risk factors need to be considered together, emphasized the need for time to implement project changes including vegetation management, and reinforced the need to use good science. The Roundtable members agreed to continue working together during improvements to the flood protection system. The State continues to make significant progress toward the measures identified in the Framework.

The Framework also stated that regional variances were expected to be used by the State as part of the effort to meet Corps vegetation requirements and that the State planned to “develop a Multi-Species and Floodplain Conservation Strategy that will allow for levee maintenance and levee improvements while conserving and/or enhancing vital habitat and ecosystems which coexist with the flood protection system.” (Framework 2009, page 5). The application of a rigid levee vegetation policy and a VVP that precludes the use of regional variances is at odds with the Framework.

The Framework further indicated that:

> The Corps has agreed that the flood system will be allowed to remain “active” in the PL 84-99 program and will continue to receive federal levee rehabilitation assistance in the event of a flood if the State is demonstrating positive progress and meeting the milestones in achieving the Framework’s short-term goals and maintenance objectives. This PL 84-99 eligibility shall be reviewed annually for renewal in accordance with Corps policy and remain in effect until 2012, at which time the eligibility criteria will be reconsidered based on the contents of the [Central Valley Floor Protection Plan]

(Framework 2009, page 4).

L. The April 2009 Guidelines (ETL 1110-2-571)

On April 10, 2009, the Corps issued its “Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams, and Appurtenant Structures” (April 2009 Guidelines or ETL) (see http://140.194.76.129/publications/eng-tech-ltrs/etl1110-2-571/toc.htm). ETL 1110-571 and the Levee Owner’s Manual provide guidelines for landscape plantings and vegetation management on levees, floodwalls, embankments dams and appurtenant structures. These standards limit uncontrolled vegetation growth (brush, weeds, or trees) to smaller than two inches in diameter. However, the guidelines allow for designs or treatments that provide for levee vegetation. In addition, regional variances can allow vegetation on some levees.

The Corps indicated in a statement of purpose that:

> This ETL provides guidelines to assure that landscape planting and vegetation management provide aesthetic and environmental benefits without compromising the reliability of levees, floodwalls, embankment dams, and appurtenant structures. It is intended as a guide for safe design and not as a restriction to the initiative of designers. **These guidelines should be used with reasonable judgment and practicality, tailored to the specific requirements and conditions of each individual project**

(Corps, Guidelines, April 2009, page 1-1, emphasis added). The guidelines further stated the policy that:

> Where the safety of the structure is not compromised, and effective surveillance, monitoring, inspection, maintenance, and flood-fighting of the facility are not adversely impacted, **appropriate landscape planting (trees, shrubs, vines, forbs, and grasses) may be incorporated into the design of all flood damage reduction projects, subject to the limitations set forth in this document**. Because landscape plantings enhance the environment, with respect to both natural systems and human use, they are to be considered in all flood damage reduction project planning and design studies and will be fully presented in design documentation reports.

(Corps, Guidelines, April 2009, page 1-3, emphasis added). Flexibility is suggested elsewhere in the April 2009 Guidelines:

> During design, an analysis shall be made of the flood damage reduction system to determine **if and where** landscape planting can be permitted. Not all projects will have a satisfactory combination of conditions to permit planting of trees, shrubs, vines, forbs, and grasses. **In some cases, only shrub planting may be feasible, while in other cases planting may be limited to grasses.** Site conditions, engineering design criteria, and operation and maintenance requirements should determine the appropriate planting scheme. However, environmental objectives shall be considered in all projects, and **the engineering design should seek to accommodate appropriate plantings**.

(Corps, Guidelines, April 2009, page 4-1, emphasis added).

The April 2009 Guidelines then proceeded to establish a broad vegetation removal requirement. Generally, in the absence of a variance, all vegetation except for certain grass species would need to be removed from a "vegetation free zone" encompassing the levee prism and a 15 foot strip on each side (Corps, Guidelines, April 2009, page 4-1). Suitable riparian vegetation such as willows would be encouraged, but only riverward of the vegetation-free zone (Corps, Guidelines, April 2009, page 2-3). At page 4-3, the April 2009 Guidelines state directly that: "**The only acceptable vegetative ground cover in the vegetation-free zone shall be perennial grasses**" (emphasis added). At page

5-1, the April 2009 Guidelines state that: "**All vegetation not in compliance with this ETL shall be removed**" (emphasis added).[7]

M. The December 22, 2009 Interim Federal Action Plan for the California Bay-Delta

On September 29, 2009, six federal agencies, including the Department of the Army, signed the California Bay-Delta Memorandum of Understanding (MOU), which established a Federal Leadership Committee to, among other things, facilitate a partnership with the State of California in addressing California's water supply and environmental challenges. Pursuant to the MOU, the signatory agencies adopted an "Interim Federal Action Plan for the California Bay Delta" on December 22, 2009 (Corps, Interim Action Plan, 2009).

Through the Interim Action Plan, the federal government reaffirmed its partnership with the State of California and local authorities, and its commitment to coordinate its actions with those of the State and local authorities (Corps, Interim Action Plan, page 4). It also reflects a federal commitment "to relying on science-based decisions in developing and implementing solutions for diverse Bay-Delta challenges, including . . . flood risk management . . . ." It further establishes as a federal priority that "agencies will work together to help . . . ensure integrated flood risk management . . . developing more holistic plans for stabilizing existing flood control infrastructure and managing flood risk" (Corps, Interim Action Plan, 2009, page 6).

Page 22 of the Interim Action Plan reflects the federal agencies' commitment to "coordinate closely with the State of California and local authorities and undertake holistic flood risk management activities to assess existing infrastructure conditions and rehabilitation needs, explore opportunities for improving operation, emphasize non-structural solution, and identify new infrastructure options for protecting Bay-Delta and Central Valley communities." Specifically, "Taking into consideration the funding recently appropriated for levee stabilization and flood protection in the State legislative package, federal and State agencies will identify a near-term process to coordinate their actions in 2010 and to maximize the projects' effectiveness and reach" (Corps, Interim Action Plan, 2009, page 23). [8]

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[7] In the past, Corps criteria have been used as general guidance for vegetation, and this has allowed more careful consideration of issues. One example is the issue of existing pipe penetrations in levees – the Corps levee design manual (EM 1110-2-1913) allows for consideration of the cost of alternative pipe replacement as part of the decision process regarding whether an existing pipeline must be removed and routed over a levee. Since pipe penetrations likely represent a more serious risk, there appears to be little justification for why existing levee vegetation has risen to such a high prominence with such limited flexibility in the proposed policy.

[8] The Interim Action Plan is generally consistent with the White House Council on Environmental Quality's December 3, 2009 "Proposed National Objectives, Principles and Standards for Water and Related Resources Implementation Studies." The objectives, principles and standards reflect evolving national policy to: "Protect and restore natural ecosystems . . . Account for ecosystem services . . . Utilize watershed and ecosystem based approaches . . . Utilize best available science, practices, analytical techniques, procedures

The development of the Corps' vegetation policy and the contents of that policy and the proposed Public Notice appear inconsistent with the Interim Action Plan.

N. The February 2010 Public Notice

The Corps' February 2010 Public Notice states that the April 2009 Guidelines, despite considerable language in those Guidelines suggesting flexibility, nonetheless establish "mandatory vegetation-management standards for levees, floodwalls, and appurtenant structures . . . ." 75 Fed.Reg. at 6364.

The Public Notice also adds a number of new restrictions, in a section titled "Special Considerations." 75 Fed.Reg. at 6366. **First**, by superseding the "Regional Variance Agreement" previously contained in Engineer Regulation 500-1-1 and Engineer Pamphlet 500-1-1, now "variances will be considered for individual levee systems or portions thereof" *Id.* In addition to being administratively burdensome, this change would piecemeal the Corps process and reduce or eliminate the consideration of watershed scale or broader cumulative issues. **Second**, the Corps declared that: "Waterside planting berms are allowed only by approved variance." *Id.* The inclusion of such waterside berms has been a key environmental mitigation feature of many recent critical levee repairs, in many instances is necessary for such repairs to be "self-mitigating," and has been incorporated into several biological opinions now considered binding on maintaining agencies. **Third**, the notice would preclude the issuance of variances, and therefore mandate the removal of vegetation, "for the following portions of a levee: The upper third of the river-side (or flood-side) slope, the crown, the land-side (or protected-side) slope, or within 15 feet of the land-side (or protected-side) toe (subject to preexisting right of way)." *Id.*

The Public Notice also clearly states the Corps' position that NEPA and ESA compliance is not required until individual variances are considered, and further asserts that the burdens of such compliance are to be borne by the managing agencies:

> 11. *Environmental Compliance.* The sponsor is responsible for providing all National Environmental Policy Act (NEPA), Endangered Species Act (ESA) Section 7 consultation, and any other environmental compliance documentation required by the district to analyze the request (except for those levees listed in section 9.g. of this document). The documentation must analyze, as alternatives, the effects of the implementation of the proposed variance and the implementation of the national standards. The sponsor must commit to implementation of any measures (such as monitoring, reasonable and prudent alternatives, etc.) needed to comply with ESA before the sponsor may participate, or continue participation, in the Public Law 84–99 program. Further, the sponsor must commit to bearing the cost for implementation of any measures required to comply with ESA. However, USACE ultimately remains responsible for ensuring that ESA and other environmental compliance obligations are met.

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and tools . . . Ensure the planning process is fully transparent . . . and Collaborate implementation study activities broadly." *Id.* at 1.

75 Fed.Reg. 6366.

The Public Notice also describes the criteria for consideration of a variance application as follows:

> (1) The variance must be shown to be necessary, and the only feasible means, to
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> > • preserve, protect, and enhance natural resources, and/or
> >
> > • protect the rights of Native Americans, pursuant to treaty, statute, or Executive Order.
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> (2) With regard to levee systems, the variance must assure that
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> > • safety, structural integrity, and functionality are retained, and
> >
> > • accessibility for maintenance, inspection, monitoring, and floodfighting are retained. Note that, as used here, the term ''retained'' refers to the level of functionality and reliability expected under conditions that are fully consistent with the requirements set forth in ETL 1110–2–571 and any other applicable criteria.

75 Fed.Reg. at 6365[9]

The Public Notice also indicates that the holders of all existing variances need to reapply under the new policy. 75 Fed.Reg. 6364. The Public Notice presents a significant reduction in the flexibility of vegetation management policy.

O. The February 2010 "Questions and Answers"

Two days after issuing the Public Notice, the Corps provided additional information about its proposal in a February 11, 2010 document titled "Questions and Answers – Policy Guidance Letter-Variance from Vegetation Standards for Levees and Floodwalls" (Q&A). The Q&A explained that the "vegetation variance policy was issued in 1997 to implement Section 202(g) of the Water Resources Development Act (WRDA) of 1996." It refers to the variance process as being "designed to accommodate those **special cases**" (emphasis added) where vegetation can be allowed to remain without impairing safety, structural integrity and function or interfering with inspection and flood fighting. It further explains that the variance policy was revised in 2001, presumably in reference to the adoption of ER 500-1-1 described above.

In the Q&A, the Corps confirms that all "existing vegetation variances, agreements, or other deviations that are not submitted for approval via this process by 30 September 2010, may no longer be considered valid." Q&A at 2. It had been unclear from the Public Notice whether this expiration of existing variances would also apply to the continuation of PL 84-99 eligibility for California reflected in the Framework. However, in the Q&A, the Corps clarified that the Framework and associated Corps 9, 2009 policy memorandum entitled

[9] By requiring a demonstration that the variance is "the only feasible means" to preserve, protect and enhance natural resources, the Public Notice adds a substantive requirement not found in the applicable statutes or regulations.

"Temporary Extension of P.L. 84-99 Rehabilitation Eligibility for Non-Federal Sponsors Implementing System-wide Improvements" will remain in effect, thereby extending PL 84-99 eligibility for California systems subject to the Framework, which will not be affected by the action proposed in the Public Notice. In addition, the Q&A indicates that existing variances will remain valid while a variance request is being processed.

The Q&A further indicates that: "Because documented science on the impacts of vegetation on levee systems is limited worldwide, **the burden of proof falls upon the requester**." Q&A at 3 (emphasis added). Without providing further detail about the quantity and nature of the information needed, the Q&A states that: "Variance packages must contain **enough information** to determine that the variance is needed . . . while retaining [structural integrity and accessibility]." Id. (emphasis added). Given that the Corps has stated that there is limited science available to inform about levee vegetation impacts, this becomes an impossible burden.

P. The March 8, 2010 Letter from Assistant Secretary Darcy

On March 8, 2010, Department of the Army Assistant Secretary Jo-Ellen Darcy signed a letter responding to earlier correspondence from DWR that had requested improved partnering in the development of a revised vegetation policy. Assistant Secretary Darcy confirmed the Corps' commitment to collaborating with the State of California and others "in a systematic and holistic manner." March 8 letter at 1. The letter also indicated that: "The implementation of system-wide flood risk management strategies such as the Framework is one of the Corps' top seven priorities for water resources actions nationwide." Id. The letter also confirmed that the Framework Agreement will remain in effect through July 2012, the currently anticipated completion date for the Central Valley Flood Protection Plan. The March 8 letter, however, did not modify the proposal set forth in the Public Notice in any way.

V. THE CORPS' VEGETATION MANAGEMENT PROGRAM AND ASSOCIATED VARIANCE PROCEDURE VIOLATE MULTIPLE ENVIRONMENTAL AND OTHER LAWS

This section of DWR's and DFG's comments describes the numerous legal issues presented by the Corps' previous and proposed actions summarized in the chronology above.

A review of the applicable statutes and the Corps regulations underlying the Corps' evolving vegetation management program indicate that the Corps has considerable flexibility to craft a vegetation policy addressing the specific needs in California. Neither P.L. 84-99, 33 U.S.C. 701n,[10] nor Section 202(g) of the

[10] In pertinent part, P.L. 84-99, 33 U.S.C. 701n, provides:

(c) LEVEE OWNERS MANUAL.-

Water Resources Development Act (WRDA) of 1996,[11] mandate the wholesale removal of vegetation. Indeed, Section 202(g) requires the Corps to examine its policies in view of the interest in "preserving, protecting, and enhancing natural resources" and also requires that the resulting guidelines "address regional variations." The Public Notice fails to meet either of these statutory requirements.

The Corps regulations at 33 C.F.R. § 208.10 likewise simply provide that: "The structures and facilities constructed by the United States for local flood protection shall be continuously maintained in such a manner and operated at such times and for such periods as may be necessary to obtain the maximum benefits." The regulations further provide that: "No encroachment or trespass which will adversely affect the efficient operation or maintenance of the project works shall be permitted upon the rights-of-way for the protective facilities." The Corps has considerable discretion to craft a more flexible and appropriate policy for California. As discussed below, this discretion in turn triggers Corps obligations to analyze and consider the environmental effects of its action under NEPA and the ESA.

Despite the flexibility provided under existing law to achieve its public safety mandates with full consideration of environmental, economic, engineering, and logistical issues, the Corps proposes to move ahead with a proposed approach

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(1) In general. Not later than one year after the date of the enactment of this subsection, in accordance with chapter 5 of title 5, United States Code, the Secretary of the Army shall prepare a manual describing the maintenance and upkeep responsibilities that the

Corps of Engineers requires of a non-Federal interest in order for the non-Federal interest to receive Federal assistance under this section. The Secretary shall provide a copy of the manual at no cost to each non-Federal interest that is eligible to receive Federal assistance under this section.

[11] Section 202(g) of the Water Resources Development Act (WRDA) of 1996 provides:

(g) VEGETATION MANAGEMENT GUIDELINES.—

(1) REVIEW.—The Secretary shall undertake a comprehensive review of the current policy guidelines on vegetation management for levees. The review shall examine current policies in view of the varied interests in providing flood control, preserving, protecting, and enhancing natural resources, protecting the rights of Native Americans pursuant to treaty and statute, and such other factors as the Secretary considers appropriate.

(2) COOPERATION AND CONSULTATION.—The review under this section shall be undertaken in cooperation with interested Federal agencies and in consultation with interested representatives of State and local governments and the public.

(3) REVISION OF GUIDELINES.—Based upon the results of the review, the Secretary shall revise, not later than 270 days after the date of the enactment of this Act, the policy guidelines so as to provide a coherent and coordinated policy for vegetation management for levees. Such revised guidelines shall address regional variations in levee management and resource needs and shall be incorporated in the manual proposed under section 5(c) of such Act of August 18, 1941 (33 U.S.C. 701n).

which would likely have very significant, impacts. The State believes that the Corps approach faces numerous legal flaws elaborated below.

A. The Corps' Vegetation Management Program Needs to be Supported by an Environmental Impact Statement

NEPA requires federal agencies to prepare an Environmental Impact Statement (EIS) for all "major Federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C). NEPA is implemented through regulations adopted by the Council on Environmental Quality (CEQ), 40 C.F.R. Part 1500 (CEQ Regulations). The CEQ Regulations are mandatory and binding on federal agencies. *The Steamboaters v. FERC*, 759 F.2d 1382, 1393 n.4 (9th Cir. 1985).

The federal agency is required, as an initial step, to prepare an environmental assessment (EA) to determine whether its vegetation management program might have any significant environmental effects. *National Parks and Conservation Ass'n v. Babbitt, 241 F.3d 722, 730* (9th Cir. 2001); 40 C.F.R. § 1501.3. A far more detailed EIS is required if this EA raises "substantial questions" as to whether the project "*may*[12] have a significant effect[13] upon the human environment." *Foundation for North American Wild Sheep v. USDA*, 681 F.2d 1172, 1178 (9th Cir. 1982); 40 C.F.R. § 1501.4. Only where an agency decides that a project may not have a significant effect on the human environment, may it issue a Finding of No Significant Impact (FONSI) accompanied by a "convincing statement of reasons" explaining why the project's impacts are insignificant. *Save the Yaak Comm. v. Block*, 840 F.2d 714, 717 (9th Cir. 1988) ("The statement of reasons is crucial to determining whether the agency took a 'hard look' at the potential environmental impact of a project."). "If substantial questions are raised whether a project may have a significant effect

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[12] Under Section 1508.3 of the CEQ Regulations: **"'**Affecting' means will or may have an effect on."

[13] Under Section 1508.8 of the CEQ Regulations:

> "Effects" include:
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> (a) Direct effects, which are caused by the action and occur at the same time and place.
>
> (b) Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.
>
> Effects and impacts as used in these regulations are synonymous. Effects includes ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions which may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial.

upon the human environment, an EIS must be prepared." *Foundation for North American Wild Sheep*, 681 F.2d at 1178.

The Corps' NEPA regulations recognize that an EIS will "normally" be required where an action involves: "Proposed major changes in the operation and/or maintenance of completed projects . . . ." ER 200-2-2 as adopted on March 4, 1988, paragraph 6. An EA is only considered appropriate "if early studies and coordination show that a particular action is not likely to have a significant impact on the quality of the human environment." *Id.*

The Corps' vegetation management program will have a number of significant environmental impacts. First, the Corps' policies will directly result in a "take" of the Valley elderberry longhorn beetle because it will mandate widespread removal or modification of the beetle's host plant, which is a common vegetative feature on many Central Valley levees. Indeed, the April 2009 Guidelines at page 3-1 indicate that one of the **purposes** of the vegetation removal requirement is: "To avoid any incidental growth and subsequent presence of endangered species that might prohibit activities necessary for operations, maintenance, or access."

In determining the significance of environmental effects, the CEQ Regulations specifically require consideration of: "The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973." 40 C.F.R. § 1508.27(b)(9). As recognized in the Framework, on page 16:

The ecosystem value of vegetation on levees and in channels is significant and represents much of the remaining Central Valley vegetation that existed before the Central Valley was settled. Levees and channels provide critical habitat to many fish and wildlife species listed under the Federal Endangered Species Act and California Endangered Species Act. Threatened or endangered species, or species of concern, include, but are not limited to: delta smelt, Valley elderberry longhorn beetle, Central Valley spring-run Chinook salmon, Central Valley fall- and late fall-run Chinook salmon, Central Valley steelhead, southern distinct population segment of the North American green sturgeon, long-fin smelt, giant garter snake, riparian brush rabbit, Swainson's hawk, and burrowing owl. In addition to the habitat impacts from the loss of this environmentally beneficial vegetation, the vegetation removal activities will result in noise, air pollution, traffic, visual quality, water quality and other effects. Given the massive scale of the vegetation removal activities that could be required, these construction activities would clearly trigger NEPA significance criteria. The vegetation removal would also occur in the context of other activities within the flood protection system, such as critical repairs, maintenance, construction of system improvements, and other activities generating a cumulative effect. Given these acknowledged impacts, which are not mentioned in the Corps' EA/FONSI, an environmental impact statement under NEPA is required.

B. The Corps Cannot Avoid or Defer Compliance with NEPA

Rather than complying with NEPA **now**, through the preparation of an EIS, the Corps disclaims an obligation to do so, arguing that NEPA (and the ESA) will be

addressed when the Corps acts on individual variance applications in the future. The Corps' position fails, however, because it is clearly taking "action" with a potentially significant effect on the human environment. DWR believes that such "action" has already occurred since the Corps established extensive vegetation removal requirements, at the latest, in the April 2009 Guidelines. Moreover, when finalized, the policy contained in the Public Notice would expand on the April 2009 Guidelines by precluding variances in major reaches of California levees, with additional environmental effect. The Corps' position also ignores the fact that variances may not be applied for in all areas that would experience significant environmental effects from the removal of vegetation. Since managing agencies may instead simply elect to remove the vegetation at the Corps' behest, the Corps' actions (particularly if and when the proposal in the Public Notice is finalized) clearly trigger the obligation to have completed an EIS.

"[T]he comprehensive 'hard look' mandated by Congress and required by the statute must be timely, and it must be taken objectively and in good faith, not as an exercise in form over substance, and not as a subterfuge designed to rationalize a decision already made." *Metcalf v. Daley*, 214 F.3d 1135, 1142 (9th Cir. 2000). Therefore, an EA needs to be prepared before an agency's "irretrievable commitment of resources" to an action. *Id.* at 1143.

As reflected in the Public Notice, the Corps' vegetation management policy has already been established and NEPA compliance is due. *See Bennett v. Spear*, 520 U.S. 154, 177-78 (1997). The Corps has taken a final agency action and this action requires NEPA compliance and is subject to judicial review for failure to do so. The Public Notice, particularly in the context of the actions already taken, "amounts to a definitive statement of the agency's position. …" *See Oregon Natural Desert Assn. v. U.S. Forest Service*, 465 F.3d 977, 982, 984 (9th Cir. 2006). Furthermore, the Corps' actions have determined rights and obligations from which legal consequences will flow. *See Bennett v. Spear*, 520 U.S. at 177-78. By establishing a precondition to eligibility under P.L. 84-99, the action has the force and effect of law and has a "direct and immediate effect on the day-to-day business" of the parties. *Oregon Natural Desert Assn.*, 465 F.3d at 987.

Here, the Corps' vegetation management policies are final, since they are currently being used and have the present effect of impelling both DWR and local levee agencies to commence actions now (or in the near future) to effectuate the removal of vegetation from levees, in order to maintain PL 84-99 eligibility and federal flood control funding. The Corps has established a definitive and concrete set of standards to direct how vegetation on levees needs to be managed, with an immediate and binding effect on DWR and local levee agencies. Indeed, the Corps' policies have already caused DWR to develop a vegetation removal plan and to conduct more aggressive inspections of vegetation on levees. The Corps may not shield itself from judicial review simply because it is still in the process of developing a variance policy – it has taken a final action that is effective now, and it needs to address the adverse environmental impacts that will result from that action.

The Corps has also taken the position that any vegetation removal actions undertaken by local agencies are voluntary and do not constitute federal action.

This position, however, misses the point that the Corps' decision to enforce a policy of vegetation removal ***is*** a federal action, and that this federal action has reasonably foreseeable environmental consequences that need to be evaluated under NEPA. Specifically, under NEPA, a federal agency must evaluate both the direct and indirect effects of its actions. The NEPA regulations define "indirect effects" as those "which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable." 40 C.F.R. § 1502.16(b). The regulatory definition therefore involves two inquiries: first, whether the action "causes" the environmental effect at issue; and second, whether the effect is "reasonably foreseeable."

NEPA simply requires "a reasonably close causal relationship" between the environmental effect and the alleged cause, and courts must be able "to draw a management line between those causal changes that may make an actor responsible for an effect and those that do not." *Dept. of Transp. v. Public Citizen*, 541 U.S. 752, 767 (2004) (quoting *Metropolitan Edison Co. v. People Against Nuclear Energy*, 460 U.S. 766 (1983)). An environmental effect is reasonably foreseeable if it is "sufficiently likely to occur that a person of ordinary prudence would take it into account in reaching a decision." *Mid States Coalition for Progress v. Surface Transp. Bd.*, 345 F.3d 520, 549 (8th Cir. 2003) (quoting *Sierra Club v. Marsh*, 976 F.2d 763, 767 (1st Cir. 1992)). At least one court has ruled that an effect must be analyzed under NEPA if the *nature* of the effect is reasonably foreseeable, even where the *extent* of the effect is speculative. *Mid States Coalition*, 345 F.3d at 549.

Here, there is a sufficiently close causal relationship under NEPA between the Corps' vegetation policies and the potential future removal of vegetation by local levee agencies. The chain of causation is clear, since the Corps' policies are the primary, if not exclusive, factor leading to the removal of vegetation by local levee agencies. Put another way, the Corps' policies are not simply one of a number of different factors leading to the removal of vegetation. Indeed, the Corps program has as its very aim the removal of vegetation throughout the Central Valley. As a result, the Corps must study the effects that will result from its program …and that it intends to result from the program. The chain of causation is by no means speculative or remote. In addition, given the ecological value of levee vegetation (e.g., in terms of providing VELB habitat, providing shade for salmon and delta smelt, etc.), the nature of the impact is clearly foreseeable.

NEPA compliance, in the form of an EIS, is already overdue. At the latest, a Corps EIS will be necessary if and when the policy contained in the Public Notice is finalized, so the preparation of an EIS needs to commence immediately.

C. The Draft Environmental Assessment Fails to Comply with NEPA Criteria in all Respects

The Corps' new vegetation management policy, which would require managing agencies such as DWR to remove substantial environmentally beneficial vegetation throughout the flood protection system, has never been subjected by the Corps to analysis of the resulting environmental effects under NEPA. The Corps' 3½ page draft EA/FONSI (including citations) fails to respond to applicable requirements of NEPA. The only reference to environmental effects in

the entire document is the suggestion that the issuance of variances "will likely address a number of geographically unique factors, such as the specific flora, fauna and geology of a location." EA/FONSI at 2. The balance of the document consists of a summary description of the Corps' proposal, and several disclaimers of the need to address environmental impacts at this juncture. Because the Corps has labeled the document an EA/FONSI, we analyze it here as such under applicable NEPA criteria.

The required contents of an environmental assessment are set forth in Section 1508.09(b) of the CEQ Regulations, which state that the EA: "Shall include brief discussions of the need for the proposal, of alternatives as required by section 102(2)(E), of the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted." "Because the very important decision whether to prepare an EIS is based solely on the EA, the EA is fundamental to the decision-making process." *Metcalf v. Daley*, 214 F.3d 1135, 1143 (9th Cir. 2000). When properly prepared an EA provides the necessary analysis to allow an agency to examine whether their proposed actions would have significant impacts to the environment requiring additional analysis and review. 40 C.F.R. § 1508.9.

As discussed below, the Corps' draft EA/FONSI fails to describe the underlying need for its proposal, piecemeals and truncates the project description, omits any discussion of the affected environment or the resulting environmental consequences, assumes without support that the environmental effects of the action can and will be mitigated by others, fails to analyze alternatives, and disregards cumulative effects.

1. The Corps has offered no demonstration or explanation of the underlying need for its proposal to require substantial removal of environmentally beneficial vegetation from California's levees.

The first requirement of an environmental assessment is to discuss "the need for the proposal . . . ." 40 C.F.R. § 1508.09(b). Although the EA/FONSI includes a 5-sentence long paragraph labeled "Purpose and Need," there is no discussion of the underlying need for the Corps' vegetation management proposal. For NEPA purposes, the EA/FONSI fails to mention or support the underlying need for the project.

Instead, in circular fashion, the Corps describes the purpose of its proposed action as the action itself:

1. *Purpose.* This policy guidance letter revises the procedures for obtaining variances from U.S. Army Corps of Engineers (USACE) mandatory vegetation-management standards for levees, floodwalls, and appurtenant structures contained in Engineer Technical Letter (ETL) 1110–2–571—*Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams, and Appurtenant Structures.*

75 Fed.Reg. at 6364. Elsewhere, the Corps generally describes its administrative reasons for centralizing a variance process, but nowhere is the underlying need for its vegetation removal requirements articulated or supported.

Although the implicit purpose of the Corps' proposal is the improvement of public safety, as discussed above there is a substantial disconnect between the underlying factual information and the Corps' approach to achieving that purpose. In any event, NEPA requires a clear statement of purpose, which the Corps did not include in the EA.

2. The draft EA/FONSI is based on a truncated project description that fails to acknowledge the fact that vegetation removal is now required under the Corps' vegetation management program.

As described above, the Corps has developed its vegetation management program in an incremental fashion, urging that individual steps in that process have been interim, minor or otherwise lacking in environmental effect. At this juncture, however, it is clear that the Corps has established a mandatory program that will foreseeably result in substantial removal of environmentally beneficial vegetation, without undertaking the required analysis of the resulting environmental consequences under NEPA. The Corps has not avoided its NEPA obligations through this incremental approach.

Agencies may not improperly "segment" projects in order to avoid preparing an EIS; instead, they must consider related actions in a single NEPA document. *Thomas v. Peterson*, 753 F.2d 754, 758 (9th Cir. 1985). "Not to require this would permit dividing a project into multiple 'actions,' each of which individually has an insignificant environmental impact, but which collectively have a substantial impact." *Id*. The CEQ Regulations thus require agencies to consider "connected," "cumulative," and "similar" actions within a single EA or EIS. 40 C.F.R. § 1508.25; *Thomas*, 753 F.2d at 758-59. The use of the word "shall" in these regulations makes consideration of these three types of actions mandatory. As the CEQ Regulations recognize: "Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts." 40 C.F.R. § 1508.27 (b)(7).

For purposes of NEPA, actions are "connected" if they "[a]utomatically trigger" other actions which may require an EIS; "[c]annot or will not proceed unless other actions are taken previously or simultaneously"; or are "interdependent parts of a larger action and depend on the larger action for their justification." 40 C.F.R. § 1508.25(a)(1). Where it would be "irrational, or at least unwise" to undertake one action without other actions, the actions are connected. *Save the Yaak Comm. v. Block*, 840 F.2d 714, 720 (9th Cir. 1988) (holding that road construction and timber sales had "clear nexus" and were thus "connected actions," requiring expanded scope of review); *Thomas*, 753 F.2d at 759 (road and timber sales were "inextricably intertwined" where "[i]t is clear that the timber sales cannot proceed without a road, and the road would not be built but for the contemplated timber sales.").

Viewed under these criteria, the Corps' vegetation management policy and associated vegetation variance procedures are part of an integrated whole. The variance process itself has no independent utility apart from the Corps' vegetation removal requirements. A variance procedure would not be necessary if the Corps were not at the same time imposing a new vegetation management

policy. As a result, by separately considering the variance procedure alone in the EA/FONSI, the Corps is improperly piecemealing its program in violation of NEPA. NEPA requires that the Corps study the effects of its program as a whole before approving that program. Here, the Corps is side-stepping NEPA by approving the program and then purporting to study later various individual instances where local agencies might be seeking a deviation from the program. It appears that the Corps' approach is designed to avoid having to comply with NEPA's most fundamental requirements, but NEPA's anti-piecemealing rule precludes such an evasion.

Also, as discussed above, the Public Notice includes a specific provision requiring the removal of "woody vegetation" in certain broad areas, without any possibility for a variance, as follows:

> Due to the significant threat to system reliability, ability to flood fight, and observe system response under high water conditions, no vegetation variance involving woody vegetation, as defined in ETL 1110–2–571 shall be granted for the following portions of a levee: The upper third of the river-side (or flood-side) slope, the crown, the land-side (or protected-side) slope, or within 15 feet of the land-side (or protected-side) toe (subject to preexisting right-of-way).

75 Fed.Reg. at 6366.

The Corps' proposed approach to the variance, which eliminates the availability of Regional Variance Agreements and requires that separate variance applications be submitted for relatively small geographic areas, further results in a piecemealed environmental analysis.

As a result of the Corps' piecemeal approach, nowhere have the environmental consequences of this aspect of the Corps' action been considered.

3. The environmental assessment inappropriately substitutes the Corps' arguments for delaying NEPA compliance for the required discussion of the affected environment.

The draft environmental assessment omits discussion of the affected environment, based upon two arguments. First, the EA asserts that the proposed action is administrative only, and that "changing the process for applying for a variance does not itself affect the environment. …" EA/FONSI at 2. Second, the EA claims that site specific factors preclude consideration of the affected environment and the resulting effects on a broader, programmatic basis. Both assertions are factually and legally incorrect.

While we recognize that one aspect of the proposed action is the revision to the Corps' variance process, the assertion that this is **all** that the Federal Register notice does is incorrect. Most importantly, the Federal Register notice states that previous vegetation management policy documents prepared by the Corps, in particular ETL 1110-2-571, establish mandatory standards that are binding on managing agencies. Previously, the Corps had characterized these documents as being preliminary, reflecting guidance only. On that basis, the Corps had claimed that analysis of the environmental effects of vegetation removal under

NEPA and the ESA was premature. Now, the Corps has clearly stated that these previously issued documents establish mandatory, binding obligations. Indeed, the very fact that a variance process is considered necessary by the Corps indicates the mandatory and binding nature of these previously adopted measures. The Corps' argument also ignores the fact that it has now proposed to preclude the availability of variances for certain areas, as discussed above.

The Federal Register notice has been issued in the context of these previous actions, and represents a key step in the development of the Corps' overall vegetation management program. It is the removal of vegetation from the levees pursuant to that program that creates significant effects on the environment. As discussed above, such removal has already occurred as a result of the Corps' program, and it is reasonably foreseeable that such removal will occur in the future as a result of the program. The Corps cannot ignore these other aspects of its vegetation management program in concluding that the environmental effects of its actions need not be evaluated under NEPA.

Also, under the system that it has established, the removal of vegetation will represent the **default** scenario. Specifically, the Corps has now stated quite clearly that managing agencies wishing to maintain eligibility for PL 84-99 funding will either need to remove vegetation or qualify for a variance. However, the variance process that the Corps has established is extremely burdensome and an approved variance will likely prove unattainable for many agencies. As a result, it is reasonably foreseeable that at least some of the managing agencies will simply elect to remove the vegetation without pursuing any additional action by the Corps. In that event, under the Corps' approach, the environmental effects of the Corps' vegetation management program will **never** be considered under NEPA.

NEPA precludes such a shell game. It is a basic NEPA principle that an agency cannot approve an action without first studying the effects of that action. The impacts of the Corps' program will be massive and predictable and the Corps cannot hide behind the argument that it does not yet know the precise details of those impacts.

The Corps also is incorrect in asserting that the environmental effects of its vegetation management program can only be evaluated in the context of individual variance decisions, rather than at a programmatic level. Specifically, the Corps claims, without direct support or elaboration, that "impacts will be highly dependent upon the nature of the variance requested and because each variance will likely address a number of geographically unique factors, such as the specific flora, fauna and geology of a location." EA/FONSI at 2.

First, this assertion is belied by the Corps' treatment of similar issues at a programmatic level, in particular the ongoing preparation of an EIS evaluating the environmental effects of implementing up to 80,000 linear feet of additional bank protection in the Sacramento River Flood Control Project area, covering 11 California counties. 74 Fed.Reg.5649 (January 30, 2009). For purposes of that document, "The planning area for the proposed actions is considered to be the entire Sacramento River Flood Control Project, and the Corps' current inventory of critical eroding sites will constitute a representative sample of the sites to be

treated. As streambank erosion is episodic and new critical sites can appear each year, the environmental analysis will be programmatic in nature allowing for future environmental impact analysis for specific projects, as needed." *Id*. at 5650. If anything, the environmental impacts of implementing the Corps' vegetation management policy are **more** predictable and amenable to programmatic analysis than the episodic critical repairs that are the subject of the Corps' programmatic EIS.

Second, the Corps itself has referred to its new vegetation management requirements as a nationwide "program," i.e. "In 2006, the U.S. Army Corps of Engineers (USACE) built upon the activities of its Rehabilitation and Inspection **Program** to form its Levee Safety **Program** (LSP) . . . ." (EA/FONSI at 1) (emphasis added); "[C]ountervailing public pressure will make it difficult to implement the **program** and achieve its goal of assuring public safety" Corps, White Paper, April 2007, page 25, emphasis added).

Third, the Corps' argument ignores the CEQ Regulations, which define "major federal action" to include: "Adoption of programs, such as a group of concerted actions to implement a specific policy or plan; systematic and connected agency decisions allocating agency resources to implement a specific statutory program or executive directive." 40 C.F.R. § 1508.18(b)(4). The Corps' actions clearly constitute a program requiring analysis at that level under NEPA. *Churchill County v. Norton*, 276 F.3d 1060 (9th Cir. 2001); *Natural Resources Defense Council, Inc. v. Hodel*, 435 F.Supp. 590 (D.Or. 1977).[14]

4. The draft environmental assessment inappropriately fails to address the environmental consequences of the Corps' vegetation management program.

The EA/FONSI is likewise devoid of any discussion of the environmental consequences that would result from vegetation removal pursuant to the Corps' vegetation management program. Such a discussion is expressly required under Section 1508.09 of the CEQ Regulations and in fact forms the heart of an environmental assessment. Only two brief paragraphs touch on the topic, and that discussion merely asserts that the "no project" alternative would fail to meet the Corps' project objectives while the proposed project would satisfy those objectives. The Corps' preference for an alternative does not avoid the requirement to consider the environmental consequences of its actions under NEPA.

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[14] This situation would be a particularly appropriate one for "tiering" under CEQ Regulations Section 1508.28:

> "Tiering" refers to the coverage of general matters in broader environmental impact statements (such as national program or policy statements) with subsequent narrower statements or environmental analyses (such as regional or basinwide program statements or ultimately site-specific statements) incorporating by reference the general discussions and concentrating solely on the issues specific to the statement subsequently prepared.

5. The draft environmental assessment fails to assess mitigation to compensate for the resulting environmental impacts.

The Corps appears to assume that the environmental impacts that would result from the wholesale removal of vegetation from California levees can be mitigated by the maintaining agencies. For example, the April 2007 White Paper at page 21 indicates that: "Environmental mitigation is the most likely solution to addressing impacts associated with the ESA." Despite this broad assertion, the Corps has failed to describe or evaluate the nature of potential mitigation measures, whether that mitigation is feasible, and what the impacts of that mitigation will be, all in violation of NEPA. Moreover, considering a system-wide application of the Corps vegetation policy, mitigation alone would not appear to be a feasible option given the sheer scale of the resulting mitigation burden.

While courts permit an agency to issue an EA rather than an EIS where potentially adverse effects will be reduced to a less-than-significant level as a result of effective mitigation (*Tillamook County v. U.S. Army Corps of Engineers*, 288 F.3d 1140, 1144 (9th Cir. 2002)), this approach is possible only in circumstances where the specific mitigation measures would "completely compensate for any possible adverse environmental consequences stemming from the original proposal." *Friends of the Earth v. Hintz*, 800 F.2d 822, 838 (9th Cir. 1986) (citations omitted).

Here, a substantial portion of the levees in the California Central Valley contain vegetation that would need to be removed under a strict interpretation of the Corps' vegetation management policy. Given the sheer scale of the environmental impact that would result, the availability of adequate mitigation is at best questionable. This is particularly true given the fact that, in order to be effective, the mitigation would need to be placed in the very same aquatic ecosystem, containing the very same levees, that the Corps' vegetation management policy would restrict. In other words, the Corps' vegetation management requirements may preclude precisely those actions that would be required to mitigate the impacts of its new vegetation removal requirements.

6. The draft environmental assessment fails to analyze a reasonable range of alternatives.

The draft environmental assessment devotes a mere six lines to the statutorily required analysis of alternatives. Only the proposed project and the "no project" alternative are mentioned, and the analysis simply indicates that the proposed project is "preferred." This discussion falls far short of what NEPA requires.

The requirement to evaluate alternatives is set forth in Section 102(2)(E) of NEPA, which requires federal agencies to: "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources." The CEQ regulations make clear that this requirement applies to environmental assessments and not just to environmental impact statements. 40 C.F.R. § 1508.09. The Ninth Circuit Court of Appeals has held that an environmental assessment will have appropriately analyzed alternatives **only** "[s]o long as "all

reasonable alternatives" have been considered and an appropriate explanation is provided as to why an alternative was eliminated . . . ." *Native Ecosystems Council v. U.S. Forest Service*, 428 F.3d 1233, 246 (9th Cir. 2005), *see also Environmental Protection Information Center v. U.S. Forest Service,* 234 Fed.Appx. 440, 443 (9th Cir. 2007) ("However, in every case, the agency's duty under NEPA remains to consider all reasonable alternatives").

The Corps' rationale for rejecting consideration of a broader range of alternatives – that only the proposed project would satisfy the project's objectives – has directly been rejected in the Courts. See *Natural Resources Defense Council, Inc. v. Morton*, 458 F.2d 827, 836 (D.C. Cir. 1972) (it is not appropriate to disregard alternatives merely because they do not fulfill a project's objectives completely); *Town of Matthews v. United States Dept. of Transp.*, 527 F. Supp. 1055, 1057-58 (W.D.N.C. 1981) (ordering agency to analyze an alternative even though the agency asserted that the alternative would not achieve stated project goals).

Here, there are a number of environmentally less-damaging alternatives. To begin with, the Framework itself identified a number of viable alternatives to a strict vegetation removal policy. For example, in urban areas, the Framework lists the following options:

- Setback levees that are free of vegetation (allow SRA habitat adjacent to river channel)
- Enlarged levee cross sections such that root systems of existing trees on the waterside are outside of the effective reconstructed levee
- Levees with seepage remediation cutoff walls
- Removal of vegetation from the levee and mitigation of the habitat loss
- Special designs or treatments determined from best available science that provide suitable methods to safely leave select vegetation in place
- Leaving vegetation (type and location) in place that is determined not to threaten the integrity of the levee (e.g. levees with seepage remediation cutoff walls, oversized levees, setback levees, or vegetation found to be non-threatening through research)
- Life-cycle management of trees with increased monitoring and response
- Other system-wide flood control improvements that help to establish a permanent regional variance for California levees

(Vegetation Roundtable, February 2009, pages 72-73). In rural areas, which contain about 1,300 miles out of the approximately 1,600 miles of levees in the State-federal system and provide the majority of the habitat that is important to the ecosystem, the following options are suggested:

- Selected levee upgrades
- Operation and maintenance support to local maintaining agencies

- System-wide improvement projects such as setback levees and expanded and new bypasses
- Flood easements
- Phasing out vegetation on the crown and the landside portions of rural Project levees
- Leave vegetation (type and location) in place that is determined through scientific research not to threaten the integrity of the levee (Regional Variance)

(Vegetation Roundtable, February 2009, page 73). At minimum, these alternatives should be considered by the Corps.

7. The draft environmental assessment inappropriately ignores cumulative effects.

The Corps' EA/FONSI ignores cumulative effects. NEPA defines a cumulative impact as the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. 40 C.F.R. § 1508.7.[15] Under NEPA, both connected actions and unrelated, but reasonable foreseeable future actions may result in cumulative impacts. *Save the Yaak Comm. v. Block*, 840 F.2d 714, 721 (9th Cir. 1988). A "merely perfunctory cumulative impact analysis will not pass muster under NEPA." *Idaho Conservation League v. Bennett*, 2005 WL 1041396, 4 (D. Idaho 2005); see *Kern v. U.S. Bureau of Land Management*, 284 F.3d 1062, 1075 (9th Cir. 2002) (EA was inadequate when it performed no cumulative impact analysis of "reasonably foreseeable future actions" that could "constitute collectively significant actions" when taken with project); *see also*, *O'Reilly v. U.S. Army Corps of Engineers,* 47 F.3d 225, 235 (5th Cir. 2007) (EA held invalid since it failed to examine whether the individual effects when taken together would be "*cumulatively* significant").

The Corps' vegetation management policy applies in the context of a stressed ecosystem that is the subject of numerous cumulative activities, including critical erosion repairs, ongoing maintenance, flood control system improvements, urbanization, water supply withdrawals, wastewater discharges and others. The Corps needs to evaluate its action in this cumulative context.

[15] Under Section 1508.7 of the CEQ regulations: "'Cumulative impact' is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

D. NEPA Conclusion.

The Corps' perfunctory 3½ page EA/FONSI fails to satisfy its obligations under NEPA. A properly prepared environmental assessment would reach the unavoidable conclusion that significant environmental effects will foreseeably result from the Corps' vegetation management program and an environmental impact statement must be prepared before any element of that program can be adopted or implemented.

E. The Corps Must Consult Under Section 7 of the Endangered Species Act Before Adopting a Mandatory Vegetation Management Program that can Reasonably be Anticipated to Result in the Substantial Removal of Environmentally Important Vegetation from the California's levees

Section 7 of the ESA requires federal agencies, in consultation with what is known as the "consulting agency" (USFWS or NOAA Fisheries), to conserve species listed under the ESA. The Section requires federal agencies to "insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [designated critical] habitat . . . ." 16 U.S.C. § 1536(a)(2).

The consulting agency evaluates the effects of the proposed action on the survival of species and any potential destruction or adverse modification of critical habitat in a biological opinion (16 U.S.C. § 1536(b)) based on "the best scientific and commercial data available," *Id.*§ 1536(a)(2). The biological opinion includes a summary of the information upon which the opinion is based, a discussion of the effects of the action on listed species or critical habitat, and the consulting agency's opinion on "whether the action is likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of critical habitat. …" 50 C.F.R. § 402.14(h)(3). In making its jeopardy determination, the consulting agency evaluates "the current status of the listed species or critical habitat," the "effects of the action," and "cumulative effects." *Id.* § 402.14(g)(2)-(3). "Effects of the action" include both direct and indirect effects of an action "that will be added to the environmental baseline." *Id.* § 402.02. *See generally, Ariz. Cattle Growers' Ass'n v. U.S. Fish & Wildlife Serv.,* 273 F.3d 1229, 1239 (9th Cir. 2001).

USFWS and NOAA Fisheries have promulgated a regulation clarifying that "Section 7 and the requirements of this part apply to **all actions** in which there is **discretionary** Federal involvement or control." 50 C.F.R. § 402.03 (emphasis added). Thus, where there is such discretionary involvement or control, the agency proposing to carry out, permit or fund the action, usually known as the "action agency," must consult with the consulting agency. Given its discretion in framing a vegetation management policy, as discussed above, the Corps is required under Section 7(a)(2) of the ESA to consult with the FWS and NOAA Fisheries concerning the impacts on protected species resulting from its vegetation policies.

The Corps has acknowledged that: “Clearly, in many instances, clearing vegetation could be considered an adverse modification to critical habitat and possible adverse effect on listed species” (Corps, White Paper, April 2007, page 19). The FWS and NOAA Fisheries have already expressed their concerns with the Corps’ vegetation removal requirements, which are antithetical to the conservation of key species. In 2001, those agencies issued draft Biological Opinions for the Sacramento bank protection project, which indicated that the project would jeopardize the existence of five fish species (Sacramento splittail, delta smelt, winter-run and spring-run Chinook salmon, and steelhead). Framework at 50. In response, the Corps convened the Sacramento River Bank Protection Interagency Working Group (IWG) described above to “reconcile needs for continued bank protection with impacts of the Biological Opinions.” *Id.* A key feature of this reconciliation was the Corps’ agreement to include environmentally beneficial vegetation in the designs of future levee repairs, as reflected in nearly all of the repairs that have occurred from 2006 onward. The Corps’ new approach undoes this temporary reconciliation and once again would jeopardize listed species and adversely modify their critical habitat.

The consultation requirements of Section 7(a)(2) of the ESA are triggered by federal agency “action.” The concept of agency “action” has been given broad application by the courts and by the ESA’s implementing regulations. The non-exhaustive list of “actions” triggering consultation includes actions that directly or indirectly cause modifications to the land, water or air. *See* 50 C.F.R. § 402.02. The Corps’ policies meet the terms of the regulatory definition of an action triggering the consultation requirement, since these policies have the clear potential to lead to the modification of land through the removal of vegetation by levee maintaining agencies.

Nonetheless, the Corps has disavowed the need to undertake a Section 7 consultation on a programmatic level, and instead has taken the position that it will comply with the consultation requirements under Section 7, but only on a case-by-case basis at such time when it approves individual local agency plans for maintaining and removing vegetation. However, the Corps cannot defer consultation until the approval of individual vegetation plans. Instead, the ESA regulations require federal agency review “at the earliest possible time” to determine whether an “action” may affect listed species or critical habitat. 50 C.F.R. § 402.14(a). Here, the Corps has already set in motion a course of events that will affect listed species.

In addition, like NEPA, the ESA requires evaluation of indirect effects, which are defined as effects caused by the proposed federal action and are later in time, but are reasonably certain to occur. *Id.* § 402.02. Here, the Corps’ policies will lead to later actions to remove vegetation and these later actions are reasonably certain to occur.

The ESA also requires consideration of “interrelated and interdependent” actions, which are actions that would not occur but for the federal action. *See Natural Resources Defense Council v. Rodgers*, 381 F. Supp. 2d 1212, 1234-35 (E.D. Cal. 2005) (citing *Sierra Club v. Marsh*, 816 F.2d 1376, 1387 (9th Cir. 1987)). Here, State and local efforts concerning vegetation removal would not occur but

for the Corps' insistence that DWR and local levee agencies adhere to its vegetation policies.

Further, the Corps' approach has been rejected by the courts. For example, the Ninth Circuit (the federal appellate court that handles cases from California) has ruled that the issuance of an interim timber management strategy by the Bureau of Land Management, to be implemented pending the development of new timber management plans, was an "action" that triggered the ESA's requirement to consult. *Lane County Audubon Society v. Jamison*, 958 F.2d 290 (9th Cir. 1992). The court emphasized the broad definition of agency "action" under the ESA, and explained there was no doubt that the interim standards could adversely affect protected species by permitting logging in sensitive habitat. Similarly, here, the Corps' vegetation management policies would likely adversely affect protected species by directing the significant removal of vegetation on levees. The Corps has taken an action sufficient to trigger the ESA's consultation requirement.

Just as the Corps does here, in *Lane County* BLM argued that it did not have to consult on its interim timber management strategy, since it consulted on individual timber sales. The Ninth Circuit rejected that argument, noting that the interim strategy is what establishes the criteria to govern the timber sales. Accordingly, the court ruled, BLM was required to consult on the strategy *before* it could implement that strategy through the approval of individual sales. As the court stated, "the individual sales cannot go forward until the consultation process is complete on the underlying plans which BLM uses to drive their development." 958 F.2d at 295. The same is true here: the Corps must consult on its overarching vegetation removal policy before it can implement that policy through the approval of individual local agency vegetation plans.

The Corps' vegetation management policy will adversely affect listed species, and no aspect of that policy can be adopted until the Corps has completed the required consultation under Section 7 of the ESA.[16]

[16] The Section 7 consultation process also commonly serves as the framework for interagency coordination as required under the Fish and Wildlife Coordination Act, 16 U.S.C. §§ 661-667 (FWCA). The FWCA provides that, whenever any water body is proposed to be controlled or modified "for any purpose whatever" by a Federal agency or by any "public or private agency" under a Federal permit or license, the action agency is required first to consult with the wildlife agencies (USFWS and NOAA Fisheries), "with a view to the conservation of fish and wildlife resources in connection with that project." Whenever the waters or channel of a body of water are modified by a federal agency, adequate provision must be made for the conservation, maintenance and management of its wildlife resources and habitat. The use of the waters, land or interests for wildlife conservation must be in accordance with plans approved jointly by the Corps, USFWS, NOAA Fisheries, and California Department of Fish and Game. Here, that process under the FWCA has not occurred, and compliance does not appear to be contemplated by the Corps.

F. The Corps' Vegetation Management Plan will Result in a "Take" of Listed Species that has not yet been Authorized Under Section 10 or Section 7 of the ESA

The Corps' vegetation management program not only violates the federal Endangered Species Act due to the failure to consult under ESA Section 7 as just discussed, it also will make the Corps responsible for the unpermitted "take" of listed species in violation of ESA Section 9. It is by now well established that the actions of a regulatory agency allowing an unpermitted take of species to occur creates ESA liability not just for the entities directly involved in the habitat modification at issue, but also for the regulatory agencies themselves.

The language of the ESA and the cases support a broad theory of causation, under which the Corps will be liable if it causes others to take actions that harm listed species or their habitat. For example, Section 9(g) of the ESA declares that it is unlawful "to attempt to commit, solicit another to commit, or cause to be committed," any violation of the provision's take prohibitions. 16 U.S.C. § 1538(g). Further, the cases provide numerous examples where governmental agencies were held accountable under the ESA's take provisions for the impacts of their regulations and policies. *See, e.g., National Wildlife Federation v. Hodel*, 1985 U.S. Dist. LEXIS 16490 (E.D. Cal. 1985) (FWS violated ESA's take prohibition by allowing use of lead shot in hunting areas, since result was lead poisoning of bald eagle); *Defenders of Wildlife v. EPA*, 882 F.2d 1294 (8th Cir. 1989) (EPA's decision to register strychnine as a pesticide constituted a take, since the use of the strychnine resulted in the poisoning of protected species); *Strahan v. Coxe*, 127 F.3d 155 (1st Cir. 1997) (state's licensing of fishing and lobstering equipment that injured protected whales was a take); *Loggerhead Turtle v. Council of Volusia County*, 148 F.3d 1231 (11th Cir. 1998) (county's decision to allow artificial beachfront lighting, the use of which harmed loggerhead turtles, was a take); *United States v. Town of Plymouth*, 6 F. Supp. 2d 81 (D. Mass. 1998) (town's decision to allow use of off-road vehicles on beach was a take of protected plovers, who were crushed by the vehicles). These authorities, and the broad theory of causation they stand for, rebut the Corps' claim that local vegetation removal actions are not the result of any federal action.

Here, the Corps has gone even further by **mandating** the pertinent habitat modifications. Indeed, the April 2009 Guidelines, at page 3-1, indicate that one of the purposes of the vegetation removal requirement is: "To avoid any incidental growth and subsequent presence of endangered species that might prohibit activities necessary for operations, maintenance, or access." The fact that the actual removal of vegetation will in most instances be undertaken by others does not absolve the Corps from responsibility for those actions, which are the direct and foreseeable result of its regulatory pronouncement mandating such removal.

As a result, by directing the removal of habitat for listed species by the managing agencies, the Corps is violating the "take" prohibition of ESA Section 9.[17]

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[17] As discussed below, the Corps is also putting the maintaining agencies in the untenable position of facing Section 9 liability themselves, with the bleak alternatives being the loss of

G. The Corps has Urged an Artificial and Incorrect Environmental Baseline Under both NEPA and the ESA

In discussions with State agencies, the Corps also has asserted that an EIS and a Section 7 consultation are not required in connection with its consideration and issuance of a vegetation variance, since such a variance arguably would allow **increased** vegetation in comparison to what the Corps considers would otherwise be permissible under its vegetation policy. Although this argument is not raised directly in the February 9 Federal Register notice or EA/FONSI, we address it here because the Corps has relied upon it in the past and may do so in the future.

Under both NEPA and the ESA, the fundamental flaw in the Corps' argument is that it applies an abstract "baseline" to the environmental analysis, rather than looking to the existing physical conditions in the environment, taking into account past cumulative effects, as required. Under the Corps' logic, substantial removal of vegetation should be deemed to have occurred already, since the Corps' existing policies require it. The Corps appears to recognize, however, that actual future removal of vegetation beyond that which has taken place to date would be needed. From DWR's perspective, this vegetation has remained on the levees with the concurrence of the Corps pursuant to a *de facto* policy acknowledging the particular circumstances in California. In any event, it is anticipated that additional vegetation removal would likely be a condition of the issuance of a variance, resulting in environmental and economic impacts.

The ESA regulations, the USFWS/NOAA Fisheries Section 7 Consultation Handbook, and the decision in *National Wildlife Federation v. NMFS et al.*, 524 E.3d 917 (9th Cir. 2008) (*NWF v. NMFS*), preclude the analysis of impacts to listed species measured against a hypothetical, rather than actual, baseline condition.

Under the Section 7 regulations, the environmental baseline includes "the **past and present impacts** of all Federal, State or private **actions** and other human activities in the action area" and "**the anticipated impacts of all proposed Federal projects** in the action area **that have already undergone** formal or early section 7 **consultation**." *Id.* (emphasis added). The reference to "past and present impacts" resulting from "actions" is concrete in approach and does not allow for a hypothetical or abstract baseline such as the one suggested by the Corps (which would presume policy implementation actions that have not actually occurred). In addition, under the Section 7 regulations, effects that have not already occurred **can** be included in the baseline, but **only** if they have already themselves undergone Section 7 consultation, which has not yet occurred with the Corps' vegetation policy or related implementing actions.

In 1998, the USFWS and NOAA Fisheries prepared a "Consultation Handbook – Procedures for Conducting Consultation and Conference Activities under Section

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P.L. 84-99 funding or the preparation of a habitat conservation plan on a very ambitious timetable.

7 of the Endangered Species Act." (Consultation Handbook). The Consultation Handbook describes the evaluation of the environmental baseline as follows:

> The environmental baseline is a "snapshot" of a species' health at a specified point in time. **It does not include the effects of the action under review in the consultation**. . . . The baseline includes State, tribal, local, and private **actions already affecting** the species or that will occur contemporaneously with the consultation in progress. Unrelated Federal actions affecting the same species or critical habitat that have completed formal or informal consultation are also part of the environmental baseline, as are Federal and other actions within the action area that may benefit listed species or critical habitat.

Id. at 4-22 (emphasis added). In sum, the baseline includes only those actions "already affecting" the species, not those that might have occurred, or may have been required to occur but did not. The Consultation Handbook therefore confirms the concrete, pragmatic approach to evaluating the baseline, considering the actual physical conditions as they presently exist.

Application of an abstract "baseline" as urged by the Corps has also been rejected by the courts. *National Wildlife Federation v. NMFS et al.*, 524 E.3d 917 (9th Cir. 2008) (*NWF v. NMFS*). There, the Ninth Circuit rejected the application of a "hypothetical" baseline, referring to the approach as "an analytical slight of hand, manipulating the variables to achieve a 'no jeopardy' finding." *Id.* at 933.[18]

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[18] Likewise, the importance of the agency's action does not trump the duty to comply with the ESA. The Ninth Circuit disagreed that the agency could disregard supposedly non-discretionary aspects of its action and exclude them from the jeopardy analysis, instead finding that NMFS should have made "its jeopardy determination based on the full natural and human context of the proposed action." *Id.* at 927. The Court further stated that: "NMFS may not avoid determining the limits of the action agencies' discretion by using a reference [or hypothetical] operation to sweep so-called 'nondiscretionary' operations into the environmental baseline, thereby excluding them from the requisite ESA jeopardy analysis." The Ninth Circuit found unpersuasive NMFS's contention that competing mandates for flood control, irrigation and power production were immutable obligations that precluded ESA compliance. Instead, applying the Supreme Court's 2007 decision in *National Ass'n of Home Builders v. Defenders of Wildlife*, 551 U.S. 644 (2007), the Court found that "in the present case Congress has imposed broad mandates, rather than directing the agency to take specific actions, and the agencies are perfectly capable of simultaneously obeying Section 7 and those mandates." *Id.* at 928. Therefore, although the broad goals of the program may be mandatory, under the Ninth Circuit's analysis the key inquiry is whether the agency has discretion regarding **how** to implement those goals. Here, P.L. 84-99 establishes a broad mandate for the Corps to provide for flood protection, and specifically states that the specific measures funded shall be "as may be necessary in the **discretion** of the Chief of Engineers for the adequate function of the work for flood control . . . ." 33 U.S.C. § 701n(a)(1) (emphasis added). Likewise, the Corps' preparation of a levee owners manual under P.L. 84-99 is not subject to any requirements that would limit the Corps' discretion in a manner precluding compliance with Section 7. 33 U.S.C. § 701n(c)(1). Indeed, the fact that vegetation has been allowed to remain on the levees until the present time is evidence of this discretion, as is the Corps' consideration of a vegetation variance under the broad criteria that it is applying. Where, such as here, the agency retains discretion as to how to implement a statutory goal (e.g., establishing different levels of vegetation removal depending upon how strictly or leniently the policy is interpreted), the action falls within Section 7.

Likewise, under NEPA the “no action” alternative, which represents future conditions that would occur in the absence of the agency’s action, generally reflects the environmental baseline or benchmark against which all of the other alternatives are measured. 40 C.F.R. 1502.15; “Forty Most Asked Questions Concerning the Council on Environmental Quality's *NEPA* Regulations” (46 Fed.Reg. 18026-18038) (“Therefore, the "no action" alternative may be thought of in terms of continuing with the present course of action until that action is changed. Consequently, projected impacts of alternative management schemes would be compared in the EIS to those impacts projected for the existing plan. In this case, alternatives would include management plans of both greater and lesser intensity, especially greater and lesser levels of resource development. . . . This analysis provides a benchmark, enabling decisionmakers to compare the magnitude of environmental effects of the action alternatives.”). The basic purpose of the no action alternative is to allow the public and the decision-makers to compare the impacts of implementing the vegetation removal program in relation to the impacts of not implementing this program. That comparison becomes meaningless if the Corps assumes that the no action alternative includes the implementation of the very program of vegetation removal it is adopting. Such a comparison also fails to reflect reality, since the reality is that the vegetation exists and would not be removed absent the Corps’ program, and that the Corps' program will have significant impacts by causing it to be removed.

In sum, the Corps cannot avoid its ESA and NEPA obligations through the application of an abstract “baseline” which simply assumes that the agency’s action has already occurred.

H. The Corps Inappropriately Attempts to Shift Responsibility for the Environmental and Economic Consequences of its Vegetation Management Program to the State and Local Maintaining Agencies

In the Public Notice, the Corps has proposed to impose responsibility for the environmental and economic consequences of its proposed vegetation removal program on the managing agencies. Not only will this divert limited resources from more important efforts, it runs afoul of numerous legal requirements that are binding on the Corps.

In the Public Notice, the Corps asserts that: “The [variance] request process was developed to implement Section 202(g) of the Water Resources Development Act (WRDA) of 1996.” 75 Fed.Reg. at 6364. The Corps further claims that “We are proposing to issue this Policy Guidance Letter under the authority of 33 U.S.C. 701n [PL 84-99]”. However, a review of PL 84-99 and the WRDA of 1996 reveals nothing that requires the Corps to impose a massive vegetation removal obligation as a precondition to continued PL 84-99 funding. PL 84-99 simply requires that the Corps “shall prepare a manual describing the maintenance and upkeep responsibilities that the Corps of Engineers requires. …” Section 202(g) of the WRDA of 1996 simply requires that the Corps “undertake a comprehensive

review of the current policy guidelines on vegetation management for levees." Neither statute requires the Corps to impose this environmentally and economically costly program on the maintaining agencies.

Indeed, the Corps' proposal fails to implement the requirement of Section 202(g) that it undertake its policy review "in view of the varied interests in providing flood control, [and] preserving, protecting and enhancing natural resources. …" By proposing to require across-the-board removal of environmentally beneficial vegetation, the Corps has failed to implement this clear statutory requirement. Likewise, under Section 202(g) the Corps' revised guidelines "shall address regional variations in levee management and resource needs. …" As summarized above, the Corps' proposal fails to do so.

Section 202(g) also directs that any revisions to vegetation management policies "be incorporated in the manual proposed [under PL 84-99]." As detailed in above, the current Corps operation and maintenance manuals applicable to the Central Valley State-federal flood protection system expressly permit much of this vegetation and the Corps cannot override the statutorily-required manual through a Policy Guidance Letter.

Further, by requiring the State and local agencies to implement what is essentially a federal program, the proposal raises 10th Amendment concerns. Other statutes, such as the Clean Air Act, address the 10th Amendment through carefully drafted statutory provisions establishing sanctions. However, such careful navigation around the 10th Amendment's restrictions has not occurred in PL 84-99. In particular, the Corps has indicated that it may directly enforce its new requirements and withdrawal of federal rehabilitation assistance under PL 84-99 funds. Such a direct requirement to implement these new federal directives would violate the Tenth Amendment.

Additionally, there is no indication that Congress contemplated that PL 84-99 funds might be withdrawn as a sanction against maintaining agencies for their well-reasoned opposition to Corps proposals. PL 84-99 does not expressly allow the withholding of emergency funds to be used as a sanction for failure to comply with the Corps' new vegetation removal regulations, and congressional authorization for such a sanctions approach should not be inferred.

The proposal that the State and local maintaining agencies bear the full costs of this program also exceeds limitations in the WRDA of 1986, in particular Section 103. For example, Section 103(c) pegs the non-federal share of the costs assigned to environmental protection and restoration at 35 percent, whereas the Corp's proposal would obligate the non-federal entities to bear all of these costs. For costs assigned to flood control, the Corps' proposal likewise exceeds the 50 percent non-federal cost limitation in Section 103(a). By imposing unaffordable obligations, the proposal also conflicts with the "ability to pay" provision of WRDA Section 103(m).

Finally, as discussed above, the Corps' current operation and maintenance manual and decades of practice allow vegetation to remain on levees. If the new VVG are imposed, the State and local agencies will have detrimentally relied on

existing Corps maintenance manual provisions and Corps practice by retaining vegetation that will now be costly and damaging to remove.

I. The Corps' Proposal is Inconsistent With Applicable Corps Regulations

The Corps' proposal also conflicts with the agency's own regulations. In particular, 33 C.F.R. § 203.48(e) indicates that "unacceptable" flood control inspection ratings apply only where: "One or more deficient conditions exist which can reasonably be foreseen to prevent the project from functioning as designed, intended, or required."[19] Yet, the Corps' proposal would require an unacceptable rating where vegetation in excess of the policy is present on the levee, regardless of whether these criteria are met. The Corps has not demonstrated a scientific or practical connection between the Corps' vegetation removal requirement and this standard in the Corps' own regulations. In particular, the presence of vegetation on levees cannot on its own "reasonably be foreseen to prevent the project from functioning as designed, intended, or required." The State believes that in many circumstances the vegetation provides benefits promoting, rather than impairing, the flood control function.[20]

The State also believes that the Corps' vegetation management program and associated variance process can only be adopted as a regulation following notice and comment rulemaking under the federal Administrative Procedures Act.

VI. THE CORPS' PROPOSED VARIANCE PROCESS IS UNWORKABLE AND UNDULY BURDENSOME

A. The Corp's Accelerated Variance Application Process Will Impose Excessive and Unnecessary Burdens on the Maintaining Agencies

The Public Notice would require the preparation and submission of extensive, detailed information in order for an agency to begin the variance process. 75 Fed.Reg. at 6365. In many instances this information will not be readily available, and will be time consuming and costly to obtain.

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[19] This standard is repeated in EP 500-1-1, page 5-5, which elaborates that: "An Unacceptable condition means that one or more deficient conditions exist that are so serious that the FCW does not provide reliable protection against the threat of a flood." A project is to remain in active PL 84-99 status unless such an unacceptable condition exists. *Id*. at 5-6, Table 5-3. Appendix B to EP 500-1-1 indicates that "unwanted vegetation growth" warrants an unacceptable rating only where "Tree, weed, and brush cover exists in the FCW requiring removal to re-establish or ascertain FCW integrity." *Id*. at B-4. Compliance with DWR's interim vegetation inspection criteria would avoid such unacceptable conditions.

[20] The proposal also would require much more extensive vegetation removal than the levee maintenance standard articulated in 33 C.F.R. § 208.10(b). That section actually requires that: "Where practicable, measures shall be taken to retard bank erosion by planting of willows or other suitable growth on areas riverward of the levees." In contrast to the lack of any reference to tree removal in the Corps' levee maintenance regulation, the regulation for the maintenance of flood walls specifically addresses tree removal. 33 C.F.R. § 208.10(c).

For example, the application will need to include detailed and annotated plans and section drawings "clearly conveying" multiple details about the levee system and the requested variance. The application must describe "planting locations and species" showing "each species at its expected size at maturity" and "including the typical extent of the root system at species maturity." The "details" of any structural measures must be presented as well. An explanation must be provided of the "reasons the proposed changes are necessary. …" Id.

Given the geographic reach of the variance applications that are likely to be necessary, preparing, compiling and presenting the required information will be a monumental task, likely exceeding the resources of many maintaining agencies.

Moreover, the proposal is vague regarding the level of detail required. For example, the application is to include:

> An engineering analysis showing that the changes proposed will result in conditions consistent with the criteria in 6.a.(2). Include graphics, text, and information, such as construction materials and standards as needed to clearly support conclusions.

75 Fed.Reg. at 6366. These vague standards for the contents of the application may lead to second guessing and delays in the variance approval process.

The Battelle peer review of the earlier 2007 Draft White Paper included this deficiency as a comment with "high" significance, concluding that: "The basis upon which variances are granted or denied to the FDRS is critical to the Policy Document and this process should be clearly detailed in the Policy Document. Present documentation is contained in many documents and little information is available in these documents to make a sound decision." Battelle Peer Review at A-13. The Battelle peer review also observed that: "The method for quantifying risk should be more clearly and specifically defined within the variance permit process." Battelle Peer Review at A-24. Otherwise applicants would not be apprised of the safety target that they are shooting for.

Compounding this lack of guidance, the Corps would place the "burden" of making the required demonstrations on the applicant. 75 Fed.Reg. at 6366 ("The burden shall be on the sponsor to provide adequate documentation to facilitate review.") Particularly in situations where the science is insufficiently advanced to support required demonstrations, shifting the burden to the applicant may create an insurmountable hurdle.

The Corps' proposal to require that variance applications be submitted less than six months from now (by September 30, 2010) allows insufficient time for variance applications to be prepared, particularly since the variance policy still remains to be finalized. In many (if not most) instances, additional information will need to be gathered, biological surveys will need to be undertaken in the appropriate season, existing conditions will need to be documented, and engineering reports will need to be prepared. Since much of this work will need to be done by consultants, requests for proposals will need to be prepared, proposals evaluated, and contracts issued and monitored. All of this will require much more time than available with a September 30 deadline.

An additional concern is the potential need for a completed CEQA document before the application is submitted. In particular, if the application contains commitments to remove vegetation on areas for which a variance is not available, submission of the application may constitute the "approval" of a "project" for CEQA purposes. If an impact report requirement is triggered before the variance application can be signed and submitted, there might now be insufficient time to comply with CEQA. Creating a litigation risk for the maintaining agencies will further impact limited resources.

Compounding the difficulties created by the short application schedule, there has been inadequate outreach to the local maintaining agencies and many are likely unaware of the potential changes and the need to mobilize a variance application on an accelerated basis.

The proposal to require system-by-system variances (rather than the currently allowed regional variance agreements) will unnecessarily increase the burdens of the process. Under EP 500-1-1, "[t]he use of Regional Variance Agreements (RVA) is encouraged . . . RVA's are intended to simplify the regional variance process and be a cost-saving measure . . . ." EP 500-1-1 at E-1. By precluding the RVA approach, the Corps would eliminate these cost-saving benefits. Multiple variance applications would now be required where previously a regional agreement could provide the framework for a streamlined application. Particularly in California, where many of the flood control issues are similar on a regional level, the RVA approach makes sense and should be retained.[21]

In sum, the proposed variance process is unreasonably burdensome and likely to be very difficult to comply with in the limited period of time that the Corps proposes to allow.

B. By Precluding Variance Applications for Vegetation on Non-Jurisdictional Portions of the Levee System, the Lack of a Federal "Nexus" may Trigger the Need to Prepare Habitat Conservation Plans

The burden of the Corps' proposal is compounded by the possibility that maintaining agencies will be required to prepare a time consuming and costly habitat conservation plan (HCP) under the federal ESA to support required vegetation removal actions. As discussed above, variances would be precluded (and vegetation removal therefore required) on the landside, crown, and upper third of the waterside of the levees. These locations often provide habitat for federally listed species, including but not limited to the Valley elderberry longhorn beetle. Removal of this vegetation could therefore require "take" authorization under the federal ESA.

The federal ESA establishes two pathways for obtaining such take authorization. The first option is through a Section 7 consultation. However, in order for Section

[21] As discussed above, the proposed elimination of the regional variance agreement approach and the proposed requirement that multiple applications be filed for discrete components of the levee system will result in piecemealing under NEPA and impair the consideration of cumulative impacts.

7 of the ESA to apply, there must be some federal "nexus" such as a federal permit or federal funding to serve as the basis of the consultation. Generally such a nexus will be lacking for maintenance actions on those portions of the levee system where variances would be precluded, particularly since those areas will not typically require a Corps permit or involve federal funding.[22] In that circumstance, maintaining agencies will need to follow the ESA's alternate pathway and seek an incidental take permit under Section 10, the principal requirement of which is the preparation of an HCP.

In contrast to the 135 day timeline for the completion of a Section 7 consultation, there is no such time limit on HCPs and they typically require several years to prepare and process. HCPs are expensive and burdensome for the applicants, competing for limited public resources.[23]

C. Obtaining the Necessary Permits to Remove Vegetation Will Likely Prove to be Impossible in Many Circumstances

For California's Central Valley, the Corps has indicated that, absent a variance, vegetation will need to be removed by the Framework's current end-date of July 2012, a mere 27 months away. Since variances will not be allowed for vegetation on much of the levee prism, this deadline will apply to a substantial amount of vegetation removal work if the Corps finalizes the current proposal.

In implementing the Corps' vegetation policy, local agencies would encounter significant regulatory hurdles. Flood projects, like other water management projects, are subject to a variety of federal and State environmental laws, as well as laws regarding historical, archeological, or other resources. Obtaining all necessary regulatory authorizations for the removal of vegetation under the Corps' policy will likely prove to be very difficult, if not impossible to achieve.

The Corps appears to presume that because there are available permitting processes that could allow the agencies with jurisdiction to authorize the removal of vegetation, such authorization is likely to be forthcoming. However, in many circumstances this presumption may not hold, and required authorizations may be impossible to obtain. For example, in a comment letter that has already been filed, the California Regional Water Quality Control Board, San Francisco Bay Region, has indicated that the water quality certification required under Section 401 of the Clean Water Act as a precondition to the issuance of federal permits is unlikely to be provided by that agency where the proposed action would

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[22] On the lower two-thirds of the waterside of the levees, where variances are available, such a nexus will be more common since Corps permitting is more likely to be required. The Corps variance process itself may provide a basis for Section 7 consultation. Thus, Section 7 will be a more common option where a variance is applied for but then denied.

[23] This is an additional reason why the Corps should undertake a programmatic Section 7 consultation on its variance program, as urged above, which could help facilitate ESA compliance by the maintaining agencies through providing a programmatic framework for take authorizations.

adversely affect beneficial uses such as aquatic habitat. Specifically, the San Francisco Regional Board indicated that: "the State's standards will not allow 401 certifications for clear cutting of riparian forests on levees." March 10, 2010 comment letter from Wil Bruhns. Section 401 applies to "[a]ny applicant for a Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters . . . ." 33 U.S.C. 1341(a). This includes permits under Section 404 of the Clean Water Act, and may also include approvals for levee modifications under 33 U.S.C. 408. These approvals will be required for many of the vegetation removal actions that would be required under the Corps' vegetation removal program. In the absence of a 401 certification from the regional board, these federal approvals would not be effective and any vegetation removal activities requiring such approvals could not occur.

Likewise, the Corps has indicated that Section 7 consultations under the ESA will occur when a vegetation variance application is considered. However, there is no assurance that the USFWS or NOAA Fisheries will issue the required "no jeopardy" opinions where vegetation removal adversely affecting aquatic or other habitat is the result of the Corps' proceedings. Indeed, the draft jeopardy opinions proposed by USFWS and NOAA Fisheries in 2000 and 2001 suggest that "jeopardy" opinions may be the more likely result.

Numerous other regulatory programs apply to the removal of vegetation from levees, such as the streambed alteration agreement process of California Fish and Game Code Sections 1600 and following. The Corps' presumption that **all** of these programs will be navigated successfully where vegetation removal is required is likely to prove overly optimistic. Where a maintaining agency cannot obtain all required permits, it cannot lawfully proceed. The Corps completely fails to account for this scenario in its proposal.

D. The Corps' Standard for Issuing Vegetation Variances is Vague

The Public Notice describes the proposed criteria for consideration of a variance application, in their entirety, as follows:

> (1) The variance must be shown to be necessary, and the only feasible means, to
>
> • preserve, protect, and enhance natural resources, and/or
>
> • protect the rights of Native Americans, pursuant to treaty, statute, or Executive Order.
>
> (2) With regard to levee systems, the variance must assure that
>
> • safety, structural integrity, and functionality are retained, and
>
> • accessibility for maintenance, inspection, monitoring, and floodfighting are retained. Note that, as used here, the term ''retained'' refers to the level of functionality and reliability expected under conditions that are fully consistent with the requirements set forth in ETL 1110–2–571 and any other applicable criteria.

75 Fed.Reg. at 6365. Key terms in these criteria are vague and undefined. For example, no guidance is provided as to what would be required to demonstrate that a variance would "assure that safety, structural integrity, and functionality" be retained. Moreover, by defining the term "retained" in relation to the internally inconstant provisions of ETL 1110-2-571, the standard becomes even more vague and ambiguous. As a result, the variance process is likely to result in much second guessing and delay.

E. The Proposal for Multiple Levels of Internal Corps Review, the Lack of an Appeal Right for Proposed Variance Denials, and the Heavy Reliance on Subjective Engineering Judgment Determinations Compounds the Uncertainty for Maintaining Agencies

In addition to establishing a vague and ambiguous standard for variance applications as just discussed, the Corps' proposal would create a cumbersome administrative process for reviewing those applications, with multiple levels of internal Corps review relying heavily on engineering judgment determinations. The Public Notice describes the proposed **five-level** internal process as follows:

> "a. The project sponsor or district (when appropriate as outlined in paragraph 9.g. of this document) shall submit a Vegetation Variance Request, as described in paragraph 7, to the Commander of the appropriate USACE district. . . .
>
> b. The district Levee Safety Officer (LSO) shall review the request for completeness and compliance, and recommend to the District Commander acceptance or non-acceptance. All review costs incurred by the district shall be funded by the appropriate account, based on authorization (O&M General, Inspection of Completed Works, or Flood Control and Coastal Emergencies).
>
> c. The District Commander shall accept or reject the request. If accepted, the District Commander shall submit the request package through the MSC LSO to the MSC Commander. The MSC Commander shall either accept or reject the recommended request. If accepted, the MSC Commander shall submit the request to HQUSACE, via the Regional Integration Team (RIT) process, for an Agency Technical Review (ATR).
>
> d. The ATR leader shall concur or non-concur with the variance request and shall include an executive summary, clearly expressing the pertinent rationale. The ATR team may recommend amendments to the request as an alternative to a non-endorsement.
>
> e. The HQUSACE LSO, or the HQUSACE LSO designee, will be the final approving official for the request."

75 Fed.Reg. at 6365. The Corps' proposed multi-level internal process is unworkable from the perspective of the maintaining agencies, and the heavy reliance on engineering judgment creates considerable uncertainty. Moreover, as proposed by the Corps, lower-level decisions favoring a variance would automatically be reviewed higher in the chain of command, while maintaining

agencies would have no internal appeal rights over an unfavorable decision. The proposed process is therefore biased against the issuance of variances.

VII. CONCLUSION

The Corps' new approach is likely to harm public safety through the diversion of attention and resources from more pressing safety concerns. NEPA and the ESA require a federal agency to evaluate the environmental impacts of its actions and take steps to minimize harmful effects and avoid a take before those actions are taken. The Corps' policy decision should allow science to guide its form.

Because of the environmental impacts that will result from implementing the Corps' new approach, preparation of an environmental impact statement under NEPA, and consultation under Section 7 of the ESA, are a necessary precondition to its adoption. Compliance with NEPA and the ESA is required now, and cannot be deferred.

The Corps' proposal is unworkable both substantively and administratively. It establishes vague and subjective criteria for the issuance of variances, will require the costly preparation of unreasonably burdensome applications with no apparent appeal rights in the event of a denial. Vegetation removal may require authorization under the ESA, which may in turn trigger the obligation to prepare a HCP. Obtaining necessary permits for vegetation removal may prove difficult, if not impossible. By requiring the maintaining agencies to bear all of the environmental and economic costs of its vegetation removal program, the Corps has exceeded the mandate and authority of its governing statutes, including the cost-sharing provisions of WRDA.

The State of California requests that the Corps cease implementation of these new policies and procedures and continue the collaborative process with DWR and other agencies, such as outlined in the Framework. Any vegetation removal requirements should proceed in a phased manner, based upon adequate supporting science, and reflecting the unique factors that apply to the Central Valley State-federal flood protection system.

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The State of California requests that all of the documents referenced in this letter, including the bibliography, be included in the administrative record of the Corps' proceedings.