



STAFF REPORT TO THE MARIN COUNTY PLANNING COMMISSION
2007 MARIN COUNTYWIDE PLAN FINAL SUPPLEMENTAL EIR
WITH A FOCUS ON POTENTIAL CUMULATIVE IMPACTS TO SALMONIDS
IN THE SAN GERONIMO VALLEY (2019)

Item No: 5

Staff Coordination: Rachel Reid, Environmental Planning Manager
Tarisha Bal, Deputy County Counsel

Hearing Date: July 22, 2019

RECOMMENDATION: Conduct a public hearing on the Final SEIR and Recommend that BOS certify the Final SEIR.

APPEAL PERIOD: N/A

LAST DATE FOR ACTION: N/A

ACTION:

The Planning Commission is requested to conduct a public hearing on the adequacy of the Final Supplement to the 2007 Countywide Plan Final Environmental Impact Report (Final SEIR) with a Focus on Potential Cumulative Impacts to Salmonids in the San Geronimo Valley. The Final SEIR will be used by the Marin County Board of Supervisors in considering approval of the Proposed Project (*Marin CWP [2007]*) and certification of the 2007 Countywide Plan Final EIR (2007 CWP FEIR) with respect to the San Geronimo Valley.

At the close of the public hearing, the Planning Commission will consider recommending certification of the Final SEIR to the 2007 Countywide Plan Final EIR as adequate and complete pursuant to the California Environmental Quality Act (CEQA) and the Marin County Environmental Impact Review Guidelines.

PROJECT OVERVIEW AND BACKGROUND:

The Proposed Project is future land use and development specific to the San Geronimo Valley, consistent with the goals, policies, and programs of the *Marin CWP (2007)* that serve to avoid or minimize adverse impacts on biological and wetland resources in the County. The 2007

Countywide Plan FEIR was certified by the Marin County Board of Supervisors in November 2007 and the *Marin CWP (2007)* was adopted. Following the County's certification of the Final EIR, the Salmon Protection and Watershed Network (SPAWN) filed a lawsuit challenging the adequacy of the EIR. SPAWN's challenge was limited to the application of the *Marin CWP (2007)* and EIR to the San Geronimo Valley. On appeal, SPAWN's challenge was further narrowed to two primary contentions: that the EIR failed to properly analyze the cumulative impacts on threatened salmonids of future development in the San Geronimo Valley watershed as contemplated by the *Marin CWP (2007)*, and that the EIR relied on inadequate mitigation measures to reduce the impacts of development to a less-than-significant level.

In March 2014, the Court of Appeal of the State of California First Appellate District Division Three issued its opinion in regard to SPAWN's challenge, directing County of Marin to: to set aside its approval of the *Marin CWP (2007)* and certification of the related EIR with respect to the San Geronimo watershed only, pending preparation of a supplemental EIR with respect to the San Geronimo watershed only that analyzes cumulative impacts and that describes mitigation measures in conformity with State CEQA Guidelines and the Court's opinion, or makes other findings in conformity with State CEQA Guidelines.

EIR Supplement Requirement

This Final Supplemental EIR (Final SEIR) has been prepared in accordance with the decision of the Court of Appeal of the State of California First Appellate District Division Three, which directed the County to set aside its approval of the *Marin CWP (2007)* and certification of the EIR with respect to San Geronimo Valley, pending the following:

- (1) analysis of potential cumulative impacts, and the range of potential consequences, on salmonids in San Geronimo Valley resulting from future buildout in the watershed in conformity with State California Environmental Quality Act (CEQA) Guidelines Section 15130 and the Court opinion, and
- (2) a description of mitigation measures relevant to salmonids in San Geronimo Valley in conformity with State CEQA Guidelines Section 15126.4 and the Court's opinion or a description of other findings in conformity with State CEQA Guidelines Section 15091.

As specified in the Court's order, the principal action considered in this Final SEIR is adoption and implementation of the *Marin CWP (2007)* with respect to the San Geronimo Valley and the potential for effects on salmonids. The Final SEIR will be used to fulfill the Court's mandate, and will be used by the Marin County Board of Supervisors in considering certification of the 2007 CWP Final EIR with respect to the application of the *Marin CWP*'s policies governing biological and wetland resources in San Geronimo Valley.

Function of the SEIR and Future Environmental Review

Consistent with the Final EIR, this Final SEIR is a supplemental program EIR under Section 15168 of the State CEQA Guidelines. As described in State CEQA Guidelines Section 15168(a)(3), a program EIR "may be prepared on a series of actions that can be characterized as one large project and are related...in connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program." As a program SEIR, this document focuses on the overall effect of the *Marin CWP (2007)* with a focus on the potential cumulative

impacts to salmonids in San Geronimo Valley. This analysis does not examine the effects of site-specific projects that may occur within the overall umbrella of this program in the future. The nature of general plans is such that many proposed policies are intended to be general, with details to be worked out during implementation. Thus, many of the impacts and mitigation measures are only intended to be described in general or qualitative terms. The analysis in this program SEIR is considered the first tier of environmental review, creating the foundation upon which future, project-specific CEQA documents can build. A program SEIR can be incorporated by reference into subsequently prepared CEQA documents to address issues such as cumulative impacts and growth inducing impacts, allowing the subsequent documents to focus on new or site-specific impacts.

This Final SEIR will help make the environmental review process for individual development applications more efficient, because it provides program level information and data specific to the San Geronimo Valley, which identifies potentially significant environmental impacts and associated mitigation measures that may be used in analyzing future site-specific development projects. Pursuant to State CEQA Guidelines Section 15152(a)(b), "Agencies are encouraged to tier the environmental analysis which they prepare for separate but related projects. This approach can eliminate repetitive discussions on the same issue and focus the later EIR or negative declaration on the actual issues ripe for decision at each level of environmental review."

The level of detail in the first-tier EIR (this Final SEIR) should correspond to that of the program, plan, policy, or ordinance that is proposed, which this Final SEIR achieves in accordance with State CEQA Guidelines Section 15152(b). When an agency is preparing a first-tier EIR for a broad planning action, such as a general plan or component thereof (i.e. San Geronimo Valley), development of detailed, site-specific information may not be feasible, but can be deferred until such time as the lead agency prepares a future environmental document in connection with a project of a more limited geographical scale (i.e. site-specific development) that implements the plan or policy, as long as deferral does not prevent adequate identification of significant effects of the planning approval at hand. State CEQA Guidelines Section 15152(c); *Rio Vista Farm Bureau Ctr. v. County of Solano* (1992) 5 CA4th 351. In compliance with CEQA, this Final SEIR identifies the significant effects of approving the *Marin CWP (2007)* with respect to the potential impacts to salmonids in the San Geronimo Valley, and provides program-level mitigation measures that specify the necessary performance standards which would mitigate the significant effects of the *Marin CWP (2007)* and which may be accomplished in more than one specified way. State CEQA Guidelines Section 15126.4(b).

Draft SEIR Process

In August 2015, the County independently selected and contracted with a consulting firm, Stillwater Sciences, to prepare the supplemental environmental review documentation to the *2007 Countywide Plan FEIR* consistent with the Court's order. The evaluation and findings in the Draft SEIR provide the substantial evidence which the County relied on in determining that this Draft SEIR complies with CEQA and the Court order.

The Draft SEIR, a Notice of Availability (NOA) and Notice of Public Hearing on the Draft SEIR were posted on the Community Development Agency's website and distributed on May 1, 2017, to members of the Planning Commission, Board of Supervisors, State Clearinghouse, state and local agencies and special districts, and other interested groups and individuals. The NOA and

Notice of Public Hearing were also published in a newspaper of general circulation to begin a 45-day public review and comment period on the adequacy of the Draft SEIR, which concluded on June 15, 2017.

Final SEIR Process

The Final SEIR (revised Draft SEIR text with track changes, Responses to Comments and Appendices) and an NOA of the Final SEIR and Notice of Public Hearing of the Planning Commission to consider certification of the Final SEIR and project approval was distributed on August 3, 2018 to members of the Planning Commission, Board of Supervisors, State Clearinghouse, state and local agencies and special districts, EIR commenters, and other interested groups and individuals. The NOA and Notice of Public Hearing was also published in a newspaper of general circulation to begin a 21-day review and comment period on the Final SEIR. This 21-day review and comment period was subsequently extended to October 8, 2018 to provide interested parties additional time to prepare comments.

The public notices directed that comments on the Final SEIR should be limited to and focused on the adequacy of the Final SEIR responses to earlier comments received on the Draft SEIR, consistent with the County's environmental review process. Most of the comments on the Final SEIR reiterated the comments submitted on the Draft SEIR. In a few cases, the responses to comments received on the Final SEIR resulted in insignificant changes to the text of the Final SEIR. Where changes are made to the Final SEIR, they are noted in the specific response and shown with strikethrough (deletions) and underline (additions). Revisions to the Final SEIR and the key issues in the Final SEIR Response to Comments principally involved clarifications and minor corrections to the project description, elucidation regarding the CEQA process for the project, slight refinements and amplification to some of the topical impact area discussions, and additional explanation regarding the County's future SCA Ordinance.

Supporting reports and project documents that were referenced in the Draft and Final SEIR were made available on the County's website and at the offices of the Community Development Agency.

Final SEIR Amendment (Response to Comments) Process

Responses to the comments received during the 66-day review period on the Final SEIR were prepared and are proposed to be adopted as an Amendment to the Final SEIR. The purpose of the Final SEIR Response to Comments Amendment is to conclude the public review and comment process by responding to significant environmental points raised in the comments regarding the adequacy of Responses to Comments contained in the Final SEIR, consistent with the requirements of County environmental review procedures, and to proceed with allowing the Final SEIR to be considered for certification. The Final SEIR Amendment is to be considered together with the Final SEIR at the time the decision-makers consider the Final SEIR for certification and the project for approval.

Because the comments and responses on the Final SEIR (including the Final SEIR Amendment) result in only minor clarifications and insignificant changes to the Final SEIR, they do not trigger

CEQA requirements for recirculation of the document for additional public review and do not prevent certification of the Final SEIR as adequate and complete.

On July 10, 2019, copies of the Final SEIR Amendment were distributed to members of the Planning Commission, Board of Supervisors, State Clearinghouse, Federal, State and local agencies and special districts. A Notice of Availability of the Final SEIR Amendment and Notice of Public Hearing was published in a newspaper of general circulation to commence a 10-day public review period prior to the Planning Commission hearing for certification of the Final SEIR as adequate and complete.

SUMMARY OF MAJOR CONCLUSIONS IN FINAL SEIR:

The cumulative impacts analysis in this Final SEIR evaluates the potential effects of future development (i.e., urbanization) on anadromous salmonids and their habitat in the San Geronimo Valley under the *Marin CWP (2007)*. Based on the analyses in this Final SEIR, two new potentially significant cumulative impacts and one new less-than-significant cumulative impact could occur.

As summarized below, four new mitigation measures were identified in the Final SEIR. These new mitigation measures will reduce the new potentially significant cumulative impacts to a less-than-significant level. Additionally, two new voluntary mitigation measures have been identified, consistent with the County's commitment to avoiding or minimizing impacts to the maximum extent practicable. There would be no significant and unavoidable impacts.

This supplement to the Final EIR for the *Marin CWP (2007)* now contains the information necessary to make the Final EIR adequate for the project as revised (State CEQA Guidelines Section 15163(b)). This Final SEIR may be circulated by itself without recirculating the Final EIR (State CEQA Guidelines Section 15163(c)).

Potentially New Significant Impacts

Impact 5.1. Reduced Survival of Fry and Juvenile Salmonid Life Stages Due to Reduced Winter Rearing Habitat Quality. This impact was determined to be potentially significant due to alterations in hydrodynamic processes resulting from projected increases in TIA and other urbanization effects under the Proposed Project, which would make a cumulatively considerable contribution to increased winter storm flow magnitude and frequency, in turn causing additional habitat simplification and further compromising the ability of rearing coho salmon to find adequate refuge during high flows. Implementation of ***Mitigation Measure 5.1-1: Expanded SCA Ordinance*** and ***Mitigation Measure 5.1-2: Require Biotechnical Techniques and Salmonid Habitat Enhancement Elements for All Bank Stabilization Projects*** would reduce this impact to a less-than significant level.

Impact 5.2. Reduced Salmonid Spawning Success Due to Elevated Sediment Delivery and Increased High Flow Frequency and Magnitude. This impact was determined to be potentially significant due to alterations in hydrodynamic processes resulting from projected increases in TIA and other urbanization effects under the Proposed Project, which would increase inputs of development-related fine sediment to stream channels and winter storm flow magnitude and frequency. These conditions would further increase the risk of streambed and redd scour, thus

making a cumulatively considerable contribution to the existing adverse impacts on coho salmon and steelhead spawning success. Implementation of **Mitigation Measure 5.1-1: Expanded Stream Conservation Area (SCA) Ordinance and Mitigation Measure 5.2-1: Control and Reduce Production and Delivery of Fine Sediment to Streams** would reduce this impact to a less-than-significant level.

Potential Impact 5.3. Reduced Salmonid Summer Rearing Success Due to Degraded Habitat Conditions Including Reduced Habitat Complexity, Reduced Streamflow, and Increased Water Temperature. This impact was determined to be less than significant because potential reductions in stream habitat quality and riparian function related to future development in the watershed would be relatively minor and likely too small to substantially or measurably reduce the ability of juvenile salmonids to rear and grow during the summer rearing period. The potential for impacts on salmonid summer rearing success due to development-related reductions in summer baseflows could not be determined due to a lack of available data on the potential hydrologic and biologic effects of groundwater pumping and surface water diversions in San Geronimo Valley. While the Proposed Project is not capable of fully avoiding or eliminating impacts to water quality, sediment delivery, and instream habitat complexity associated with future development, it is unlikely that any such impacts would make a considerable contribution to the existing cumulative impacts on coho salmon and steelhead summer rearing success.

Although Potential Impact 5.3 is less than significant, the County has nonetheless elected to pursue a voluntary mitigation measure consistent with its commitment to avoiding or minimizing impacts to the maximum extent practicable. **Voluntary Mitigation Measure 5.3-1: Groundwater Study** would provide required information to help determine whether existing and future groundwater pumping, surface water diversions, altered watershed hydrology, and other effects related to development are or would be likely to adversely impact summer baseflow in San Geronimo Creek. This measure would improve understanding of development-related effects on salmonid summer rearing habitat in the watershed and assist with County efforts to protect and conserve habitat for these species.

Information Added to the Final SEIR and Final SEIR Amendment

Following circulation of the Draft EIR for review and comment, and before circulation of the Final EIR for review, the County received comments seeking clarification regarding the types of activities that would require new permits and site assessments, as well as further detail regarding the analyses conducted for the Draft SEIR. Revisions to the Draft SEIR provide the requested clarifications in this Final SEIR. Some of the comments received raise resource management issues which extend beyond the scope of achieving sustainable mitigation measures for the potential impacts of future theoretical buildout on salmonids. In these cases, Marin County has responded with clarifying information as to how resources are managed and where information can be found. Consistent with Section 15088.5 (a) of the State CEQA Guidelines, revisions that have been made to the Draft SEIR, including those that address public comments, do not require recirculation prior to certification because they do not constitute significant new information that would deprive the public of a meaningful opportunity to comment upon any substantial adverse environmental effects of the Proposed Project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that Marin County has declined to implement. The modifications are not due to any of the following:

- (1) A new significant environmental impact that would result from the project or from a new mitigation measure proposed to be implemented.
- (2) A substantial increase in the severity of an environmental impact that would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
- (3) A feasible project alternative or mitigation measure considerably different from others previously analyzed that would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.
- (4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

Rather, any newly incorporated information that has been added to the Draft SEIR to address public comments, clarifies or amplifies or makes insignificant modifications in an adequate EIR, consistent with Section 15088.5 (b) of the State CEQA Guidelines.

Additionally, in response to comments, and following updates to Mitigation Measure 5.1-2, Mitigation Measure 5.2-2 was no longer required as a separate mitigation measure to mitigate impacts to salmonid spawning success. Accordingly, Mitigation Measure 5.2-2 has been deleted as a separate mitigation measure in the Final SEIR. With clarification and amplification, Mitigation Measure 5.1-2 now covers all activities that were or would be included in Mitigation Measure 5.2-2. Mitigation Measure 5.1-2 will avoid impacts to salmonid spawning success, or reduce the impacts to a level that is less than significant and would not make a considerable contribution to existing significant cumulative impacts. Consistent with Section 15088.5 of the State CEQA Guidelines, this revision does not constitute significant new information and recirculation is not triggered.

Mitigation Measure 5.1-1: Expanded SCA Ordinance

The County shall adopt an Expanded SCA Ordinance consistent with Goal BIO-4 and associated Implementing Programs under the Proposed Project. The County shall commence with development of the Expanded SCA Ordinance following certification of the Final SEIR and, barring unforeseen delays caused by continuing, new, or threatened litigation related to the SEIR process and/or the ordinance, shall complete the Expanded SCA Ordinance within five years of Final SEIR certification. The County shall report on progress toward completing the Expanded SCA Ordinance to the County Board of Supervisors no less than twice annually, and shall provide public noticing of the forthcoming Board of Supervisors meeting within 10 days prior to the meeting.

~~In developing t~~The Expanded SCA Ordinance, the County will shall incorporate provisions that would:

Provision 1

- Expand the set of development activities that require a discretionary permit and site assessment to include ~~any activities~~ within the SCA that requires vegetation clearing,

increases impermeable area, ~~alters~~ increases surface runoff, results in exposed soil, ~~or alters the bed, bank, or channel of any stream,~~ with the following exemptions:

Exemption 1: Dead, invasive, or exotic vegetation, including leaf-litter, may be removed without a permit. Consistent with Policy BIO-4.4 of the Marin CWP (2007) and the San Geronimo Valley Salmon Enhancement Plan (SEP)¹, woody debris located below the streamside top of bank is not exempt. Prior to removal of such woody debris, consultation is required with Marin County², the California Department of Fish and Wildlife (CDFW), and/or Marin Municipal Water District (MMWD) to determine its potential to induce erosion or threaten health and safety (including fire safety), and thus whether a permit is needed to remove it. Top of bank shall be determined through a site inspection.

Exemption 2: Removal or trimming of pyrophytic³ combustible live trees and/or vegetation consistent with Marin County Ordinance No. 3550 would not require a permit.

Exemption 3: Planting of non-pyrophytic native vegetation is exempt.

Exemption 4: Repairs or replacements of septic systems⁴ that incorporate applicable Marin County Stormwater Pollution Prevention Program (MCSTOPPP) minimum erosion control, sediment control, and good housekeeping BMPs⁵ are exempt.

Exemption 5: Landowners who partner with the Marin Resource Conservation District to voluntarily restore creeks on their property shall not be required to obtain a discretionary permit for work within the SCA, or a Creek Permit⁶ for work below the streamside top of bank, providing that the proposed work is consistent with and authorized under the Marin Resource Conservation District's Permit Coordination Program (<http://www.marinrcd.org/pcp/>) and the Resource Conservation District takes full responsibility for the work. Top of bank shall be determined through a site inspection.

¹ Diameters and lengths defined in Table 1 (pp. 11) of PCI (2010).

² The current contact for woody debris consultation is Sarah Phillips – Marin Resource Conservation District Urban Streams Coordinator: <mailto:sarah@marinrcd.org>; phone: (415) 663-1170. For fire-related health and safety, contact the Marin County Fire Department Fire Marshall, Scott Alber: (415) 473-6566 or Fire Safe Marin: (415) 570-4FSM {4376}.

³ For the purposes of Exemption 2, pyrophytic combustible trees and/or vegetation are defined as fire-prone plants listed on the FIRESafe MARIN website: <http://www.firesafemarin.org/plants/fire-prone>. The hardwood and coniferous riparian species Tanoak, California Bay Laurel, and Douglas-fir are considered to be pyrophytic combustible trees and thus are included in this exemption.

⁴ Septic system is defined as an on-site sewage disposal system consisting of a septic tank, and a soil infiltration leach field, evapotranspiration mound, or other approved disposal facility. This captures all individual sewage disposal systems as defined in Title 18 of the Marin County Municipal Code of Ordinances.

⁵ For information regarding MCSTOPPP, please see: <https://www.marincounty.org/depts/pw/divisions/creeks-bay-and-flood/mcstoppp>

⁶ For information regarding Creek Permits, please see: <https://www.marincounty.org/depts/pw/divisions/creeks-bay-and-flood/mcstoppp/creek-permit-checklist>

Provision 2

- Enact consistent permit and site assessment requirements for development in planned zoning districts and conventional zoning districts.

Provision 3

- Require site assessments to be conducted by a qualified professional with at least five years of field experience who has received training and certification by CDFW or NMFS in assessing potential impacts to stream ecology, riparian ecology, and hydrology in coastal California, and the potential for impacts to anadromous salmonids from changes to these processes and conditions.
- ~~Training and certification by NMFS and/or CDFW would be consistent with Action Step 22.2.1.2. from the Central California Coast coho salmon recovery plan (NMFS 2012) (“Provide technical and staff support to counties to encourage general plan updates to include measures to protect coho salmon [CDFG 2004]”) and the California Department of Fish and Game (CDFG) (2004) Recovery Strategy for California Coho Salmon.~~

Provision 4

- Require Standard Management Practices (SMPs) to be incorporated into all projects development activities within the SCA, as defined in Provision 1, for the protection of hydrologic processes, stream and riparian habitat, and water quality within SCAs. SMPs shall be reviewed and approved by CDFW or NMFS to ensure the SMPs are adequate to avoid or minimize impacts to salmonids.

The SMPs will include, at a minimum, the following information:

For Riparian Vegetation and Habitat:

- Identification (common names, scientific names, and images) of riparian vegetation important for salmonids;
 - Requirements for replacement of riparian trees removed in association with development activities, including:
 - Riparian trees removed shall be replaced with non-pyrophytic native riparian trees on-site at a 2:1 ratio or, if on-site mitigation is not feasible, shall be replaced off-site at a 3:1 ratio in a functionally equivalent riparian area of San Geronimo Creek or its major tributaries (North Fork San Geronimo Creek, Woodacre Creek, Montezuma Creek, Arroyo/Barranca/El Cerrito Complex, Larsen Creek) within reaches accessible to anadromous salmonids.
 - Allowable woody riparian tree species (primarily non-pyrophytic) for replanting in riparian areas include:
 - Broadleaf – Bigleaf Maple (*Acer macrophyllum*), California Buckeye (*Aesculus californica*), White Alder (*Alnus rhombifolia*), Oregon Ash (*Fraxinus latifolia*), Coastal Live Oak (*Quercus agrifolia*), and Arroyo Willow (*Salix lasiolepis*).
 - Coniferous – Redwood (*Sequoia sempervirens*), Douglas-fir (*Pseudotsuga menziesii*)*.
- * Douglas-fir is a California native species and is considered to be a fire-prone plant, as listed on the FIREsafe MARIN website

<http://www.firesafemarin.org/plants/fire-prone>. Where planted, Douglas-fir should be set back from structures in compliance with Title 16 of the Marin County Municipal Code and the California Public Resources Code. Additionally, its potential to contribute to wildfire may be reduced through appropriate trimming, thinning, and removal of branches and shoots to reduce the density of woody plant material in the understory. While tanoak is also a native riparian and understory species in the San Geronimo Valley, tanoak is highly vulnerable to Sudden Oak Death and therefore can increase the amount of dead and dry plant material (i.e., fuel) and the potential for wildfire (Forrestel et al. 2015). The native riparian tree California Bay Laurel is currently considered to be a vector for Sudden Oak Death and is thus not included on the list of allowable woody riparian tree species for replanting in the SCA.

- Replacement trees should be of the same category as the tree being removed:
 - Broadleaf trees should be replaced by broadleaf trees using a #5 container.
 - Coniferous trees should be replaced by coniferous trees using a #15 container.
 - Willow trees should be replaced by willow trees using a 1- inch diameter, 4-foot length cutting.
 - Replacement trees shall be irrigated as needed and monitored to ensure survival for a minimum of two years.
 - Trees that do not survive for a minimum of two years shall be replaced according to the above requirements. Replacements shall be irrigated as needed, and monitored to ensure survival for a minimum of two years.
- Allowable vegetation removal and replacement techniques; and
 - Allowable seasonal timing for vegetation removal.

For Water Quality and Hydraulic Capacity:

- Consistent with the BASMAA Post-Construction Manual (BASMAA 2014) and Provision 5 of this mitigation measure:
 - Drainage requirements for new or replaced impervious areas;
 - Runoff dispersal requirements from new or replaced impervious areas;
 - Bioretention facility design standards; and
 - Bioretention facility underdrain and overflow requirements.

For Pollution Prevention during Construction Phase:

- Erosion and sediment control requirements, such as MCSTOPPP “Minimum Erosion and Sediment Control Measures for Small Construction Projects” (2015); and
- Seasonal restrictions for construction activities.

Provision 5

- ~~Require discretionary permits for projects in priority stream reaches (the reaches most heavily impacted and potentially most important for salmonid winter rearing) to include low impact development (LID) practices and designs that are demonstrated to prevent offsite discharge from events up to the 95th percentile 24-hour rainfall event and approved by a~~

qualified professional. Priority reaches are currently considered to be Woodacre Creek, upper San Geronimo Creek, lower San Geronimo Creek, and Montezuma Creek but may be modified based on the results of future studies and monitoring by MMWD and others.

- Require that discretionary permits for development projects⁷ within the SCA include low impact development (LID) practices and designs that are demonstrated to prevent offsite discharge from events up to the 85th percentile 24-hour rainfall event. Specifically:
 - Small projects, including single-family homes and driveways, that create or replace 500 ft² or more of impervious surface shall be required to complete a stormwater control plan (SCP) that achieves retention of the 85th percentile, 24-hour design storm for the newly created or replaced impervious surface, or for an equivalent area of previously unretained impervious surface on the same site. For San Geronimo Valley the SCP cannot rely upon the existing runoff reduction measures as described in Appendix C of the Bay Area Stormwater Management Agencies Association (BASMAA) Post-Construction Manual (BASMAA 2014) to retain the 85th percentile, 24-hour design storm standard.
 - Regulated projects shall be required to complete a stormwater control plan (SCP) that achieves retention of the 85th percentile, 24-hour design storm for the newly created or replaced impervious surface, or for an equivalent area of previously unretained impervious surface on the same site. For San Geronimo Valley the SCP cannot rely upon the bioretention sizing factor (0.04) described in Appendix D of the BASMAA Post-Construction Manual (BASMAA 2014) to retain the 85th percentile, 24-hour design storm standard.
 - New roads (paved and unpaved) shall be required to meet the following design criteria:
 - Surface drainage:
 - Road surfaces and ditches are hydrologically "disconnected" from streams and stream crossing culverts, with a maximum allowable hydrologic connectivity of 25% of the total new road surface and compacted shoulder area (paved and unpaved). To be considered disconnected, road surface runoff is dispersed, rather than collected and concentrated, and does not return to a connected ditch farther downstream.
 - Fine sediment contributions from roads, cutbanks and ditches are minimized by utilizing seasonal closures and installing a variety of surface drainage techniques including berm removal, road surface shaping (i.e., outsloping, insloping, crowning), rolling dips, ditch relief culverts, waterbars and other measures to disperse road surface runoff and reduce or eliminate sediment delivery to the stream.
 - Stream crossings:
 - Stream crossings have a drainage structure designed to pass the 100-year flood flow including appropriate sizing and configuration to accommodate predicted loads of woody debris and sediment.

⁷ Includes paper streets (Marin County Municipal Code 24.04.627) and/or improvements to existing unpaved roads.

- Stream crossings have no diversion potential (e.g., functional critical dips are in place).
- Culvert inlets have low plug potential (trash barriers or deflectors installed where needed).
- Approaching road surfaces and ditches are disconnected from streams and stream crossing culverts to the extent feasible, with a maximum allowable hydrologic connectivity of 25% of the total new road surface and compacted shoulder area, using road shaping and road drainage structures.
- Class I (fish-bearing) stream crossings meet California Department of Fish and Wildlife and National Marine Fisheries Service fish passage criteria.
- Road fills:
 - Unstable and potentially unstable road fills that could deliver sediment to a stream are excavated (removed) or structurally stabilized.
 - Excavated spoil is placed in locations where eroded material will not enter a stream.
 - Excavated spoil is placed where it will not cause a slope failure or landslide.
- Off-site retrofits
 - If on-site avoidance or minimization of surface runoff and sediment erosion is not feasible using the above Provision 5 criteria, off-site retrofit of existing impaired sites (e.g., stream crossings currently diverted or with diversion potential, culverts likely to plug or undersized culverts), would occur at a 2:1 ratio for total runoff area in a functionally equivalent riparian area of San Geronimo Creek or its major tributaries (North Fork San Geronimo Creek, Woodacre Creek, Montezuma Creek, Arroyo/Barranca/El Cerrito Complex, Larsen Creek) within reaches accessible to anadromous salmonids. If functionally equivalent off-site mitigation opportunities cannot be identified within these locations, then opportunities can be selected elsewhere in San Geronimo Valley and/or in the downstream Lagunitas Creek watershed using existing site-specific sediment source assessments (e.g., *San Geronimo Valley Non-County Maintained Roads Erosion Assessment and Implementation, Marin County, California, 2010*; *Lagunitas Creek Watershed Unpaved Roads Sediment Source Site Assessment, 2013*).

Mitigation Measure 5.1-2: Require Biotechnical Techniques and Salmonid Habitat Enhancement Elements for All Bank Stabilization Projects

Marin County shall require that biotechnical techniques and salmonid habitat enhancement elements be included for all permitted bank stabilization projects. Biotechnical techniques provide structural and surface erosion protection through the use of vegetation and wood to reproduce elements of the natural system, thus providing beneficial ecosystem functions and habitat features

(Wells 2002, WDFW 2003). Specific criteria, design specifications, and guidelines for individual bank stabilization and instream habitat enhancement projects shall be developed in coordination with and approved by CDFW, with input from agencies such as NMFS and other willing participants, as appropriate for project permitting.

Bank stabilization projects shall adhere to the following provisions:

- All stream bank stabilization work shall include biotechnical techniques, such as those described in Appendix H of the Salmonid Enhancement Plan (PCI 2010) and the Creek Bank Restoration and Repair Guidance available at: <https://www.marincounty.org/depts/pw/divisions/creeks-bay-and-flood/mcstoppp/general-public/creeks-and-watersheds>
- Stream bank stabilization structures that involve riprap, rock, or other structural components used to prevent localized stream erosion, sediment transport, or movement shall be used only in unusual circumstances and shall require justification in order to receive a permit. However, rock used to facilitate natural stream processes and dynamics with the purpose of achieving stream equilibrium between erosional and depositional processes shall be allowed, providing the proposed design is justified and approved by the appropriate resource agencies.
- All stream bank stabilization work shall also incorporate salmonid habitat enhancement elements such as anchored tree or branch bundles, overhanging woody vegetation, cobble/boulder substrate, or other features that improve the shelter complexity rating of each affected stream habitat unit by at least 20% or by a percentage equal to half the affected percentage of the bank length of each habitat unit, whichever is greater⁸. Habitat units and instream shelter complexity ratings shall be identified and determined before initiation of bank stabilization work and after completion of the work, and shall be identified and determined by a qualified professional according to the protocols described in the California Salmonid Stream Habitat Restoration Manual (Flosi et al. 2010, or most recent edition). The qualified professional conducting the identification of habitat units and instream shelter complexity ratings will possess field experience assessing potential impacts to stream ecology, riparian ecology, and hydrology in coastal California, and the potential for impacts to anadromous salmonids from changes to these processes and conditions.
- Habitat enhancement elements incorporated into bank stabilization projects must be stable (non-mobile) in the channel and provide instream shelter for salmonids at summer baseflow and bankfull flow, as determined by a qualified professional (see above) using protocols described in the California Salmonid Stream Habitat Restoration Manual (Flosi et al. 2010, or most recent edition).

~~Projects shall be designed to enhance floodplain/winter habitat for coho salmon and other anadromous salmonids in the San Geronimo Valley and be consistent with guidelines and requirements included in Action Steps LaC CCC 3.1.4 and LaC CCC 4.2.2.1 from the Central~~

⁸ For example, a bank stabilization project that affects 60% of the bank length of a given stream habitat unit (e.g., a pool, riffle, or run) must provide instream habitat enhancement that increases the shelter complexity rating of the affected habitat unit by 30% (i.e., half of 60%). A project that affects 25% of the bank length of a given habitat unit must provide instream habitat enhancement that increases the shelter complexity rating of the affected habitat unit by 20%.

~~California Coast coho salmon recovery plan (NMFS 2012) and TMDL implementation actions recommended by the SFBRWQCB to attain water quality objectives and ecological objectives for improving populations of coho salmon and steelhead (SFBRWQCB 2014a). Specific criteria, design specifications, and guidelines for habitat enhancement projects shall be developed in coordination with and approved by CDFW and/or NMFS.~~

~~Habitat enhancement projects shall be focused in priority stream reaches (the reaches most heavily impacted and potentially most important for salmonid winter rearing), which are currently considered to be Woodacre Creek, Lower San Geronimo Creek, and Montezuma Creek but may be modified based on the results of future studies and monitoring by MMWD and others.~~

Marin County shall require that biotechnical techniques and salmonid habitat enhancement elements be included for all permitted bank stabilization projects. Biotechnical techniques provide structural and surface erosion protection through the use of vegetation and wood to reproduce elements of the natural system, thus providing beneficial ecosystem functions and habitat features (Wells 2002, WDFW 2003). Specific criteria, design specifications, and guidelines for individual bank stabilization and instream habitat enhancement projects shall be developed in coordination with and approved by CDFW, with input from agencies such as NMFS and other willing participants, as appropriate for project permitting.

Bank stabilization projects shall adhere to the following provisions:

- All stream bank stabilization work shall include biotechnical techniques, such as those described in Appendix H of the Salmonid Enhancement Plan (PCI 2010) and the Creek Bank Restoration and Repair Guidance available at: <https://www.marincounty.org/depts/pw/divisions/creeks-bay-and-flood/mcstoppp/general-public/creeks-and-watersheds>
- Stream bank stabilization structures that involve riprap, rock, or other structural components used to prevent localized stream erosion, sediment transport, or movement shall be used only in unusual circumstances and shall require justification in order to receive a permit. However, rock used to facilitate natural stream processes and dynamics with the purpose of achieving stream equilibrium between erosional and depositional processes shall be allowed, providing the proposed design is justified and approved by the appropriate resource agencies.
- All stream bank stabilization work shall also incorporate salmonid habitat enhancement elements such as anchored tree or branch bundles, overhanging woody vegetation, cobble/boulder substrate, or other features that improve the shelter complexity rating of each affected stream habitat unit by at least 20% or by a percentage equal to half the affected percentage of the bank length of each habitat unit, whichever is greater⁹. Habitat units and instream shelter complexity ratings shall be identified and determined before initiation of bank stabilization work and after completion of the work, and shall be identified and determined by a qualified professional according to the protocols described in the California Salmonid Stream Habitat Restoration Manual (Flosi et al. 2010, or most recent

⁹ For example, a bank stabilization project that affects 60% of the bank length of a given stream habitat unit (e.g., a pool, riffle, or run) must provide instream habitat enhancement that increases the shelter complexity rating of the affected habitat unit by 30% (i.e., half of 60%). A project that affects 25% of the bank length of a given habitat unit must provide instream habitat enhancement that increases the shelter complexity rating of the affected habitat unit by 20%.

edition). The qualified professional conducting the identification of habitat units and instream shelter complexity ratings will possess field experience assessing potential impacts to stream ecology, riparian ecology, and hydrology in coastal California, and the potential for impacts to anadromous salmonids from changes to these processes and conditions.

- Habitat enhancement elements incorporated into bank stabilization projects must be stable (non-mobile) in the channel and provide instream shelter for salmonids at summer baseflow and bankfull flow, as determined by a qualified professional (see above) using protocols described in the California Salmonid Stream Habitat Restoration Manual (Flossi et al. 2010, or most recent edition).

Mitigation Measure 5.2-1: Control and Reduce Production and Delivery of Fine Sediment to Streams

The provisions of the Expanded SCA Ordinance described under ~~Mitigation~~ Mitigation Measure 5.1-1 ~~will shall~~ avoid or minimize the hydrologic effects and stream sedimentation associated with future additional development in the SCA watershed, helping reduce the potential for redd scour and degradation of salmonid winter rearing habitat.

In addition, the County shall adopt changes to existing stormwater, LID, erosion and sediment control requirements within the San Geronimo watershed and outside of the SCA consistent with the following:

- Development projects requiring a permit shall be required to adhere to LID practices and designs specified in Mitigation Measure 5.1-1.
- Projects subject to a grading permit (Marin County Municipal Code 23.08.025, 23.08.026) shall not be conducted during the rainy season (October 15–April 15). No exceptions to this requirement shall be given by the Director of Marin DPW or by other parties except in cases of imminent threat to life or property.
- New roads (paved and unpaved) shall be required to adhere to design criteria specified in Mitigation Measure 5.1-1.

These actions would occur in addition to ongoing implementation of measures to control and reduce production and delivery of fine sediment to streams from existing development, including applicable waste discharge requirements (WDRs) or waiver of WDRs, in keeping with the requirements of the Basin Plan Amendment (SFBRWQCB 2014b) which establishes the TMDL for fine sediment in the Lagunitas Creek watershed.

~~In addition, Marin County DPW shall continue to develop and implement measures and guidelines to control and reduce production and delivery of fine sediment to streams and minimize its effects on redd scour and other components of salmonid habitat, in keeping with the requirements of the Basin Plan Amendment (SFBRWQCB 2014b). These actions, many of which are underway or substantially complete, include measures that will achieve the following performance standards within 20 years of Basin Plan amendment adoption:~~

- ~~• Achieve and maintain the target for road-related sediment delivery to channels of ≤ 350 cubic yards per mile per 20-year period; and~~

- Minimize delivery of sediment to channels from unstable or potentially unstable areas by managing existing roads and other infrastructure to prevent additional erosion of legacy sediment delivery sites, and/or delivery from other potentially unstable areas.

To this end, Marin County DPW shall submit, by 2019, a Report of Waste Discharge to the SFBRWQCB that provides, at a minimum, the following:

- Description of the road network and/or segments;
- Identification of erosion and sediment control measures to achieve performance standard(s) specified in Table 4.2 of the Basin Plan Amendment;
- A schedule for implementation of identified control measures; and
- Development and implementation of guidelines for road maintenance, as needed to protect water quality, stream-riparian habitat, and salmonid fisheries.

The Marin County DPW shall also comply with applicable waste discharge requirements (WDRs) or waiver of WDRs, and report progress on development and implementation of best management practices to control road-related erosion.

Mitigation Measure 5.2-2: Stream Habitat Enhancement Projects

Marin County, or nonprofits in partnership with reach-based landowner stewardships, shall develop and implement projects to enhance stream habitat complexity and connectivity, enhance riparian function and LWD loading/recruitment, increase natural hydraulic sediment sorting and gravel retention, and reduce development-related erosion in the watershed. The objectives of these enhancement projects will be to:

- Support self-sustaining populations of coho salmon and steelhead and to enhance the overall health of the native fish community; and
- Reduce rates of sediment delivery to channels (associated with incision and accelerated bank erosion) by 67% in San Geronimo Creek.

If approved by the SFBRWQCB, these enhancement projects may include the floodplain/winter habitat enhancement projects described above under Mitigation Measure 5.1-2. As specified in the Basin Plan Amendment (SFRWQCB 2014b), specific actions shall include the following:

- Within 10 years of Basin Plan Amendment adoption, develop and implement plans to enhance LWD loading and restore natural rates of recruitment to channels, as needed to achieve numeric targets for LWD loading ($\geq 300 \text{ m}^3/\text{ha}$ in Redwood Channels and $\geq 100 \text{ m}^3/\text{ha}$ in Hardwood Channels) and to achieve load allocations for sediment (Basin Plan Amendment Tables 3a and 3b). These plans will include a survey to quantify baseline values for LWD loading.
- Within five years of Basin Plan Amendment adoption, develop detailed technical studies to characterize reach-specific opportunities and priorities for floodplain restoration.

To help meet targets for salmonid spawning habitat quality, the actions described above shall be consistent with the following salmonid habitat enhancement goals, as described in the San Geronimo Valley Salmonid Enhancement Plan (PCI 2010):

- Protect and enhance the riparian corridor to create healthy, self-sustaining habitat (Recommendation #2);

- ~~Promote increased watershed-wide stormwater retention and disconnection (Recommendation #12); and~~
- ~~Reduce fine sediment delivery from roads and upland erosion (Recommendation #15).~~

~~Specific criteria, design specifications, and guidelines for habitat enhancement projects shall be developed in coordination with and approved by CDFW and/or NMFS.~~

Final SEIR Amendment

Minor modifications and clarifying language were also added to the Final SEIR Amendment after circulation of the Final EIR for review and comment and before circulation of the Final SEIR Amendment. Consistent with Section 15088.5 (a) of the State CEQA Guidelines, revisions that were made to the Final SEIR to address public comments do not require recirculation of the SEIR prior to certification because they do not constitute significant new information that would deprive the public of a meaningful opportunity to comment upon any substantial adverse environmental effects of the Proposed Project, or a feasible way to mitigate or avoid such an effect (including a feasible project alternative), that Marin County has declined to implement.

Rather, any new information that has been added to the Draft SEIR to address public comments clarifies or amplifies or makes insignificant modifications in an adequate EIR, consistent with Section 15088.5 (b) of the State CEQA Guidelines.

Changes that have been made to the Final SEIR are shown below. Omitted text is shown in strikethrough mode and new text is underlined.

Section 3.6.1 is revised as follows:

However, salmonid access is currently blocked by culverts or other passage barriers in several locations throughout the watershed due to both County infrastructure and infrastructure on private lands, and the target of unimpeded access to 90–100% of suitable habitat is not currently met (Table 3 2). These include, but are not limited to, barriers in Creamery Creek, Sylvestris Creek, and Treatment Plant Creek, as well as all three major tributaries to the North Fork (i.e., Spirit Rock, Horse, and Flanders Creeks) due to the presence of Dickson weir (Stillwater Sciences 2009a) as well as barriers located further upstream (pers. comm. Kallie Kull – Marin County, 12 March 2019). In Larsen Creek, steelhead access to significant stretches of potential upstream habitat is restricted by a large pond in the San Geronimo Golf Course and road crossings at Nicasio Valley Road and Meadow Way, while both coho and steelhead presence are restricted by an impassable culvert on Montezuma Road just upstream of the confluence between Montezuma and Candelero Creeks.

Mitigation Measure 5.1-1: Expanded SCA Ordinance, Provision 4, is revised as follows:

- Requirements for replacement of riparian trees removed in association with development activities, including:
 - Riparian trees removed shall be replaced with native riparian trees on-site at a 2:1 ratio or, if on-site mitigation is not feasible, shall be replaced off-site at a 3:1 ratio in a functionally equivalent riparian area of San Geronimo Creek or its major tributaries

(North Fork San Geronimo Creek, Woodacre Creek, Montezuma Creek, Arroyo/Barranca/El Cerrito Complex, Larsen Creek) within reaches accessible to anadromous salmonids.

- Allowable woody riparian tree species (primarily non-pyrophytic) for replanting in riparian areas include:
 - Broadleaf – Bigleaf Maple (*Acer macrophyllum*), California Buckeye (*Aesculus californica*), White Alder (*Alnus rhombifolia*), Oregon Ash (*Fraxinus latifolia*), Coastal Live Oak (*Quercus agrifolia*), and Arroyo Willow (*Salix lasiolepis*), Red Willow (*Salix laevigata*), and other species of native, fast-growing, shade-producing trees.
 - Coniferous – Redwood (*Sequoia sempervirens*), Douglas-fir (*Pseudotsuga menziesii*)*.

* Douglas-fir is a California native species and is considered to be a fire-prone plant, as listed on the FIRESafe MARIN website <http://www.firesafemarin.org/plants/fire-prone>. Where planted, Douglas-fir should be set back from structures in compliance with Title 16 of the Marin County Municipal Code and the California Public Resources Code. Additionally, its potential to contribute to wildfire may be reduced through appropriate trimming, thinning, and removal of branches and shoots to reduce the density of woody plant material in the understory. While tanoak is also a native riparian and understory species in the San Geronimo Valley, tanoak is highly vulnerable to Sudden Oak Death and therefore can increase the amount of dead and dry plant material (i.e., fuel) and the potential for wildfire (Forrestel et al. 2015). The native riparian tree California Bay Laurel is currently considered to be a vector for Sudden Oak Death and is thus not included on the list of allowable woody riparian tree species for replanting in the SCA. Other tree species that may be native or non-native to the region but do not naturally occur in the riparian corridor and are pyrophytic-combustible, such as Monterey pine (*Pinus radiata*), Eucalyptus (*Eucalyptus globulus*), and Ghost pine (*Pinus sabiniana*), are also not included on the list of allowable woody riparian tree species for replanting in the SCA.

Mitigation Measure 5.1-1: Expanded SCA Ordinance, Provision 5, is revised as follows:

Require that discretionary permits for development projects¹⁰ within the SCA include low impact development (LID) practices and designs that are demonstrated to prevent offsite discharge from events up to the 85th percentile 24-hour rainfall event. This requirement applies to retention of the entire volume of each day's rainfall that does not achieve this total volume, and the first increment of rain up to this volume for those 24-hour periods whose rainfall exceeds this volume. Specifically:

- Small projects, including single-family homes and driveways, that create or replace 500 ft² or more of impervious surface shall be required to complete a stormwater control plan (SCP) that achieves retention of the 85th percentile, 24-hour design storm for the newly created or replaced impervious surface, or for an equivalent area of previously unretained impervious surface on the same site. ~~For San Geronimo~~

¹⁰ Includes paper streets (Marin County Municipal Code 24.04.627) and/or improvements to existing unpaved roads.

- ~~Valley~~ It is acceptable for the SCP cannot rely upon to use the existing runoff reduction measures as described in Appendix C of the Bay Area Stormwater Management Agencies Association (BASMAA) Post-Construction Manual (BASMAA 2014) to retain the 85th percentile, 24-hour design storm standard.
- Regulated projects shall be required to complete a stormwater control plan (SCP) that achieves retention of the 85th percentile, 24-hour design storm for the newly created or replaced impervious surface, or for an equivalent area of previously unretained impervious surface on the same site. ~~For San Geronimo Valley~~ It is acceptable for the SCP cannot rely upon to use the bioretention sizing factor (0.04) described in Appendix D of the BASMAA Post-Construction Manual (BASMAA 2014) to retain the 85th percentile, 24-hour design storm standard.
 - New roads (paved and unpaved, including driveways) shall also be required to meet the following design criteria:

Mitigation Measure 5.1-2 is revised as follows:

Marin County shall require that biotechnical techniques and salmonid habitat enhancement elements be included for all ~~permitted~~ bank stabilization projects.

Potential Impact 5.3 is revised as follows:

While the influence of degraded summer rearing conditions habitat on the production of coho salmon or steelhead in the watershed and its importance are believed to be of lesser importance to salmonids than relative to poor overwintering conditions (Impact 5.1) and redd scour (Impact 5.2) and are not currently considered to be limiting are not well understood (Stillwater Sciences 2008, 2009; Ettlenger et al. 2015c, 2016b, 2017b), degraded summer habitat contributes to overall adverse conditions for juvenile coho salmon and steelhead in the San Geronimo Creek watershed and may reduce summer rearing success ~~(though not necessarily the production of smolts from the watershed~~

CONCLUSION:

The Final Supplement to the 2007 Countywide Plan Final Environmental Impact Report with a Focus on Potential Cumulative Impacts to Salmonids in the San Geronimo Valley (2019), has undergone rigorous preparation and processing in full compliance with CEQA, State CEQA Guidelines, and County Environmental Review Procedures. Substantial opportunity for public participation in the EIR Supplement process and review and comment on the SEIR documents has been provided which meets and exceeds the requirements of the State CEQA Guidelines and County Environmental Review Procedures. This Final SEIR is now adequate and complete to be acceptable for certification as the environmental review for the *Marin CWP (2007)* with respect to the San Geronimo Valley. Pursuant to CEQA Guidelines Section 15163(e), the Planning Commission shall consider the 2007 CWP FEIR as revised by this Final SEIR, including its Amendment. The Final SEIR provides adequate information and analysis to make an informed decision on the environmental effects of the *Marin CWP (2007)* with respect to the application of the *Marin CWP (2007)*'s policies governing biological and wetland resources in San Geronimo Valley.

RECOMMENDATION:

Staff recommends that after staff's presentation of a brief overview of the Project, the SEIR process, and a summary of the principal findings of the Final SEIR by the EIR consultant, the Commission open the public hearing to public comment. At the conclusion of all public testimony, staff recommends that the Planning Commission:

1. Close the public hearing on the Final SEIR;
2. Approve the attached Resolution recommending that the Board of Supervisors certify the Final SEIR as adequate and complete pursuant to CEQA, the State CEQA Guidelines, and the Marin County Environmental Review Guidelines and Procedures.

Attachments: 1. Draft Resolution recommending certification
 2. Final SEIR Amendment (Additional copies available on request)