



September 21, 2015

Permit & Resource Management Department
2550 Ventura Avenue
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Attn: Lisa Posternak

This letter presents comments from the Sebastopol Water Information Group (SWiG) in response to PRMD's Draft Update for the Sonoma County Local Coastal Program (LCP).

SWiG is a group of west Sonoma County residents and well owners who have hydrological and geological expertise. SWiG collects accurate scientific information on water supplies, water quality, land use issues that impact water supplies and quality, and on the abundant geological hazards of this coastal county, and provides information on all these topics to Sonoma County citizens and decision makers.

SWiG is concerned that this Draft LCP Update is aimed to attract a larger population of residents, farms, industry and recreationalists in an especially hazardous region, while largely misrepresenting or ignoring the coastal zone's water supply limitations. It also allows expanded viticulture, wine production, CAFOs, and sales of alcoholic beverages, in a region where far too many people already drive far too fast on unavoidably hazardous narrow and sinuous roads.

The Sonoma County coastal zone is characterized by steep slopes, narrow and winding roads, dangerous winds, waves, and tides, and limited water resources. Coastal areas already attract heavy crowds in both hot weather and winter whale-watching and bird watching seasons. Promoting additional tourist attractions and population growth, with attendant cumulative impacts, will become destructive to the zone. In addition, the coastal strip is among the most hazardous zones in Sonoma County.

The Draft LCP Update makes statements about the delicate balances of coastal ecosystems, but provides no assessment of current uses that threaten those balances, nor any analysis of how much additional urbanization, and (or) agro-industrial development can be added without fatally disturbing those already-disturbed balances. The Elements contain language that will prime the County to open the coastal zone for greater exploitation, while proposing broadly equivocal standards for evaluating the "balances."

The greater public cherishes the Sonoma Coast because it is natural and *not* highly developed. It is not highly developed because of grassroots campaigns, described in the introduction, and the work of many citizens who are still watchful and concerned about preserving the balance between nature and human land uses.

The Draft LCP Update often mentions the "balances" but never addresses the current status as a means for evaluating where the balances stand. Due to citizen-based efforts there are no nuclear power plants in the coastal zone, but have we really any idea how far from or close we are to the balance point between preserving and fatally degrading coastal resources? The Draft LCP Update does not address this issue and presents no data for doing so. There is no discussion of indicator species, where they are, if they are monitored, or how any of the kinds of development discussed in the Elements might affect them.

Are we certain that the past efforts to preserve coastal environments also have restored those that had been disturbed earlier? Have any past resource studies evaluated the balance points for water and air pollution in the coastal zone? If so, what were the results for that time? Please provide citations.

The coast preserves a number of unique plant communities, such as pygmy forests and rhododendron — but much habitat has been lost to development already, along with the animals that depended on them. Where is the balance? Which of the indicator species do we expect to adapt and survive — and especially which of those species that we need for survival will survive additional inroads?

If we do not have the intelligence to pursue these questions honestly, for our own benefit, not to mention that of the sustaining ecosystems, we will miss the balance point and lose too many resources—as we have already lost significant salmon populations. Do we have the will to look for answers and not allow a predetermined conclusion to drive the policies?

SWiG does not see this level of intelligence or will in PRMD’s Draft LCP Update. **We suggest that this LCP requires a new Environmental Impact Report to assess the current levels of ecosystem function and tolerance for additional development. It should evaluate whether or not the earlier build-out targets are still feasible, and which will or will not disturb the already-threatened balances.**

SWiG members follow County of Sonoma development decisions, and have found that many failed to uphold General Plan 2020 goals and objectives. In particular, SWiG members have observed that PRMD decisions commonly do not recognize the potential for life and property losses from landslides and earthquakes in hazardous areas of the county.

For example, SWiG has observed many times that PRMD planners do NOT require slope-stability studies for projects located in mapped hazard zones depicted in its Hazard Mitigation Plan (http://www.sonoma-county.org/prmd/docs/hmp_2011/). Although the County has mapped the hazards it does little or nothing to mitigate them.

When projects are challenged for lack of landslide hazard or poor water-supply evaluations, too many times SWiG has observed that Board of Supervisor majorities generally uphold PRMDs omissions, contrary to General Plan provisions. In the absence of a mitigation requirement to minimize future slope failures on developed lands in mapped hazard zones, whether from heavy storms or instability-triggering earthquakes, the observed County process makes them more likely to occur, as happened in Santa Cruz County during major 1982 and 1989 storm events, and from the 1989 Loma Prieta earthquake.

These omissions also promise enhanced soil erosion from widespread development in landslide hazard zones, contributing to water pollution and destruction of downstream properties. The Draft LCP Update is written to impose the same set of non-protective practices upon the coastal zone.

The following sections are specific comments on development issues related to hazards, water supply, and pollution in the LCP.

Natural Hazards

As the Draft Update makes clear, the coastal zone contains segments of the San Andreas Fault (SAF), the longest and most active fault in the coterminous United States. SAF crosses land between Doran Beach and Duncan Point, and between Fort Ross and the Mendocino County Line. Between Duncan Point and Fort Ross, SAF lies offshore.

SAF is a “plate boundary,” separating rocks of the North American continental crust from Pacific Ocean crust. All plate boundaries are seismically active. Rupture potentials are cast as probabilities for a rupture length and magnitude (the level of energy released) over a 30-year interval, and so are too general to be thought of as predictions. It is best to just understand that the SAF represents an inexorable set of forces that have been active for about 20 million years and are expected to continue generating earthquakes large and small for at least another 11 million years. Its capacity for generating violent ground shaking was demonstrated by the 7-magnitude (estimated) Hayward earthquake of 1868; the 7.8-magnitude San Francisco earthquake of 1906, which also devastated Santa Rosa; and the 6.9-magnitude Loma Prieta earthquake of 1989.

The coastal zone is mostly composed of Franciscan Formation rock types, including a wide variety of deformed metamorphic rock types in a highly sheared matrix. The weak and unstable matrix materials are especially prone to landsliding during intense rainstorms, and (or) violent earthquake shaking. This is especially a hazard on steep slopes, which characterize many parts of the coastal zone. Whether onshore or offshore, an earthquake on any Sonoma County SAF segment would be capable of severely shaking onshore structures and destabilizing fragile hill slopes.

These hazards are portrayed in the LCP figures, but are better exhibited in the Sonoma County Hazard Mitigation Plan. The problem for the coastal zone, as for all County hazard zones as mentioned above, is that the County is not currently examining proposed sites for potential hazards or requiring mitigation studies or construction standards. We expect that this lack of mitigation will continue until a major earthquake, which triggers landslides or reactivates previously inactive (and therefore ignored) faults and causes widespread destruction; or until a major series of rainstorms cause widespread landsliding.

Water Resources

Page C-WR-4

All discussion of the northern coastal zone watershed should refer to Geology for Planning in Sonoma County.

The Land Use Element (page C-LU3) bases development decisions on population densities and building intensity, not on carrying capacity of the land and impacts on streams. No population or development limit is envisioned.

Page C-WR-5: groundwater basins in the coastal zone should be named for clarity: they are Ohlson Ranch and limited (relatively thin) Wilson Grove Formation exposures along Estero Americano.

Table C-WR-1 needs qualifications: within the coastal zone, Salmon Creek predominantly flows through Franciscan formation, capped by restricted and relatively thin Wilson Grove Formation outcrops. The section correctly characterizes Franciscan formation as non-water bearing, dependent on the nature of fractures and their connections.

Page C-WR-11

Goal C-WR-1.1: Protect, restore and enhance the quality of surface and groundwater resources to meet the needs of all reasonable beneficial uses.

Goal should be revised to: limit human impacts so as to minimize future need for restoration of coastal water quality. The limits of "reasonable beneficial uses" should be identified in terms of water availability.

Page C-WR-12

Goal C-WR-1.3: Plan, site and design development to minimize the transport of pollutants in runoff from the development, to avoid pollution of coastal waters.

Goal should be: Minimize pollutants by minimizing polluting development categories.

Goal C-WR-1.5: Reduce the degradation of surface water quality from the failure of septic and other wastewater treatment systems.

This goal foreshadows the same pollution problem for the coast that has in the past, and still does, affect developed parts of the Russian River. Enforcement efforts have not succeeded so far. Experience has shown that the solutions are few, expensive, and rarely fully implemented. So this goal is unlikely to be achieved.

The coastal zone will go the same way as the Russian River, unless this goal is changed to: additional development should be severely curtailed.

Policy C-WR-1b: Work ... to minimize polluted runoff from development.

Goal should be: Curtail additional urban development. For permitted projects, require detailed plans, supervise implementation, and sanction violations to eliminate polluted runoff from development .

Page C-WR-13

Policy C-WR 1d: ...cooperate with Mendocino County, the Regional Board, and CalFire to reduce water quality impacts of timber harvest in the Gualala River watershed.

Policy should be: Reduce impacts of timber harvest impacts by reducing timber harvest and agricultural development. Assess meaningful penalties for any action or implementation that stimulates soil erosion.

Policy C-WR 1e: Project features and mitigation measures to improve water quality in impaired surface waters shall be required as part of the approval of any development project located within 200 feet of such waters.

Policy should be: Protect all waters by increasing setbacks and enhancing riparian areas.

Policy C-WR 1g (2): Use pollutant Source Control Best Management Practices (BMPs), which can be structural features of operational actions, in all development to minimize the transport of pollutants in runoff from the development. Ensure, to the maximum extent practicable, that discharges from regulated municipal storm drains comply with water quality objectives.

Storm waters are the major source of water pollution.

The terms "the maximum extent practicable," in company with the word "Ensure" tell us that so-called protections will not be enforced at any level.

Instead: Enumerate the BMPs so that anyone can see if they are actually minimal management practices (MMPs) resembling VESCO "BMPs", or really do protect water quality.

Policy C-WR 1g (3): Plan, site, and design development to maintain or enhance on-site infiltration of runoff, *where appropriate and feasible*. Minimize ... impervious surfaces ... and, *where feasible*, increase the area of pervious surfaces in re-development ... Limit, *to the maximum extent practicable*, storm water flows ...

Policy C-WR 1g (3)'s weasel words (italicized in the forgoing) are the indicator that protections will not be required or enforced.

Policy should be: Limit developments that could have any of these impacts. Don't develop any area where these effects could cause water quality degradation or degradation of natural values.

Policy C-WR 1g (5): In areas adjacent to an Environmentally Sensitive Habitat Area (ESHA), plan, site, and design development to protect the ESHA from any *significant* disruption of habitat values resulting from discharge of storm water or dry weather flows.

Policy should be: Protect ESHAs by restricting developments in those areas, enforcing adequate setbacks, to ensure no additional impacts from any development.

Page C-WR-14-15

Policy C-WR 1k: Avoid construction of new storm water outfalls and direct stormwater to existing facilities with appropriate treatment and filtration, *where feasible*.

Policy should be: Where not feasible, do NOT ALLOW development.

Policy C-WR 1k continued: Where new outfalls cannot be avoided, plan, site, and design outfalls to minimize adverse impacts to coastal resources from outfall discharges, including consolidation of ... (etc)

Establish the following criteria for Best Management Practices (BMPs) to use for new development:

1. Quantitative criteria, including quantity of stormwater and percent of storm event, for the design of source control BMPs
2. Criteria for which treatment control BMPs would be required

This policy is designed to fail. Citations to studies are required in this document, as evidence for the efficacy of BMPs. Only BMPs that have been proved effective may be required. State who reviews designs, and how they are tested to show their efficacy for lowering pollution and preserving water quality.

Page C-WR-17

Policy C-WR 1bb: “Ensure that agricultural operations comply with Regional Water Board requirements to reduce non-point source pollution ... to avoid, minimize, or mitigate the impact to water quality from agriculture ...

There is no way to improve this policy. Writing it to cover everything from avoidance to mitigation means that the policy provides neither protection of waters from additional eroded soil loads, nor adequate mitigation. These words signal that the County expects agricultural development to create soil erosion, so will increase non-point source pollution, and that they do not intend to do anything about it for protection of the coastal zone.

This same approach, of either avoiding, minimizing, or mitigating impacts has, and still is, being applied to agricultural development along streams farther inland, which once teemed with salmon. This particular formulation is one of the codes responsible for diminishing coho populations in southern Sonoma County to the vanishing point. Projects along these streams have not avoided impacts. If any minimization or mitigations have been effective, that effect does not show. Applying this approach to the coastal zone, already heavily impacted by poor farming practices of the past, is the final nail in the coffin for coho in this stretch of California Coast.

This outcome is the result of PRMD’s failure to require truly protective practices, such as requiring wide enough riparian areas along streams, and preventing agricultural development on steep slopes and landslide-prone slopes. In response to appeals of PRMD’s poor decisions, the Board of Supervisors has rarely voted to enforce soil-protective requirements.

Policies C-WR 1n, 1o: “Minimize water quality impacts during construction...”; Polluted runoff from construction activities shall be minimized...”

What are the standards of minimization required for these policies? Why are they not stated?

Page C-Int-17

Agriculture and Timber

Policy C-WR 1bb: This policy should define the total level of additional non-point pollution that can be allowed in the coastal zone, without tipping the ecosystem balances against protected species, and should restrict the amount of additional agricultural development and timber harvests to the few that will not exceed that level.

Policy C-WR 1cc: This policy sets standards for CAFOs (Concentrated Animal Feeding Operations).

The very suggestion that CAFOs may be allowed in the coastal zone is abominable.

Policy C-WR 1dd: This policy for sustaining water quality in agricultural areas relies on the Agricultural Commissioner’s BMPs for erosion and sediment control. Current sediment monitoring from Russian River area vineyards indicates that currently applied BMPs have not moderated sediment yields from vineyards. These data show that the BMPs need improvement before they meet US standards under the Clean Water Act. These issues are currently under discussion.

SWiG recommends: avoiding any intensive form of agriculture, particularly CAFOs and hillside vineyards, will be critical to preventing environmental degradation in the coastal zone. All statements that address permitting for such activities should be removed and replaced by a clear statement that those types of developments will not be permitted.

Page C-Int-18

Policies C-WR 1ff and C-WR 1gg: The siting of harbors, marinas, and other waterfront development.

SWiG objects: the ocean that washes Sonoma County's Coast is hazardous for boaters, fishers, divers, and in some stretches it is hazardous even for beachgoers.

Excavation and dredging that create harbors change the shape of coastlines, opening the areas to wave and current attacks that can be only partly anticipated. A major impact is redistribution of sediments, requiring costly periodic dredging.

Developments may inadvertently focus wave action against populated coastlines, with the potential to advance coastal erosion, threatening current structures and additional encroachment on the Pacific Coast Highway.

Earthquake and landslide hazards also pose substantial risks to every harbor along the Sonoma County Coast, all of which will be unavoidably sited close to the on- and offshore San Andreas Fault segments. All are more than likely to be built on landslide-prone materials of the Franciscan Formation subduction complex (see Figures C-PS-2b for subarea 5 with high risk of future bluff erosion, and subarea 6, and C-PS-2c for subareas 7-10).

Page C-WR-18

Groundwater

The first paragraph in this section states that most "users" obtain their water from groundwater. This is a bad start to the section, because it suggests that the County thinks of water as a commodity or even a drug, instead of discussing water as a basic necessity for life support, of all species. Instead the only users referred to are the human ones.

Page C-WR-19

Paragraph 2: In the middle of the worst drought in California and Sonoma County history, the supply side description: "The climate of Sonoma County provides abundant rainfall during the winter months, and potentially abundant groundwater recharge on an annual basis..." is based on the unevaluated assumption that past climate patterns are the "normal" ones and will re-establish. Thus, the Draft LCP Update ignores the well-publicized fact that even longer droughts are recorded in 500-year old tree rings, and the possibility that current conditions could be a "new normal" in terms of human lifetimes.

Paragraph 3: Correctly states that non-drought water supply limitations relate to the dominant Franciscan Formation, but is optimistic about the water supply potential from stream valleys. Other than the Russian River valley, the "alluvial soils, sand, and gravels of the coastal zone are relatively thin and restricted, in (generally narrow and short) valleys, and underlain by the (generally low water yield) Franciscan Formation." The section avoids any volumetric estimates or estimates of the size of population that could be supported.

Paragraph 4: The County's water availability classification. This is unreliable: it is old, broad-brush, and plotted at too small a scale to be applied to local areas. The final sentence mentions needing the best available data, but does not commit to providing it for the coastal zone.

Paragraph 5: The Wilson Grove Formation, in the "class 2 groundwater availability" category, is overestimated for the coastal zone because the local exposures are relatively thin and discontinuous compared to the areas under and beside the Santa Rosa Plain, where the unit can be more than a thousand feet thick.

Paragraph 6: Concerns about groundwater supplies are not resolved by the County’s participation in CASGEM. To SWiG’s knowledge, CASGEM is not collecting groundwater levels from wells in Franciscan Formation.

Page C-WR-20

Policy C-WR-2c: Groundwater basins of the coastal zone. This section requires elucidation on what coastal areas constitute “groundwater basins”. As far as we can tell, that term would have to be restricted to the Olson Ranch Formation and the erosional remnant of Wilson Grove Formation along Estero Americano. The Fort Ross terrace gravels are fed by small and narrow coastal river courses, so would not constitute a single basin.

The thickness of the Estero Americano segment is exaggerated in Figure C-WR-2. Since the base of the unit is exposed above the Estero, this is correctly characterized as a “perched aquifer.”

Policy C-WR-2c (3): Well permit standards. Why is the County envisioning “high-capacity” wells in this zone? These should not be permitted for an area with uncertain water supply characteristics.

Page C-WR-21

Policy C-WR-2c (4): Consistency of well permitting with groundwater management plans. The newly adopted County well ordinance does not address conservation of groundwater, and does not refer to either of the County’s currently adopted Groundwater Management Plans. Is this policy intended to inaugurate a new policy structure for the County, or only for the coastal zone?

Policy C-WR-2e: Applications for well permits in Class 3 and 4 availability zones. Applications for well permits have rarely been classified as discretionary for Class 3 and 4 availability areas in other parts of the county. **Is this policy intended to inaugurate a new policy structure for the County, or only for the coastal zone?**

Policy C-WR-2f: “Maintaining the site’s predevelopment groundwater recharge to the maximum extent practicablefeasible (sic)” : This language generally means that the requirement is not likely to be applied. Any guidelines for development would be purely voluntary!

Policy C-WR-2h: Protect the proprietary nature of well drilling data. As of 2015, well drilling reports are no longer proprietary under state law.

Policy C-WR-2i: Identify areas where groundwater is declining. This section shows that few or no data exist on where groundwater supplies may be declining before preparing the way for new development. Instead, we develop, then do special studies. This needs to be re-thought.

“Approved developments must be found consistent with all Local Coastal Plan policies.”

The wording of these policies ensures that most proposed developments can be found consistent with the LCP policies, but they are not protective of the ecosystems.

Instead, a policy in this section should require a project proponent to demonstrate the adequacy of the water supply for the project and provide data supporting conclusions about the long-term impact on ecosystem species within the project footprint, and all other potentially affected beneficial uses.

Page C-WR-24

The mandate for protection of water resources in the Coastal Zone is largely ignored in the preceding sections. At least it is cited on this page.

The County needs to re-write the earlier parts of this section to explain how it will first determine the extent and limitations of coastal water resources before permitting developments and issuing new well permits.

Page C-WR-25

Goal C-WR 3: “Encourage public water suppliers to provide an adequate water supply to meet long-term needs that is consistent with the adopted Local Coastal Plan...”: Why not legislate this requirement as a first step to even contemplating additional growth??

Objective C-WR 3.2 “Work with public water suppliers in developing and implementing long-term plans for water supply, storage, and delivery necessary to first meet existing water demands”: this objective admits that the current water supply is unknown. Determining whether or not the supply is adequate should be the first step, and come well before planning growth in the questionable area.

Page C-WR-27

Water Conservation and Re-Use

SWiG can support advanced forms of water conservation to support ecosystems, but treated wastewater re-use must be shown to have no impact on ecosystems, whether in “normal” rain years or in drought.

Page C-WR-29

Water Importing and Exporting

This section on water importing and exporting is more than provocative. Are we back to talking about selling our water resources to other areas, taking conserved water away from a zone of delicately balanced ecosystems?

Are we considering importing water once we have overdeveloped the coastal zone? SWiG members believe that will be the likely outcome.

Page C-WR-30

Watershed Management

Take this section, put it at the head of this Element, and scrap most of what comes after.

Sincerely,



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Geologist