



Friends of Corte Madera Creek Watershed

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Position Paper on Ross Valley Flood Protection and Watershed Program

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Friends of Corte Madera Creek Watershed strongly support a watershed-wide approach to actions and plans that affect the health of the watershed and all its residents. These include flood management, habitat enhancement, land use planning, and other creek-related issues. This position paper describes the results that we hope to see from the coordinated effort underway, the Ross Valley Flood Protection and Watershed Program.

Our five highest priority projects for implementation as part of the Ross Valley Watershed Program are described first. However, our concerns extend beyond these specific projects, so we also present some additional goals. For all activities, we expect this underlying principle to be followed:

All on-the-ground projects shall be designed to improve water quality and stormwater retention, to incorporate habitat enhancement, and to comply with fish passage criteria (where applicable). In no case shall projects reduce water conveyance or impair habitat or natural creek functions.

High Priority Projects

Friends are actively involved in planning and implementing fish passage and creek restoration projects, many of which will improve the ability to manage floods. Ross Taylor and Associates prepared an assessment of barriers to fish passage throughout the watershed, and identified the highest priority barriers. Here are the five groups of projects that we feel should be implemented within in the next decade.

Priority 1: Treatment of Barriers on San Anselmo Creek at Saunders Avenue, Lansdale Station, Pastori Avenue, and Pacheco Avenue

The Saunders and Pastori barriers both cause a rise in water surface elevation at high flows, especially when they are clogged with debris. The Lansdale Station box culvert has not been evaluated for its effect on water surface elevation. The Pacheco Avenue Weir causes a rise in water surface elevation and is a barrier when it is clogged with debris. Michael Love & Associates have prepared designs for replacement structures at Saunders and Pastori and are preparing them for Lansdale Station. Detailed designs are not needed for partial removal of the Pacheco Avenue Weir.

Priority 2: Treatment of Box Culvert on Fairfax Creek between Town Hall and San Anselmo Creek

This culvert is a cause of recurrent flooding in downtown Fairfax and a complete barrier to fish passage.

Priority 3: Habitat Enhancement on Ross Creek and Study of Use of Phoenix Lake

We propose a serious investigation of the use of Phoenix Lake for two purposes: 1) to provide a few late spring releases from the bottom of the dam that would enable young steelhead to move into downstream areas of better summer rearing habitat, and 2) to use Phoenix Lake as a flood management facility to retain peak storm flows and reduce flooding in Ross and Kentfield. Additionally, there are ample opportunities for habitat enhancement on Ross Creek (e.g., improving riparian vegetation, installing large woody debris to provide better in-stream habitat) that would not exacerbate flooding.

Priority 4: Identification of Potential Sites for Groundwater Recharge and/or Stormwater Detention

Stetson Engineers Inc (2000) describes a protocol for evaluating potential sites for groundwater recharge. There is also a need to identify sites for temporary stormwater retention, particularly where it could be used for summer irrigation.

Priority 5: Reduce Acreage of Impermeable Surfaces

Impermeable roofs, roads and parking lots contribute to flooding, and reduce groundwater recharge. Their area should be reduced whenever possible. Remote sensing and Geographic Information System (GIS) technology is available to identify impermeable surfaces within the watershed, both individually and on a summary scale, and these sites can then be further evaluated using land use, ownership and other political issues in the GIS.

Additional Goals

Friends envision a range of actions and policies that will improve the health of the watershed in the four categories described below.

Tools to Help Manage Resources

Adequate information about the watershed is essential for effective resource management.

1. A network of rain and stream-flow gages should be strategically located throughout the watershed to increase understanding of basin hydrology in general and to facilitate calibration and validation of hydrologic and hydraulic models in particular.
2. A rainfall-runoff model should be further developed. The model would simulate stream flow in upstream tributaries in response to rainfall. In addition to Corte Madera Creek, modeled tributaries should include San Anselmo Creek, Larkspur Creek, Tamalpais Creek, Murphy Creek, Ross Creek, Sorich Creek, Sleepy Hollow Creek, Fairfax Creek, and Cascade Creek. This model could also inform the real-time advance warning system for flood events.
3. An unsteady-flow hydraulic model should be expanded. The downstream boundary should be located at mouth of Corte Madera Creek near the Larkspur Ferry Terminal and it should extend as far upstream as possible. The hydraulic model will simulate depth of flow both in the channel and, during flood events, out of the channel. The ability to model water quality parameters, including temperature, should be added to the hydraulic model.

These models should be calibrated and validated using the data currently available, and updated as new rainfall, stage, and water quality data are gathered.

Actions to Improve Hydraulic Function

Compromised hydraulic function contributes to flooding and degraded habitat and water quality throughout the watershed.

1. Creek cleaning projects shall be carefully evaluated so that habitat values and bank stability are not compromised by removal of vegetation and large woody debris.
2. The natural flood plain should be restored by widening the area available to creeks in locations where this is feasible. In particular, a new, more natural creek channel should replace the existing concrete channel in Ross and Kentfield that increases its capacity to accommodate flood flows and improves its fisheries and habitat characteristics.
3. Structures that constrict flow or impinge on the natural function of the channel should be removed or relocated. Examples of such structures are bridges, culverts, buildings, and retaining walls that are found throughout the watershed.

Actions to Enhance and Restore Habitat

1. All barriers to salmonid passage should be treated, so that they meet current standards for fish passage.
2. All landowners should be encouraged to retain, enhance, and restore natural habitat. Invasive non-native vegetation should be removed and replaced with native plants; only native plants should be used in bank stabilization and habitat restoration projects in the watershed.
3. Invasive fish and wildlife should be identified and control programs implemented.
4. Sources of excessive sediment, specifically including those in upland areas, should be addressed to improve water quality and habitat and improve stormwater management and fluvial function.

Planning and Land Use

1. Stream protection ordinances that protect water conveyance, creek function, and habitat values should be enacted and strictly enforced by all jurisdictions.
2. We encourage acquisition of property for restoration of the creek and to protect the welfare of the general public. This should include a program to identify property suitable for acquisition.
3. Programs should be developed for new construction, redevelopment, or major remodeling to require reduction of impermeable surfaces and on-site storage of runoff, with features such as bio-swales, to reduce and delay peak flows during rainfall events.