

CARNEROS CREEK WATERSHED MANAGEMENT PLAN

Napa County Resource Conservation District • 1303 Jefferson Street, Suite 500B • Napa, CA 94559 • (707) 252-4188 • www.naparcd.org

WATERSHED MANAGEMENT RECOMMENDATIONS

In response to historic and existing conditions of the Carneros Creek watershed, a number of specific objectives and several watershed management recommendations are offered to improve and restore natural resources for the benefit of the community and wildlife habitat. What follows is the identification of seven specific objectives that have been developed to address the resource related concerns of the Carneros Creek Stewardship and several matrices that provide specific recommended actions to achieve each objective. The objectives strive to maintain or restore a naturally functioning creek and watershed system in the context of human land use. The recommended actions are meant to be voluntary in nature and meant to provide the Stewardship, local landowners, and local land managers with several actions that could be implemented over time to meet the various local goals that exist in the watershed.

Although these recommendations are all generally supportive of the values of the Carneros Creek Stewardship, the relative importance of each depends on the specific interests which members bring to the table. For this reason, we have prioritized the recommendations on the basis of various “watershed interests.” We hope this will satisfy the curiosity of a landowner who might want to know, for example, how valuable a proposed riparian project might be from a habitat or flood damage perspective. The priority is designated as high, medium or low for each recommendation, as it pertains to each of the identified potential watershed interests. In addition, not all recommendations should be considered necessary for the entire watershed, for that reason, the area for which the recommendation is specifically important is noted by reach. Lastly, the relative cost of each action is denoted on a scale of \$ to \$\$\$, where \$ is relatively inexpensive and \$\$\$ is fairly costly.

Further detail regarding the objectives and recommended actions can be found in the Reference Document that accompanies this plan. It includes more both more specific information regarding the recommendations and contact information for those interested in pursuing a recommended action.

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Watershed Management Recommendations

Objective A: Establish and maintain an uninterrupted riparian corridor along Carneros Creek and its major tributaries, emphasizing the use of native plants which are not primary hosts for Pierce's disease.

In some ways this is the most fundamental objective, since actions taken in support of it will also indirectly support all the others; further, many of them will directly contribute to stream stability, terrestrial habitat, and in-stream habitat.

RECOMMENDED ACTIONS <i>Additional information regarding these voluntary actions can be found in the Reference Document.</i>		Reaches of specific importance	PRIORITY FOR IDENTIFIED WATERSHED INTERESTS				RELATIVE COST OF ACTION
			Enhance aquatic & riparian habitat (including stream flow)	Maintain/enhance upland habitat	Improve streambank stability	Protect property from flood damage	
A-1	Manage existing riparian corridor to maximize riparian canopy width by "stepping back" from the creek where and when possible.	all	H	M	M	M	\$-\$
A-2	"Close" gaps along the riparian corridor by developing and implementing riparian revegetation plans that utilize native trees, shrubs, and grasses.	all	H	M	M	L	\$\$
A-3	Incorporate exclusionary livestock fencing in such a way as to allow for native mammal migration and access to the creek while keeping domestic grazing animals out of the riparian corridor. Provide alternate dispersed, shaded watering sites away from the riparian zone.	upper & middle	H	M	H	L	\$\$
A-4	Explore opportunities for conservation easements along the riparian corridor in exchange for property tax reductions with organizations such as the Land Trust of Napa County.	all	H	M	M	H	\$\$
A-5	Ensure that future planning of rural residential areas include stream side areas that enhance and emphasize natural riparian zones.	all	H	M	M	M	\$\$
A-6	Continue to conduct education and outreach to promote a functioning riparian corridor.	all	H	L	H	M	\$

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Watershed Management Recommendations

Objective B: Promote contiguous upland habitat and biodiversity.

Many actions taken in support of other objectives will also support this objective, particularly actions which increase and maintain the extent of riparian corridor along the creek and tributaries.

RECOMMENDED ACTIONS <i>Additional information regarding these voluntary actions can be found in the Reference Document.</i>	Reaches of specific importance	PRIORITY FOR IDENTIFIED WATERSHED INTERESTS				RELATIVE COST OF ACTION
		Maintain/enhance aquatic & riparian habitat (including stream flow)	Maintain/enhance upland habitat	Improve streambank stability	Protect property from flood damage	
B-1 Develop new upland migration habitats for birds and small mammals through native plantings and hedgerows along fences, fields, and property borders.	all	L	H	L	L	\$
B-2 Provide terrestrial wildlife habitat enhancements such as birdhouses, raptor roosts, and bat boxes.	all	M	H	L	L	\$
B-3 Continue to enhance and implement grazing, range, and grassland management plans to maximize native grassland revegetation and exotic invasive plant management. Consider prescribed burns, as appropriate.	upper & middle	L	H	M	L	\$-\$
B-4 Maintain and encourage development of continuous east-west habitat corridors across the valley into other watersheds through cooperative efforts with neighboring landowners.	all	L	M	L	L	\$
B-5 "Step back" from sensitive upland areas such as slides whenever possible.	middle & upper	M	H	L	L	\$
B-6 "Close" gaps along the riparian corridor by developing and implementing riparian revegetation plans that utilize native trees, shrubs, and grasses.	all	H	M	M	L	\$
B-7 Continue watershed education activities including guest speakers to discuss wildlife habitat and sudden oak death.	all	M	H	L	L	\$
B-8 Collaborate with youth education programs such as Acorn Soupe to conduct education and outreach to promote contiguous habitat and biodiversity.	all	H	H	L	L	\$

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Watershed Management Recommendations

Objective C: Maintain and improve in-stream habitat.

Many actions taken under this objective will promote streambank stability

RECOMMENDED ACTIONS <i>Additional information regarding these voluntary actions can be found in the Reference Document.</i>		Reaches of specific importance	PRIORITY FOR IDENTIFIED WATERSHED INTERESTS				RELATIVE COST OF ACTION
			Maintain/enhance aquatic & riparian habitat (including stream flow)	Maintain/enhance upland habitat	Improve streambank stability	Protect property from flood damage	
C-1	Remove barriers to fish migration on the mainstem of the creek	middle & lower	H	L	L	L	\$\$ - \$\$\$
C-2	Encourage formation of pools via large woody debris in ways that do not increase the risk of flooding.	lower	H	L	L	L	\$ - \$\$
C-3	Limit low water crossings to only those that are necessary, with a preference for designs that minimize channel disturbance.	upper & middle	H	L	H	L	\$\$ - \$\$\$
C-4	Continue to enhance and implement grazing management plans with an emphasis on intensive management systems that reduce grazing impacts on upland and riparian landscapes.	upper & middle	H	H	H	L	\$-\$\$
C-5	Protect and improve water quality through general septic tank maintenance; minimized use of pesticides, chemicals and fertilizers; proper disposal of winery and industrial waste; proper storage of all chemicals, fertilizers, fuels, and debris; filtration of urban runoff; and improved road drainage.	all	H	M	L	L	\$ - \$\$\$
C-6	Implement stream restoration using 'soft' bio-engineered techniques, incorporating live plant material whenever possible. Also consider "stepping back" development from the creek to provide for natural meandering.	all	H	M	H	M	\$ - \$\$
C-7	Conduct education and outreach regarding actions that can help improve water quality and in-stream habitat.	all	H	L	L	L	\$

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Watershed Management Recommendations

Objective D: Reduce soil erosion.

Actions to reduce soil erosion from upland surfaces will help protect economic resources, and have the potential to improve in-stream habitat and improve water quality in general, as do actions to prevent streambank erosion.

OBJECTIVES & ACTIONS <i>Additional information regarding these voluntary actions can be found in the Reference Document.</i>		Reaches of specific importance	PRIORITY FOR IDENTIFIED WATERSHED INTERESTS				RELATIVE COST OF ACTION
			Maintain/enhance aquatic & riparian habitat (including stream flow)	Maintain/enhance upland habitat	Improve streambank stability	Protect property from flood damage	
D-1	Use sustainable agricultural practices to minimize soil erosion, as recommended in the Napa River Watershed Owners Manual and the Fish Friendly Farming (Napa Green) Manuals.	all	H	M	M	L	\$
D-2	Limit use of and abandon existing low water crossings and access points to minimize bank degradation at those sites. Where possible, exclude livestock from the creek.	upper & middle	H	L	H	L	\$\$
D-3	Maintain and improve roadways and culverts, and minimize new road construction.	all	H	H	M	M	\$ - \$\$\$
D-4	Explore and where preferable utilize alternatives to engineered storm drains. Attempt to retain and disperse water, rather than concentrate it).	all	M	M	H	L	\$ - \$\$\$
D-5	Consider "stepping back" development from the creek to provide for natural meandering. Where appropriate, implement streambank stability using 'soft' bio-engineered techniques.	all	H	M	H	M	\$ - \$\$
D-6	Maintain and improve reservoir outlets to ensure that they are operating properly	all	H	M	M	L	\$ - \$\$\$
D-7	Conduct education and outreach regarding roads, vineyard practices, and bio-engineered streambank protection.	all	H	H	H	M	\$

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Watershed Management Recommendations

Objective E: Protect property and habitat using natural processes to promote streambank stability.

Many actions taken under this objective will improve in-stream habitat and the health of the riparian corridor.

OBJECTIVES & ACTIONS <i>Additional information regarding these voluntary actions can be found in the Reference Document.</i>		Reaches of specific importance	PRIORITY FOR IDENTIFIED WATERSHED INTERESTS				RELATIVE COST OF ACTION
			Maintain/enhance aquatic & riparian habitat (including stream flow)	Maintain/enhance upland habitat	Improve streambank stability	Protect property from flood damage	
E-1	Protect property and natural resources by managing channel bank erosion. Also consider "stepping back" development from the creek to provide for natural meandering.	all	H	L	H	M	\$\$
E-2	Protect property from flood damage through culvert and bridge abutment clearing, in-channel vegetation management, and where possible providing the creek with access to its floodplain.	all	H	L	H	H	\$ - \$\$
E-3	Conduct education and outreach regarding bio-engineered streambank protection, floodplain functions, culvert maintenance, and management of large woody debris.	all	H	L	H	H	\$

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Watershed Management Recommendations

Objective F: Improve water management for the benefit of human, plant and animal communities.

This objective addresses not only the quality of in-stream and riparian habitat, which depends to some degree on water quantity, but also the needs of landowners for water for domestic use.

	OBJECTIVES & ACTIONS <i>Additional information regarding these voluntary actions can be found in the Reference Document.</i>	Reaches of specific importance	PRIORITY FOR IDENTIFIED WATERSHED INTERESTS				RELATIVE COST OF ACTION
			Maintain/enhance aquatic & riparian habitat (including stream flow)	Maintain/enhance upland habitat	Improve streambank stability	Protect property from flood damage	
F-1	Plan individual water use (both surface and groundwater use) to minimize environmental disruption. Environmental values may be threatened by the timing of water withdrawals and the mechanisms used to pump and store water.	all	H	L	L	L	\$
F-2	Maintain desirable low flows for fish, using the telephone connection to the streamgage on Carneros Creek. The following is a guide: <ul style="list-style-type: none"> • 1 foot for adult migration (Nov. – Mar.) • 6 inches for smolt outmigration (Apr. – June) 	all	H	L	L	L	Unknown
F-3	Explore opportunities to use recycled water for agriculture and landscape irrigation.	all	H	L	L	L	\$\$\$
F-4	Use water conservation fixtures and equipment in and around homes and for agricultural uses of water.	all	H	M	L	L	\$-\$
F-5	Use low-water-consuming and fire-retardant native plant materials for landscaping and habitat restoration.	all	M	L	L	L	\$
F-6	Explore and where preferable utilize alternatives to engineered storm drains. Attempt to retain and disperse water, rather than concentrate it.	all	M	M	H	L	\$-\$-\$
F-7	Improve communication among water appropriators and among appropriators and community.	all	H	L	L	L	Unknown
F-8	Support continued monitoring and research regarding local water conditions.	all	H	L	L	L	\$
F-9	Conduct education and outreach to promote water use efficiency practices.	all	H	L	L	L	\$

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Objective G: Encourage land stewardship and sustainable land use.

Actions which educate land users about stewardship and sustainability tend to support the whole range of objectives identified in this plan, because educated land users are more likely to consider the environmental consequences of management decisions.

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			Maintain/enhance aquatic & riparian habitat (including stream flow)	Maintain/enhance upland habitat	Improve streambank stability	Protect property from flood damage	
G-1	Organize community events and develop other mechanisms to increase awareness of this plan and support for its implementation.	all	H	H	H	H	\$
G-2	Develop a creek restoration demonstration site on Carneros Creek and utilize it for community events.	all	H	M	H	L	\$\$
G-3	Develop and distribute a “creek care guide” to landowners and managers.	all	H	M	H	H	\$\$
G-4	Develop and implement a means to discuss this plan with neighbors and receive feedback from the community.	all	H	H	H	H	unknown
G-5	Facilitate permitting for environmental restoration projects. Support DFG and NRCS efforts to develop a local consolidated permit program.	NA	H	M	H	M	\$\$
G-6	Obtain funding for watershed work done under this plan.	all	H	H	H	H	\$ - \$\$

