

**Napa River Rutherford Reach Restoration Project**  
**Final Memorandum Report for Annual Maintenance Activities**  
**2012 Field Season**



Reach 4 West Bank, March 2013

Prepared by: Napa County Flood Control and Water Conservation District

Napa County, California

April 2013



This memorandum provides a final summary report of maintenance work conducted pursuant to the recommendations in the 2012 Napa River Rutherford Reach Restoration Project (Project) Annual Maintenance Survey Report (Report). The Report, which was prepared by Napa County Flood Control and Water Conservation District (District), contained prioritized recommendations for maintenance issues identified during the summer 2012 survey along the 4.5 mile Project reach, such as removal of trash and debris, treatment of invasive plants, preservation and management of large woody debris (LWD), and replanting of treated areas. The Napa County Flood Control and Water Conservation District (District) completed the recommended maintenance activities outlined below between September 1<sup>st</sup>, 2012 and March 22<sup>nd</sup> 2013 including repair and maintenance at areas that experienced significant erosion as a result of the high river flow during late November and December. The July 2012 Report, and the final recommendations contained therein, can be accessed electronically from the Watershed Information Center & Conservancy of Napa County (WICC) website at [http://www.napawatersheds.org/app\\_folders/view/3577](http://www.napawatersheds.org/app_folders/view/3577) or via a hard copy obtained upon request from the District.

**Trash and Debris**

A total of 24 occurrences of trash and debris were initially documented in the Report, but 31 large items were actually removed from the river channel. A total of 25 tires and 6 other items (irrigations lines and other agricultural equipment) were removed. It should be noted that following the high river flow events on November 30<sup>th</sup> and December 23<sup>rd</sup> two large wood debris jams were thinned out that contained significant, large accumulations of plastic and rubber trash that is not included in Table 1 below. Table 1 below depicts the types and number of occurrences of trash ultimately removed since the surveys began in 2009.

**Table 1: Trash and debris removed from 2009-2012 maintenance seasons**

Maintenance Year	Trash/Debris Type Removed		
	Tires	Large Appliances/Drip Lines/etc.	Total Items Removed
2009	19	28	47
2010	33	27	60
2011	28	26	54
2012	25	6	31

**Invasive Plants**

A total of 48,180 square feet of giant reed, periwinkle, grape, Himalayan blackberry, poison hemlock and red sesbania was ultimately treated by District staff and contractors during late the summer and fall of 2012. Species such as fennel, tree of heaven, etc. were observed during the June survey but not treated as a result of land owners requests in previous meetings to prioritize use funds for treatment of invasive plants that are considered Pierce host’s species as well giant reed which is not a Pierce host. Figures 1 and 2 show an example pre and post treatment site where Arundo was first sprayed with herbicide in 2011 and then chipped out and mulched in 2012. Table 2 shows the total area of invasive and Pierce host plants treated by species since the inception of the maintenance surveys in 2009. Select populations of invasive plants that were treated during the 2012 field season and have the potential to cause streambank erosion have been, or will be, replanted with willow and/or cotton wood stakes and broad cast seeded with appropriate native species as needed throughout the winter and spring of 2012 and 2013 respectively.

**Table 2: Invasive/Pierce host plant species treated over 2009-2012 maintenance seasons**

Invasive/Pierce host plant species treated (Square Feet)							
Maintenance Year	Giant Reed	Himalayan Blackberry	Periwinkle	Poison Hemlock	CA Grape	Red Sesbania	Total Area Treated (Sqft)
2009	73,180	0	0	0	0	0	73,180
2010	23,599	952	17,389	17,424	0	86	68,923
2011	30,749	35,809	9,163	2,461	7,447	49,138	134,771
2012	14,502	2,668	6,951	6,423	N/A	17,636	48,180

**Large Woody Debris (LWD)**

A total of 5 large woody debris (LWD) accumulations were documented during the 2012 survey that ranked as potential maintenance issues in the river channel. The Report recommended thinning out and/or realigning all 5 LWD occurrences. However, after several additional site inspections under low and high flow conditions, District staff concluded that only 4 LWD accumulations required treatment including 1 requested by a landowner. All LWD maintenance issues were addressed between October 1<sup>st</sup> and October 15<sup>th</sup>, 2012 respectively (Figures 3 and 4). Table 3 represents the number of LWD accumulations treated over the life of the Project thus far.

**Table 3: LWD occurrences documented and treated over 2009-2012 maintenance seasons**

Maintenance Year	LWD Documented as Potential Maintenance Issue	LWD Recommended for Maintenance Action	Total LWD Maintained
2009	9	2	2
2010	16	2	4
2011	7	3	2
2012	5	4	4*

\*Includes 1 LWD jam managed at landowners request

As mentioned above in the Trash and Debris section, following high flow events on November 30<sup>th</sup> and December 23<sup>rd</sup>, two large wood debris jams were thinned out (twice) that required considerable time and in the form of consecutive days utilizing hand labor crews (CA Conservation Corps) and small equipment (Figures 5 and 6).

**Installed LWD Structures and Constructed/Graded Benches**

At the time of the June 2012 survey, construction had been completed through Reach 4 East bank resulting in the installation of 14 flood plain benches, 1 backwater alcove, 27 bench logs, 18 rood wad structures and 6 boulder clusters. The Report recommended no maintenance actions for the installed LWD structures, boulder clusters and graded benches. However, the Report did recommend repair of four localized bank erosion sites related to the previously treated giant reed (*Arundo*) sites. All four sites were treated during the summer as either part of Construction work on the west bank for Reach 4 or were repair by District staff using assessment funds. Work included re-graded to stable slopes (3:1), broad cast seeded, installation of erosion control fabric, planting with willow and cotton wood stake and physical removal of dead *Arundo* canes.

**Landowner Requests for Maintenance**

A total of 3 landowner requests forms were received by the District for maintenance activities during the 2012 field season. Landowners requested specific maintenance actions including removal of specific patches of invasive plants

(Arundo) and realignment and/or removal of large woody debris jams. All 3 landowner's maintenance requests were addressed during the 2012 maintenance season (Figures 1-4).

**Maintenance Access Agreements**

The District will continue to work with landowners to acquire long-term maintenance access agreements from those whom have yet to complete and submit an access/maintenance form in order to conduct maintenance activities for the entire Rutherford Reach. All 2012/2013 maintenance work was conducted in accordance with regulatory permits issued and the final maintenance plan (Jones and Stokes, 2008, <http://www.napawatersheds.org/files/managed/Document/3590/Rutherford%20Reach%20Maintenance%20Plan.pdf>) prepared for the Rutherford Reach.

**Budget**

The Maintenance Assessment District has been in place since June 1, 2008. The budget shown in Table 4 details the assessment fund. With annual revenues of \$98,160, the total estimated fund balance including encumbrances to date is \$291,307. Funds pay for a field team to conduct an annual survey of the river channel to assess maintenance needs. Expenditures cover maintenance actions (including repair of features constructed as part of the restoration) with any remaining funds accumulating for future work. The Maintenance Assessment District funds also supported initial baseline surveys to gather data against which to monitor changes in channel incision and bank erosion.

**Table 4: Budget fiscal year 2013 and fund balance by fiscal year**

Task	Annual Expenditures by Fiscal Year (FY)					
	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Annual Surveys & Development of Work Plans, Report and Monitoring	0	20,954	37,495	27,440	28,008	14,740
Trash Removal & Disposal Fees (Napa County Waste Management)	0	0	2,144	2,144	3,013	2,188
Invasive Plant Management	0	1,320	8,027	8,479	10,519	10,190
LWD Thinning and/or Removal	0	0	1,760	1,496	2,867	19,495
Habitat Structure Maintenance/Re-vegetation/Erosion Repair	0	0	0	1,320	3,995	1,186
Field Equipment, Supplies, Administration, Misc.	0	314	826	392	875	291
Engineers Report/Public Notice/Legal	0	23,933	1,655	1,655	1,655	1,655
Total Expenditures	\$11,250	\$46,521	\$51,907	\$42,926	\$50,932	*\$49,745
Remaining balance	\$0	\$90,389	\$47,728	\$56,484	\$48,291	**\$48,415
Cumulative Fund Balance (with interest) to date	\$291,307					

\* Estimated expenditures FY 2013 including encumbrances      \*\* Assumes full assessment of 98,160 collected for FY 2012/2013

**References**

Jones and Stokes. August 2008. Final Maintenance Plan for the Napa River Rutherford Reach Restoration Project.  
 Napa County Flood Control and Water Conservation District. July 2010. Napa River Rutherford Reach Restoration Project Annual Maintenance Survey.

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**Figure 1: Arundo treatment site (before)**



**Figure 2: Arundo treatment site (after)**



**Figure 3: LWD management site (before)**



**Figure 4: LWD management site (after)**





**Figure 5: Large LWD jam December 2012 (before thinning)**



**Figure 6: Large LWD jam January 2013 (after thinning)**

**Rutherford Reach Restoration Project Maintenance Work Plan 2012**

Parcel Name	Reach	Maintenance Work Proposed?	Maintenance Work Completed ?	Invasive/Pierce Host Plant	Trash	LWD Treatment/ Re-vegetation	Maintenance Access Agreement?	Contact Name	Contact Email
Zaninovich	1	NO	NO				no	Andrew Zaninovich	<a href="mailto:andrewz@sunviewvineyards.com">andrewz@sunviewvineyards.com</a>
Guggenhime	1	YES	YES	Removal of non-native giant reed	Removed tires/drip line	Removed small wood accumulation	yes	David J Guggenhime	<a href="mailto:dmgugg@comcast.net">dmgugg@comcast.net</a>
The Ranch Winery	1	YES	YES	Re-vegetation contractors to treat invasive/Pierce host plants	tire/computer monitor	limbed large downed tress(s), anchored lwd	Yes	Bob McCaffery, The Ranch	<a href="mailto:bob@ranchwinery.com">bob@ranchwinery.com</a>
Angaston LLC/ Quintessa	1	YES	YES	Treat Pierce host plants (black berry & vinca) & Arundo re-sprout			Yes	Mike Sipiora	<a href="mailto:michael@quintessa.com">michael@quintessa.com</a>
Claravalle LLC/ Quintessa	2	YES	YES	Treat Pierce host plants (black berry & vinca) & Arundo re-sprout	Removed several tires		Yes	Agustin Huneus	<a href="mailto:agustin@Quintessa.com">agustin@Quintessa.com</a>
Frogs Leap Winery	2	YES	YES	Re-vegetation contractors to treat invasive/Pierce host plants	Removed tires/drip line		Yes	Frank Leeds	<a href="mailto:frank@frogsleap.com">frank@frogsleap.com</a>
CJW Estate Vineyards/ Caymus	2	YES	YES	Re-vegetation contractors to treat invasive/Pierce host plants	Removed refrig panel and tires		Yes	Joseph Wagner	<a href="mailto:joseph@caymus.com">joseph@caymus.com</a>
Carpy Conolly	3 & 4	YES	YES	Re-vegetation contractors to treat invasive/Pierce host plants		Thinned willows at Bench 4 inlet	Yes	Colette Gamble	<a href="mailto:coco1851@comcast.net">coco1851@comcast.net</a>
Emmolo Vineyards	3 & 4	YES	YES	Invasives/Pierce host plants to be treated during 2012 construction	Drip line	Will remove debris at pump intake	Yes	Joseph Wagner	<a href="mailto:joseph@caymus.com">joseph@caymus.com</a>
Honig Vineyard	4	YES	YES	Re-vegetation contractors to treat invasive/Pierce host plants			Yes	Kristen Belair	<a href="mailto:kristin@honigwine.com">kristin@honigwine.com</a>
Mee Erika	4	YES	YES	Invasives/ Pierce host plants to be treated during 2012 construction		Stabilize right bank with willow poles	Yes	Larry Bettinelli	<a href="mailto:zekebet@aol.com">zekebet@aol.com</a>
Round Pond Vineyards	4 & 5	YES	YES	Invasives/Pierce host plants to be treated during 2012 construction		Repaired erosion areas post Dec flows	Yes	Chris Pedemonte	<a href="mailto:cipedemonte@grower.net">cipedemonte@grower.net</a>
CDFG	4	NO	NO				No	Gov. Brown	?
Wessinger	5	NO	NO	No access granted			No	Wessinger	?
Wilsey LB	5, 6, 7, 8	YES	YES	Invasives/Pierce host plants to be treated during 2012 construction	tires/cooler/grape bin	Repaired erosion areas post Dec flows	No	Chris Pedemonte, Diane B. Wilsey	<a href="mailto:cipedemonte@grower.net">cipedemonte@grower.net</a> , <a href="mailto:wilseyres@comcast.net">wilseyres@comcast.net</a>
Star Vineyards	6	YES	YES	Treat non-native giant reed and black berry	tires/plastic debris		Verbal OK	Jack Oliver	<a href="mailto:jack@rboco.com">jack@rboco.com</a>
Preston	6	YES	NO	No access granted			No	Marjorie Preston Trust	?
Peju Winery	6	YES	YES	Treat Pierce host plants (black berry)	tire		Yes	Herta Behensky-Peju	<a href="mailto:Hpeju@peju.com">Hpeju@peju.com</a>
St Supery/Skalli Corp.	7	YES	YES		tire		Verbal OK	Josh Anstey	<a href="mailto:josh@StSupery.com">josh@StSupery.com</a>
Sawyer	8	YES	YES	Invasives/Pierce host plants to be treated during 2012 construction			Yes	Charles J. Sawyer	<a href="mailto:sawvine@aol.com">sawvine@aol.com</a>
Sequoia Grove Vineyards	8	YES	YES	Invasives/Pierce host plants to be treated during 2012 construction	Removed smudge pot/tires	LWD removed as part of 2012 construction	Yes	Robert J. "Bob" Aldridge	<a href="mailto:raldrige@sequoiagrove.com">raldrige@sequoiagrove.com</a>
Frost Fire	8	YES	YES	Removed dead giant reed and Pierce host plants	Removed tires		Yes	Mike Davis	<a href="mailto:mike.davis@acsacs.com">mike.davis@acsacs.com</a>
Hurt/McDowell	8	YES	YES	Remove dead giant reed/ placed erosion control fabric	Removed general debris		Yes	Bill & Holly Hurt	<a href="mailto:hurt.w.h@gmail.com">hurt.w.h@gmail.com</a>
Gmelch	8	NO	NO				Yes	George J. Gmelch, PhD	<a href="mailto:gigmelch@usfca.edu">gigmelch@usfca.edu</a>
Glos	8	YES	YES	Re-treat non-native giant reed and invasive plants			Yes	Robert L. Glos	<a href="mailto:robert.glos@ucdmc.ucdavis.edu">robert.glos@ucdmc.ucdavis.edu</a>
Laird	8	YES	YES	Re-treat and remove non-native giant reed and Pierce host plants	Removed tires		Verbal OK	Justin Laird	<a href="mailto:bayviewvineyard@aol.com">bayviewvineyard@aol.com</a>
Cakebread Vineyards	8	YES	YES	Treat Pierce host plants (black berry)	Removed tires		Yes	Bruce Cakebread	<a href="mailto:bruce@cakebread.com">bruce@cakebread.com</a>
Nickel & Nickel	9	YES	YES	Re-treat non-native giant reed			Verbal	Aaron Fishleder	<a href="mailto:afishleder@farniente.com">afishleder@farniente.com</a>
Spencer	9	NO	NO	No access granted			No	Norman A.Spencer	<a href="mailto:spencernorma@gmail.com">spencernorma@gmail.com</a>
United Winery	9	YES	YES	Removed and re-treat non-native giant reed	Removed drip lines		Yes	Tony Mitchell	<a href="mailto:mitchellvineyards@gmail.com">mitchellvineyards@gmail.com</a>
Swanson	9	YES	YES	Removed and re-treat non-native giant reed			Yes	Clarke Swanson, Jr.	<a href="mailto:wcswanson@swansonvineyards.com">wcswanson@swansonvineyards.com</a>
Opus One Winery	9	YES	YES	Treat small patch Pierce host plants (vinca)	Removed tires		Yes	Gary Caravantes	<a href="mailto:gary.caravantes@opusonewinery.com">gary.caravantes@opusonewinery.com</a>