REVISED PUBLIC NOTICE

A REGULAR MEETING OF THE BOARD OF DIRECTORS OF THE CARSON WATER SUBCONSERVANCY DISTRICT WILL BE HELD ON WEDNESDAY, SEPTEMBER 16, 2015, AT 6:30 P.M. IN THE McCARRAN GOVERNMENT BUILDING, 1705 PERU DRIVE, McCARRAN, NV. A QUORUM OF THE DOUGLAS COUNTY BOARD OF COMMISSIONERS MAY BE PRESENT AT THIS MEETING. THOSE COMMISSIONERS WILL BE DELIBERATING AND TAKING ACTION ONLY IN THEIR ROLE AS DIRECTORS OF THE CARSON WATER SUBCONSERVANCY DISTRICT. THE MEETING WILL BE PRECEDED AT *3:30* P.M. BY A TOUR OF THE TAHOE RENO INDUSTRIAL CENTER, BEGINNING AT 1705 PERU DRIVE, McCARRAN, NV, AND DINNER AT 5:00 P.M. AT THE WILD HORSE, 1000 WILD HORSE CANYON DRIVE, SOUTH HALF OF BUILDING B (SOUTH BUILDING), McCARRAN, NV. A QUORUM OF THE CWSD DIRECTORS MAY BE PRESENT AT THE EVENTS PRECEDING THE BOARD MEETING BUT NO ACTION WILL BE TAKEN.

Toni Leffler

TONI LEFFLER, SECRETARY

ITEMS ON THE AGENDA MAY BE TAKEN OUT OF ORDER. THE PUBLIC BODY MAY COMBINE TWO OR MORE AGENDA ITEMS FOR CONSIDERATION. THE PUBLIC BODY MAY REMOVE AN ITEM FROM THE AGENDA OR DELAY DISCUSSION RELATING TO AN ITEM ON THE AGENDA AT ANY TIME.

AGENDA

1. Call to Order
2. Convene CWSD/Alpine County Joint Powers Board
3. Roll Call
4. Pledge of Allegiance
5. Approval of Agenda
6. Approval of Minutes of the Board Meeting on August 19, 2015.
7. Public Comment

CONSENT AGENDA

ALL MATTERS LISTED UNDER THE CONSENT AGENDA ARE CONSIDERED ROUTINE AND MAY BE ACTED UPON BY THE BOARD OF DIRECTORS WITH ONE ACTION AND WITHOUT AN EXTENSIVE HEARING. ANY MEMBER OF THE BOARD OR ANY CITIZEN MAY REQUEST THAT AN ITEM BE TAKEN FROM THE CONSENT AGENDA, DISCUSSED AND ACTED UPON SEPARATELY DURING THIS MEETING.

8. Approval of Treasurer's Report for August 2015.
9. Payment of Bills for August 2015.

END OF CONSENT AGENDA

10 Discussion for possible action regarding a presentation by Dave Griffith on biomass-to-bioenergy in Alpine County.
11. Discussion for possible action regarding an update on the FEMA MAS #3, #4, #5, and #6 projects.
12. Discussion for possible action regarding approval for Board members and staff to attend the 2015 NWRA Fall Symposium in Reno on October 19-20, 2015.
13. Discussion for possible action regarding an overview of the 2015 water year.
14. Staff Reports - General Manager
    - Legal
    - Correspondence
15. Directors Reports
16. Public Comment
17. Adjournment

SEPTEMBER 16, 2015
CWSD BOARD MEETING AGENDA

Supporting information is available through Toni Leffler, 777 E. William St., #110A, Carson City, NV 89701, 775-887-7450, toni@cwsd.org and on CWSD website at www.cwsd.org. This notice has been posted before 9:00 a.m. on **SEPTEMBER 10, 2015,** at the following locations:

-Dayton Utilities Complex
34 Lakes Blvd
Dayton, NV

-Lyon County Administrative Building
27 S. Main St.
Yerington, NV

-Carson City Hall
201 N. Carson St.
Carson City, NV

-Alpine County Administrative Building
99 Water St.
Markleeville, CA

-Minden Inn Office Complex
1594 Esmeralda Avenue
Minden, NV

-Churchill County Administrative Complex
155 N Taylor St.
Fallon, NV

-Carson Water Subconservancy District Office
777 E. William St., #110A
Carson City, NV

AGENDA ITEM #6
MINUTES OF LAST
BOARD MEETING

CARSON WATER SUBCONSERVANCY DISTRICT
BOARD OF DIRECTORS MEETING
August 19, 2015, 6:30 P.M.
Minutes

Directors present:
Karen Abowd, Vice Chairman
Brad Bonkowski
Carl Erquiaga
Don Jardine
Doug Johnson
Greg Lynn, Chairman
Austin Osborne, Storey County
Barry Penzel
Chuck Roberts
Ernie Schank
Fred Stodieck

Directors not present:
Ray Fierro, Treasurer
Don Frensdorff
Mary Rawson

Staff present:
George Benesch, Legal Counsel
Brenda Hunt, Watershed Program Manager
Edwin James, General Manager
Debbie Neddenriep, Water Resource Specialist
Courtney Walker, Watershed Program Specialist

Also present:
Rob Anderson, R.O. Anderson Engineering
Dave Berger, USGS
Jim Hilton, STPUD
Charlie Lawson
Randy Pahl, NDEP
Carmen Schank

Chairman Lynn called the meeting to order at 6:30 p.m. in Room #3137 of the Nevada Legislative Building, 401 S. Carson St., Carson City, NV. The CWSD/Alpine County Joint Powers Board was convened. Roll call was taken and a quorum was determined to be present. The Pledge of Allegiance was lead by Director Bonkowski.

Director Jardine joined the meeting.

Item #5 - Approval of Agenda. *Director Abowd made the motion to approve the agenda. The motion was seconded by Director Bonkowski and unanimously approved by the Board.*

Item #6 - Approval of the Board Meeting Minutes from July 15, 2015. *Director Bonkowski made the motion to approve the Minutes of the Board Meeting on July 15, 2015. The motion was seconded by Director Abowd and unanimously approved by the Board.*

Item #7 - Public Comment. None

CONSENT AGENDA

Item #8 - Approval of Treasurer's Report for July 2015.

Item #9 - Payment of Bills for July 2015.

Item #10 - Discussion for possible action regarding CWSD entering into an agreement with HDR Engineering to develop inundation maps for the Carson City area that will be housed on the NOAA website and develop inundation maps for portions of Alpine, Douglas, and Lyon Counties that will be housed on the CWSD and each of the county's websites.

Item #11 - Discussion for possible action regarding CWSD entering into an agreement with Orion Engineering to upload the flood data for the inundation maps onto the NOAA website.

Item #12 was pulled from the consent agenda in order to discuss it further. *Director Erquiaga made the motion to approve the consent agenda items #8-11. The motion was seconded by Director Abowd and unanimously approved by the Board.*

END OF CONSENT AGENDA

Item 12 - Discussion for possible action regarding applying for NDEP 319 grants. Brenda Hunt, CWSD Watershed Program Manager, explained that CWSD staff is interested in submitting a grant request to begin implementing the Watershed-Literacy program. Staff is also considering applying for another NDEP grant to provide additional funding for conservation districts to do restoration work in riparian areas post weed removal. Staff is in the preliminary stages of speaking to conservation districts; however, we only have until September 14, 2015, to submit the grant request. Director Lynn asked if this would be a separate grant than the one in the board package. Ms. Hunt confirmed it would be a separate grant. Director Johnson asked where match would come from, and Ms. Hunt responded from CWSD, county, and conservation district staff time would serve as match.

Director Stodieck made motion to approve staff to submit NDEP grant applications as explained in agenda item #12. Director Penzel seconded the motion which was unanimously approved by the Board.

Item #13 - Discussion and possible action regarding a presentation on the Flood Relief Alternatives for the Carson River Downstream from Lahontan Reservoir. Rob Anderson of R.O. Anderson Engineering explained the flood relief alternatives for Carson River downstream from Lahontan Reservoir. Mr. Anderson noted that this project was begun by Dr. David Thompson and also recognized Stephanie Hicks and Shaker Gorla as being an integral part of this project.

He explained how flooding can occur to residences in the City of Fallon and the unincorporated area of Churchill County located downstream from Lahontan Reservoir. The ultimate 100-year peak flow downstream from Lahontan Reservoir is 3,100 cfs. Presently the ditches and river can handle about 1,360 cfs; therefore R.O. Anderson was hired to explore the possibility of diverting an additional 1,740 cfs toward the Sheckler Reservoir area.

Mr. Anderson explained how topographic data was collected to identify as least two potential routes for diverting flood flows, determine the feasibility of designs for conveying flood flows along the identified routes, and provide an engineer's estimate of probable construction cost for each of the identified alternatives.

Several options were developed, but they were all too expensive; therefore, the firm got creative and came up with a preferred alternative which was financially feasible. That alternative would be to build two new lateral diversion weirs about 2.3 miles downstream of Carson River Diversion Dam in the V-Line Canal. The existing V-Line Canal can handle the additional flow along this reach. This preferred option would require minimum improvements, and the estimated probable cost is approximately $680,000. Stephanie Hicks is working with Churchill County to apply for a FEMA mitigation grant for this project. Director Schank asked if the US Bureau of Reclamation (USBR) had been included as part of estimating the cost and noted it has a way of increasing the costs. Mr. Anderson replied that the USBR was not considered in estimating costs. Director Schank also asked why not add a flood gate that goes the full depth of the canal. Mr. Anderson replied that such a gate could be accommodated and that it would not be too difficult but would increase the costs. Director Stodieck asked if the channel was deep enough for a flood gate. Mr. Anderson responded that the channel was deep enough. Director Penzel asked what the energy dissipater was, to which Mr. Anderson replied that it is rock rip–rap. Director Penzel mentioned that something like this would be valuable in Douglas County. Director Lynn asked if CWSD would have a financial role in this project. Mr. James replied probably not. Churchill County is taking the lead and working with RO Anderson to get FEMA grant mitigation funding.

No action was required on this item; receive and file.

Item #14 - Discussion and possible action regarding a presentation by the USGS and NDEP on the Algae Study on the East Fork of the Carson River**.** Dave Berger of the USGS thanked the CWSD board for the opportunity to speak to them about the Assessment of Groundwater Derived Nutrients Related to Algal Growth, East Fork Carson River. He noted that the study was done in cooperation with the Carson Water Subconservancy District and the Nevada Division of Environmental Protection and mentioned that Nancy Alvarez, Randy Pahl, Michael Rosen, and Michael Potts had conducted the assessment. He introduced Mr. Pahl to discuss algae, and Mr. Berger explained the groundwater component. His presentation explained: 1) Project Background; 2) Study Objectives; 3) Study Area Locations; 4) Study Design and Approach; and 5) Results. He said the report is in review and he anticipates publication in approximately six months. The tentative conclusions were that the algae exceeded thresholds, percentage of cover, Chlorophyll-a, and the dissolved oxygen exceeded standards. The worst conditions for higher algae levels and dissolved oxygen levels were observed during the low flow year (2012). There is no "smoking gun" on why there is so much algae in this reach. Most likely it is a combination of low flow, shallow water, and high water temperature.

No action was required on this item; receive and file.

Item #15 - Discussion for possible action regarding a review of prior work done by CWSD in the 1980s and 1990s on upstream storage in the Carson River Watershed. Mr. James explained how he wanted to provide a review of prior work to build upstream storage in the Carson River watershed since Charlie Lawson had questioned the CWSD board about storage in a previous board meeting. CWSD staff reviewed previous studies to identify viable water storage alternatives upstream of Lahontan Reservoir.

Mr. James explained how the 1929 Debler Report identified several sites to potentially store water in upstream of Lahontan Reservoir. Those sites included Young's Crossing, Horseshoe Bend, Watasheamu, Bodie, Diamond Valley, Long Valley, and Comstock.

By the late 1950s, Watasheamu Dam was selected as part of the Washoe Project for upstream storage on the Carson River. However, as the process continued, the cost to benefit ratio was less than one (1). Furthermore, the initial cost projections did not include environmental assessments or purchasing water rights. By 1982, the USBR concluded the Watasheamu Dam was not feasible. By the late 1980s, the Nevada Legislature was pushing hard to have a dam built on the Carson River however, by this time California designated the East Fork Carson River in California as Wild and Scenic. This precluded storage proposals that would back up water into California.

At this point, the two remaining sites considered for further study were the Bodie and Comstock sites. The main purpose of the reservoir was for future municipal water needs. Flood protection was a secondary benefit. Since the river was fully allocated, 14,000 acres of Carson Valley water-righted land would have to be purchased to fill the dam, which was formally opposed by Douglas County Planning Commission. Furthermore, the East Fork of the Carson River was identified as potentially Wild and Scenic by the federal government. It was estimated that the environmental assessment process would take 10-15 years.

The projected building cost for Bodie Dam (in 1989 dollars) was $42 million. This did not include the purchase of water rights or any environmental assessments. The Comstock Dam site is located in the Carson Canyon upstream of Dayton. Since this dam site between Carson City and Dayton is in Segment 7a, only 8,000 acre-feet of water was available for purchase. Also, being within a mercury superfund site was an issue. It was estimated that the environmental assessment would take at least 15 years.

Since the 1990s, several of the assumptions used in the original reports have changed that effect water demand and the amount of reclaimed water which would be available to irrigate ag lands. Funding is another hurdle for building a dam in the watershed; there is little Federal funding available and state funding is non-existent. CWSD staff is currently working with the Desert Research Institute (DRI) who is doing a Water for the Seasons study to evaluate other storage alternatives. Mr. James mentioned there is storage in the upper watershed that is not being fully utilized at Indian Creek Reservoir and Mud Lake.

Director Schank noted the Alpine Decree and its impact on potential storage sites was an important consideration in the process of building storage upstream of Lahontan. Director Johnson mentioned that it's CWSD's role to balance demand between municipal, agricultural,

and environmental users. Director Penzel noted one thing that comes out is that we have to continually rebalance priorities. Part of that requires us to look into the future; we should be looking down the road. He asked if a flow chart or matrix would be appropriate. Mr. James responded that he has been working with DRI, and he is also working to make sure items CWSD needs to discover are considered in the Water for the Seasons investigation. By doing so, he is hopeful the report will provide data useful to predict future demands since that is the information water purveyors consider most critical in figuring out what they need to do in the future.

Director Lynn asked if it is necessary for water purveyors to have an annual meeting, to which Mr. James responded that CWSD already facilitates a bi-annual water purveyor meeting. He noted that water supply is looking pretty good in the upper watershed. He elaborated that Douglas County and Carson City are in great shape, but they are constantly working the system. Dayton has plenty of water today and has quite a bit of water on the books; however, Stagecoach and Silver Springs will need water for future growth.

Mr. James concluded his discussion regarding water supply by stating that this year municipalities are ok in supplying water but that agriculture is hurting. Director Penzel noted it would be good for all the water purveyors to be on same page. Mr. James offered to hold more committee meetings.

Once the board discussion was complete, Charlie Lawson made public comments to the board regarding the board's role and water storage. Director Lynn thanked Mr. Lawson for his comments.

No action was required on this item; receive and file.

Item #16 - Staff Reports

General Manager - Mr. James reported: 1) As a result of Mr. James' attendance in February at the CTP training in Virginia he was contacted by FEMA. They are putting together an information flyer about CTP success stories. CWSD will be included in this document, and it will be used nationwide.

2) Mr. James mentioned the National Oceanic and Atmospheric Administration (NOAA) report that says El Nino is growing and may be the Godzilla of El Nino. In addition, there is a BLOB (NOAA's scientific term) growing and has been forming for the last three years. Therefore NOAA believes the combination could produce a wet winter but is unsure how it will impact our region since the moisture may go north, south, or split around this area.

3) Next, Mr. James noted that at the last Carson Truckee Water Conservancy District (CTWCD) meeting it was determined that funding would be available for assisting conservation district for clearing and snagging in the Carson River Watershed. He noted CTWCD would be contacting conservation districts about applying for funding for clearing and snagging in our watershed.

Director Penzel asked about the status of work done above the Virginia Canal. Mr. James responded that he had encouraged Mike Hayes to apply for funding. He has also been encouraging Douglas County staff to apply for 319 grants.

4) Finally, Mr. James mentioned he had attended the Drought Forum. The forum was mainly focused on agricultural industry. He noted many had an issue with BLM cutting back on the amount of cattle even though rain had supplied a lot of feed; they were also concerned the extra grass would soon be fire fuel.

Ms. Hunt reported that Markleeville Creek Day is September 12, 2015.

Legal –Mr. Benesch reported that on August 12, Pershing County filed a Petition of Mandamus against the State Engineer. They are complaining because their allocation has been zero. They are looking up-basin and seeing junior water rights upstream getting full allocation and protesting that the State Engineer is allowing mine dewatering which they claim has an impact on their water. As a result the State Engineer is looking at all basins upstream of Pershing County. Mr. Benesch offered to provide copies of the filing to any who desired one.

Correspondence – As included in the Board package and handed out.

Item #17 - Directors' Reports
Director Bonkowski asked if CWSD has looked at a regional purple pipe to pump effluent. Mr. James responded that at one time Carson City was looking at pumping water to Lyon County because they had more than they knew what to do with it. Mr. James also mentioned that the City of Reno is considering sending some of their treated wastewater to the Tahoe Reno Industrial Complex. Director Bonkowski mentioned that he and Director Abowd are looking at storing more effluent in Brunswick Reservoir.

Director Osborne mentioned that there was a significant amount of flooding in Mark Twain area within the county in Dayton Valley, with residents having all but their house destroyed. He mentioned he would be contacting Mr. James about Storey County tagging onto the Regional Floodplain Plan.

The rest of the directors had nothing specific to report but joined in thanking the staff for arranging the tour of the East Slope collection system of the Marlette Water System and dinner at Red's Old 395 Grill preceding the meeting.

Item #18 - Public Comment. None

There being no further business to come before the Board, Director Abowd made the motion to adjourn, seconded by Director Schank and unanimously approved by the Board. The meeting was adjourned at 8:30 p.m.

Respectfully submitted,

Debbie Neddenriep
Clerk

AGENDA ITEM #8
TREASURER'S REPORT

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Balance Sheet
As of August 31, 2015

	Aug 31, 15
ASSETS	
Current Assets	
Checking/Savings	
1010-00 · Cash in Checking - B of A	19,608.65
1011-00 · Petty Cash	101.27
1014-00 · Local Gov't Inv. Pool-Regular	46,459.97
1018-00 · Greater NV Credit Union-Savings	25.00
1021-00 · US Bank CD	248,710.79
1028-00 · First Independent Bank of Nevad	246,804.10
1029-00 · Bank of America-Savings	47,073.32
Total Checking/Savings	608,783.10
Other Current Assets	
1055-00 · Payroll Deposit - Carson City	500.00
Total Other Current Assets	500.00
Total Current Assets	609,283.10
TOTAL ASSETS	**609,283.10**
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Other Current Liabilities	
3307-00 · CC Payroll Due	40,588.90
3360-00 · Accrued Vacation	22,879.97
3362-00 · Accrued sick leave	42,382.01
Total Other Current Liabilities	105,850.88
Total Current Liabilities	105,850.88
Total Liabilities	105,850.88
Equity	
4000-00 · Fund Balance	660,844.05
Net Income	-157,411.83
Total Equity	503,432.22
TOTAL LIABILITIES & EQUITY	**609,283.10**

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Profit & Loss YTD Comparison
August 2015

	Aug 15	Jul - Aug 15
Ordinary Income/Expense		
Income		
5009-00 · Churchill County Ad Valorem		4,874.89
5010-00 · Lyon County Ad Valorem		23,171.92
5011-00 · Douglas County Ad Valorem	22,516.98	23,635.33
5012-00 · Carson City Ad Valorem		1,347.30
5025-00 · Int. Inc.-US Bank CD	250.95	281.58
5031-00 · Interest Income-LGIP Reg.	16.24	57.63
5044-00 · Int-1st Independent Bk of NV CD	115.23	226.70
5045-00 · Interest Income-B of A Savings	1.60	3.20
5050-00 · Watershed Coordinator		
5050-08 · NDEP Watershed Coord 2012-15		4,768.72
5050-10 · NDEP Watershed Coord. 2015-18	26,273.84	26,273.84
Total 5050-00 · Watershed Coordinator	26,273.84	31,042.56
5058-00 · 208 Water Quality Plan		
5058-02 · NDEP-2010 Algae Study Grant	2,010.57	2,010.57
5058-03 · NDEP 208 LID Grant- 2013-15	1,340.41	1,340.41
Total 5058-00 · 208 Water Quality Plan	3,350.98	3,350.98
5060-00 · Misc. Income		750.00
5063-00 · Environmental Education Program		
5063-03 · NDEP-Env.Ed.Coord. 2012-14	14,965.71	14,965.71
Total 5063-00 · Environmental Education Program	14,965.71	14,965.71
5077-00 · CR Conservation Tours		
5077-03 · NDEP Conserv Tour Grant 2012-14		544.37
Total 5077-00 · CR Conservation Tours		544.37
5086-00 · FEMA MAS #3 (Do.Co.)		9,302.61
5087-00 · FEMA MAS #4 (Flood Maps)		4,991.58
5090-00 · NDEP-Watershed Literacy Grant	14,565.05	14,565.05
5091-00 · Rec.Trails Signage-Motorized	180.00	180.00
5092-00 · FEMA - MAS #5		59,651.57
Total Income	82,236.58	192,942.98
Expense		
7015-00 · Salaries & Wages	26,625.20	66,283.97
7020-00 · Employee Benefits	10,648.15	22,639.91
7021-00 · Workers Comp Ins.		277.00
7101-00 · Director's Fees		
7101-01 · Director Benefits	13.00	37.91
7101-00 · Director's Fees - Other	895.30	2,612.35
Total 7101-00 · Director's Fees	908.30	2,650.26
7102-00 · Insurance		6,917.44
7103-00 · Office Supplies	307.10	686.41
7104-00 · Postage	98.00	135.07
7105-00 · Rent	2,169.34	4,338.68
7106-00 · Telephone/Internet	183.37	459.08
7107-00 · Travel-transport/meals/lodging		
7107-01 · Car Allowance	566.42	1,416.05
7107-00 · Travel-transport/meals/lodging - Other	331.66	693.13
Total 7107-00 · Travel-transport/meals/lodging	898.08	2,109.18
7108-00 · Dues & Publications	220.00	315.00
7110-00 · Seminars & Education	155.00	600.00
7112-00 · Bank Charges	-1.00	-50.38
7114-00 · Outside Professional Services		190.00
7116-00 · Legal	3,411.33	6,822.66
7117-00 · Lost Lakes Expenses	480.00	660.00
7120-00 · Integrated Watershed Programs		
7120-30 · Watershed Coord.Exp. 2015-18	148.84	317.74
Total 7120-00 · Integrated Watershed Programs	148.84	317.74
7125-00 · Environmental Ed.Coord.Exp.		

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Profit & Loss YTD Comparison
August 2015

	Aug 15	Jul - Aug 15
7125-01 · Env.Ed.Coord.Exp.2012-14		9.75
7125-02 · Env.Ed.Coord.Exp. 2015-17	3,445.11	8,311.09
Total 7125-00 · Environmental Ed.Coord.Exp.	3,445.11	8,320.84
7210-00 · CR Conservation Tours Exp.		
7210-03 · NPS Conser.Tours 2012-15	2.07	4.14
7210-00 · CR Conservation Tours Exp. - Other		280.65
Total 7210-00 · CR Conservation Tours Exp.	2.07	284.79
7214-00 · Rec. Trails Signage-Motorized		1,000.00
7332-00 · Carson River Work Days		8,132.92
7337-00 · Carson River Restoration		
7337-03 · Dayton Valley Conserv		15,259.06
Total 7337-00 · Carson River Restoration		15,259.06
7404-00 · Noxious Weeds Control-CR Wtrshd		
7404-01 · Noxious Weed Control-Alpine Co.	15,000.00	15,000.00
7404-02 · Noxious Weed Control-Douglas Co		
7404-03 · Noxious Weed Control-CarsonCity		15,000.00
7404-04 · Noxious Weed Control-Lyon Co.		10,267.08
7404-05 · Noxious Weed Control-Churchill	15,000.00	15,000.00
Total 7404-00 · Noxious Weeds Control-CR Wtrshd	30,000.00	55,267.08
7406-00 · 208 Water Quality Mgmt. Plan		
7406-02 · 208 Plan-LID Practices- 2013-14	19.19	20.38
7406-00 · 208 Water Quality Mgmt. Plan - Other	0.24	0.48
Total 7406-00 · 208 Water Quality Mgmt. Plan	19.43	20.86
7419-00 · FEMA MAS #3	2.98	9,220.49
7420-00 · FEMA MAS #4 (Flood Map)	10.77	15.32
7422-00 · BOR Basin Plan of Study	0.08	0.16
7424-00 · NDEP-Watershed Literacy Gr.Exp.		
7424-02 · Watershed Survey-Responsive Mgt		10,000.00
7424-00 · NDEP-Watershed Literacy Gr.Exp. - Other	79.27	3,379.75
Total 7424-00 · NDEP-Watershed Literacy Gr.Exp.	79.27	13,379.75
7426-00 · FEMA MAS #5-Charter/Map/Model		
7426-01 · Alpine View Est.-Kimley Horn		6,502.00
7426-02 · Smelter Creek-RO Anderson	18,500.00	32,500.00
7426-03 · Eagle Valley-Michael Baker	7,719.25	21,344.50
7426-00 · FEMA MAS #5-Charter/Map/Model - Other	8.16	13.68
Total 7426-00 · FEMA MAS #5-Charter/Map/Model	26,227.41	60,360.18
7600-00 · Alpine County Projects		
7600-05 · Alpine Watershed Programs	11,500.00	16,500.00
7600-09 · Al.Co.-CASGEM	6.61	6.61
Total 7600-00 · Alpine County Projects	11,506.61	16,506.61
7610-00 · Douglas County Projects		
7610-17 · Do.Co.-EF Channel Restoration		29,509.48
Total 7610-00 · Douglas County Projects		29,509.48
7620-00 · Carson City Projects		
7620-15 · Eagle Cr Streambank Restoration	12,400.00	12,400.00
Total 7620-00 · Carson City Projects	12,400.00	12,400.00
7640-00 · Churchill County Projects		
7640-09 · Lahontan Vly.Wtr.Lvl.Measure.	5,325.25	5,325.25
Total 7640-00 · Churchill County Projects	5,325.25	5,325.25
Total Expense	135,270.69	350,354.81
Net Ordinary Income	-53,034.11	-157,411.83
Net Income	**-53,034.11**	**-157,411.83**

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Profit & Loss Budget vs. Actual
July through August 2015

	Jul - Aug 15	Budget	$ Over Budget	% of Budget
Ordinary Income/Expense				
Income				
5008-00 · Alpine Co. Joint Powers contrib		9,000.00	-9,000.00	
5009-00 · Churchill County Ad Valorem	4,874.89	187,550.00	-182,675.11	2.6%
5010-00 · Lyon County Ad Valorem	23,171.92	147,555.00	-124,383.08	15.7%
5011-00 · Douglas County Ad Valorem	23,635.33	477,500.00	-453,864.67	4.9%
5012-00 · Carson City Ad Valorem	1,347.30	377,150.00	-375,802.70	0.4%
5022-00 · Water Lease - Mud Lake		45,000.00	-45,000.00	
5025-00 · Int. Inc.-US Bank CD	281.58	850.00	-568.42	33.1%
5031-00 · Interest Income-LGIP Reg.	57.63	80.00	-22.37	72.0%
5044-00 · Int-1st Independent Bk of NV CD	226.70	850.00	-623.30	26.7%
5045-00 · Interest Income-B of A Savings	3.20	80.00	-76.80	4.0%
5050-00 · Watershed Coordinator				
5050-08 · NDEP Watershed Coord 2012-15	4,768.72			
5050-10 · NDEP Watershed Coord. 2015-18	26,273.84	64,000.00	-37,726.16	41.1%
Total 5050-00 · Watershed Coordinator	31,042.56	64,000.00	-32,957.44	48.5%
5058-00 · 208 Water Quality Plan				
5058-02 · NDEP-2010 Algae Study Grant	2,010.57			
5058-03 · NDEP 208 LID Grant- 2013-15	1,340.41	4,700.00	-3,359.59	28.5%
Total 5058-00 · 208 Water Quality Plan	3,350.98	4,700.00	-1,349.02	71.3%
5060-00 · Misc. Income				
5060-02 · Watershed Tour		5,900.00	-5,900.00	
5060-00 · Misc. Income - Other	750.00			
Total 5060-00 · Misc. Income	750.00	5,900.00	-5,150.00	12.7%
5063-00 · Environmental Education Program				
5063-03 · NDEP-Env.Ed.Coord. 2012-14	14,965.71			
5063-04 · NDEP-Env.Ed.Coord.2015-17		50,000.00	-50,000.00	
Total 5063-00 · Environmental Education Program	14,965.71	50,000.00	-35,034.29	29.9%
5077-00 · CR Conservation Tours				
5077-03 · NDEP Conserv Tour Grant 2012-14	544.37			
5077-00 · CR Conservation Tours - Other		2,200.00	-2,200.00	
Total 5077-00 · CR Conservation Tours	544.37	2,200.00	-1,655.63	24.7%
5082-00 · Alpine Co.-CASGEM Grant		750.00	-750.00	
5086-00 · FEMA MAS #3 (Do.Co.)	9,302.61	59,000.00	-49,697.39	15.8%
5087-00 · FEMA MAS #4 (Flood Maps)	4,991.58	250,000.00	-245,008.42	2.0%
5090-00 · NDEP-Watershed Literacy Grant	14,565.05	5,800.00	8,765.05	251.1%
5091-00 · Rec.Trails Signage-Motorized	180.00	3,100.00	-2,920.00	5.8%
5092-00 · FEMA - MAS #5	59,651.57	150,000.00	-90,348.43	39.8%
Total Income	192,942.98	1,841,065.00	-1,648,122.02	10.5%
Expense				
7015-00 · Salaries & Wages	66,283.97	334,400.00	-268,116.03	19.8%
7020-00 · Employee Benefits	22,639.91	136,700.00	-114,060.09	16.6%
7021-00 · Workers Comp Ins.	277.00	1,200.00	-923.00	23.1%
7101-00 · Director's Fees				
7101-01 · Director Benefits	37.91			
7101-00 · Director's Fees - Other	2,612.35	14,000.00	-11,387.65	18.7%
Total 7101-00 · Director's Fees	2,650.26	14,000.00	-11,349.74	18.9%
7102-00 · Insurance	6,917.44	10,000.00	-3,082.56	69.2%
7103-00 · Office Supplies	686.41	4,000.00	-3,313.59	17.2%
7104-00 · Postage	135.07	1,250.00	-1,114.93	10.8%
7105-00 · Rent	4,338.68	26,033.00	-21,694.32	16.7%
7106-00 · Telephone/Internet	459.08	5,000.00	-4,540.92	9.2%
7107-00 · Travel-transport/meals/lodging				
7107-01 · Car Allowance	1,416.05			
7107-00 · Travel-transport/meals/lodging - Other	693.13	17,000.00	-16,306.87	4.1%
Total 7107-00 · Travel-transport/meals/lodging	2,109.18	17,000.00	-14,890.82	12.4%
7108-00 · Dues & Publications	315.00	1,000.00	-685.00	31.5%
7109-00 · Miscellaneous Expense		3,000.00	-3,000.00	

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Profit & Loss Budget vs. Actual
July through August 2015

	Jul - Aug 15	Budget	$ Over Budget	% of Budget
7110-00 · Seminars & Education	600.00	3,000.00	-2,400.00	20.0%
7111-00 · Office Equipment		16,000.00	-16,000.00	
7112-00 · Bank Charges	-50.38	200.00	-250.38	-25.2%
7114-00 · Outside Professional Services	190.00	20,000.00	-19,810.00	1.0%
7115-00 · Accounting		16,500.00	-16,500.00	
7116-00 · Legal	6,822.66	40,700.00	-33,877.34	16.8%
7117-00 · Lost Lakes Expenses	660.00	7,000.00	-6,340.00	9.4%
7118-00 · Mud Lake O & M		1,000.00	-1,000.00	
7120-00 · Integrated Watershed Programs				
7120-07 · Watershed Tour		5,500.00	-5,500.00	
7120-08 · Invasive Species Programs		5,000.00	-5,000.00	
7120-30 · Watershed Coord.Exp. 2015-18	317.74	4,400.00	-4,082.26	7.2%
Total 7120-00 · Integrated Watershed Programs	317.74	14,900.00	-14,582.26	2.1%
7122-00 · Water Conservation/BMP Program		5,000.00	-5,000.00	
7125-00 · Environmental Ed.Coord.Exp.				
7125-01 · Env.Ed.Coord.Exp.2012-14	9.75			
7125-02 · Env.Ed.Coord.Exp. 2015-17	8,311.09	44,000.00	-35,688.91	18.9%
Total 7125-00 · Environmental Ed.Coord.Exp.	8,320.84	44,000.00	-35,679.16	18.9%
7210-00 · CR Conservation Tours Exp.				
7210-03 · NPS Conser.Tours 2012-15	4.14	1,800.00	-1,795.86	0.2%
7210-00 · CR Conservation Tours Exp. - Other	280.65			
Total 7210-00 · CR Conservation Tours Exp.	284.79	1,800.00	-1,515.21	15.8%
7214-00 · Rec. Trails Signage-Motorized	1,000.00	900.00	100.00	111.1%
7215-00 · Sierra NV Journeys-Family Night		3,380.00	-3,380.00	
7332-00 · Carson River Work Days				
7332-01 · CR Work Days 2015-16		26,000.00	-26,000.00	
7332-00 · Carson River Work Days - Other	8,132.92			
Total 7332-00 · Carson River Work Days	8,132.92	26,000.00	-17,867.08	31.3%
7337-00 · Carson River Restoration				
7337-01 · Upper Carson River Grant.		60,000.00	-60,000.00	
7337-03 · Dayton Valley Conserv				
7337-31 · DVCD-Restoration Proj.2015-16		124,000.00	-124,000.00	
7337-32 · DVCD-Storey Co. Weed Abatement		5,000.00	-5,000.00	
7337-03 · Dayton Valley Conserv - Other	15,259.06			
Total 7337-03 · Dayton Valley Conserv	15,259.06	129,000.00	-113,740.94	11.8%
7337-04 · Lahontan Conserv.Dist		20,000.00	-20,000.00	
Total 7337-00 · Carson River Restoration	15,259.06	209,000.00	-193,740.94	7.3%
7404-00 · Noxious Weeds Control-CR Wtrshd				
7404-01 · Noxious Weed Control-Alpine Co.	15,000.00	15,000.00		100.0%
7404-02 · Noxious Weed Control-Douglas Co		15,000.00	-15,000.00	
7404-03 · Noxious Weed Control-CarsonCity	15,000.00	15,000.00		100.0%
7404-04 · Noxious Weed Control-Lyon Co.	10,267.08	15,000.00	-4,732.92	68.4%
7404-05 · Noxious Weed Control-Churchill	15,000.00	15,000.00		100.0%
Total 7404-00 · Noxious Weeds Control-CR Wtrshd	55,267.08	75,000.00	-19,732.92	73.7%
7406-00 · 208 Water Quality Mgmt. Plan				
7406-02 · 208 Plan-LID Practices- 2013-14	20.38			
7406-00 · 208 Water Quality Mgmt. Plan - Other	0.48			
Total 7406-00 · 208 Water Quality Mgmt. Plan	20.86			
7419-00 · FEMA MAS #3	9,220.49	58,000.00	-48,779.51	15.9%
7420-00 · FEMA MAS #4 (Flood Map)	15.32	240,000.00	-239,984.68	0.0%
7422-00 · BOR Basin Plan of Study	0.16			
7424-00 · NDEP-Watershed Literacy Gr.Exp.				
7424-02 · Watershed Survey-Responsive Mgt	10,000.00			
7424-00 · NDEP-Watershed Literacy Gr.Exp. - Other	3,379.75	4,800.00	-1,420.25	70.4%
Total 7424-00 · NDEP-Watershed Literacy Gr.Exp.	13,379.75	4,800.00	8,579.75	278.7%
7426-00 · FEMA MAS #5-Charter/Map/Model				
7426-01 · Alpine View Est.-Kimley Horn	6,502.00			

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Profit & Loss Budget vs. Actual
July through August 2015

	Jul - Aug 15	Budget	$ Over Budget	% of Budget
7426-02 · Smelter Creek-RO Anderson	32,500.00			
7426-03 · Eagle Valley-Michael Baker	21,344.50			
7426-00 · FEMA MAS #5-Charter/Map/Model - Other	13.68	132,000.00	-131,986.32	0.0%
Total 7426-00 · FEMA MAS #5-Charter/Map/Model	60,360.18	132,000.00	-71,639.82	45.7%
7500-00 · USGS Stream Gage Contract				
7500-01 · Stream Gages 2015-17		70,232.00	-70,232.00	
Total 7500-00 · USGS Stream Gage Contract		70,232.00	-70,232.00	
7508-00 · USGS Do.Co.WQ & GW Monitoring				
7508-01 · Do/LyCo WQ/GW Mon. 2015-17		15,500.00	-15,500.00	
Total 7508-00 · USGS Do.Co.WQ & GW Monitoring		15,500.00	-15,500.00	
7524-00 · USGS-GW Lvl & WQ in Ch.Co.				
7524-01 · USGS-GW Lvl & WQ-ChCo 2014-17		10,200.00	-10,200.00	
Total 7524-00 · USGS-GW Lvl & WQ in Ch.Co.		10,200.00	-10,200.00	
7525-00 · USGS-CV Arsenic Study-Ph.1		20,000.00	-20,000.00	
7600-00 · Alpine County Projects				
7600-05 · Alpine Watershed Programs	16,500.00	23,000.00	-6,500.00	71.7%
7600-09 · Al.Co.-CASGEM	6.61	25.00	-18.39	26.4%
Total 7600-00 · Alpine County Projects	16,506.61	23,025.00	-6,518.39	71.7%
7610-00 · Douglas County Projects				
7610-10 · Do.Co.Reg.Pipeline Debt Service		125,000.00	-125,000.00	
7610-17 · Do.Co.-EF Channel Restoration	29,509.48			
7610-18 · DoCo-Sierra Country Estates		24,500.00	-24,500.00	
Total 7610-00 · Douglas County Projects	29,509.48	149,500.00	-119,990.52	19.7%
7620-00 · Carson City Projects				
7620-11 · CC Reg.Pipeline Debt Service		125,000.00	-125,000.00	
7620-15 · Eagle Cr Streambank Restoration	12,400.00			
Total 7620-00 · Carson City Projects	12,400.00	125,000.00	-112,600.00	9.9%
7630-00 · Lyon County Projects				
7630-10 · LyCo Middle CR Imagery Project		27,644.00	-27,644.00	
Total 7630-00 · Lyon County Projects		27,644.00	-27,644.00	
7640-00 · Churchill County Projects				
7640-09 · Lahontan Vly.Wtr.Lvl.Measure.	5,325.25	19,000.00	-13,674.75	28.0%
7640-14 · W/R Dedication Tracking DB		8,420.00	-8,420.00	
7640-15 · LCD-Sand Bar Removal in ChCo		20,000.00	-20,000.00	
Total 7640-00 · Churchill County Projects	5,325.25	47,420.00	-42,094.75	11.2%
Total Expense	350,354.81	1,961,284.00	-1,610,929.19	17.9%
Net Ordinary Income	-157,411.83	-120,219.00	-37,192.83	130.9%
Other Income/Expense				
Other Income				
8005-00 · Beginning Equity		671,421.00	-671,421.00	
Total Other Income		671,421.00	-671,421.00	
Other Expense				
8002-00 · Transfer Out-Acq/Const Fund		20,000.00	-20,000.00	
8008-00 · Preliminary Planning		435,000.00	-435,000.00	
Total Other Expense		455,000.00	-455,000.00	
Net Other Income		216,421.00	-216,421.00	
Net Income	**-157,411.83**	**96,202.00**	**-253,613.83**	**-163.6%**

CARSON WTR SUBCONSERVANCY DIST - ACQUISITION/CONSTRUCTION
Balance Sheet
As of August 31, 2015

	Aug 31, 15
ASSETS	
Current Assets	
Checking/Savings	
1013-01 · Local Gov't Inv.Pool-Reserve	412,554.00
1015-01 · Heritage Bk 12-mo. CD	250,066.21
Total Checking/Savings	662,620.21
Total Current Assets	662,620.21
TOTAL ASSETS	**662,620.21**
LIABILITIES & EQUITY	
Equity	
4000-01 · Fund Balance - Capital Project	662,289.91
Net Income	330.30
Total Equity	662,620.21
TOTAL LIABILITIES & EQUITY	**662,620.21**

CARSON WTR SUBCONSERVANCY DIST - ACQUISITION/CONSTRUCTION
Profit & Loss YTD Comparison
August 2015

	Aug 15	Jul - Aug 15
Ordinary Income/Expense		
Income		
5032-01 · Interest Income - LGIP Res.	73.11	142.34
5038-00 · Int. Inc.-Heritage Bk CD	95.54	187.96
Total Income	168.65	330.30
Net Ordinary Income	168.65	330.30
Net Income	**168.65**	**330.30**

CARSON WTR SUBCONSERVANCY DIST - ACQUISITION/CONSTRUCTION
Profit & Loss Budget vs. Actual
July through August 2015

	Jul - Aug 15	Budget	$ Over Budget	% of Budget
Ordinary Income/Expense				
Income				
5032-01 · Interest Income - LGIP Res.	142.34	400.00	-257.66	35.6%
5038-00 · Int. Inc.-Heritage Bk CD	187.96	1,000.00	-812.04	18.8%
Total Income	330.30	1,400.00	-1,069.70	23.6%
Expense				
7325-01 · Acquisition Wtr Rts/Structures		650,000.00	-650,000.00	
Total Expense		650,000.00	-650,000.00	
Net Ordinary Income	330.30	-648,600.00	648,930.30	-0.1%
Other Income/Expense				
Other Income				
8000-01 · Beginning Equity		662,168.00	-662,168.00	
8001-01 · Transfer In-General Fund		20,000.00	-20,000.00	
Total Other Income		682,168.00	-682,168.00	
Net Other Income		682,168.00	-682,168.00	
Net Income	**330.30**	**33,568.00**	**-33,237.70**	**1.0%**

Floodplain Management Fund
Balance Sheet
As of August 31, 2015

	Aug 31, 15
ASSETS	
Current Assets	
Checking/Savings	
1013-03 · LGIP - Floodplain	182,199.29
1014-03 · Mutual of Omaha Bk CD	247,335.48
Total Checking/Savings	429,534.77
Total Current Assets	429,534.77
TOTAL ASSETS	**429,534.77**
LIABILITIES & EQUITY	
Equity	
32000 · Retained Earnings	429,336.33
Net Income	198.44
Total Equity	429,534.77
TOTAL LIABILITIES & EQUITY	**429,534.77**

Floodplain Management Fund
Profit & Loss YTD Comparison
August 2015

	Aug 15	Jul - Aug 15
Ordinary Income/Expense		
Income		
5032-03 · Int. Inc.-LGIP-Floodplain	64.56	95.13
5033-03 · Int.Inc.-Mutual of Omaha CD	52.51	103.31
Total Income	117.07	198.44
Net Ordinary Income	117.07	198.44
Net Income	**117.07**	**198.44**

Floodplain Management Fund
Profit & Loss Budget vs. Actual
July through August 2015

	Jul - Aug 15	Budget	$ Over Budget	% of Budget
Ordinary Income/Expense				
Income				
5032-03 · Int. Inc.-LGIP-Floodplain	95.13	180.00	-84.87	52.9%
5033-03 · Int.Inc.-Mutual of Omaha CD	103.31	700.00	-596.69	14.8%
Total Income	198.44	880.00	-681.56	22.6%
Expense				
7203-03 · Reg. Flood Preliminary Planning	0.00	360,000.00	-360,000.00	0.0%
7206-03 · Flood Project Along SR88-Minden	0.00	40,000.00	-40,000.00	0.0%
Total Expense	0.00	400,000.00	-400,000.00	0.0%
Net Ordinary Income	198.44	-399,120.00	399,318.44	-0.0%
Other Income/Expense				
Other Income				
8000-03 · Beginning Equity	0.00	429,206.00	-429,206.00	0.0%
Total Other Income	0.00	429,206.00	-429,206.00	0.0%
Net Other Income	0.00	429,206.00	-429,206.00	0.0%
Net Income	**198.44**	**30,086.00**	**-29,887.56**	**0.7%**

AGENDA ITEM #9
PAYMENT OF BILLS

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Transaction Detail by Account
August 2015

Type	Date	Num	Name	Memo	Amount	Balance
1010-00 · Cash in Checking - B of A						
Check	8/3/2015	8072	Euronev, Ltd.	Aug. rent 777 E. William St., #102, #103, #110 & #110A	-2,169.34	-2,169.34
Deposit	8/4/2015			Deposit	29,530.76	27,361.42
Check	8/5/2015	8073	El Dorado County Dept. of Agriculture	FY 2014-15 Alpine watershed weed management	-15,000.00	12,361.42
Check	8/5/2015	8074	Churchill Co.Mosquito, Vector & Weed Cont	FY 2014-15 noxious weed treatment	-15,000.00	-2,638.58
Check	8/5/2015	8075	Churchill County	Apr.-June 2015, Lahontan Vly.Water Level Meas. Program	-5,325.25	-7,963.83
Check	8/5/2015	8076	Law Office of George N. Benesch	July legal services, inv. #14723	-3,411.33	-11,375.16
Check	8/7/2015	8077	R. O. Anderson	VOID: Proj.#0713-006-15, Inv. #35945, Smelter Cr.(wrong amt.)		-11,375.16
Check	8/7/2015	8078	R. O. Anderson	Proj.#0713-006-15, Inv. #35945, Smelter Cr.(replaces ck.#8005)	-15,000.00	-26,375.16
Check	8/10/2015	8079	River Wranglers	Inv. #EE 2015-4, Env. Ed. 7/1-31/15	-3,403.48	-29,778.64
Deposit	8/10/2015			Deposit	22,516.98	-7,261.66
Check	8/10/2015	8080	NV Div. of Water Resources	App. #85336T permit fee	-480.00	-7,741.66
Check	8/10/2015	8081	Michael Baker International, Inc.	VOID: Proj. #145209, Eagle Vly.A & B Drainages Study(wrong name)		-7,741.66
Check	8/10/2015	8082	Michael Baker International, Inc.	Proj. #145209, Eagle Vly.A & B Drainages Study	-7,719.25	-15,460.91
Check	8/12/2015	8083	Edwin James	Reimb. for maps	-70.40	-15,531.31
Check	8/12/2015	8084	NWMA	Courtney Walker - 2015 Symp./NWMA Conf.	-155.00	-15,686.31
Check	8/12/2015	8085	American Planning Association	Inv. #167362-1575, APA renewal for Brenda Hunt	-190.00	-15,876.31
Deposit	8/12/2015			Deposit	1,340.41	-14,535.90
Deposit	8/12/2015			Deposit	2,010.57	-12,525.33
Deposit	8/13/2015			Deposit	180.00	-12,345.33
Deposit	8/13/2015			Deposit	26,273.84	13,928.51
Check	8/17/2015	8086	MyOfficeProducts	July office supplies, Cust. #76531, Inv. #WO-9585496-1	-208.87	13,719.64
Check	8/17/2015	8087	AT&T	Acct. #775-7450 924 6, 8/1-31/15 phones & UM	-183.37	13,536.27
Check	8/20/2015	8088	Edwin James	Reimb. for 8/19/15 Board dinner	-228.74	13,307.53
Check	8/20/2015	8089	Office Depot Business Credit	Aug. acct. #6011 5656 1002 0915	-79.24	13,228.29
Check	8/25/2015	8090	Carson City Parks & Recreation Dept.	FY 2014-15 Eagle Creek restoration	-12,400.00	828.29
Check	8/25/2015	8091	Alpine Watershed Group	Watershed Program Grant, inv. #2015-16-1	-11,500.00	-10,671.71
Check	8/25/2015	8092	R. O. Anderson	Proj.#0713-006-15, Inv. #36281, Smelter Cr.	-3,500.00	-14,171.71
Check	8/25/2015	8093	Chuck Roberts	August travel reimbursement	-10.11	-14,181.82
Check	8/25/2015	8094	Ernest Schank	August travel reimb.	-74.08	-14,255.90
Check	8/25/2015	8095	Fred Stodieck	August travel reimb.	-18.73	-14,274.63
Check	8/25/2015	8096	Carson City	Reimb. for July part. payroll #15 & #16	-30,110.83	-44,385.46
Check	8/27/2015	8097	Bank of America	Aug.-acct. #4024 4910 0004 2478	-64.00	-44,449.46
Check	8/27/2015	8098	Konica Minolta Business Solutions USA Inc	7/23-8/22/15 copies, Inv. #235605752, payor ID #1110530	-233.43	-44,682.89
Check	8/28/2015	8099	Postmaster	2 rolls of $0.49 stamps	-98.00	-44,780.89
Total 1010-00 · Cash in Checking - B of A					-44,780.89	-44,780.89
1014-00 · Local Gov't Inv. Pool-Regular						
Deposit	8/31/2015			Interest	16.24	16.24
Total 1014-00 · Local Gov't Inv. Pool-Regular					16.24	16.24
1021-00 · US Bank CD						
Deposit	8/4/2015			Interest	31.65	31.65
Deposit	8/6/2015			Deposit	73.85	105.50
Deposit	8/6/2015			Deposit	71.51	177.01
Deposit	8/6/2015			Deposit	73.94	250.95
Total 1021-00 · US Bank CD					250.95	250.95
1028-00 · First Independent Bank of Nevad						
Deposit	8/14/2015			Interest	115.23	115.23
Total 1028-00 · First Independent Bank of Nevad					115.23	115.23
1029-00 · Bank of America-Savings						
Deposit	8/31/2015			Interest	1.60	1.60
Total 1029-00 · Bank of America-Savings					1.60	1.60
3307-00 · CC Payroll Due						
Gener...	8/14/2015			8/14 BH,EJ,TL,DN,CW	-19,211.46	-19,211.46
Check	8/25/2015	8096	Carson City	Reimb. for July part. payroll #15 & #16	30,110.83	10,899.37
Gener...	8/28/2015			8/28 BH,EJ,TL,DN,CW; Aug.-KA,BB,CE,DJa,DJo,GL,WP,CR,ES,FS	-19,536.61	-8,637.24
Total 3307-00 · CC Payroll Due					-8,637.24	-8,637.24
5011-00 · Douglas County Ad Valorem						
Deposit	8/10/2015	637850	Douglas County	June	-4,629.38	-4,629.38
Deposit	8/10/2015	637850	Douglas County	July	-17,887.60	-22,516.98
Total 5011-00 · Douglas County Ad Valorem					-22,516.98	-22,516.98
5025-00 · Int. Inc.-US Bank CD						
Deposit	8/4/2015			Interest	-31.65	-31.65
Deposit	8/6/2015		US Bank	adj. for May/June int.-corrected for wrong int.rate @ renewal	-73.85	-105.50
Deposit	8/6/2015		US Bank	adj. for June/July int.-corrected for wrong int.rate @ renewal	-71.51	-177.01
Deposit	8/6/2015		US Bank	adj. for July/Aug. int.-corrected for wrong int.rate @ renewal	-73.94	-250.95
Total 5025-00 · Int. Inc.-US Bank CD					-250.95	-250.95
5031-00 · Interest Income-LGIP Reg.						
Deposit	8/31/2015			Interest	-16.24	-16.24
Total 5031-00 · Interest Income-LGIP Reg.					-16.24	-16.24
5044-00 · Int-1st Independent Bk of NV CD						
Deposit	8/14/2015			Interest	-115.23	-115.23
Total 5044-00 · Int-1st Independent Bk of NV CD					-115.23	-115.23
5045-00 · Interest Income-B of A Savings						
Deposit	8/31/2015			Interest	-1.60	-1.60
Total 5045-00 · Interest Income-B of A Savings					-1.60	-1.60
5050-00 · Watershed Coordinator						
5050-10 · NDEP Watershed Coord. 2015-18						
Deposit	8/13/2015	9668...	NV Div. of Environmental Protection	Apr.-June 2015, Inv. #2-15-014	-26,273.84	-26,273.84

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Transaction Detail by Account
August 2015

Type	Date	Num	Name	Memo	Amount	Balance
Total 5050-10 · NDEP Watershed Coord. 2015-18					-26,273.84	-26,273.84
Total 5050-00 · Watershed Coordinator					-26,273.84	-26,273.84
5058-00 · 208 Water Quality Plan						
5058-02 · NDEP-2010 Algae Study Grant						
Deposit	8/12/2015	9667...	NV Bur. of Water Quality Protection	Final inv. #21-10-036	-2,010.57	-2,010.57
Total 5058-02 · NDEP-2010 Algae Study Grant					-2,010.57	-2,010.57
5058-03 · NDEP 208 LID Grant- 2013-15						
Deposit	8/12/2015	9667...	NV Div. of Environmental Protection	Apr.-June 2015, Inv. #7-14-013	-1,340.41	-1,340.41
Total 5058-03 · NDEP 208 LID Grant- 2013-15					-1,340.41	-1,340.41
Total 5058-00 · 208 Water Quality Plan					-3,350.98	-3,350.98
5063-00 · Environmental Education Program						
5063-03 · NDEP-Env.Ed.Coord. 2012-14						
Deposit	8/4/2015	9662...	NV Div. of Environmental Protection	Apr-June 2015, Inv. #2-15-011	-14,965.71	-14,965.71
Total 5063-03 · NDEP-Env.Ed.Coord. 2012-14					-14,965.71	-14,965.71
Total 5063-00 · Environmental Education Program					-14,965.71	-14,965.71
5090-00 · NDEP-Watershed Literacy Grant						
Deposit	8/4/2015	9662...	NV Div. of Environmental Protection	Apr-June 2015, Inv. #6-14-029	-14,565.05	-14,565.05
Total 5090-00 · NDEP-Watershed Literacy Grant					-14,565.05	-14,565.05
5091-00 · Rec.Trails Signage-Motorized						
Deposit	8/13/2015	9668...	NV Div. of State Lands	Apr.-June 2015, Inv. #5	-180.00	-180.00
Total 5091-00 · Rec.Trails Signage-Motorized					-180.00	-180.00
7015-00 · Salaries & Wages						
Gener...	8/14/2015			8/14 B.Hunt	2,533.39	2,533.39
Gener...	8/14/2015			8/14 E.James	5,307.00	7,840.39
Gener...	8/14/2015			8/14 T.Leffler	2,269.42	10,109.81
Gener...	8/14/2015			8/14 D.Neddenriep	1,334.08	11,443.89
Gener...	8/14/2015			8/14 C.Walker	2,087.60	13,531.49
Gener...	8/28/2015			8/28 B.Hunt	2,516.22	16,047.71
Gener...	8/28/2015			8/28 E.James	4,826.06	20,873.77
Gener...	8/28/2015			8/28 T.Leffler	2,269.42	23,143.19
Gener...	8/28/2015			8/28 D.Neddenriep	1,375.34	24,518.53
Gener...	8/28/2015			8/28 C.Walker	2,106.67	26,625.20
Total 7015-00 · Salaries & Wages					26,625.20	26,625.20
7020-00 · Employee Benefits						
Gener...	8/14/2015			8/14 B.Hunt	768.54	768.54
Gener...	8/14/2015			8/14 E.James	2,300.70	3,069.24
Gener...	8/14/2015			8/14 T.Leffler	1,033.41	4,102.65
Gener...	8/14/2015			8/14 D.Neddenriep	986.53	5,089.18
Gener...	8/14/2015			8/14 C.Walker	307.58	5,396.76
Gener...	8/28/2015			8/28 B.Hunt	763.04	6,159.80
Gener...	8/28/2015			8/28 E.James	2,153.73	8,313.53
Gener...	8/28/2015			8/28 T.Leffler	1,033.41	9,346.94
Gener...	8/28/2015			8/28 D.Neddenriep	993.35	10,340.29
Gener...	8/28/2015			8/28 C.Walker	307.86	10,648.15
Total 7020-00 · Employee Benefits					10,648.15	10,648.15
7101-00 · Director's Fees						
7101-01 · Director Benefits						
Gener...	8/28/2015			Aug.- K.Abowd	1.44	1.44
Gener...	8/28/2015			Aug.- B.Bonkowski	1.44	2.88
Gener...	8/28/2015			Aug.- C.Erquiaga	1.44	4.32
Gener...	8/28/2015			Aug.- D.Jardine	1.16	5.48
Gener...	8/28/2015			Aug.- D.Johnson	1.16	6.64
Gener...	8/28/2015			Aug.- G.Lynn	1.44	8.08
Gener...	8/28/2015			Aug.- W.Penzel	1.16	9.24
Gener...	8/28/2015			Aug.- C.Roberts	1.16	10.40
Gener...	8/28/2015			Aug.- E.Schank	1.44	11.84
Gener...	8/28/2015			Aug.- F.Stodieck	1.16	13.00
Total 7101-01 · Director Benefits					13.00	13.00
7101-00 · Director's Fees - Other						
Gener...	8/28/2015			Aug.- K.Abowd	99.06	99.06
Gener...	8/28/2015			Aug.- B.Bonkowski	99.06	198.12
Gener...	8/28/2015			Aug.- C.Erquiaga	99.06	297.18
Gener...	8/28/2015			Aug.- D.Jardine	80.00	377.18
Gener...	8/28/2015			Aug.- D.Johnson	80.00	457.18
Gener...	8/28/2015			Aug.- G.Lynn	99.06	556.24
Gener...	8/28/2015			Aug.- W.Penzel	80.00	636.24
Gener...	8/28/2015			Aug.- C.Roberts	80.00	716.24
Gener...	8/28/2015			Aug.- E.Schank	99.06	815.30
Gener...	8/28/2015			Aug.- F.Stodieck	80.00	895.30
Total 7101-00 · Director's Fees - Other					895.30	895.30
Total 7101-00 · Director's Fees					908.30	908.30
7103-00 · Office Supplies						
Check	8/12/2015	8083	Edwin James	Reimb. for maps	70.40	70.40
Check	8/17/2015	8086	MyOfficeProducts	July office supplies	208.87	279.27
Check	8/27/2015	8097	Bank of America	Carson Highlands-storage unit	35.00	314.27
Check	8/27/2015	8098	Konica Minolta Business Solutions USA Inc	7/23-8/22/15 copies	233.43	547.70

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Transaction Detail by Account
August 2015

Type	Date	Num	Name	Memo	Amount	Balance
Gener...	8/31/2015			Aug. copies-reimb.from grants	-240.60	307.10
Total 7103-00 · Office Supplies					307.10	307.10
7104-00 · Postage						
Check	8/28/2015	8099	Postmaster	2 rolls of $0.49 stamps (general use)	98.00	98.00
Total 7104-00 · Postage					98.00	98.00
7105-00 · Rent						
Check	8/3/2015	8072	Euronev, Ltd.	Aug. rent 777 E. Wm. St., #102, #103, #110 & #110A	2,169.34	2,169.34
Total 7105-00 · Rent					2,169.34	2,169.34
7106-00 · Telephone/Internet						
Check	8/17/2015	8087	AT&T	8/1-31/15 phones & UM	183.37	183.37
Total 7106-00 · Telephone/Internet					183.37	183.37
7107-00 · Travel-transport/meals/lodging						
7107-01 · Car Allowance						
Gener...	8/14/2015			8/14 E.James	283.21	283.21
Gener...	8/28/2015			8/28 E.James	283.21	566.42
Total 7107-01 · Car Allowance					566.42	566.42
7107-00 · Travel-transport/meals/lodging - Other						
Check	8/20/2015	8088	Edwin James	Reimb. for 8/19/15 Board dinner	228.74	228.74
Check	8/25/2015	8093	Chuck Roberts	8/19 Bd.mtg.-17.58 mi. (CC)	10.11	238.85
Check	8/25/2015	8094	Ernest Schank	8/19 Bd. mtg.travel-128.82 mi. (CC)	74.08	312.93
Check	8/25/2015	8095	Fred Stodieck	8/19 Bd. mtg.travel-32.56 mi. (CC)	18.73	331.66
Total 7107-00 · Travel-transport/meals/lodging - Other					331.66	331.66
Total 7107-00 · Travel-transport/meals/lodging					898.08	898.08
7108-00 · Dues & Publications						
Check	8/12/2015	8085	American Planning Association	10/1/15-9/30/16 APA Cat. A memb. renewal-B.Hunt	160.00	160.00
Check	8/12/2015	8085	American Planning Association	10/1/15-9/30/16 NV Ch. APA memb renewal-B.Hunt	30.00	190.00
Check	8/27/2015	8097	Bank of America	Reno Gazette-May subscr.	30.00	220.00
Total 7108-00 · Dues & Publications					220.00	220.00
7110-00 · Seminars & Education						
Check	8/12/2015	8084	NWMA	C.Walker-10/26/15 Symposium/Conf.	155.00	155.00
Total 7110-00 · Seminars & Education					155.00	155.00
7112-00 · Bank Charges						
Check	8/27/2015	8097	Bank of America	B of A-July finance change (reversed)	-1.00	-1.00
Total 7112-00 · Bank Charges					-1.00	-1.00
7116-00 · Legal						
Check	8/5/2015	8076	Law Office of George N. Benesch	July legal services	3,411.33	3,411.33
Total 7116-00 · Legal					3,411.33	3,411.33
7117-00 · Lost Lakes Expenses						
Check	8/10/2015	8080	NV Div. of Water Resources	Lost Lakes change app. permit fee	480.00	480.00
Total 7117-00 · Lost Lakes Expenses					480.00	480.00
7120-00 · Integrated Watershed Programs						
7120-30 · Watershed Coord.Exp. 2015-18						
Check	8/20/2015	8089	Office Depot Business Credit	Aug. office supplies	79.24	79.24
Gener...	8/31/2015			Aug. copies	69.60	148.84
Total 7120-30 · Watershed Coord.Exp. 2015-18					148.84	148.84
Total 7120-00 · Integrated Watershed Programs					148.84	148.84
7125-00 · Environmental Ed.Coord.Exp.						
7125-02 · Env.Ed.Coord.Exp. 2015-17						
Check	8/10/2015	8079	River Wranglers	Env. Ed. 7/1-31/15	3,403.48	3,403.48
Gener...	8/31/2015			Aug. copies	41.63	3,445.11
Total 7125-02 · Env.Ed.Coord.Exp. 2015-17					3,445.11	3,445.11
Total 7125-00 · Environmental Ed.Coord.Exp.					3,445.11	3,445.11
7210-00 · CR Conservation Tours Exp.						
7210-03 · NPS Conser.Tours 2012-15						
Gener...	8/31/2015			Aug. copies	2.07	2.07
Total 7210-03 · NPS Conser.Tours 2012-15					2.07	2.07
Total 7210-00 · CR Conservation Tours Exp.					2.07	2.07
7404-00 · Noxious Weeds Control-CR Wtrshd						
7404-01 · Noxious Weed Control-Alpine Co.						
Check	8/5/2015	8073	El Dorado County Dept. of Agriculture	FY 2014-15 Alpine watershed weed mgmt	15,000.00	15,000.00
Total 7404-01 · Noxious Weed Control-Alpine Co.					15,000.00	15,000.00
7404-05 · Noxious Weed Control-Churchill						
Check	8/5/2015	8074	Churchill Co.Mosquito, Vector & Weed Cont	FY 2014-15 noxious weed treatment	15,000.00	15,000.00
Total 7404-05 · Noxious Weed Control-Churchill					15,000.00	15,000.00
Total 7404-00 · Noxious Weeds Control-CR Wtrshd					30,000.00	30,000.00
7406-00 · 208 Water Quality Mgmt. Plan						
7406-02 · 208 Plan-LID Practices- 2013-14						
Gener...	8/31/2015			Aug. copies	19.19	19.19

CARSON WATER SUBCONSERVANCY DISTRICT - GENERAL FUND
Transaction Detail by Account
August 2015

Type	Date	Num	Name	Memo	Amount	Balance
Total 7406-02 · 208 Plan-LID Practices- 2013-14					19.19	19.19
7406-00 · 208 Water Quality Mgmt. Plan - Other						
Gener...	8/31/2015			Aug. copies	0.24	0.24
Total 7406-00 · 208 Water Quality Mgmt. Plan - Other					0.24	0.24
Total 7406-00 · 208 Water Quality Mgmt. Plan					19.43	19.43
7419-00 · FEMA MAS #3						
Gener...	8/31/2015			Aug. copies	2.98	2.98
Total 7419-00 · FEMA MAS #3					2.98	2.98
7420-00 · FEMA MAS #4 (Flood Map)						
Gener...	8/31/2015			Aug. copies	10.77	10.77
Total 7420-00 · FEMA MAS #4 (Flood Map)					10.77	10.77
7422-00 · BOR Basin Plan of Study						
Gener...	8/31/2015			Aug. copies	0.08	0.08
Total 7422-00 · BOR Basin Plan of Study					0.08	0.08
7424-00 · NDEP-Watershed Literacy Gr.Exp.						
Gener...	8/31/2015			Aug. copies	79.27	79.27
Total 7424-00 · NDEP-Watershed Literacy Gr.Exp.					79.27	79.27
7426-00 · FEMA MAS #5-Charter/Map/Model						
7426-02 · Smelter Creek-RO Anderson						
Check	8/7/2015	8077	R. O. Anderson	Smelter Cr.-thru 5/24/15		
Check	8/7/2015	8078	R. O. Anderson	Smelter Cr.-thru 8/7/15	15,000.00	15,000.00
Check	8/25/2015	8092	R. O. Anderson	Smelter Cr.-thru 7/19/15	3,500.00	18,500.00
Total 7426-02 · Smelter Creek-RO Anderson					18,500.00	18,500.00
7426-03 · Eagle Valley-Michael Baker						
Check	8/10/2015	8081	Michael Baker International, Inc.	Services through 8/2/15		
Check	8/10/2015	8082	Michael Baker International, Inc.	Services through 8/2/15	7,719.25	7,719.25
Total 7426-03 · Eagle Valley-Michael Baker					7,719.25	7,719.25
7426-00 · FEMA MAS #5-Charter/Map/Model - Other						
Gener...	8/31/2015			Aug. copies	8.16	8.16
Total 7426-00 · FEMA MAS #5-Charter/Map/Model - Other					8.16	8.16
Total 7426-00 · FEMA MAS #5-Charter/Map/Model					26,227.41	26,227.41
7600-00 · Alpine County Projects						
7600-05 · Alpine Watershed Programs						
Check	8/25/2015	8091	Alpine Watershed Group	FY 2015-16 Watershed Program Grant	11,500.00	11,500.00
Total 7600-05 · Alpine Watershed Programs					11,500.00	11,500.00
7600-09 · Al.Co.-CASGEM						
Gener...	8/31/2015			Aug. copies	6.61	6.61
Total 7600-09 · Al.Co.-CASGEM					6.61	6.61
Total 7600-00 · Alpine County Projects					11,506.61	11,506.61
7620-00 · Carson City Projects						
7620-15 · Eagle Cr Streambank Restoration						
Check	8/25/2015	8090	Carson City Parks & Recreation Dept	FY 2014-15 Eagle Creek restoration	12,400.00	12,400.00
Total 7620-15 · Eagle Cr Streambank Restoration					12,400.00	12,400.00
Total 7620-00 · Carson City Projects					12,400.00	12,400.00
7640-00 · Churchill County Projects						
7640-09 · Lahontan Vly.Wtr.Lvl.Measure.						
Check	8/5/2015	8075	Churchill County	Apr.-June 2015, Lahontan Vly.Wtr.Lvl. Meas. Prog.	5,325.25	5,325.25
Total 7640-09 · Lahontan Vly.Wtr.Lvl.Measure.					5,325.25	5,325.25
Total 7640-00 · Churchill County Projects					5,325.25	5,325.25
TOTAL						

Law Office of
GEORGE N. BENESCH
190 W. Huffaker Lane, Suite 408
Reno, NV 89511

Telephone
[775) 827-3100

Fax
(775) 827-3020

Tax I.D. #88-0329442

Invoice submitted to:

Carson Water Subconservancy District
777 E. William, Suite 110A
Carson City, NV 89701

August 03, 2015

In Reference To: General

Invoice # 14723

	Hours	Amount
For professional services rendered	0.00	$3,333.33
Additional Charges :		
July 2015		
7/15/2015 Mileage charge for trip to ~~Fallon~~ Alpine Co.		78.00
SUBTOTAL:		[78.00]
Total additional charges		$78.00
Total amount of this bill		$3,411.33
For Legal Services Rendered		
Previous balance		$3,411.33
Accounts receivable transactions		
7/14/2015 Payment - thank you. Check No. 8039		($3,411.33)
Total payments and adjustments		($3,411.33)
Balance due		$3,411.33

#1116-00 Legal

O.K. to pay
Eileen Stevens
8-6-15

pd. 8/5/15
ck. #8076

AGENDA ITEM #10

CARSON WATER SUBCONSERVANCY DISTRICT

TO: BOARD OF DIRECTORS

FROM: EDWIN D. JAMES

DATE: SEPTEMBER 16, 2015

SUBJECT: Agenda Item #10 - Discussion for possible action regarding a presentation by Dave Griffith on biomass-to-bioenergy in Alpine County.

DISCUSSION: Director Rawson requested that a presentation by David Griffith be included in this month's Board meeting. Mr. Griffith has been an Alpine County resident for almost 30 years. He was a founding member of the Alpine Fire Safe Council and continues to be on the Board of Directors. He became interested in the possibility of improving forest and watershed health with biomass-to-bioenergy when he realized that it is now accepted that a forest that is left to manage itself is not a healthy forest. He became a founding member of an informal group in Alpine County currently known as the Steering Committee which believes that the forest can, at least in part, pay for its own improvement through fuels reduction and forest thinning.

The Steering Committee is requesting that the CWSD send a letter to the Alpine County Board of Supervisors urging the Board to seek funding to complete a preliminary feasibility study of a biomass-to-bioenergy facility in Alpine County.

STAFF RECOMMENDATION: Instruct staff as to the wishes of the Board regarding a letter to Alpine County in support of a feasibility study of a biomass-to-bioenergy facility in Alpine County.

Biomass-to-Bioenergy in Alpine County

Potential Benefits to Water Quality and Quantity for the Carson River Watershed

Presentation to the
Carson Water Subconservancy District
September 16, 2015

Background

The Carson River and its tributaries provide water to all or parts of Alpine County in California, and Douglas, Storey, Lyon and Churchill Counties as well as Carson City in Nevada. The majority of this surface water available for use falls as snow or rain within the upper reaches of the river system within those parts of the Humboldt-Toiyabe National Forest which are in Alpine County. The amount and quality of available surface water depends largely on the amount and type of precipitation, but also depends on the health of the forest. It has been estimated that approximately one third of the forest is in poor health, with detrimental effects that include poorer water quality and quantity.

In California, concern about the steady increase in the number of wildfires and their intensity, the drought, and concerns about climate change have resulted in a major change in the perceived best practices for managing the forests. Whereas in the past the assumption was that leaving the forest to manage itself was best for the environment, it is now understood that our forests are desperately in need of restoration to return them to a healthy condition. In September, 2014, the Sierra Nevada Conservancy (SNC) issued their State of the Sierra Nevada's Forests report (Report) which documented the problem and recommended urgent action to restore our forests to good health. A copy of the Report accompanies this presentation. The SNC is a California state agency whose mission statement is: "Sierra Nevada Conservancy initiates, encourages, and supports efforts that improve the environmental, economic and social well-being of the Sierra Nevada Region, its communities and the citizens of California." The Forest Service has also accepted the idea that it needs to restore the health of much of the forest under its jurisdiction.

A healthy forest will not bring us more water through precipitation. But a healthy forest can improve the quality and quantity of the water that is available for use. In March, 2015, the Nature Conservancy released its report entitled Estimating the Water Supply Benefits from Forest Restoration in the Northern Sierra Nevada. A copy of the report accompanies this presentation. The Nature Conservancy estimates that if the amount of forest restoration is tripled, the mean annual stream flow could increase by six percent.

The problem is that none of the agencies that manage our forests have ever had a sufficient budget to restore our forest health, nor is it likely that the taxpayers will in the future provide the billions of dollars that would be necessary.

Paying for the Restoration of Our Forests

In California alone the Report estimates that between six and nine million acres of National Forest are in need of restoration. At a nominal cost of $500/acre that is a cost of three to four and a half billion dollars for restoration in California alone. Nationwide the total will be many times greater and it is highly unlikely that the taxpayers will be willing to foot the bill.

However the forests themselves can pay for a significant part of the costs to restore them to forest health. Removal of excess biomass through fuels reduction and forest thinning can reduce the risk of catastrophic wildfire and improve forest health. The harvested biomass has

value and can pay, at least in part, for the cost of the fuels reduction and forest thinning. Higher value biomass such as saw logs can be set aside for the production of lumber or other products and the lower value material can be used as fuel for a biomass-to-bioenergy facility.

Biomass-to-Bioenergy

A biomass-to-bioenergy facility basically works like this.

Excess biomass is marked for harvesting by a responsible person. In the case of land managed by the Forest Service it would be their designated responsible person. The material would be harvested using methods approved by the land owner or manager. Higher value material would be set aside for other uses and the remaining material chipped and loaded into trucks for transportation to the facility. This activity would only occur during those times of the year when permitted by the land owner/manager. For example it would not occur during the height of fire season.

Once delivered to the facility the biomass is stockpiled, possibly dried, and then fed into the plant by a loader. There are several technologies for converting the biomass into electricity and a preliminary feasibility study should determine which technology is most appropriate for Alpine County. The two basic choices are:

1) Using the biomass to generate steam in a boiler to drive a turbine, and
2) heating the biomass in an anaerobic (deprived of oxygen) environment which produces synthetic gas which can be used either to fuel an internal combustion engine or a turbine which in turn will drive the generator.

The electricity produced will be fed into the grid through an interconnection facility. Waste heat from the plant can be profitably used for heat or as an input to other industrial processes. When waste heat is made use of the facility is known as a cogeneration facility. In the case of alternative 2 above biochar is produced as a possible byproduct with some value.

The plant will be fairly small with a maximum 3 MW capacity. Depending on where you are that is enough electricity to supply 300 to 1,000 homes. The plant's physical size is about the size of an average barn, but what takes up space is the biomass storage with associated space for trucks to turn around, the loader to operate etc. If there is any possibility of using the waste heat in another facility then there needs to be space for that as well. We have been advised that a minimum of 20 acres should be considered, and it would be better to have 30 or 40.

Biomass-to-bioenergy is the most expensive way to generate electricity. One of the key costs is the transportation of the biomass from the forest to the facility. Siting the facility as close as possible to the center of gravity of the biomass to be harvested is the most important siting criteria, followed by closeness to the electric grid, avoiding NIMBY issues etc. Many forest biomass-to-bioenergy facilities have failed in the past, and one of the key reasons is that too little attention was paid to where the facility should be located. In the past most sites were selected first without taking this into account, and consequently the facilities were economic

failures.

Preliminary Feasibility Study

The guesstimated cost of a preliminary feasibility study is $75,000. This is based on the cost of a similar study done for Mono County in the Mammoth Lakes area which cost $50,000. The extra cost for a study for Alpine County is because we want to consider the potential for a facility on the west slope as well as on the east slope and the complexity of looking at several potential sites under both the existing legal and technical regime and what the potential could be if some of those issues could be resolved. An obvious example is under the present Forest Service Land and Resource Use Plan there won't be enough sustainable biomass available to justify a plant, but what if the Forest Service revised their plan to optimize a sustainable biomass supply.

The preliminary feasibility study would be done by independent consultants with experience in biomass-to-bioenergy facilities. It will look at the economics of various potential sites, potential sustainable biomass supply, and potential variations in costs and revenues. A preliminary feasibility study is an iterative process, i.e. as one develops more information it may turn out that some of the initial ideas or assumptions were invalid and need to be changed. This is true of most projects, not just biomass-to-bioenergy facilities. Anybody who has built a new home or done a major renovation will understand how things can change as one moves through a project.

A preliminary feasibility study itself will have no environmental impact. The facility itself will be required to meet all California permitting requirements including CEQA. California's permitting requirements with respect to air and water quality etc. are among the strictest in the nation so the mitigated impacts are expected to be negligible. Should the preliminary feasibility show that the facility could be feasible, then site selection and associated site specific impacts such as visual, noise etc. would need to be evaluated.

Potential Benefits

The potential benefits of a biomass-to-bioenergy facility to water users in the area comprising the Carson Water Subconservancy District are improved water quality and a possible six percent increase in water quantity as documented in the Nature Conservancy report. In years when there is average or greater than average precipitation that is probably not important, but if we are in a mega-drought such as has the 220 year mega-drought that occurred in the middle ages (the Medieval Climate Anomaly) a six percent increase in water quantity could be extremely valuable.

Additional economic and environmental benefits to such a facility include jobs, reduced risk of catastrophic wildfire, improved air quality, and increased carbon sequestration. Readers are referred to the Report for a more complete discussion of these additional benefits.

Respectfully submitted

http://www.sierranevada.ca.gov/our-work/docs/StateOfSierraForestsRptWeb.pdf

Urgent action is needed in the Sierra Nevada to avoid devastating impacts on California's environment and economy.

Photo courtesy of the U. S. Forest Service

SIERRA NEVADA CONSERVANCY

The State of the Sierra Nevada's Forests

B.J. Kirwan, Board Chair
Sierra Nevada Conservancy

Jim Branham, Executive Officer
jim.branham@sierranevada.ca.gov

Joan Keegan, Assist. Executive Officer
joan.keegan@sierranevada.ca.gov

SIERRA FORESTS AND WATERSHEDS IN PERIL

This report is intended to inform policy makers, interested parties and the public of the dire current state of many of the forests of the Sierra Nevada, the critical benefits that are at risk, and the key policy and investment issues that must be urgently addressed if these forests are to be returned to a healthy, resilient state. This report may be updated from time to time based on new information or changed conditions, and it will be followed by a Sierra Nevada Forest and Community Action Plan, which the Sierra Nevada Conservancy (SNC) will develop in coordination with a wide array of concerned parties.

EXECUTIVE SUMMARY

There is a growing understanding that many Sierra Nevada forests are not healthy and that overgrown forests are susceptible to disease and intense wildfire. There is likewise broad consensus that science-based ecological restoration of our Sierra Nevada forests must be dramatically increased in order stem the tide of large, uncharacteristic wildfires. These wildfires threaten the very lifeblood of California -- the forested watersheds of the Sierra Nevada.

The State of Sierra Nevada's Forests Report identifies the wide range of benefits provided by our Sierra Nevada forests and watersheds that are at risk:

- The Region is the origin of 60% of California's developed water supply.
- These watersheds are the primary source of fresh water flowing into the Sacramento-San Joaquin Delta, California's water "hub."
- The forests of the Sierra Nevada store massive amounts of carbon, assisting in the state's efforts to combat climate change.
- The forests and watersheds provide crucial habitat to hundreds of species.
- The area provides world-class recreational opportunities enjoyed by millions from around the world.
- The Region is a major producer of wood products and hydro-electric power.

Key findings of this report include the following:

- ✓ The United States Forest Service Region 5 (USFS) estimates that between six and nine million acres of lands for which they have management responsibility are in need of restoration. In order to return these lands to ecological health, a two to three times increase in the pace and scale of ecological restoration must occur.
- ✓ The amount of area consumed by fire in the Sierra Nevada continues to increase. More land has burned in the first four-and-a-half-years of this decade than seven entire decades in the past.

- ✓ Between 1984 and 2010, there was a significant increase in the number of acres within a forest fire burning at high-intensity, from an average of 20% in mid-1980s to over 30% by 2010.
- ✓ High-intensity burn areas can experience runoff and erosion rates five to ten times greater than low- or moderate-intensity burn areas. The sediment that is carried in the runoff not only degrades water quality and damages infrastructure, it fills reservoirs, reducing storage capacity.
- ✓ The 2013 Rim Fire, the largest fire in the recorded history of the Sierra Nevada, burned 257,000 acres, almost 40% of which was at high intensity. Estimates are that that fire produced the same amount of greenhouse gas emissions that 2.3 million vehicles produce in a year.

Many Sierra Nevada forests are unhealthy and susceptible to disease and intense fire.

This report identifies the following impediments to increasing pace and scale, and potential solutions to these challenges:

- Funding currently available is inadequate in relation to the need for forest restoration, especially for critical projects that don't "pay for themselves" with removed material.
- Improving the efficiency of lengthy and complex planning processes and encouraging efforts to address larger landscape restoration projects in a collaborative manner must occur.
- In order to adequately handle the pace and scale of needed restoration, wood and biomass processing infrastructure in the Sierra Nevada must be enhanced.
- Acknowledging the important ecological role of fire and increasing the use of prescribed and managed fire as a forest restoration tool is necessary.

Failure to understand the urgency of the situation in the Sierra Nevada will have devastating impacts on California's environment and economy. The potential for more megafires like the Rim Fire is high and the trend of larger, more intense fires is clear, with the current drought and ongoing temperature increases making the situation all the more urgent.

This report provides a framework through which this issue can be addressed. It will require a renewed commitment at the state, federal and local levels. The alternative of the status quo is simply not acceptable.

Smoke plume from the 2014 King Fire in El Dorado County. Photo courtesy of Tim Webster.

OVERVIEW

The Sierra Nevada Region is an area of great significance to the State of California. Comprising about 25% of California's total land area, the Region is California's principal watershed. Other key contributions include:

- The Region is the origin of 60% of California's developed water supply.
- These watersheds are the primary source of fresh water flowing into the Sacramento-San Joaquin Delta, California's water "hub."
- The forests of the Sierra Nevada store massive amounts of carbon, assisting in the state's efforts to combat climate change.
- The forests and watersheds provide crucial habitat to hundreds of species.
- The area provides world-class recreational opportunities enjoyed annually by millions from around the world.
- The Region is a major producer of wood products[1] and hydro-electric power.[2]

Giant Sequoias are the largest living things on Earth and only grow in the Sierra Nevada.

As California grapples with issues such as meeting the State's water supply needs, climate change, mandates for decreasing greenhouse gas emissions, and meeting ecosystem restoration and water reliability goals in the Delta, ensuring that the Sierra is able to continue to provide these benefits becomes even more critically important.

The 2013 Rim Fire burned approximately 400 square miles, making it the largest fire in the recorded history of the Sierra Nevada and third largest in the state.

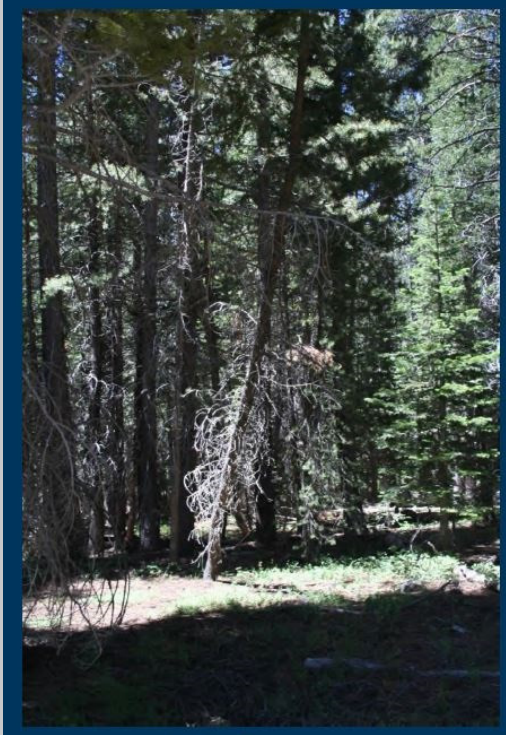
Unfortunately, the declining health of many of the Sierra's forests and watersheds is putting these benefits at great risk because it has created a landscape that is highly susceptible to uncharacteristically large and damaging wildfires. Not only do extreme fire events affect everyone in California who relies on the water and other services the Region provides, they also hit our pocketbooks as we must often spend large sums to fight them. In 2008, the state spent over $1 billion and the U.S. Forest Service spent approximately $700 million fighting fires in CA.[3] Without factoring in structure damage and tourism losses, the suppression costs and damage to San Francisco Public Utility Commission infrastructure from the Rim Fire topped $150 million.

In recent years, California has seen a steady increase in the amount of forests lost to large damaging fires, such as the 2013 Rim Fire. The potential for even more of these "megafires" is increasing in the Sierra Nevada Region. Aggressive fire suppression, conflict over forest management and a lack of financial resources over the past decades have led to a dangerous situation in many parts of the Sierra – significant areas of overgrown, diseased, dry and threatened forests.

The U.S. Forest Service manages 6.3 million acres in the Sierra Nevada, which is approximately 60% of the Sierra Nevada's total forested land area. To address the unhealthy state of much of the forest land under their management, in March 2011 USFS Region 5 released its Leadership Intent for Ecological Restoration,[4] which is a call to action to increase the pace and scale of forest restoration in this Region. The Regional Forester estimates the need to be 500,000 acres annually, which is at least two to three times greater than current efforts. In fact, the USFS Region 5 estimates that between six to nine million acres of the land they are responsible

"The United States Forest Service Region 5 estimates that between six and nine million acres of the land they are responsible for managing in California are in need of restoration."

Forest restoration work removes excess brush and trees, returning the forests to a more healthy and resilient state.



Before Photo Credit: The Nature Conservancy After

for managing in California are in need of restoration. While there are no Sierra Nevada-specific numbers available, a significant portion of this land is within the Region.

The unnatural conditions that currently exist mean that many fires provide fewer ecological benefits, and more ecological damage than historic fires. Additionally, the high cost of fighting fires has often resulted in reducing funds available for critically needed restoration efforts (at least on federal lands).

Today, the body of evidence relating to the positive impacts of forest restoration treatments in reducing fire size and intensity continues to grow. Often, treated areas provide an opportunity for firefighters to make a stand, as fire behavior changes, with fires spreading more slowly and burning with less intensity in treated areas. While a detailed review of the effects of treated areas on the Rim Fire is forthcoming, initial observations suggest that communities benefited and fire intensity decreased as a result of forest treatments. (Of the 257,000 acres the Rim Fire burned, 36,000 acres had been recently treated or had previously managed fire on them). For example, at the Hodgdon Meadow Residential Area in Yosemite National Park, prior treatments allowed firefighters to successfully protect all facilities in the area, and the treated area itself sustained little to no damage from the fire.[5]

Unfortunately, despite best intentions and a significant amount of activity, very little progress has been made towards achieving the goal of a significant increase in the pace and scale of restoration.

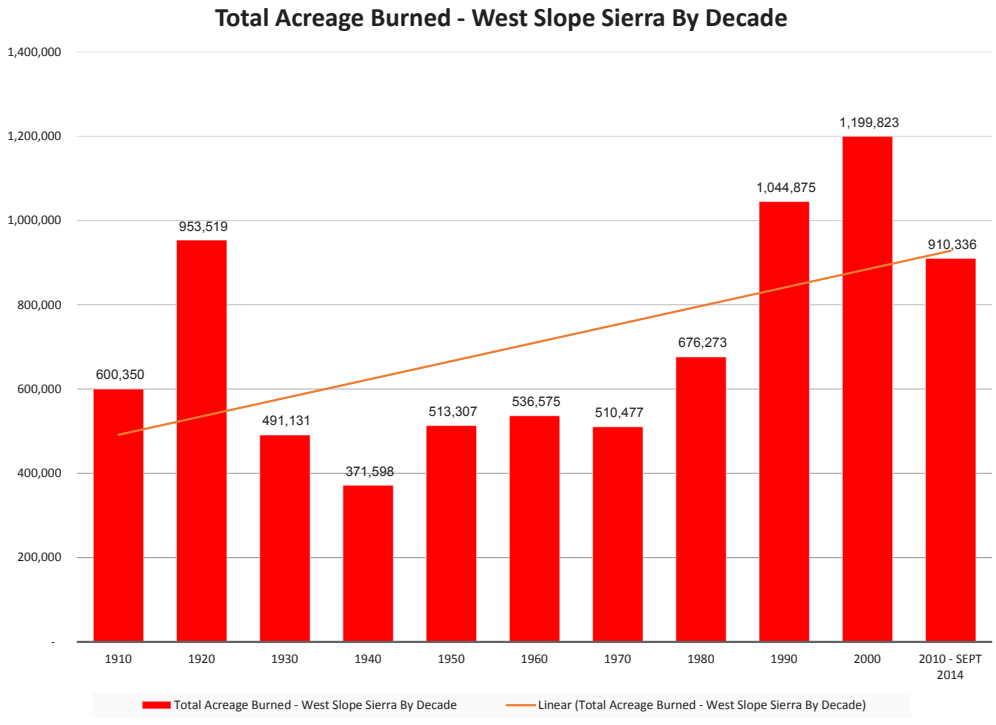
Wildfire Threat is Increasing

It is important to understand that fire is a natural part of the Sierra ecosystem. Historically, wildfires in the Sierra were predominately low-intensity and removed excess fuel, thinned vegetation, and reduced competition for nutrients and water, resulting in healthy forests resilient against insects, disease and fire.

"Wildfires in California have become larger and more extreme over the last two decades and many predict that this trend will continue to increase unless the pace and scale of forest restoration dramatically increases."

Unfortunately, a century of fire suppression and conflict over forest management has altered much of the landscape. As a result, wildfires in California have become larger and more extreme over the last two decades and many predict that this trend will continue to increase unless in the pace and scale of forest restoration dramatically increases. Simply put, there is too much fuel in many of today's forests for them to burn in a safe and ecologically beneficial manner.

- The amount of acreage burned is increasing over time. As shown in the chart below, the total acreage burned on the west slope of the Sierra has trended upward over the last century. More acres burned in the two decades of 1990 and 2000 than any other previously recorded decade. More land has burned in the first four-and-a-half-years of this decade than seven entire decades in the past.



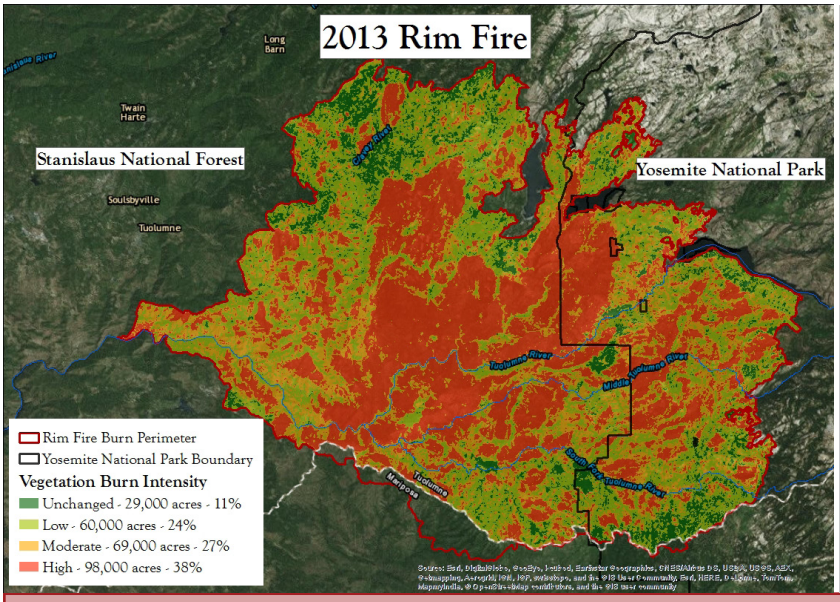
The total acreage burned on the west slope of the Sierra has trended upward over the last century - the average size of the area burned in each decade has risen by almost 300,000 acres from 1910 to today.

- The number of large fires is also increasing: the average number of 900+ acre fires each year in the Sierra Nevada area has grown from three to seven since 1950.[6] In 2013, the Sierra Nevada experienced its largest fire in recorded history – the Rim Fire at more than 257,000 acres.
- Between 1984 and 2010, there was a significant increase in the number of acres within a forest fire burning at high-intensity, from an average of 20% in mid-1980s to over 30% by 2010,[7] [8] and the trend is continuing upward. The Rim Fire burned at nearly 40% high-intensity.
- The shrub regeneration that occurs after a high-intensity fire leads to forest conditions which are likely to burn again at high-intensity.[9] [10] [11]

The increase in size and severity of fires in the Sierra has added a new word to our lexicon: megafire. Megafires, like the Rim Fire, are expensive both economically as well as ecologically. Some of the direct impacts of the Rim Fire have included:

- $127 million for fire suppression
- Greenhouse gas emissions equal to the annual emissions of 2.3 million vehicles
- 3/4 of the area's known great gray owl nests, and 1/4 of the areas where spotted owls and goshawks roost and nest destroyed
- $8.5 million for emergency road, trail, and watershed stabilization efforts
- $35 million for the San Francisco Public Utility Commission to buy alternative energy due to damage to hydroelectric powerhouses and for repairs to its grid
- Millions in losses to the ranching community as a result of destruction of grazing lands, killed livestock, and damaged infrastructure
- An estimated $2.75 million loss in revenue from visitor lodging in Tuolumne County

The effects of climate change will only make matters worse. As increasing temperatures bring about drier conditions, the result will be longer fire seasons and increased risk of pest and disease infestation in the forests. The more we improve the health of our forests, the better able they will be to withstand these impacts.



There has been an increase in the number of acres that burn at high-intensity in the Sierra. The Rim Fire burned at nearly 40% high-intensity.

California's Water Supply at Risk

As noted earlier, the forested watersheds of the Sierra Nevada are the origin of more than 60% of the state's developed water supply. Water is first stored in the snowpack and later captured in reservoirs that provide water for domestic, agricultural and environmental use.

Large intense fires can have significant effects on this system. For example, due to large increases in runoff and the lack of vegetation to stabilize soil, high-intensity burn areas can experience runoff and erosion rates five to ten times greater than low or moderate-intensity burn areas.[12] The resulting sediment enters nearby creeks and rivers, degrading water quality and adversely affecting aquatic habitat. Plumes of sediment entering reservoirs after post-fire rain events can impact reservoir operations until the sediment settles out to the bottom, where it reduces water storage. After the Bagley Fire of 2012, which burned just over 46,000 acres of the Shasta-Trinity National Forest, significant erosion, totaling approximately 110,000 cubic meters of sediment (enough to fill 44 Olympic-sized swimming pools), entered the watershed surrounding Lake Shasta.

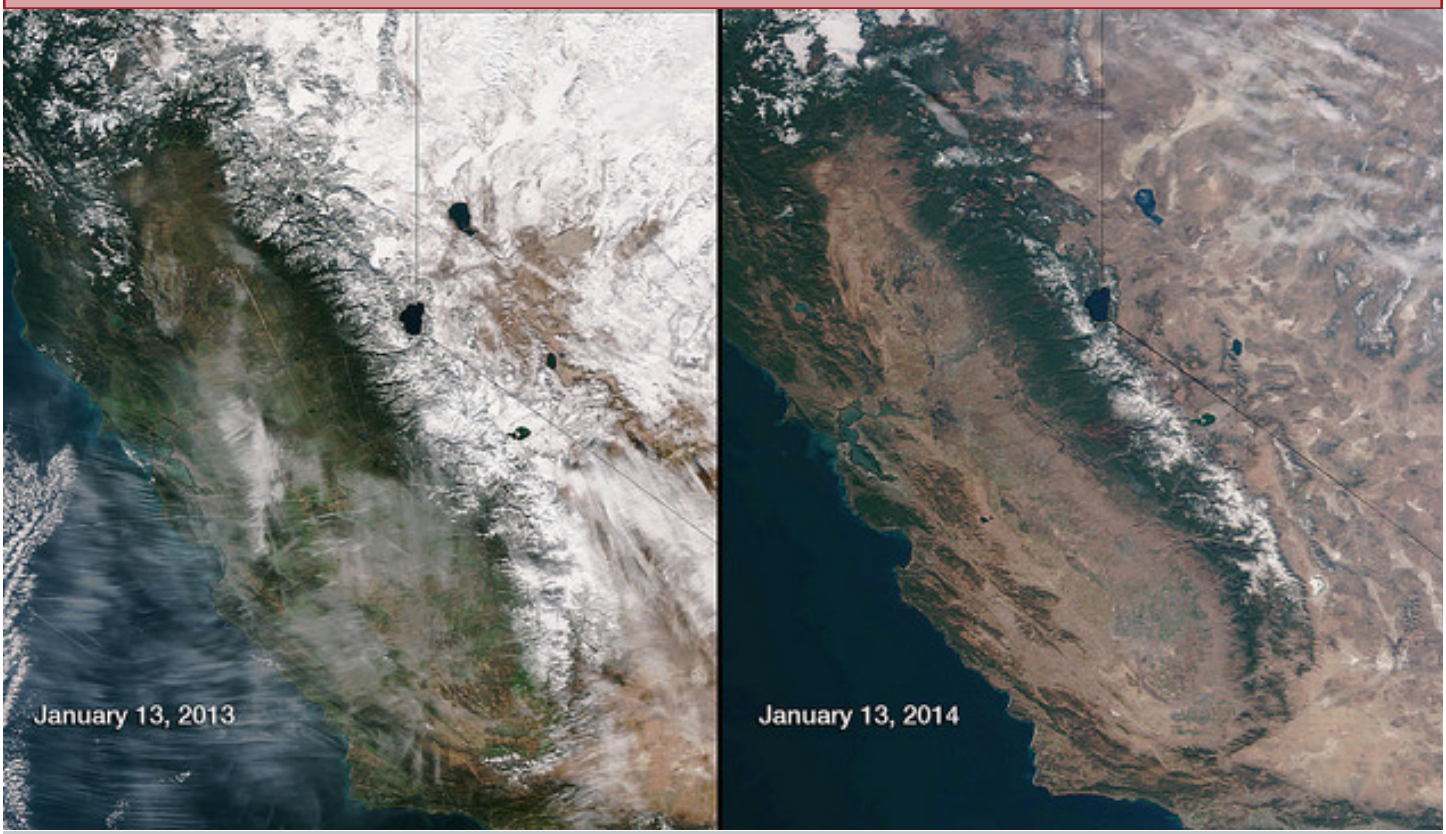
A large landslide of 1997 covered Highway 50 and dammed the South Fork of the American River after the Cleveland Fire.

Photo courtesy of the California Department of Transportation

Better forest management relates to water supply in another important way. Up to 60% of snowfall may not reach the ground when trees are too close together.[13] Snow left in the tree canopy is at risk of being lost back to the atmosphere instead of adding to the snowpack. Depending on the weather conditions, between 15% and 60% of the snow caught in trees can be lost,[14] making it unavailable to downstream water uses. That said, adequate forest canopy cover remains important because snowpack in clearings melts earlier in the year due to direct exposure to sunlight and higher winds, compared to areas with a forest canopy.[15]

"High intensity fires can be followed by severe erosion that destroys infrastructure, impacts water quality, and decreases storage capacity in downstream reservoirs."

Therefore, if a high-intensity wildfire rips through an overgrown forested area and kills everything in its path, the snowpack in that area can melt too early in the year to be useful to California's water needs. Forest management activities could lead to an increase in the snowpack, both by reducing the risk of wildfire and creating right-sized gaps in the canopy so that snow can fall to the ground but still receive enough shade to



Managing forests in a way that may increase snowpack becomes even more important in the face of climate change. At 33% of average, the snowpack of the drought year 2014 could become typical in coming decades if the decline is at the worse end of the predicted changes.

Image credit: NASA/LANCE/EOSDIS MODIS Rapid Response Team

be protected.[16] As with other benefits, management must be carefully integrated to address multiple ecological needs.

Increasing snowpack and available water storage will become even more important in the face of climate change as the amount of snowfall declines. The Sierra snowpack today is estimated, on average, to be 10% smaller than it was 100 years ago,[17] and is predicted to decline by 30 to 70% by the end of the century. A 50% reduction in snowpack is equal to the loss of 7.5 million acre-feet of water, or enough for 14 million families a year. In addition, scientists predict more rain and less snow in some areas, which will shift peak runoff from late spring to early spring or even winter. Earlier snowmelt combined with the larger rain events expected as a part of climate change could result in flooding and increased strain on levees, as well as an inability to capture the flows for later use. Lower water availability in late summer will make it more difficult to manage saltwater surge into the Delta, putting drinking and agricultural water supplies at risk.[18]

Increased Air Pollution and Greenhouse Gas Emission

As wildfires burn, they release carbon dioxide, nitrogen oxide, volatile organic compounds, and particulate matter into the atmosphere.[19] The effects on public health range from eye and respiratory tract irritation to more serious disorders, including reduced lung function, bronchitis, exacerbation of asthma and other pre-existing respiratory and cardiovascular diseases, pulmonary inflammation, a compromised immune system, and even premature death.[20]

Initial estimates indicate that the Rim Fire released 11 million metric tons of greenhouse gasses (GHGs), or roughly equivalent to the annual GHG emissions from 2.3 million cars.

Photo courtesy of the Christian Science Monitor

The Region stores 420 million tons of carbon within its productive forests,[21] the equivalent to the annual emissions of over 400 coal-fired powerplants. Each year, when the fire season is not too extreme, these forests sequester enough additional carbon to offset the annual carbon dioxide emissions of almost 2.7 million passenger cars (or 10% of all registered automobiles in California in 2013).

Initial estimates indicate that the Rim Fire released 11 million metric tons of greenhouse gases (GHGs). Based on the U.S. EPA's web site, that's roughly equivalent to the annual GHG emissions from 2.3 million cars. Computer modeling of the Sierra has found that fuel treatments that alter the size and intensity of wildfires could reduce the amount of carbon emitted by fires from 36 to 85%. In addition, removing smaller, overgrown biomass from stands reduces the water stress for the remaining trees, enabling them to thrive. This is important, because, for many species, larger trees accumulate carbon faster than smaller trees.[22]

"The forests of the Sierra Nevada Region store 420 million tons of carbon, the equivalent to the annual emissions of over 400 coal-fired powerplants."

CURRENT EFFORTS

There are a number of important efforts occurring in an attempt to address the current situation. Building upon and enhancing these efforts provides a sound foundation for increasing the pace and scale of forest restoration.

The Sierra Nevada Forest and Community Initiative

The intensity of the issues facing the Sierra has led to unprecedented collaboration among groups and stakeholders, many who previously found themselves in conflict. In general, there is consensus that many federally managed forests in the Region are dangerously overgrown and that action needs to be taken now to avert crippling problems in the future. A broad array of interests are actively working with the USFS and industry to develop science-based approaches to remove the excessive growth and turn the resulting wood and biomass into products that have economic value.

The dire state of Sierra forests is bringing together stakeholders who previously were in conflict with one another.

Participants at the Rim Fire Restoration EIS meeting, co-facilitated by the SNC and USFS.

At the state level, the Sierra Nevada Conservancy is actively working to build on this consensus and is supporting efforts to increase the pace and scale of restoration through the Sierra Nevada Forest and Community Initiative (SNFCI). Established in 2011, the SNFCI Regional Coordinating Council includes a wide range of diverse perspectives, including local government, environmental and conservation organizations, the wood products industry, fire safe councils, and public land management agencies.

According to the USFS, "Only an environmental restoration program of unprecedented scale can alter the direction of current trends."

The work of the Coordinating Council supports and informs local collaborative efforts as they convene, identify issues, develop projects and secure funds to implement projects and processes in local areas in support of Initiative goals. Generally speaking, the Coordinating Council focuses on policy, investment, and science and research issues that affect the success of the SNFCI.

Among other activities, the Coordinating Council has been actively working with USFS Region 5 leadership to help them turn the vision of the Leadership Intent into tangible implementation measures, including identifying and coming together to address policy-level barriers that must be overcome for us to reach our goals. This level of support for USFS at the regional and statewide levels is needed, given that, according to the USFS, "Only an environmental restoration program of unprecedented scale can alter the direction of current trends."


Merced, CA – 0.5 MW

Several communities throughout the Sierra Nevada have launched efforts to develop additional biomass-to-energy facilities, but more needs to be done to address the ongoing need in the Region.

At the local level, the Sierra Nevada Region can boast significant collaborative efforts of highly diverse and productive stakeholders. This culture of collaboration has yielded a number of successes at the local level, although much more needs to be done across the Region. Significant efforts include the following:

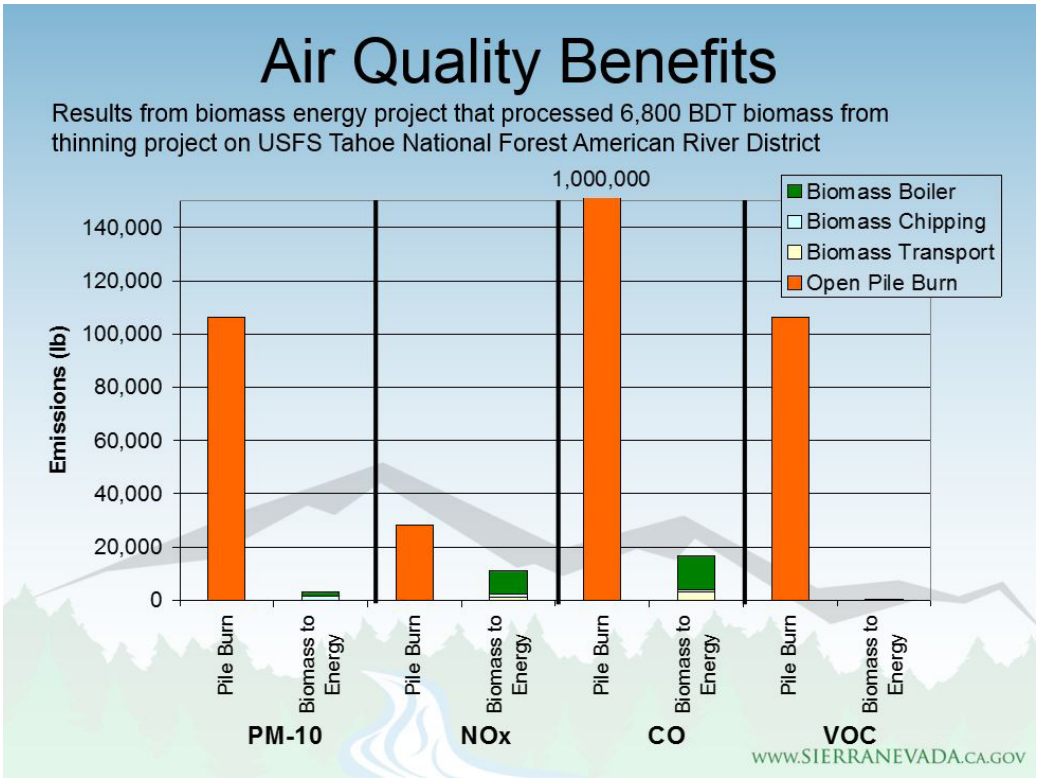
- Three Collaborative Forest Landscape Restoration Program (CFLRP) Funding Awards went to projects in the Sierra Nevada: the Dinky Creek Collaborative in 2010 ($829,000), the Amador-Calaveras Collaborative Cornerstone Project ($730,000), and the Burney Hat Creek Basins Project ($605,000) in 2012.
- The Cabin Creek biomass facility in eastern Placer County is nearing commencement of construction activities. The North Fork Biomass Project in eastern Madera County cleared their last planning hurdles in April 2014 with the approval of a Conditional Use Permit that supports the construction of a state-of-the-art bioenergy facility. The SNC is currently tracking numerous other biomass utilization efforts in different stages of development throughout the Region.
- Significant funding was secured for Biomass Utilization Projects in June 2013 from the USFS Woody Biomass Utilization Grant Program, including grants to the Sierra Institute for Community and Environment in Plumas County ($250,000), and Calaveras Healthy Impact Products Solution in Wilseyville ($184,405).
- A highly collaborative expedited National Environmental Policy Act process was developed for the Rim Fire Restoration Salvage Environmental Impact Study in the spring of 2014.

Biomass Utilization

Although there is a clear need to thin smaller trees and other biomass from the forests to improve ecological function and reduce fire risk, these projects are often not feasible from a financial perspective because there is limited market value for the biomass that is removed. Converting biomass to clean, renewable energy and value-added wood products not only creates local economic development opportunities, but also generates revenue that can help fund needed forest restoration projects.

Converting biomass from forest restoration efforts into energy rather than piling and burning it reduces emissions by over 30%. It also generates revenue that can be used to offset costs of the restoration work.

Recent state planning efforts and policies are increasing support for the use of biomass to create renewable energy while reducing the risk of wildfire. California's 2012 Bioenergy Action Plan includes a broad array of action items to promote forest bioenergy. The SNC is identified as one of the key responsible agencies for these action items, particularly in assisting forested communities to develop small scale forest bioenergy facilities.



This chart from a study completed in Placer County compares air quality impacts between pile burning and converting biomass to energy in a facility.

Shortly following the adoption of the Bioenergy Action Plan, legislation requiring large utilities to purchase bioenergy was signed into law. Senate Bill 1122 (Rubio, 2012)[23] requires the state's three large investor-owned utilities to collectively purchase 50 Megawatts (MW) of energy from new facilities sized at three MW or less using byproduct of sustainable forest management. This would dispose of forest waste from roughly 31,000 acres of forest restoration annually. The California Public Utilities Commission is currently considering implementation orders for

this legislation and at this time it is unclear how helpful this may be in promoting smaller scale biomass energy facilities. Even with the potential assistance provided by SB 1122, additional efforts are needed to promote increased biomass utilization.

An estimated 125,000 acres of 32 million forested acres statewide (0.4%) are currently managed each year with mechanical treatments that remove biomass. On 75,000 of those acres, the removed biomass is disposed of through piling and open burning. This available biomass could sustain over 100 MW of renewable electricity generation if it were brought to a bioenergy facility. Such a diversion of pile and burn material to produce renewable energy reduces GHG emissions by over 30%. As the chart on the previous page illustrates, the emission reductions from using modern technology to convert the biomass into energy rather than piling and burning the material are substantial. The analysis takes into account all emissions generated, including transporation of the biomass to a facility.

As mentioned earlier, it is estimated that about 500,000 acres of annual treatments on USFS lands would restore the health of the forests and help keep pace with future forest growth. Diverting the biomass generated by these forest treatments from pile and burn material to bioenergy facilities could reduce GHG emissions by 3.15 million metric tons annually. This would add up to 18.37 million metric tons of GHGs over 10 years, which is equivalent to eliminating 3.9 million cars from the road.

It is estimated that about 500,000 acres of annual treatments on USFS lands would restore the health of the forests and help keep pace with future forest growth. Diverting the biomass generated by these treatments from pile and burn material to bioenergy facilities could reduce GHG emissions by 18.37 million metric tons over 10 years. This is equivalent to eliminating 3.9 million cars from the road.

Integrated Regional Water Management (IRWM)

The Department of Water Resources (DWR) developed the IRWM program to promote regional collaboration in managing the many aspects of water-related issues such as economic vitality, water supply reliability, storm water and flood management, water quality improvements, and ecosystem protection and enhancement. IRWM crosses jurisdictional and political boundaries and involves multiple agencies, stakeholders, individuals and groups. Ultimately, IRWM establishes a prioritization process intended to determine which projects best meet regional needs and to encourage the development of those projects.

IRWM groups have formed to cover virtually all of the Sierra Nevada. They have developed prioritized lists of projects needing funding within their watersheds and are seeking funding for them

from DWR and other sources. Because many of these groups recognize the linkages between forest health and water quality and supply as well as other environmental benefits, some of them are seeking funding for projects to implement forest management, and watershed protection and restoration projects. Sierra IRWM applications have ranged from forest ecosystem support projects such as fuels reduction and meadow, creek and stream restorations, to removal of invasive species, and water-supply and infrastructure projects. Unfortunately, very few forest-related IRWM projects have been funded to date. Nonetheless, the IRWM funding process provides a significant and relevant opportunity for investment in forested watersheds.

The California Water Action Plan

At the end of 2013, the Secretaries for Natural Resources, Environmental Protection, and Food and Agriculture came together, under the Governor's direction, to develop The California Water Action Plan. At a statewide scale, the plan identifies "key actions for the next one to five years that address urgent needs and provide the foundation for sustainable management of California's water resources."

The importance of the Sierra to the state's water resources is clearly recognized in the California Water Action Plan.

The importance of the Sierra to the state's water resources is clearly recognized in the plan, which identifies a set of activities to reduce the significant risks posed to the water resources flowing from the Sierra and other watersheds in the state. Specifically, it calls for:

- Restoration of forest health through ecologically sound forest management
- Protection and restoration of degraded stream and meadow ecosystems to assist in natural water management and improved habitat
- Support and expansion of funding for protecting strategically important lands within watersheds to ensure that conversion of these lands does not have a negative impact on our water resources

California Forest Carbon Plan

In 2006, the State of California passed AB32, the California Global Warming Solutions Act. This state law mandates that California reduce greenhouse gas (GHG) emissions to 1990 levels by 2020 and acknowledges that further GHG reductions will be required in the future.

Healthy Sierra Nevada forests have an important role to play in helping the state achieve AB 32 goals. Forests are included in the Natural and Working lands section of the Scoping Plan Update which calls for the development of a Forest Carbon Plan. A Forest Carbon Action Team, lead by CAL FIRE, is actively working to develop GHG emissions targets, strategies, and investment options that enhance forest capacity to sequester carbon. This is important because forest management is a factor in determining whether or not our future forests will sequester or release carbon.

Ongoing Research

A significant amount of research has been done on the issues associated with unhealthy forests, and there is substantial scientific information available that supports the need for restoration and the benefits associated with such activity. Additional research is also currently underway which will help us to further understand and quantify the dynamics of the resources within the Region and how specific activities that improve the health of Sierra forests and watersheds impact the resource values they provide. Specific research is aimed at learning more about:

Photo of Rollins Reservoir, Colfax, CA

Research is currently underway that will help quantify the amount of available storage in our key reservoirs, the rate at which they are filling with sediment, and actions that can be taken to minimize storage loss through restoring forests and watershed health.

- How management techniques that improve the ecological resilience of forests can enhance and protect the snowpack, thereby increasing water supply reliability
- The amount of current available storage in our key reservoirs, the rate at which they are filling with sediment, and actions we can take to minimize storage loss though restoring forest and watershed health
- The impact of forest health treatments on endangered species
- Additional quantification of the carbon benefits of forest health treatments, and how those benefits could be multiplied through the appropriate use of biomass
- The benefits to water storage and timing of water release that results from restoring degraded meadows
- The water use of overgrown forests and the potential increase in water yield that will result from forest thinning treatments
- More comprehensive quantification of the costs of extreme fire events, including impacts on health, tourism, insurance, and utilities

ONGOING CHALLENGES

Though there are many positive efforts underway in the Sierra Nevada, the need for restoration is so great that our progress towards restoring balance and health to our forests, communities and economies is inadequate. Major impediments to increasing pace and scale exist, and must be addressed to the appropriate extent if we expect to make meaningful progress toward our goals. There are a multitude of challenges, but we have identified the following five as the most immediate and limiting:

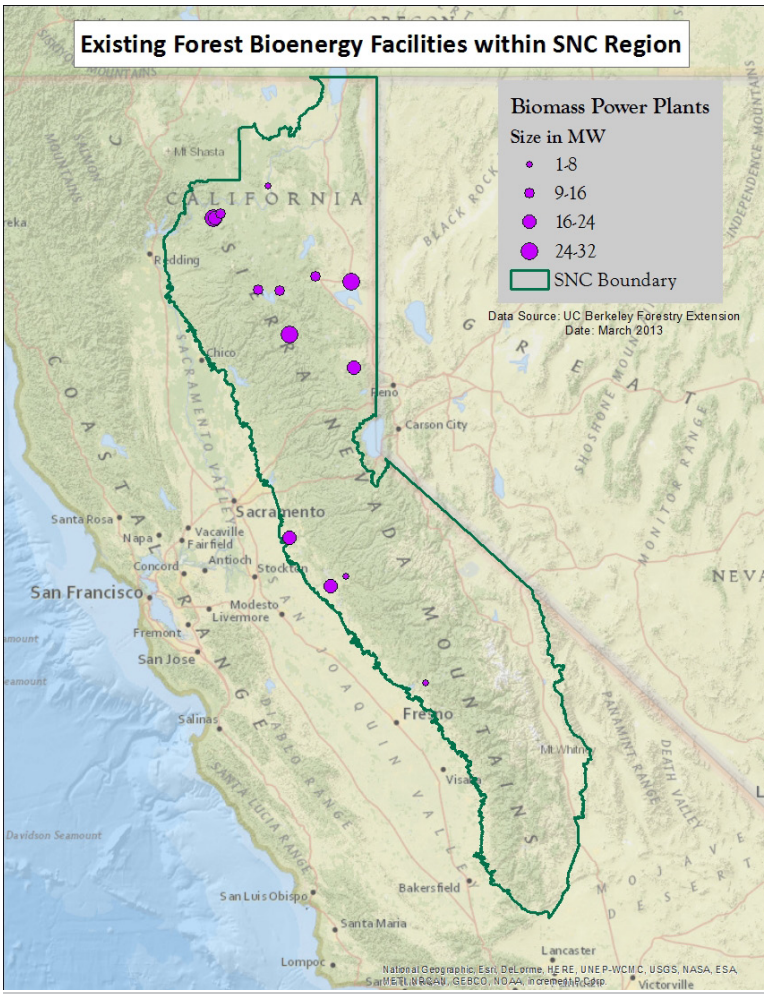
Insufficient funding and resources

The amount of funding available for forest restoration is inadequate to meet the need of significantly increasing the pace and scale of forest restoration. Given the nature of the National Forest lands, restoration efforts must include mechanical treatment as well as the increased use of prescribed and managed fire. By strategically conducting mechanical fuels reduction efforts combined with the careful use of fire, costs associated with fire suppression can be reduced significantly over time.

While many projects can "pay for themselves" through the sale of wood products (including biomass), this is not feasible for many other crucially important projects, so funding is needed to complete them. Not only is the level of funding inadequate to meet the need, federal funding policies often further limit resources for restoration projects. For example, policies related to funding fire suppression often result in funds that would otherwise be available for restoration being "swept" to pay for suppression. The inability to fund restoration projects ultimately leads to higher suppression costs, and the cycle is repeated.

Policies related to funding fire suppression often result in funds that would otherwise be available for restoration being "swept" to pay for suppression. The inability to fund restoration projects ultimately leads to higher suppression costs, and the cycle is repeated.

Increasing the harvest of timber in an ecologically sound manner can offset a portion of the need for additional, dedicated funding for restoration efforts. While this subject continues to garner some controversy, progress had been made in an approach to managing federal lands, including timber harvesting, which has support from many environmental groups. There is broad consensus among a wide range of stakeholders for General Technical Report 220 (and associated information). This guidance document proposes an ecosystem management strategy for Sierran mixed-conifer forests. This report was published by the USFS Pacific Southwest Region scientists, and the management recommendations in it emphasize the ecological role of fire, changing climate conditions, sensitive wildlife habitat, and the importance of a varied forest structure.



There isn't enough biomass processing infrastructure to meet the need.

Lack of wood/biomass processing infrastructure

The decline in timber output from public lands has also affected the timber industry that was historically a central component of the Sierra Nevada economy, leading to mill closings, lost jobs, and decreasing potential financial capital. Though there is now a focus on re-establishing a smaller-scale, highly-distributed wood processing industry to add value to forest treatment by-products and support local economic development. The existing capacity is not adequate to handle the pace and scale of restoration needed in the Sierra Nevada. For instance, last summer, the Honey Lake biomass power plant had a full yard and stopped all chip deliveries for the year on August 1, 2013, at a time when forest restoration was in full swing and biomass outlets were still very much in demand.[24] This resulted in a number of proposed projects not being completed.

The increase of large fires, such as the Rim Fire, puts additional pressure on the system as the limited capacity for wood processing in the Sierra Nevada becomes focused on processing salvage-logged timber. This throws into question the fate of the desperately needed restoration treatments slated for unburned but overgrown areas if there is nowhere for this wood to go for processing.

Lengthy/complex planning processes (NEPA, CEQA, and ESA)

Projects on federally managed lands are subject to review under the National Environmental Policy Act (NEPA) while projects on other lands in California are subject to the California Environmental Quality Act (CEQA). The complexity of completing these processes, and the length of time necessary to complete them, are usually dependent on the scope and location of the project. They may also be impacted if the project is in a sensitive location, impacts sensitive species, or other factors. Completion of the environmental assessment process under NEPA for complex fuel reduction projects can take up to two years or more. Completion of the environmental assessment process under

CEQA for complex projects can take up to one year or more. Both processes can also be costly, requiring large amounts of staff time and/or contracts with private consulting firms.

When a project is located on federally managed lands and the project is funded in part or in whole through state or local public funds, both NEPA and CEQA requirements must be met. The best scenario for this requirement is to prepare a joint document incorporating the requirements of both laws simultaneously. When this is not possible, a two-tiered environmental review process may be required, resulting in additional staff resources, costs, and time.

Marten photo courtesy of the U.S. Forest Service

Developing projects on a larger landscape scale may provide greater efficiency in complying with NEPA and the Endangered Species Act and other requirements.

Projects may also be impacted by the Federal and/or State Endangered Species Act (ESA). The primary goal of the ESA is to prevent extinction of imperiled plant and animal life (listed species), and secondarily, to recover or lessen threats to the survival of listed species. When a listed species or its habitat is present within a project area, measures must be incorporated into the project to ensure protection of the species or a special permit must be obtained.

Developing larger landscape restoration projects has the potential of providing greater efficiency in complying with these laws. Further, addressing environmental issues in a proactive, collaborative manner can significantly reduce conflicts that have often led to delay or non-implementation in the past.

Need for increased use of fire as a management tool for restoration

A significant portion of USFS lands are not able to be treated through mechanical means for a variety of reasons. Even if the current rate of mechanical treatments increased four to five times, it would still be less than one-third of what is needed.[25] Therefore, an effective approach to restoration must include conducting mechanical fuels reduction efforts where feasible and, for the high percentage of ground where mechanical thinning is not possible, using planned or prescribed fires (fires that are set intentionally to remove unwanted vegetation) or managed fire (fires that are started unintentionally but which can be managed to provide ecological benefits) to treat the landscape.[26]

Fire had a much more active role in the Sierra Nevada in the past than it does today and current best science makes a strong case for an expanded managed fire program to increase the pace and

scale of restoration. For instance, one study shows that plant species diversity increased by two or more times once fire was reintroduced to the forest.[27] In addition, some local air quality management districts have been working cooperatively with land managers, understanding that the consequences of uncontrolled wildfires are far more detrimental than fire used as a management tool.

As fuel loads increase, rural home construction expands, and budgets decline, delays in implementation will only make it more difficult to expand the use of managed fire. Without proactively addressing some of these conditions, the status quo will relegate many ecologically important areas (including sensitive species habitat) to continued degradation from either no fire or wildfire burning at high-intensity.[28]

While the case for increasing managed fire on the landscape is strong, there are some challenging issues standing in the way. One of the most formidable is regulatory requirements. The California Air Resources Board (CARB) and local air districts impose very tight restrictions on burn windows and duration of prescribed fires, which can make it difficult to implement them. Unfortunately, this may have the unintended consequence of enabling larger, more damaging fires to occur, which emit far more pollution into the atmosphere than would have been released by the prescribed fires. Providing greater flexibility to use fire to prevent megafires is essential to restoring our forests to resiliency.

Prescribed burn photo courtesy of Susie Kocher, U.S. Forest Service

Even if the current rate of mechanical treatments on Forest Service lands increased four to five times, it would still be less than one-third of what is needed.

One of the best tools available for encouraging the use of fire as a management tool is increasing communication and outreach with regulatory agencies, partners and stakeholders. This outreach should include engaging CARB, Federal Environmental Protection Agency (EPA) and Forest Service leadership more effectively, and developing strong messaging that stakeholders must “Pick Your Smoke” given the realities of life in a fire-prone environment and the potential for increased fire size and intensity if we don’t take immediate action.

Need to increase use of contracting tools that maximize local benefits to forest communities

Calaveras Healthy Impact Product Solutions, Inc. crews working in the forest.

Declines in available timber harvest for local companies to process has significantly impacted the economy of the Sierra Nevada and the well-being of its residents. For example, between 2000 and 2008, the Sierra Nevada Region Gross Domestic Product (GDP) averaged between $14,000 and $17,000 less per person than the rest of California. Despite the USFS's expressed desire to keep economic benefits in local communities, and a number of innovative collaborations underway throughout the Sierra Nevada, it has proven very difficult for most local contractors and wood processing businesses to compete successfully for forest service contracts against larger, often out-of-state, businesses with lower overhead and operational costs.

Engaging local crews in forest restoration work brings jobs to communities in the Sierra, many of which are economically disadvantaged.

Some forests in Region 5 have begun to identify mechanisms that provide some level of local preference in the bidding process, and the SNFCI Regional Coordinating Council is currently working closely with USFS Regional Office and Sierra Cascades All Lands Enhancement group (SCALE) to develop a toolkit that will help forest supervisors and collaboratives throughout the Region give greater weight to local socioeconomic benefit when awarding contracts. While these efforts are a good start, a much larger group of unified, high-level leadership is needed to make the paradigm shift that will be required to overcome institutional barriers and a lack of clear policy direction at the federal level.

CONCLUSION

Without bold action to increase the pace and scale of forest restoration in the Sierra Nevada, California will face ongoing adverse impacts to its environment and economy. The foundation for such an effort exists, but strong policy and investment actions are needed at the federal and state levels if we are to reverse the trends of more, larger and increasingly severe fires in the Region -- trends that threaten to rob California of many important benefits, including carbon storage, water supply, wildlife habitat and some of the most iconic landscapes in the world.

The SNC is developing a Sierra Nevada Forest and Community Action Plan building upon and enhancing existing efforts, both at a Regional and watershed level. The Sierra Nevada Conservancy will provide leadership and focus, and engage interested parties who share our vision and commitment to restoring our forest to health and resiliency. The alternative of continuing down the path we are on should not be acceptable to anyone who benefits from, and cares about, this incredible piece of the California landscape.

Photo of the Kings River courtesy of the Friends of the South Fork Kings

Without bold action, the iconic landscapes of the Sierra and the many benefits they provide to all Californians are at great risk.

REFERENCES

1 Morgan, T., Brandt, J., Songster, K., Keegan, C. E., & Christensen, G. (2012). California's Forest Products Industry and Timber Harvest, 2006 (p. 48). Portland, OR, USA. Retrieved from http://www.fs.fed.us/pnw/pubs/pnw_gtr866.pdf.

2 Vicuna, S., Leonardson, R., Hanemann, M. W., Dale, L. L., & Dracup, J. a. (2007). Climate change impacts on high elevation hydropower generation in California's Sierra Nevada: a case study in the Upper American River. Climatic Change, 87(S1), 123–137. doi:10.1007/s10584-007-9365-x.

3 Boxall, B. (2008, December 31). Spending to fight California wildfires surpasses $1 billion. Los Angeles Times, p. 2. Los Angeles. Retrieved from http://articles.latimes.com/2008/dec/31/local/me-wildfires31.

4 US Forest Service Pacific Southwest Region. (2011). Ecological Restoration: Engaging Partners in an All Lands Approach--Region 5 Ecological Restoration (pp. 1–4).

5 Johnson, M., Crook, S., Stuart, M., & Romero, F. (2014). Rim Fire - Preliminary Fuel Treatment Effectiveness Report (p. 7). Retrieved from http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5436551.pdf.

6 Miller, J.D., and H.D. Safford. 2012. Trends in wildfire severity 1984-2010 in the Sierra Nevada, Modoc Plateau and southern Cascades, California, USA. Fire Ecology 8: 41-57.

7 Miller, J.D., and H.D. Safford. 2012. Trends in wildfire severity 1984-2010 in the Sierra Nevada, Modoc Plateau and southern Cascades, California, USA. Fire Ecology 8: 41-57.

8 Miller, J. D., Safford, H. D., Crimmins, M., and Thode, A. E. 2009. Quantitative evidence for increasing forest fire severity in the Sierra Nevada and southern Cascade Mountains, California and Nevada, USA. Ecosystems 12: 16-32.

9 Stevens, J. T., Safford, H. D., & Latimer, A. M. (2014). Wildfire-contingent effects of fuel treatments can promote ecological resilience in seasonally dry conifer forests, 854(April), 843–854. Retrieved from http://www.stevensjt.net/wp-content/uploads/2014/06/Stevens-et-al-CJFR-2014.pdf.

10 Thompson, J., and Spies, T. 2010. Factors associated with crown damage following recurring mixed-severity wildfires and post-fire management in southwestern Oregon. Landscape Ecology. 25(5): 775–789.

11 Collins, B. M., & Stephens, S. L. (2010). Stand-replacing patches within a 'mixed severity' fire regime: quantitative characterization using recent fires in a long-established natural fire area. Landscape Ecology. 25(6), 927-939.

12 MacDonald, L., and I. Larsen. “Runoff and erosion from wildfires and roads: effects and mitigation.” Land Restoration to Combat Desertification: Innovative Approaches, Quality Control and Project Evaluation (2009).

13 Storck, P., Lettenmaier, D. P., & Bolton, S. M. (2002). Measurement of snow interception and canopy effects on snow accumulation and melt in a mountainous maritime climate, Oregon, United States. Water Resources Research, 38(11), 1123. doi:10.1029/2002WR001281.

14 Bales, R. C., Battles, J. J., Chen, Y., Conklin, M. H., Holst, E., O’Hara, K. L., … Stewart, W. (2011). Forests and Water in the Sierra Nevada: Sierra Nevada Watershed Ecosystem Enhancement Project (p. 43). Retrieved from http://snri.ucmerced.edu/sites/snri/files/public/documents/SWEEP_published_112911.pdf.

15 Koivusalo, H., & Kokkonen, T. (2002). Snow processes in a forest clearing and in a coniferous forest. Journal of Hydrology, 262(1-4), 145–164. doi:10.1016/S0022-1694(02)00031-8.

16 Bales, R. C., Battles, J. J., Chen, Y., Conklin, M. H., Holst, E., O’Hara, K. L., … Stewart, W. (2011). Forests and Water in the Sierra Nevada: Sierra Nevada Watershed Ecosystem Enhancement Project (p. 43). Retrieved from http://snri.ucmerced.edu/sites/snri/files/public/documents/SWEEP_published_112911.pdf.

17 California Department of Water Resources. (2008). Managing An Uncertain Future (pp. 1–34). Sacramento, CA. Retrieved from http://www.water.ca.gov/climatechange/docs/ClimateChangeWhitePaper.pdf.

18 California Department of Water Resources. (2008). Managing An Uncertain Future (pp. 1–34). Sacramento, CA. Retrieved from http://www.water.ca.gov/climatechange/docs/ClimateChangeWhitePaper.pdf.

19 Pfister, G. G., Wiedinmyer, C., & Emmons, L. K. (2008). Impacts of the fall 2007 California wildfires on surface ozone: Integrating local observations with global model simulations. Geophysical Research Letters, 35(19), 1–5. doi:10.1029/2008GL034747.

20 Lipsett, M., Materna, B., Lyon Stone, S., Therriault, S., Blaisdell, R., & Cook, J. (2013). Wildfire Guide - A Guide for Public Health Officials, Updated June 2013 (Vol. 2008, p. 54). Retrieved from http://oehha.ca.gov/air/risk_assess/wildfire.html.

21 Kocher, S. (2012). Forest Health and Carbon Storage System Indicators - Sierra Nevada Conservancy (p. 35). Retrieved from http://www.sierranevada.ca.gov/our-region/sys_ind_docs/SystetmIndicatorsForestHealth.pdf.

22 Stephenson, N. L., Das, A. J., Condit, R., Russo, S. E., Baker, P. J., Beckman, N. G., … Zavala, M. A. (2014). Rate of tree carbon accumulation increases continuously with tree size. Nature, 507(7490), 90–93. Retrieved from http://dx.doi.org/10.1038/nature12914.

23 Senate Bill No. 1122. Rubio (2012). http://www.leginfo.ca.gov/pub/11-12/bill/sen/sb_1101 1150/sb_1122_bill_20120927_chaptered.pdf.

24 Anecdotal comment from USFS Region 5, SNFCI Council meeting, 2/18/14.

25 Marc Meyer PPT presentation—Defining Resource Benefits of Wildland Fire in the Southern Sierra Nevada.

26 USFS Pacific Southwest Research Station/Region 5 PowerPoint, SNFCI Council Meeting, April 2014.

27 Webster, K. M., & Halpern, C. B. (2010). Long-term vegetation responses to reintroduction and repeated use of fire in mixed-conifer forests of the Sierra Nevada. Ecosphere. doi:10.1890/ES10-00018.1.

28 North, M., Collins, B. M., & Stephens, S. (2012). Using Fire to Increase the Scale, Benefits, and Future Maintenance of Fuels Treatments. Journal of Forestry. doi:10.5849/jof.12-021.

For more information:

Jim Branham, Executive Officer
(530) 823-4667
jim.branham@sierranevada.ca.gov

Media Contact:
Brittany Covich, Communications & Outreach Coordinator
(530) 823-4686
brittany.covich@sierranevada.ca.gov

Report released by the Sierra Nevada Conservancy on September 22, 2014

The Sierra Nevada Conservancy is a state agency that carries out a mission of protecting the environment and economy in a complementary fashion across 25 million acres, one-quarter of the state. To learn more, please visit the Sierra Nevada Conservancy Web site.

11521 Blocker Dr., Suite 205 Auburn, CA 95603
(530) 823-4670 (877) 251-1212
sierranevada.ca.gov

AGENDA ITEM #11

CARSON WATER SUBCONSERVANCY DISTRICT

TO: BOARD OF DIRECTORS

FROM: EDWIN D. JAMES

DATE: SEPTEMBER 16, 2015

SUBJECT: Agenda Item #11 - Discussion for possible action regarding an update on the FEMA MAS #3, #4, #5, and #6 projects.

DISCUSSION: Staff will give an update on the various FEMA Mapping Activity Statement (MAS) projects. This includes the flood model for Carson Valley, the development of floodplain ordinances and inundation maps, updates on the Eagle Valley Drainages A & B and the flood mapping for Alpine Estates drainage, and a review of MAS #6 for which FEMA just granted approval.

STAFF RECOMMENDATION: Receive and file.

AGENDA ITEM #12

CARSON WATER SUBCONSERVANCY DISTRICT

TO: BOARD OF DIRECTORS

FROM: EDWIN D. JAMES

DATE: SEPTEMBER 16, 2015

SUBJECT: Agenda Item #12 - Discussion for possible action regarding approval for Board members and staff to attend the 2015 NWRA Fall Symposium in Reno on October 19-20, 2015.

DISCUSSION: Attached is the preliminary schedule for the 2015 Nevada Water Resource Association (NWRA) Fall Symposium. The focus of the symposium is a discussion on how the different watersheds in northern Nevada have been dealing with the recent drought. Some of the topics covered may be useful information for Board members.

Early registration before September 23, 2015, for non-members is $255 for two days and $135 for one day.

STAFF RECOMMENDATION: Approve Board and staff members to attend the 2015 NWRA Fall Symposium in Reno on October 19-20, 2015.

2015 NWRA Fall Symposium
October 19-20, 2015
Reno/Sparks Association of REALTORS®
Reno, Nevada

Monday, October 19, 2015

6:30 a.m. - 10:00 a.m.	Continental Breakfast, Exhibit & Poster Presentation Set Up
7:00 a.m. - 4:00 p.m.	Fall Symposium Registration
8:30 a.m. - 8:45 a.m.	Opening Remarks with **Tim Donahoe**, PLS, WRS, CEM, *2015 Symposium Co-Chairman and Moderator*
8:45 a.m. - 9:10 a.m.	**Richard Felling**, Deputy Administrator, *Nevada Division of Water Resources*
9:10 a.m. - 9:35 a.m.	**David Peri**, *Peri and Sons Farms, Inc,*
9:35 a.m. - 10:00 a.m.	**Paul Taggart**, Senior Partner*, Taggart & Taggart Ltd.,* "Socio-Economic Effects of Curtailment"
10:00 a.m. - 10:25 a.m.	**TBD**
10:25 a.m. - 10:45 a.m.	Break, Exhibit and Poster Presentation Area Open
10:45 a.m. - 11:10 a.m.	**Mike Baughman**, Ph.D., Executive Director, *Humboldt River Basin Water Authority*
11:10 a.m. - 11:35 a.m.	**Bennie Hodges**, Manager, *Pershing County Water Conservation District*, "Pershing County Water Conservation District's Water Issues in the Humboldt River Basin"
11:35 a.m. - 12:00 p.m.	**Sam Routson**, Chief Administrative Officer, *Winnemucca Farms* (invited)
12:00 p.m. - 1:00 p.m.	Lunch, Exhibit and Poster Presentation Area
1:15 p.m. - 1:40 p.m.	**John Erwin**, Director of Natural Resources Planning & Management, *Truckee Meadows Water Authority*
1:40 p.m. - 2:05 p.m.	**Brian Wadsworth**, Water Quality Manager, *Pyramid Lake Paiute Tribe*
2:05 p.m. - 2:30 p.m.	**Rusty Jardine**, District Manager and General Counsel, *Truckee-Carson Irrigation District*
2:30 p.m. - 2:55 p.m.	**Jenifer Davidson**, Town Manager, *Town of Minden (*invited)
2:55 p.m. -3:15 p.m.	Break, Exhibit and Poster Presentation Area
3:15 p.m. - 3:40 p.m.	**Edwin James**, P.E., General Manager, *Carson Water Subconservancy District*
3:40 p.m. - 4:05 p.m.	**Adam Sullivan**, P.E., Hydrologist, *Nevada Division of Water Resources* (invited)
4:05 p.m. - 4:30 p.m.	**Jake Tibbitts**, Natural Resources Manager*, Eureka County Department of*

Natural Resources

4:30 p.m. - 4:55 p.m. **Oz Wichman**, Consultant, *Nye County Water District*

4:55 p.m. - 5:00 p.m. Closing Remarks with **Tim Donahoe**, PLS, WRS, CEM, *2015 Symposium Co-Chairman and Moderator*

Tuesday, October 20, 2015:

7:30 a.m. - 12:00 p.m. Fall Symposium Registration

7:30 a.m. - 8:30 a.m. Continental Breakfast, Exhibit and Poster Presentation Area

8:00 a.m. - 8:15 a.m. Welcome with **Edwin James**, P.E., *2015 Symposium Co-Chairman & Moderator*

8:15 a.m. - 9:00 a.m. Keynote Presentation with **Daniel P. Beard**, Former Commissioner, Bureau of Reclamation and Author of "*Deadbeat Dams*"

9:00 a.m. - 9:20 a.m. **Janine Clark**, Undergraduate Student**,** *University of Arizona*, **"**A Cost-Effective Method for Assessing Landscape-Explicit Commercial Water Use Dataset Using Remote Imaging Software"

9:20 a.m. - 9:40 a.m. **Brenda Hunt**, Carson River Watershed Program Manager, *Carson Water Subconservancy District*, "Low Impact Development / Green Infrastructure Works for Nevada"

9:40 a.m. - 10:00 a.m. **Courtney Walker**, Carson River Watershed Program Manager, *Carson Water Subconservancy District,* "Watershed-Literacy Survey of Carson River Watershed Residents"

10:00 a.m. - 10:20 a.m. Break, Exhibit and Poster Presentation Area

10:20 a.m. – 10:50 a.m. **Brandon Brady-Martinez**, Environmental Technician, *Pyramid Lake Paiute Tribe*

10:50 a.m. – 11:10 a.m. **Kameron Morgan**, Non-Point Source, *Pyramid Lake Paiute Tribe*

11:10 a.m. - 12:25 p.m. Aquifer Storage & Recovery Session

- **Jon Benedict**, Hydrogeologist, *Nevada Division of Water Resources, "*Aquifer Storage and Recovery (ASR) in Nevada: Overview and Perspective from the Nevada Division of Water Resources"
- **Bill Hauck**, Senior Hydrologist, *Truckee Meadows Water Authority*
- **Cliff Lawson**, P.E., Branch Supervisor, *Nevada Division of Environmental Protection/BWPC*
- **James Prieur or Erin Cole**, Senior Hydrologist, *Southern Nevada Water Authority,* "Las Vegas Valley Artificial Recharge Program"
- **TBD**

12:25 p.m. - 12:30 p.m. Closing Remarks with **Edwin James**, P.E., *2015 Symposium Co-Chairman & Moderator*

12:30 p.m. - 1:30 p.m. Lunch, Exhibit and Poster Presentation Area

1:30 p.m. - 3:00 p.m. WaterWatch Workshop with **Steve Berris** and **Sonya Vasquez** , "Data Retrieval and Analysis from USGS NWIS Web and WaterWatch Systems", (attendee laptop optional)

AGENDA ITEM #13

CARSON WATER SUBCONSERVANCY DISTRICT

TO: BOARD OF DIRECTORS

FROM: EDWIN D. JAMES

DATE: SEPTEMBER 16, 2015

SUBJECT: Agenda Item #13 - Discussion for possible action regarding an overview of the 2015 water year.

DISCUSSION: Staff will give an overview of the 2015 water year.

STAFF RECOMMENDATION: Receive and file.

STAFF REPORTS

CARSON WATER SUBCONSERVANCY DISTRICT

TO: BOARD OF DIRECTORS

FROM: EDWIN D. JAMES

DATE: SEPTEMBER 16, 2015

SUBJECT: Agenda Item #16 - Staff reports

DISCUSSION: The following is a list of meetings/activities attended by Ed James and staff since the last Board meeting on August 19, 2015:

- 8/2015 - Courtney attended the Carson City Weed Coalition meeting in Carson City.
- 8/20/15 - Toni listened to a POOL/PACT Torch Training webinar.
- 8/24/15 - Ed met with Chris from the Markleeville Water Company.
- 8/24/15 – Ed and Brenda met with Alpine County planning staff regarding the Low Impact Development (LID) report.
- 8/24/15 – Ed and Brenda met with Churchill County planning and public works staff regarding the LID report.
- 8/25/15 - Ed participated in a meeting held by the Town of Minden regarding the regional pipeline in Douglas County.
- 8/25/15 - Brenda and Courtney presented the results of the Watershed-Literacy Survey to the NDEP Water Quality Planning staff.
- 8/26/15 - Ed attended the Carson City Hazard Mitigation update meeting.
- 8/26/15 - Brenda and Debbie participated in a CRC Education Working Group meeting.
- 8/26/15 - Courtney and Toni participated in a Flood Awareness Week planning meeting.
- 8/26/15 - Brenda met with Michelle Hochrein, the new Environmental Protection Coordinator for the Washoe Tribe about the Stewardship Plan update and other planning matters.
- 8/26/2015 Ed and Brenda met with Storey County Planning and Public Works staff regarding the LID report.
- 8/27/15 - Ed and Brenda met with Robb Fellows and Lee Plemel of Carson City regarding the LID report.
- 8/27/15 - Courtney and Debbie met with Linda Conlin regarding the youth resources section of the CWSD website.
- 8/27/15 - Ed and Brenda met with Mimi Moss, Karin Peternel, and Erik Nilssen of Douglas County regarding the LID report.
- 8/27/15 - Courtney met with Linda Conlin, Karin Staffen (Storey County teacher) and Nancy Cole (Carson City teacher) regarding aligning the new watershed map with Nevada academic content standards.

- 8/31/2015 Ed and Brenda met with Lyon County planning staff regarding the LID report.
- 8/31/2015 Ed, Brenda, Erik Nielsen, Brian Peters, Robb Fellows, and Rob Loveberg interviewed two separate consultants for the Floodplain Ordinance updates and mitigation RFP (MAS #4).
- 9/1/15 - Courtney picked up the flood model from the National Weather Service office in Reno.
- 9/1/15 - Brenda met with Lynn Zonge and Lynell Garfield regarding their presentation to the NV Chapter of the American Planners Association (APA) on 9/14/15.
- 9/1/15 - Ed attended the Carson Valley Conservation District (CVCD) Board meeting to discuss agricultural issues.
- 9/2/15 - Brenda, Courtney, and Debbie met with Ann Bollinger and Rich Wilkinson of Carson City regarding the CRC Open Space Tour proposed for 10/6/15.
- 9/2/15 - Ed gave an update to the Town of Minden Board on watershed issues.
- 9/3/15 - Brenda and Courtney had a conference call with Mark Duda and Andrea Criscione on additional cross-tabulations for the Watershed-Literacy survey and a quote for the 319 grant application.
- 9/8-10/15 - Ed attended the Floodplain Management Association Conference in Rancho Mirage, CA.
- 9/9/15 – Ed, Brenda and Courtney had a conference call regarding 319 grant proposals.
- 9/9/15 - Courtney gave a demonstration of the flood model to Nancy Cole's fifth grade at Empire Elementary School.
- 9/10/14 - Brenda met with Lynn Zonge and Lynell Garfield regarding their presentation to the NV Chapter of the American Planners Association (APA) on 9/14/15.
- 9/12/15 - Debbie participated in Markleeville Creek Day.
- 9/14/15 - Brenda gave a presentation on LID to the NV Chapter of the APA with Lynn Zonge and Lynell Garfield.
- 9/15/15 - Brenda and Toni participated in a Flood Awareness Week planning meeting.
- 9/15/15 - Ed participated in a Waters for the Seasons Study meeting with Desert Research Institute (DRI).

Additional meetings/activities anticipated by staff until the end of September include:

- 9/21-23/15 - Ed will participate in the State Drought Forum.
- 9/22/15 - Brenda, Courtney, and Toni will participate in a CRC Education Working Group meeting.

- 9/23/15 - Courtney will listen to a webinar entitled "Environmental Benefits of Organic Agriculture: Water Quality."
- 9/26/15 - Brenda and Courtney will speak at the Silver Saddle Ranch Celebration.
- 9/26/15 - A staff member will most likely attend the DVCD Annual BBQ at Dayton State Park.
- 9/27/15 - Courtney will attend the River Wrangler's Round-up and Membership Drive at Dayton State Park.
- 9/28/15 - Brenda will attend a Carson City meeting regarding revamping William Street (Hwy. 50).
- 9/29/15 - Brenda, Courtney, and Toni will participate in a Flood Awareness Week planning meeting.
- 9/29/15 - Ed will meet with the ag group in Carson Valley.

STAFF RECOMMENDATION: Receive and file.

CORRESPONDENCE

Lahontan Conservation District
111 Sheckler Road - Fallon, NV 89406 - Phone (775) 423-5124

August 18, 2015

Carson Water Subconservancy District
777 E. Williams Street, Suite #110A
Carson City, NV 89701
Attn: Mr. Ed James

Re: Interlocal Contract #2015-7 for Chanel Clearing along the Carson River in Churchill County.

Dear Mr. James,

The Lower Carson River Task Force has identified new areas of concern in the River Channel. In 2013 we cleared the area around the Bafford Ln Bridge, this project area is still in a satisfactory condition (apart from the lack of water we have had the past few years). However the area directly downstream to Sagouspe Dam has greatly increased in sediment and bottle necks. Lahontan Conservation District would like to add this area to our list of project locations for interlocal Contract #2015-7 and make it our top priority at this time. We feel that when heavy moisture occurs this area will greatly increase the risk and severity of flooding in the Lower Carson River.

The Lahontan Conservation District appreciates the support it receives from the Carson Water Subconservancy District. Enclosed is a map of the area from Bafford lane to Sagouspe Dam. Please call or email me if there are any questions or concerns (775)423-5124x101 or jackie.bogdanowicz@nv.nacdnet.net.

Sincerely,

Jackie Bogdanowicz

Jackie Bogdanowicz
Lahontan Conservation District


Sagouspe Dam
APN: 007-351-08
APN: 007-351-09
APN: 007-351-11
APN: 007-311-55
APN: 007-311-64
APN: 007-311-35
APN: 007-311-62
APN: 007-372-38
APN: 007-372-43
APN: 007-311-6
APN: 007-391-82
APN: 007-311-34
APN: 007-391-83
APN: 007-411-01
APN: 007-411-02
APN: 007-411-04
APN: 007-411-05
APN: 007-411-06
APN: 007-411-07
APN: 007-391-78
APN: 007-411-18
APN: 007-411-19
Bafford Lane Bridge