



## Land Use & Housing Committee

October 22, 2009

### RUCS Forest Management Request for Proposals

**Issue:** SACOG is re-posting a request for proposals (RFP) for consultant services for the forest management topic.

**Recommendation:** None; this item is for information only. However, staff is seeking comment from the committee on the scope of work before the request for proposals is posted.

**Discussion:** SACOG posted a request for proposals (RFP) on September 4 for consulting services for the RUCS Forest Management topic. One proposal was received; however, the selection committee determined that the proposal did not sufficiently meet the requirements of the RFP. The scope of work has been amended to clarify that economic viability is the priority objective of the project, to add more detail about the data needs, and to explicitly include timber harvest litigation as an issue to be addressed.

The scope of work for the RFP is attached. It lists nine forest management issues that should be addressed by the consultant. The consultant will be required to write papers on current conditions, innovations, and implementation. Those papers will be vetted through an advisory working group composed of public and private stakeholders that represent the spectrum of interests in forest management. The consultant will also be responsible for collecting spatial, economic, and other relevant data for use in the I-PLACE<sup>3</sup>S model. Finally, the consultant will make presentations to the working group, the committee, and the SACOG Board.

Approved by:

Mike McKeever  
Executive Director

MM:RS:DS:sb

Attachment

Key Staff: Rebecca Sloan, Director of External Affairs & Member Services, (916) 340-6224  
David Shabazian, Senior Planner, (916) 340-6231

Sacramento Area Council of Governments  
Rural-Urban Connections Strategy: Forest Management  
**D R A F T** Scope of Work  
Budget: \$35,000

## **I. BACKGROUND**

### RUCS Project Background

The Sacramento Area Council of Governments is leading the Rural-Urban Connections Strategy effort under the guidance of their Board of Directors, which includes representatives from all 28 member jurisdictions in the six-County Sacramento region. The objective of RUCS is to better understand how to maintain and enhance rural economic and environmental sustainability. The project is identifying and investigating solutions to issues affecting rural communities and landscapes in the region ranging from improving agriculture viability, protecting natural resources, supporting small communities, to advancing new recreation opportunities.

RUCS is a complementary effort to the Blueprint; just as the Blueprint is an economic development strategy for urban areas, RUCS is focused on economic development strategies for rural areas. Furthermore, the relevance and success of the Blueprint will be enhanced if there is an equally thoughtful and comprehensive approach to planning for our rural landscapes and communities. Likewise, the approval of the region's Metropolitan Transportation Plan, which is linked to Blueprint's growth scenario, relies upon a successful Rural-Urban Connections Strategy to help mitigate adverse impacts of transportation projects that will be implemented across the region. Finally, the rural landscape is a fundamental part of our region's identity and stakeholders across the region are encouraging work on rural planning issues at a regional scale.

SACOG has organized the RUCS effort into five main areas, including:

- Land use and conservation: Policies and plans that shape rural areas
- The infrastructure of agriculture: Challenges to the production process
- Economic opportunities: New ways to grow revenue
- Forest management: Firing up economic and environmental value
- Regulations: Navigating Federal and State environmental guidelines

The RUCS project is producing a series of working papers focused on these issue areas, including sections on the current conditions, possible innovations, and recommended implementation actions for regional leaders. These papers will be presented to the SACOG Board of Directors, who will determine how they would like to integrate these findings into other regional plans and new initiatives.

Working papers underpin RUCS working groups that are convened to engage participants with expertise and personal experience in the topic areas to help guide the research process. All of the RUCS working papers will be available for public input and shaping through an online information gathering system on the SACOG website, similar to a Wikipedia-type participatory approach. The see examples of papers for other topic areas go to [www.sacog.org/rucs/wiki](http://www.sacog.org/rucs/wiki).

Technical work is being conducted to bring data and information into a modeling platform for sketch level analysis of how the rural landscape is used and what the possible economic and environmental outcomes could be expected. SACOG uses the I-PLACE<sup>3</sup>S model as a parcel-level analysis tool to create various urban land use arrangements for the region. This capacity is being expanded to include rural areas making possible simultaneous urban and rural analysis of future growth. A key component of this model is its ability to calculate economic return for various scenarios. This functionality adds an economic “reality check” to any policy or planning recommendations that may result from the project.

### Forest Management Topic Background

Private and public forested areas make up approximately 28% of the region area, or 1.18 million acres. Forest management is a topic that is broad not only in the geography it covers, but in the issues involved. The issues already identified around this topic are:

1. **Wildland-Urban Interface.** The amount and intensity of development in forested areas can fragment or reduce habitat, introduce invasive species displacing native flora and fauna, impact recreation areas, increase fire suppression and hence fuel load and fire severity, increase erosion, and increase dumping, trespassing and other types of encroachment.
2. **Hydrology and Watershed Management.** A forest’s ability to absorb, filter, and supply water is correlated with how it is managed. Overgrowth, fire, roads, development, insects, and disease can affect stream flows, riparian habitat, water quality, flooding, and the region’s reliance on Sierra water supply.
3. **Fire.** The frequency and severity of fires in the Sierra Nevada have been on the rise. These fires cause the loss of life and property, increase runoff and foul waterways, damage or destroy valuable timber, interrupt business and other economic activity, release carbon into the atmosphere, and are expensive to fight.
4. **Climate Change.** Aforementioned water and fire issues are projected to worsen with climate change. Changes in precipitation patterns and rising temperatures are forecasted to lead to reductions in water supply and drier summer conditions. Water and fire impacts not only affect forested areas, but also foothill and valley areas.
5. **Carbon Sequestration.** The region’s forests support fast growing conifers that can absorb large amounts of carbon dioxide. Proper management can sustain or increase this function. Carbon trading markets are an economic opportunity already being tested at a few sites in the region.
6. **Energy Production.** Forests produce a large amount of biomass that can be converted to energy. This not only reduces forest fuel loads, it also creates economic opportunity. Cogeneration currently produces electricity, but future cellulosic fermentation can produce ethanol.

7. Timber Harvest. Harvest volumes in the Sierras have steadily declined since the late 1980s. Concerns about harvest methods, road building, habitat, and other impacts, along with increased regulations, international competition, and litigation have greatly impacted timber-related rural economies.
8. Recreation. Forests provide a number of recreational opportunities such as hiking, rafting, cycling, hunting, and skiing. These opportunities not only connect urban residents with the region's rural assets, they are also an important component of rural economies.
9. Regulations. Regulations are a key factor shaping how land is used and managed. Regulations and permitting affecting forest management address issues such as timber harvest, water and air quality, wildfire, habitat, recreation, and archeological sites.

SACOG is seeking a richer understanding of these and other challenges and opportunities to successfully integrate forest management issues into the regional dialog about planning and economic development.

## **II. SCOPE OF WORK AND SERVICES**

### Forest Management Project Objectives

SACOG is seeking a consultant to provide the SACOG Board of Directors with a thorough understanding of the economic and environmental challenges and opportunities in the region's forested areas and how they fit into the RUCS project and the larger picture of regional growth and economic development. With a focus on economic development, strategies addressing economic and environmental objectives are being sought, especially those that are "win-win" for both objectives. The selected consultant or consulting team will be expected to perform all research, technical and other analyses necessary to complete the scope of work. The consultant will receive general direction from the SACOG project manager. Tasks will include the following:

### Tasks

#### *1. Working Papers – current conditions, innovations and implementation*

The consultant will produce one paper on the current conditions in the region's forested areas addressing at a minimum, the nine issues identified above. Other issues relevant to the topic may be included as approved by the SACOG project manager. The innovations and implementation components may be addressed in either one or two papers depending on the consultant's approach and the project manager approval. The papers will address the challenges and opportunities to enhancing economic viability and will also address environmental sustainability in the private and public forested areas of the region. Urban forests are not included in this project. Innovations are ideas to address challenges and promote opportunities identified in the current conditions paper. Implementation refers to strategies that may be used to accomplish the innovations.

### Deliverables

- Two to three working papers

## 2. *Working Groups*

The consultant will convene a group of public and private stakeholders representing the range of interests working on the issues identified in task 1. The objective is to have a stakeholder group review the outline and draft of each working paper to ensure comprehensive papers and inclusion of various viewpoints. The working group should also review data specified for task 4. SACOG will be responsible for supplying consultant-generated meeting materials at meetings and for making meeting announcements. The consultant will be responsible for compiling a contact list of stakeholders that represents a broad spectrum of interests and geography, presenting materials and responding to stakeholder feedback at the meetings or by telephone.

### Deliverables

- Stakeholder contact list
- PowerPoint materials
- Presentations to the Forest Management Working Group
- Correspondence with the Forest Management Working Group

## 3. *Forest Lands Inventory Update*

In an effort to provide better mapping and analytical capacity, SACOG is seeking updated and/or additional spatial data on forests. SACOG has three datasets describing forested areas:

- *Forests*, which contains federal, state, & locally-managed forested land. The data are from the California GAP Analysis Project.
- *FederalForestLands* is only land under federal management. It was built by the California Resources Agency's Legacy Project on the USBR's public lands mapping program.
- *Hardwoods*, which shows the range of hardwood trees below the 5,000' elevation. It comes from CDF's FRAP (Fire & Resource Assessment Program).
- All data were supplied by UC Davis Institute Center for the Environment.

Based on availability, additional or revised data are being sought. Examples of spatial data desired include identification of areas utilized for grazing and food production, timber harvest, recreation, or set aside as habitat. Original data development is not required.

### Deliverables

- Spatial data on forested areas

## 4. *Costs and Revenues*

A primary objective of RUCS is to understand the factors that affect the economic viability of our rural areas. To that end, cost and revenue data associated with forest-related industries and other economic activities are needed. The amount or detail of the data should be sufficient to model how changes in land use, forest management, and costs or revenues affect economic viability. Data are desired on a per acre basis and should describe the various uses and economic

activities on the landscape. For example, data that describe timber harvest areas should include the costs associated with that activity, the yield and revenue generated from harvest, other forms of revenue that may be generated from the use of the land (e.g., ecosystem services, recreation), and other factors ranging from transportation activity to habitat or species supported (as applicable). Original data development is not required. An example of data for commodity production on the valley floor is included as Appendix A. (Note: these are detailed data provided by the UC Cooperative extension. This level of detail is not required for the forest management topic if data are not readily available; however, basic categories of inputs, costs, and current and potential revenue are desired.) The consultant shall recommend the cost and revenue variables that should be included in a model to sufficiently describe economic activity in the region's forested areas, as well as a method or source for data for those variables. The objective is for these data to become attributes for the spatial data collected in Task 3, which will be used in the I-PLACE<sup>3</sup>S model.

#### Deliverable

- Cost and revenue data sufficient to model economic impact of changes in land use or forest management practices.

#### *5. Presentations*

In addition to making presentations to the working group, the consultant will also be required to present study findings to SACOG Land Use and Housing Committee and the SACOG Board of Directors. Materials shall be developed in PowerPoint and approved by the SACOG project manager prior to presentation.

#### Deliverables

- PowerPoint materials
- Presentations to the SACOG Land Use and Housing Committee and SACOG Board of Directors

## WALNUTS Cost and Revenue Summary

### Establish

	Cost Per Acre							
	Year	1st	2nd	3rd	4th	5th	6th	7th
Yield: Dry, In-Shell Pounds Per Acre		0	0	0	500	1,000	1,500	2,800
TOTAL PLANTING COSTS		3,399	37	0	0	0	0	0
TOTAL CULTURAL COSTS		432	473	502	635	860	1070	839
TOTAL HARVEST COSTS		0	0	0	197	238	275	373
Interest On Operating Capital @ 10.00%		416	29	27	22	35	43	29
TOTAL OPERATING COSTS/ACRE		4,247	539	529	854	1,133	1,388	1,241
TOTAL CASH OVERHEAD COSTS		290	290	290	288	290	290	290
TOTAL INTEREST ON INVESTMENT		762	761	761	742	759	759	759
TOTAL CASH COSTS/ACRE		5,291	1,590	1,580	1,884	2,182	2,437	2,290
INCOME/ACRE FROM PRODUCTION		0	0	0	425	850	1,275	2,380
TOTAL NET COST/ACRE FOR THE YEAR		5,291	1,590	1,580	1,459	1,332	1,162	0
NET PROFIT/ACRE ABOVE TOTAL COST		0	0	0	0	0	0	89
ACCUMULATED NET CASH COSTS/ACRE		5,291	6,881	8,461	9,920	11,252	12,414	12,325

### Production

	Quantity/ Acre	Unit	Price or Cost/Unit	Value or Your Cost/Acre Cost
<b>GROSS RETURNS</b>				
Walnuts	5,400	lb	0.85	4,590
<b>OPERATING COSTS</b>				
Custom				561
Harvest Aid				20
Irrigation				130
Herbicide				70
Rodenticide				5
Fungicide				141
Insecticide				116
Fertilizer				100
Assessment				54
Labor				255
Fuel				51
Machinery Lube and Repair				26
Interest on operating capital @ 10%				33
TOTAL OPERATING COSTS/ACRE				1,561
TOTAL CASH COSTS/ACRE				1,906
TOTAL NON-CASH OVERHEAD COSTS/ACRE				1,326
TOTAL COSTS/ACRE				3,231
NET RETURNS ABOVE TOTAL COSTS				1,359

# WALNUTS Establishment Costs

Year:	Cost Per Acre						
	1st	2nd	3rd	4th	5th	6th	7th
Yield: Dry, In-Shell Pounds Per Acre				500	1,000	1,500	2,800
<b>Planting Costs:</b>							
Nematode Sampling (10/100 acres)	4						
Land Preparation: Subsoil 2X, Disk 2X, Float 2X*	350						
Land Preparation - Fumigate (100%, untarped)	1,500						
Land Prep-Berms	12						
Land Prep-Weed: Preplant Strip Spray (Roundup)	9						
Trees: 65 Per Acre @ \$16.50 ea., (2% in 2nd year)	1,073						
Survey, Mark, Dig Holes & Plant	138	4					
Stake&PaintTrees	313	33					
<b>TOTAL PLANTING COSTS</b>	<b>3,399</b>	<b>37</b>					
<b>Cultural Costs:</b>							
Prune (Yrs 1-3 prune/train. Yrs 4+ prune, Yr 7- 9 prune alternate yrs)	50	50	56	180	240	300	75
Fertilizer: Nitrogen (Urea, Yr 1-2, UN32, Yr 3+)	34	49	50	63	75	100	100
Weed: Strip Spray (Prowl)	16						
Weed: Dormant Strip (Yr 1 -2, Goal, Prowl. Yr 3+, Goal Prowl, Roundup)	62	62	73	73	73	73	73
Weed: Mow Middles 5X	38	38	38	38	38	38	38
Weed: In-Season Strip Spray (Roundup, Yrs 1, 6, 7, 1X. Yr 2-5, 2X)	12	25	25	25	25	12	12
Irrigate (water& labor)	76	105	105	105	105	143	143
Vertebrate: Gophers (Bait)	10	10	10	3	3	3	3
Insect: Caterpillar (Dipel)	19	19	19				
Brush Disposal			11	11	11	11	5
Leaf Analysis				2	2	2	2
Insect: Codling Moth (Lorsban)					34	34	34
Vertebrate: Squirrels (Bait)					7	7	7
Disease: Blight (Kocide, Manex) 2X					112	112	112
Insect: Miscellaneous Insects (Omite for mites)						50	50
Insect: Husk Fly (Malathion, Nu Lure Bait)						50	50
Pickup Use	28	28	28	28	28	28	28
ATV use	45	45	45	45	45	45	45
Miscellaneous Labor	37	37	37	37	37	37	37
PCA Services	5	5	5	25	25	25	25
<b>TOTAL CULTURAL COSTS</b>	<b>432</b>	<b>473</b>	<b>502</b>	<b>635</b>	<b>860</b>	<b>1070</b>	<b>839</b>
<b>Harvest Costs:</b>							
Shake, Sweep, Pickup				150	150	150	150
HandRake				9	12	12	12
Haul Walnuts to Dryer				4	8	11	21
DryandHull				30	60	90	168
California Walnut Commission Assessment				4	8	12	22
<b>TOTALHARVESTCOSTS</b>				<b>197</b>	<b>238</b>	<b>275</b>	<b>373</b>
Interest On Operating Capital @ 10.00%	416	29	27	22	35	43	29
<b>TOTAL OPERATING COSTS/ACRE</b>	<b>4,247</b>	<b>539</b>	<b>529</b>	<b>854</b>	<b>1,133</b>	<b>1,388</b>	<b>1,241</b>
<b>Cash Overhead Costs:</b>							
OfficeExpense	100	100	100	100	100	100	100
Liability Insurance	7	7	7	7	7	7	7
Sanitation Costs	11	11	11	11	11	11	11
Property Taxes	77	77	77	76	77	77	77
Property Insurance	14	14	14	13	14	14	14
InvestmentRepairs	81	81	81	81	81	81	81
<b>TOTAL CASH OVERHEAD COSTS</b>	<b>290</b>	<b>290</b>	<b>290</b>	<b>288</b>	<b>290</b>	<b>290</b>	<b>290</b>
<b>TOTAL CASH COSTS/ACRE</b>	<b>4,537</b>	<b>829</b>	<b>819</b>	<b>1,142</b>	<b>1,423</b>	<b>1,678</b>	<b>1,531</b>
<b>INCOME/ACRE FROM PRODUCTION</b>				<b>425</b>	<b>850</b>	<b>1,275</b>	<b>2,380</b>
<b>NETCASHCOSTS/ACREFORTHEYEAR</b>	<b>4,537</b>	<b>829</b>	<b>819</b>	<b>717</b>	<b>573</b>	<b>403</b>	
<b>PROFIT/ACRE ABOVE CASH COSTS</b>							<b>849</b>
<b>ACCUMULATED NET CASH COSTS/ACRE</b>	<b>4,529</b>	<b>5,358</b>	<b>6,178</b>	<b>6,897</b>	<b>7,470</b>	<b>7,874</b>	<b>7,026</b>
<b>Non-Cash Overhead (Capital Recovery):</b>							
Buildings	77	77	77	77	77	77	77
FuelTanks	3	3	3	3	3	3	3
Shop/Field Tools	17	17	17	17	17	17	17
SprinklerIrrigation System	136	136	136	136	136	136	136
Land	419	419	419	419	419	419	419
Equipment	110	109	109	90	107	107	107
<b>TOTAL INTEREST ON INVESTMENT</b>	<b>762</b>	<b>761</b>	<b>761</b>	<b>742</b>	<b>759</b>	<b>759</b>	<b>759</b>
<b>TOTALCOST/ACREFORTHEYEAR</b>	<b>5,291</b>	<b>1,590</b>	<b>1,580</b>	<b>1,884</b>	<b>2,182</b>	<b>2,437</b>	<b>2,290</b>
<b>INCOME/ACRE FROM PRODUCTION</b>				<b>425</b>	<b>850</b>	<b>1,275</b>	<b>2,380</b>
<b>TOTALNETCOST/ACREFORTHEYEAR</b>	<b>5,291</b>	<b>1,590</b>	<b>1,580</b>	<b>1,459</b>	<b>1,332</b>	<b>1,162</b>	
<b>NET PROFIT/ACRE ABOVE TOTAL COST</b>							<b>89</b>
<b>TOTAL ACCUMULATED NET COST/ACRE</b>	<b>5,291</b>	<b>6,881</b>	<b>8,461</b>	<b>9,920</b>	<b>11,252</b>	<b>12,414</b>	<b>12,325</b>

\*X = times (2X = two times)

WALNUTS Production Cost and Revenue

	Quantity /Acre	Unit	Price or Cost/Unit	Value or Your Cost/Acre Cost
<b>GROSS RETURNS</b>				
Walnuts	5,400.00	lb	0.85	4,590
<b>OPERATING COSTS</b>				
<b>Rodenticide:</b>				
Gopher Getter Ag-Wilco	0.25	lb	6.50	2
Ground Squirrel Bait - Wilco	0.60	lb	5.40	3
<b>Irrigation:</b>				
Water	42.00	acin	3.10	130
<b>Fungicide:</b>				
Kocide 101	30.00	lb	3.62	109
Manex	10.86	pt	2.97	32
<b>Insecticide:</b>				
Lorsban 4E	4.00	pt	6.29	25
AsanaXL	1.00	pt	17.33	17
Omite30W	5.00	lb	8.23	41
Malathion 5EC	4.00	pt	4.07	16
Nu Lure Bait	4.00	pt	4.08	16
<b>Fertilizer:</b>				
UN-32	200.00	lbN	0.50	100
<b>Harvest Aid:</b>				
Ethrel	2.50	pt	7.81	20
<b>Herbicide:</b>				
RoundupUltraMax	1.84	pt	8.58	16
Goal 2XL	2.50	pt	16.45	41
Prowl 3.3EC	3.13	pt	4.10	13
<b>Custom:</b>				
Shake, Sweep, Pickup	1.00	acre	150.00	150
Haul Walnuts	2.70	ton	15.00	41
Dry/Hull Walnuts	5,400.00	lb	0.06	324
PCA Service	1.00	acre	25.00	25
Leaf Analysis	0.04	each	30.00	1
Hedge Trees (1X/3 Yr)	0.33	acre	60.00	20
<b>Assessment:</b>				
CA Walnut Commission (\$0.0079/lb)	5,400.00	lb	0.01	54
Labor (machine)	9.30	hrs	16.56	154
Labor (non-machine)	8.16	hrs	12.42	101
Fuel - Gas	3.41	gal	2.80	10
Fuel - Diesel	17.93	gal	2.30	41
Lube				8
Machinery repair				18
Interest on operating capital @ 10.00%				33
<b>TOTAL OPERATING COSTS/ACRE</b>				<b>1,561</b>
<b>NET RETURNS ABOVE OPERATING COSTS</b>				<b>3,040</b>
<b>CASH OVERHEAD COSTS:</b>				
Office				100
Liability Insurance				7
Sanitation Service				11
Property Taxes				112
Property Insurance				39
Investment Repairs				88
<b>TOTAL CASH OVERHEAD COSTS/ACRE</b>				<b>357</b>
<b>TOTAL CASH COSTS/ACRE</b>				<b>1,906</b>
<b>NON-CASH OVERHEAD COSTS</b>				
<b>(Capital Recovery)</b>				
Buildings				77
Fuel Tanks				3
Shop/Field Tools				17
Irrigation System				136
Land				419
Walnut Establishment				565
Equipment				109
<b>TOTAL NON-CASH OVERHEAD COSTS/ACRE</b>				<b>1,326</b>
<b>TOTAL COSTS/ACRE</b>				<b>3,231</b>
<b>NET RETURNS ABOVE TOTAL COSTS</b>				<b>1,359</b>