

**Draft**

# **Real Estate Appendix**

**Shasta Lake Water Resources Investigation, California**

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Bureau of Reclamation  
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# Abbreviations and Acronyms

CFR	Code of Federal Regulations
EIS	Environmental Impact Statement
GIS	geographic information system
NAVD	North American Vertical Datum
Reclamation	U.S. Department of the Interior, Bureau of Reclamation
SLWRI	Shasta Lake Water Resources Investigation
Spyglass	Spyglass Valuation Services
State	State of California
USACE	U.S. Army Corp of Engineers
USFS	U.S. Forest Service

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# 1 Real Estate Appendix

## 2 Purpose and Scope

3 Information in this document is in support of the Draft Environmental Impact  
4 Statement (EIS) pursuant to the Shasta Lake Water Resources Investigation  
5 (SLWRI) and addresses assumptions, methods, and results of real estate  
6 analyses and evaluations. The value estimate of real estate costs is not an  
7 appraisal and is not to be used for a budget placeholder, but instead is to be used  
8 to compare alternative plans at a feasibility level of analysis. The potential  
9 impacts to real estate and associated costs of real estate provided herein are  
10 recognized as gross estimates of the lands that may be inundated or required for  
11 reservoir area facilities relocations under alternative reservoir enlargement  
12 scenarios, and associated real estate values and estimated costs of acquisition  
13 are for feasibility-level evaluation only.

14 If the SLRWI feasibility study results in approval to continue project planning  
15 and refinement, then more detailed engineering, design, and cost estimating  
16 would be done to develop more precise information. More in-depth information  
17 may be used as a basis for potential future real estate actions. At the current  
18 feasibility study stage, no specific acquisitions have been identified or  
19 recommended.

## 20 Background and Approach

21 U.S. Department of the Interior, Bureau of Reclamation (Reclamation), Mid-  
22 Pacific Region Land Resources Branch staff performed a feasibility-level  
23 analysis of real estate impacted by three alternative dam raises. Reservoir pool  
24 elevations evaluated were 1,082, 1,088, and 1,093 feet North American Vertical  
25 Datum (NAVD) to correspond to alternative dam raises of 6.5 feet, 12.5 feet,  
26 and 18.5 feet. These pool elevations approximate a 3-foot vertical buffer area  
27 above the inundation level or a 5-foot horizontal buffer area extending from the  
28 inundation level, whichever buffer is greater. Lands with potential for future  
29 acquisition in fee include inundated lands and uneconomic remainder parcels.  
30 This analysis includes lands to be acquired in fee for inundated lands; in fee and  
31 by permanent easement for reservoir area facility relocations such as roads,  
32 recreation facilities, dikes, utilities, and bridges; and by temporary use  
33 agreement for staging and construction activities. No borrow sites, mitigation  
34 lands, or damages are assumed, identified, or evaluated. Lands owned by the  
35 State of California (State) are not included. (Data for the analysis of State-  
36 owned land are available and such analysis may be performed, if required.)

## 1 Acquisition Criteria

2 Reservoir project land acquisition policy for the Department of Interior and U.S.  
3 Army Corps of Engineers (USACE) is published in 43 Code of Federal  
4 Regulations (CFR) Part 8, Joint Policies of the Departments of the Interior and  
5 of the Army Relative to Reservoir Project Lands. This joint policy provides that  
6 fee title will be acquired for the following:

- 7 a) Lands necessary for permanent structures.
- 8 b) Lands below the maximum flowage line of the reservoir, including  
9 lands below a selected freeboard, where necessary to safeguard against  
10 the effects of saturation, wave action, and bank erosion, and the permit-  
11 induced surcharge operation.
- 12 c) Lands needed to provide for public access to the maximum flowage  
13 line as described in paragraph (b) of this section, or for operation and  
14 maintenance of the project.

15 The policy also provides for acquisition of the following additional lands for  
16 correlative purposes:

- 17 a) Such lands as are needed to meet present and future requirements for  
18 fish and wildlife as determined pursuant to the Fish and Wildlife  
19 Coordination Act.
- 20 b) Such lands as are needed to meet present and future public  
21 requirements for outdoor recreation, as may be authorized by Congress.

22 This real estate analysis is based on the minimum acquisition necessary to meet  
23 the policy direction.

24 Although the following factors are not included in the analysis provided herein,  
25 they will be taken into consideration in greater detail if lands are needed for any  
26 project that may be identified, refined, approved, and implemented after  
27 completion of the Final Feasibility Report, Final EIS, and Record of Decision.

28 The acquisition line may be adjusted to account for the following:

- 29 • Additional lands needed for project purposes and mitigation areas
- 30 • Lands needed to maintain or improve public access
- 31 • Lands needed to reduce potential encroachments
- 32 • Lands necessary to manage shoreline erosion or other water quality  
33 impacts
- 34 • Lands necessary to protect wildlife habitat and/or visual resources

## 1 **Method of Analysis for Potentially Impacted Parcels and Value** 2 **Estimate**

3 The following methodology was used to develop estimates of potentially  
4 impacted parcels, develop a value estimate for impacted parcels, and apply the  
5 value estimate to those parcels.

### 6 **Impacted Parcels**

7 Reclamation Land Resources Branch geographic information system (GIS)  
8 personnel developed and maintain a detailed database containing all Assessor's  
9 Parcel Numbers for parcels that would be impacted by each of the three dam  
10 raise alternatives. The database enabled Reclamation staff to identify parcels by  
11 land use type, and determine the acreage of each inundated parcel. Estimates of  
12 the percent of the parcel that would be inundated by each dam raise, and/or  
13 required for easements, were developed using the database.

### 14 **Value Estimate**

15 Spyglass Valuation Services (Spyglass) prepared a valuation report entitled  
16 *Real Estate Value Estimates – Lake Shasta Dam, Redding, California*, dated  
17 January 31, 2008. The valuation of the affected parcels was based upon the  
18 assumption that all lands and improvements within 300 horizontal feet of the  
19 Shasta Lake existing pool elevation would be of similar value depending upon  
20 land use. This report was not intended to identify lands and improvements  
21 affected by alternatives; rather it was developed to provide value estimates for  
22 various potential alternative real estate needs (e.g. reservoir inundation, road  
23 relocations, utility relocations, etc.).

24 For properties sold between 2006 and 2008, Spyglass provided a market value  
25 estimate based on the recent sale of the parcel. If recent sale information was  
26 not available, Spyglass developed high and low market values for each property  
27 by land use type.

28 To update the values because of the recent downturn in real estate prices  
29 throughout California and in the Shasta Lake area, fee titles and permanent  
30 easements were assumed to be 80 percent of the high market value estimated in  
31 January 2008. In the same manner, temporary use agreements were assumed to  
32 be 7.5 percent of the 2008 high market value. This value was developed based  
33 on the assumption that the average duration of a construction project would be  
34 approximately 1.5 years with a 5 percent of fee value for yearly land use rental.

### 35 **Value Estimate Applied to Impacted Parcels**

36 Maps annotated with structures were prepared for the evaluation of all parcels to  
37 visually determine partial or total acquisitions for each alternative raise. These  
38 maps also aided in identifying uneconomic remnants. When a potential total  
39 acquisition was identified, the full value of the parcel was accounted for in the  
40 value estimate for the property. When a potential partial acquisition was  
41 identified, the value estimate for the parcel was adjusted by the percentage of

1 the parcel affected by inundation and/or reservoir area facility relocations.  
2 When no value was available from sales data, the high range from the General  
3 Market Value Ranges of Land Use Types, provided by Spyglass, was used for  
4 valuation.

## 5 **Method for Cost Estimate of Real Estate Acquisition** 6 **Administration**

7 Maps annotated with structures were prepared for the evaluation of all parcels to  
8 visually determine partial or total acquisitions for each alternative raise.  
9 Residential and commercial parcels improved with structures were identified,  
10 and partial or total acquisitions were determined. This analysis enabled  
11 Reclamation Land Resources Branch staff to roughly estimate potential  
12 relocations pursuant to Public Law 91-646, the Uniform Relocation Assistance  
13 and Real Properties Acquisition Policies Act of 1970, as amended.

14 The administrative cost of one parcel acquisition with no relocation is estimated  
15 at \$50,000 for the purpose of this analysis. This administrative cost includes the  
16 work of surveyors, GIS staff, legal counsel, title company support, appraisers,  
17 and a team of realty specialists/land agents.

18 The administrative cost of one parcel acquisition with a residential or business  
19 relocation is estimated at \$100,000. This includes all of the work discussed  
20 above for acquisition plus Relocation Advisory Services and Relocation  
21 Benefits.

22 As stated previously, this analysis included lands to be acquired in fee for  
23 inundated lands; in fee and by permanent easement for reservoir area facility  
24 relocations such as roads, recreation facilities, dikes, utilities, and bridges; and  
25 by temporary use agreement for staging and construction activities. If a parcel  
26 would be affected by both inundation (fee acquisition) and reservoir area  
27 facility relocations (fee acquisition, permanent easement, or temporary use  
28 agreement), only one administrative cost was applied because both acquisitions  
29 were considered as a combined real estate transaction. For this analysis,  
30 estimates of lands affected by inundation were based on reservoir pool  
31 elevations of 1,082, 1,088, and 1,093 feet NAVD to correspond to alternative  
32 dam raises of 6.5 feet, 12.5 feet, and 18.5 feet. These pool elevations  
33 approximate a 3-foot vertical buffer area above the inundation level or a 5- foot  
34 horizontal buffer area extending from the inundation level, which ever buffer is  
35 greater.

36

## 1 Privately Owned Cabins on U.S. Forest Service Lands

2 A set of privately owned cabins on lots permitted by the U.S. Forest Service  
 3 (USFS) may be affected by the pool elevations being evaluated. These cabins  
 4 are not contained in the database, but were tabulated separately and then added  
 5 to the final total cost of real estate. The lots identified by Shasta County were  
 6 examined at the full pool elevations of each alternative. Spyglass provided a  
 7 low market value of \$161,000 per lot, and a high market value of \$259,000 per  
 8 lot, based on the square footage of the cabins. To account for market changes  
 9 from the initial Spyglass valuation, 80 percent of the high market value, or  
 10 \$200,000, was used for this real estate analysis. The number and valuation of  
 11 lots impacted by the three pool elevations are listed in Table 1. The estimates  
 12 are presented as a range of impacted lots with costs based on the midpoint of the  
 13 range because the elevation data have not been field-verified by surveys.

14 **Table 1. Range of Impacted Cabins on U.S. Forest Service Lands**

Water Surface Elevation <sup>1</sup>	Range of Impacted Lots with Private Cabins	Estimated Value of Cabins by Raise	Estimated Total
1,082 feet	23 to 25 lots	\$200,000	\$4,800,000
1,088 feet	26 to 28 lots	\$200,000	\$5,400,000
1,093 feet	27 to 29 lots	\$200,000	\$5,600,000

Note:

<sup>1</sup> North American Vertical Datum of 1988

15 USFS Special Use Permits that authorize these privately owned cabins and  
 16 facilities state the following:

17 *If during the term of this permit the authorized officer*  
 18 *determines that specific and compelling reasons in the public*  
 19 *interest require revocation of this permit, this permit shall be*  
 20 *revoked after 180 days written notice to the holder, provided*  
 21 *that the authorized officer may prescribe a shorter notice*  
 22 *period if justified by the public interest. The USFS shall then*  
 23 *have the right to relocate the holder's improvements to another*  
 24 *lot, to remove them, or to require the holder to relocate or*  
 25 *remove them, and the USFS shall be obligated to pay an*  
 26 *equitable amount for the improvements or for their relocation*  
 27 *and damages resulting from their relocation that are caused by*  
 28 *the USFS.*

29 Costs for relocation or demolition of the cabins are not included in this analysis  
 30 of SLWRI real estate costs. Demolition costs are included as part of the  
 31 recreation facilities relocations discussed in the Engineering Summary  
 32 Appendix.

# 1 Summary of Real Estate Impacts and Costs

2 The number of parcels potentially affected because of full pool inundation and  
3 reservoir area facility relocations is summarized in Table 2. As stated  
4 previously, the estimates are presented as a range of impacted parcels because  
5 the elevation data have not been field-verified by surveys.

6 **Table 2. Summary of Potential Real Estate Impacts**

Potential Action	1,082 feet	1,088 feet	1,093 feet <sup>1</sup>
Parcels to Be Acquired Because of Inundation (partial acquisition, in fee)	64 to 66	65 to 67	85 to 87
Parcels to Be Acquired Because of Inundation (total acquisition, in fee)	4 to 6	27 to 29	54 to 56
Parcels to Be Acquired Because of Facility Relocations (partial acquisition, in fee or permanent easement)	10 to 12	38 to 40	39 to 41
Parcels to Be Acquired Because of Facility Relocations (total acquisition, in fee or permanent easement)	1 to 2	1 to 3	1 to 3
Parcels to Be Acquired Because of Facility Relocations (partial acquisition, temporary use agreement)	0	32 to 34	33 to 35
Parcels to Be Acquired Because of Facility Relocations (total acquisition, temporary use agreement)	0	1 to 2	1 to 2
Cabins on USFS Land Acquired Because of Inundation	23 to 25	26 to 28	27 to 29
<b>Range of Total Affected Parcels<sup>2</sup></b>	<b>102 to 106</b>	<b>156 to 160</b>	<b>205 to 209</b>

Notes:

<sup>1</sup> Up to 21 additional parcels would be affected by Comprehensive Plans 4 and 5 because of temporary use agreements for gravel augmentation along the upper Sacramento River. Additional parcels would be affected by Comprehensive Plans 4 and 5 because of permanent easements for riparian and floodplain habitat restoration.

<sup>2</sup> Totals do not add up because double counting of parcels affected by both inundation (fee acquisition) and reservoir area facility relocations (fee acquisition, permanent easement, or temporary use agreement) was considered as one combined real estate transaction.

Key:

USFS = U.S. Forest Service

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1 Table 3 summarizes the total land acquisition costs for each alternative dam  
 2 raise. Costs are based on the midpoint of the range of impacted parcels.

3 **Table 3. Summary of Estimated Real Estate Costs**

Potential Action	1,082 feet	1,088 feet	1,093 feet <sup>1</sup>
Parcels to Be Acquired Because of Inundation (in fee)	\$15,500,000	\$24,700,000	\$40,200,000
Parcels to Be Acquired Because of Facility Relocations (in fee or permanent easement)	\$1,400,000	\$3,000,000	\$3,000,000
Parcels to Be Acquired Because of Facility Relocations (temporary use agreement)	\$0	\$100,000	\$100,000
Acquisition Administration for Fee, Permanent Easements, and Temporary Use Agreements	\$4,300,000	\$7,800,000	\$11,200,000
Cabins on USFS Land Acquired Because of Inundation	\$4,800,000	\$5,400,000	\$5,600,000
<b>Total</b>	<b>\$26,000,000</b>	<b>\$41,000,000</b>	<b>\$60,100,000</b>

Note:

<sup>1</sup> Estimates do not reflect costs related to gravel augmentation for Comprehensive Plans 4 and 5 for temporary use agreements and associated administration costs along the upper Sacramento River. Estimates do not reflect costs related to downstream restoration for Plans 4 and 5 for permanent easements for riparian and floodplain habitat restoration and associated administrative costs.

Key:

USFS = U.S. Forest Service

#### 4 **Structure Surveys**

5 During 2012, Reclamation performed ground surveys for structures on parcels  
 6 potentially impacted because of inundation to serve as a sensitivity analysis.  
 7 Surveys were performed to provide participating property owners a general  
 8 indication of the location and elevation of their property relative to each dam  
 9 raise. Surveys were only performed on 170 parcels for willing property owners,  
 10 and were reevaluated to compare sensitivities of partial and full acquisitions to  
 11 the estimated real estate impacts discussed previously. Table 4 summarizes the  
 12 differences between the estimated real estate impacts and results of the structure  
 13 surveys for the 170 parcels. Based on this sample of potentially impacted  
 14 parcels, anticipated real estate impacts are consistent with the structure surveys  
 15 results and generally within  $\pm 5$  percent. More detailed information regarding the  
 16 surveying and acquisition of specific parcels may be provided if and when a  
 17 project is authorized.

18

1 **Table 4. Summary of Structure Surveys Sensitivity to Estimated Real Estate Impacts**

Potential Action	1,082 feet		1,088 feet		1093 feet	
	Real Estate Analysis	Structure Surveys Sensitivity	Real Estate Analysis	Structure Surveys Sensitivity	Real Estate Analysis	Structure Surveys Sensitivity
Parcels to be Acquired in Partial	29	28	23	30	28	38
Parcels to be Acquired in Total	2	2	20	15	38	30
<b>Total</b>	<b>31</b>	<b>30</b>	<b>43</b>	<b>45</b>	<b>66</b>	<b>68</b>
<b>Percent Change from Real Estate Analysis</b>	<b>-3%</b>		<b>5%</b>		<b>3%</b>	

Note:

This sensitivity analysis only considers the 170 parcels that were surveyed and does not include all potentially impacted parcels discussed previously.

2

### 3 **Next Steps**

4 While this estimate is intended to compare costs for the dam raise alternatives,  
 5 some costs associated with real estate acquisition are still unknown. These  
 6 unknown costs will be explored in the future, and could include, but are not  
 7 limited to, the following:

- 8 • Cost of conducting hazardous materials surveys for lands to be  
 9 acquired, and costs for removing underground storage tanks or other  
 10 hazardous materials that may be found on property proposed for  
 11 acquisition.
- 12 • Cost related to any public domain condemnation that could be required  
 13 to acquire properties necessary for project implementation.
- 14 • Cost for mitigation lands.
- 15 • Payment for damages.

### 16 **References**

17 Spyglass Valuation Services. 2008. Real Estate Value Estimates – Lake Shasta  
 18 Dam, Redding, California. Bandon, Oregon. January 31.