

3.17 Population and Housing

The population and housing section of the Klamath Facilities Removal Environmental Impact Statement/Environmental Impact Report (EIS/EIR) assesses the potential effects of the temporary worker population required for construction activities of the Proposed Action and action alternatives on housing in the Klamath Basin. The effect of the Klamath Hydroelectric Settlement Agreement (KHSA) on population and housing is determined by comparing projected housing needs with projected housing availability. No displacement of existing housing units would be anticipated from any of the alternatives. This analysis uses data from the U.S. Census, county and city plans, and other sources for projected housing availability.

No impacts on population and housing are anticipated as a result of the transfer of Keno Dam's ownership to the Department of the Interior (DOI). Potential relocation of PacifiCorp employees as a result of the alternatives is not discussed in the population and housing section. This effect to PacifiCorp employees is not anticipated to take place until 2020 and would be at the discretion of PacifiCorp. Thus, any impact is too speculative to evaluate at this time. The population and housing section of this EIS/EIR does not discuss relocation of PacifiCorp employees that would occur as a result of the alternatives. As described in Section 3.15, Socioeconomics, dam removal could result in the loss of PacifiCorp jobs. It is assumed that PacifiCorp may transfer some employees to other positions within or outside of Klamath and Siskiyou Counties. This section also excludes discussion of potential indirect economic impacts that the alternatives could have on population and housing, as any such discussion would be speculative. For an assessment of potential effects on property values and employment resulting from the alternatives, see Section 3.15, Socioeconomics.

3.17.1 Area of Analysis

The area of analysis for the population and housing section consists of communities with the potential to house workers migrating into the area for construction activities of the action alternatives. The area of analysis includes a combination of urban and rural communities: Hornbrook and Yreka in California and Klamath Falls and Medford in Oregon. The area of analysis also includes the residential rural areas immediately near the Copco 1 and 2 Dams and just upstream of the J.C. Boyle Dam. The Lead Agencies analyzed these communities for their potential to temporarily house workers using California Department of Finance housing and population data where available, in addition to city level and Census Block Group level 2000 U.S. Census data (U.S. Census Bureau 2000) and 2006-2008 American Community Survey (ACS) data (U.S. Census Bureau 2008), and county and city plans where available. Table 3.17-1 lists all communities included in the population and housing area of analysis. Figure 3.17-1 depicts the counties and cities/communities within the analysis scope.

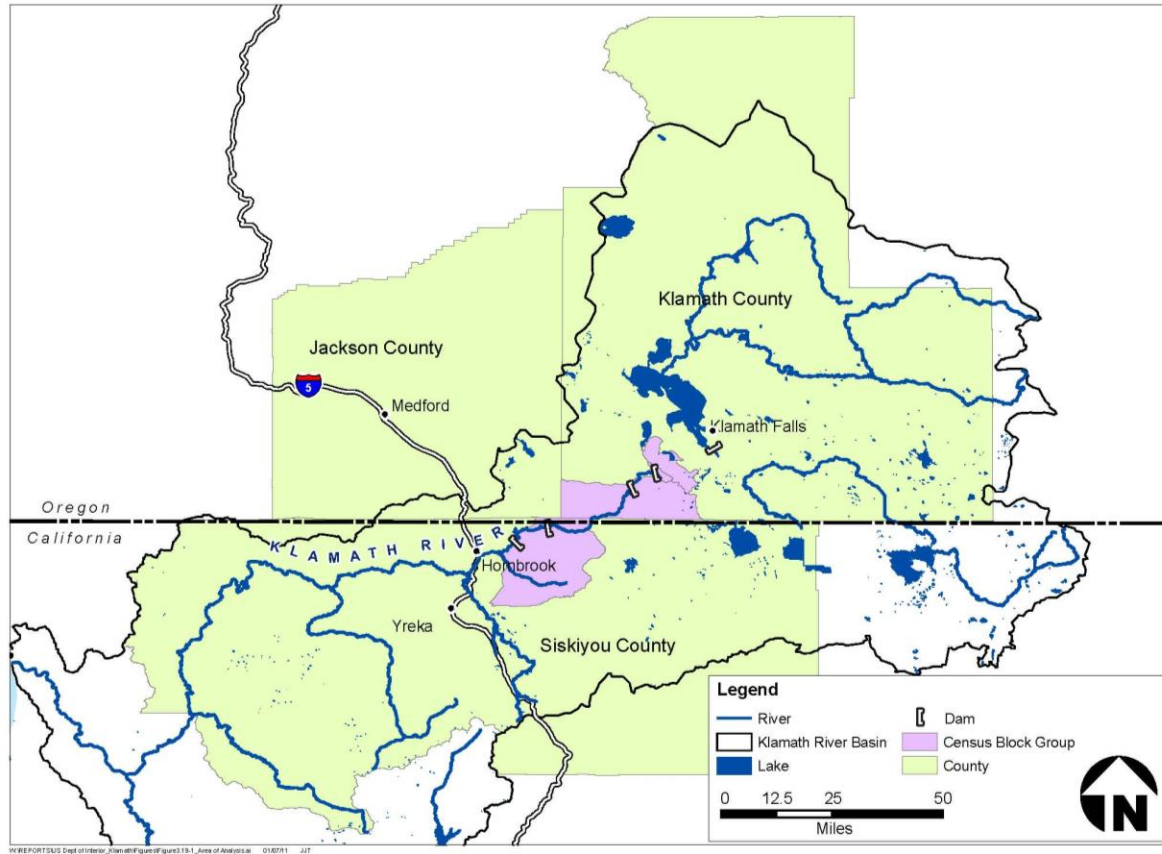


Figure 3.17-1. Population and Housing Area of Analysis

Table 3.17-1. Cities Included for Analysis

Community	County	State
Yreka	Siskiyou	CA
Hornbrook	Siskiyou	CA
Siskiyou County Unincorporated Areas	Siskiyou	CA
Klamath County Unincorporated Areas	Klamath	CA
Klamath Falls	Klamath	OR
Medford	Jackson	OR

3.17.2 Regulatory Framework

Regulations at the Federal, State, and local levels regarding housing are generally concerned with the proper construction, provision, and siting of housing for a variety of incomes. The Proposed Action and alternatives do not call for the construction of new homes, or the demolition of existing homes, and therefore the regulations pertaining to housing do not apply.

3.17.3 Existing Conditions/Affected Environment

The affected environment for population and housing reflects the existing populations and housing conditions within the area of analysis. This section presents the available data on population characteristics, including trends in in-migrations and demographics. The housing characteristics presented indicate the overall economic health of the housing market in the area of analysis, which helps assess the capacity for communities in the area of analysis to accommodate population growth that could result from the alternatives. This section presents demographic and housing information from the 2000 U.S. Census at the city and Census block group level, and from the ACS at the county and state level. While more recent data is available for many locales, the 2000 Census dataset remains the most comprehensive data available at the community level for all cities in the area of analysis. More recent data, where available, are included in the discussions.

This discussion presents data for all Census-designated communities and counties included in the area of analysis by county. Unincorporated areas immediately near the dams are discussed separately. Demographic, economic and housing data are discussed on a community, county and state level. County sections include Siskiyou County in California and Klamath and Jackson Counties in Oregon.

3.17.3.1 Klamath County, Oregon

Klamath County is in the area of analysis because the unincorporated area near J.C. Boyle Dam and Klamath Falls could temporarily house workers needed for construction associated with the alternatives. The City of Klamath Falls data are presented along with data for Klamath County. Data representing the unincorporated area near J.C. Boyle Dam, which includes the community of Keno, a small unincorporated community approximately 12 miles upstream of the J.C. Boyle Reservoir, are discussed in Section 3.17.3.4. While Keno lies within Klamath County, the data are presented separately because it represents a non-census designated community.

According to the 2009 Klamath Falls Economic Opportunities Analysis (Johnson and Gardner 2009), about two thirds of Klamath County's population is within the Klamath Falls Urban Growth Boundary (UGB). Klamath Falls proper (not including rural areas in the UGB) is a city of almost 20,000 people. Housing statistics presented in this section for Klamath Falls *exclude* the unincorporated areas in the Klamath Falls UGB. Including the unincorporated areas in the UGB approximately doubles the total population of Klamath Falls. Klamath County's annual average unemployment rate in 2009 was 13.9 percent (Bureau of Labor Statistics (BLS) 2011a).

Demographic Data

Klamath County age demographics are consistent with the State of Oregon. In Klamath County, 26.5 percent of the population was under 19 years of age according to the ACS, and 43.6 percent is over 45. Similarly, in the State of Oregon 25.6 percent of the population was below 19 years of age, with 40.3 percent over 45.

Housing Data

The ACS reported 26,908 housing units in Klamath County with 86 percent occupied and 14 percent vacant. In Klamath Falls proper, 51 out of 806 vacant units were for seasonal use in the 2000 Census. Table 3.17-2 contains housing estimates for Klamath Falls and Klamath County. In 2000, median monthly rent in Klamath Falls was \$471, compared with Klamath County’s median rent of \$475 in 2000.

Table 3.17-2. Klamath Falls and County Housing Estimates

	Klamath Falls		Klamath County	
	Estimate	Percent	Estimate	Percent
Total Housing Units	8,722		31,184	
Occupied Housing Units	7,916	90.8%	26,908	86.3%
Owner-Occupied	3,906	49.3%	18,524	68.8%
Renter-Occupied	4,010	50.7%	8,384	31.2%
Vacant Housing	806	9.2%	4,276	13.0%

3.17.3.2 Jackson County, Oregon

The City of Medford could temporarily house workers needed for construction associated with the alternatives. Medford’s estimated population was 75,700 in 2007 (City of Medford 2010). This population estimate accounts for more than a third of the population of Jackson County. The City of Ashland is not explicitly included in the area of analysis due to uncertainties of housing availability during the Ashland Shakespeare Festival’s peak season in the summer and early fall (Oregon Shakespeare Festival 2011); however, it is possible that some workers could find housing in Ashland, as well.

The Medford Metropolitan Statistical Area had an unemployment rate of 11.6 percent in December 2009 (BLS 2011b). Jackson County’s annual average unemployment rate in 2009 was only 6.7 percent (BLS 2001b).

Demographic Data

Like Klamath County and Oregon overall, Jackson County has a high older age population. According to the ACS, 44.7 percent of the population in Jackson County was reported as over the age of 45. Only 24.3 percent of the population in Jackson County is under 19 years of age.

Housing Data

Estimates show that housing units in Medford increased by approximately 5,000 units between 2000 and 2006 to 31,205 housing units. However, there is still a shortage of affordable housing in Medford (City of Medford 2010). The city is composed of mostly single-family housing, with pockets of higher density and multi-family units. A walk-by was completed in 2004 (City of Medford 2010). There are neighborhoods in Medford with more than 50 percent renter-occupied units. The 2000 Census reports a housing vacancy rate in Medford of 4.9 percent, but in 2007, the vacancy rate was only

2.7 percent (City of Medford 2010). Table 3.17-3 contains housing estimates for Medford and Jackson County.

Table 3.17-3. Medford and Jackson County Housing Estimates

	Medford		Jackson County	
	Estimate	Percent	Estimate	Percent
Total Housing Units	26,310		87,338	
Occupied Housing Units	25,141	95.4%	81,559	93.4%
Owner-Occupied	14,372	57.3%	51,654	63.3%
Renter-Occupied	10,721	42.7%	29,905	36.7%
Vacant Housing	1,204	4.6%	5,779	6.6%

There is a lack of affordable housing in the City of Medford, which contributes to an elevated homelessness rate (City of Medford 2010). In 2000, 46 percent of all renters in Medford were cost-burdened (U.S. Census Bureau 2000). The median monthly rent in Medford was 605 dollars, compared with 471 dollars in Klamath Falls. Barriers to developing affordable housing in Medford include permitting constraints, lack of land properly zoned for low-income housing, development codes that discourage mixed-use development, among others (City of Medford 2010).

3.17.3.3 Siskiyou County, CA

Siskiyou County data is presented along with data for the City of Yreka and the community of Hornbrook. Yreka and Hornbrook could temporarily house workers required for construction associated with the alternatives. Section 3.17.3.4 covers other unincorporated residential areas near the dams. While the residential area surrounding Copco 1 Reservoir, referred to as Copco Village, lies within Siskiyou County, Census Block Group Data more specifically representing Copco Village is presented separately (see Section 3.17.3.4) because it represents a non-census designated community.

Yreka was a city of nearly 7,300 people at the time of the 2000 Census, and Hornbrook was a community of approximately 300. Since the 2000 Census, the population of Yreka has gone up to 7,415 (Department of Finance 2010). Siskiyou County’s annual average unemployment rate in 2009 was 14.8 percent, higher than either Klamath or Jackson Counties (BLS 2011a).

Demographic Data

Similar to Jackson and Klamath Counties, Siskiyou County has a high older population. In 2000, both Hornbrook and Yreka had populations of which more than 40 percent were over 45 years of age. In the ACS, Siskiyou County had a population where almost 50 percent were over 45 years of age.

Housing Data

Table 3.17-4 shows housing and occupancy estimates for Siskiyou County. Siskiyou County’s overall vacancy rate is higher than most other counties in the area of analysis. Hornbrook has a high vacancy rate, at 19 percent, out of 148 total units in 2000.

However, because the absolute number of housing units in Hornbrook is so small (148), the total number of vacant units (28) is also small. Yreka and its surrounding area has a relatively low housing availability; at the time of the 2008 housing costs survey conducted by the City of Yreka only 41 housing units were available for rent in the City of Yreka and its surrounding area (City of Yreka 2009). Siskiyou County's gross vacancy rate in 2010 was 15.5 percent and Yreka's gross vacancy rate was 5.7 percent (Department of Finance 2010).

Table 3.17-4. Siskiyou County Housing Estimates

	Hornbrook		Yreka		Siskiyou County	
	Number	Percent	Number	Percent	Number	Percent
Total Housing Units	148		3,303		23,506	
Occupied Housing Units	120	81.1%	3,114	94.3%	20,021	85.2%
Owner-Occupied	84	70.0%	1,797	57.7%	13,252	66.2%
Renter-Occupied	36	30.0%	1,317	42.3%	6,769	33.8%
Vacant Housing	28	18.9%	189	5.7%	3,485	14.8%

The Yreka Housing Element reports 2008 rental costs ranging from \$525 to \$900 per month (City of Yreka 2009).

3.17.3.4 Unincorporated Areas

The unincorporated areas discussed in this section represent Keno (12 miles from Klamath Falls) and the residential areas surrounding Copco 1 Reservoir (26 miles from Yreka). These two communities are closest to the Four Facilities, and could have possible housing impacts from worker displacement. The affected environment for Keno is presented as a compilation of the U.S. 2000 Census results from Oregon Census Tract 9703, Block Groups 2, 3, and 4. Because these block groups include Keno and also its surrounding area, this discussion refers to them as the Klamath unincorporated area. The Copco 1 Reservoir Area is described using U.S. 2000 Census results from California Census Tract 3, Block Group 1. Because this block group encompasses not only the residential area around Copco 1 Reservoir, but also other unincorporated areas around the Iron Gate Dam and surrounding areas, including the communities of Ager and Logan, this block group is referred to as the Siskiyou unincorporated area. The geographic areas encompassed by these census block groups are shown in Figure 3.17-2. Statistics presented on unincorporated areas are from U.S. Census 2000 Summary File 3.

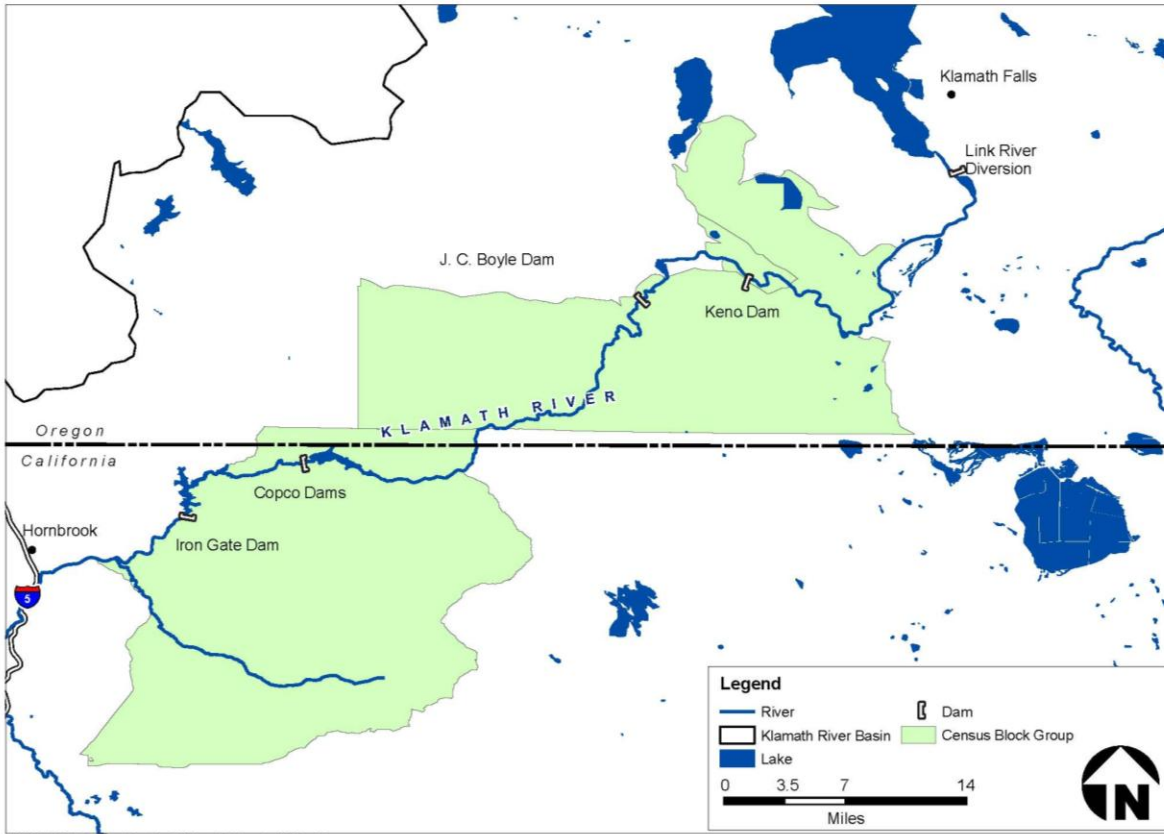


Figure 3.17-2. Census Block Groups

Demographic Data

Like Klamath and Siskiyou Counties overall, both the Oregon and California unincorporated areas have large populations over 45 years in age. In the Klamath unincorporated area, 44 percent of the population is over 45 years of age, and in the Siskiyou unincorporated area 49 percent of the population is over 45 years of age.

Housing Data

Table 3.17-5 contains housing estimates for the unincorporated areas. While the Siskiyou unincorporated area vacancy rate in 2000 was fairly large (20 percent, or 163 units), only 11 were for rent and 37 were for sale. Roughly half of the vacant units, or 82 units, were for seasonal, recreational or occasional use. The vacancy rate in the Klamath unincorporated area was much lower, at 8.5 percent or 101 units. Of these, only 10 were for rent and 31 were for sale. Only 22 units were for seasonal, recreational or occasional use.

Table 3.17-5. Unincorporated Areas Housing Estimates

	Siskiyou Unincorporated Area		Klamath Unincorporated Area	
	Estimate	Percent of Total	Estimate	Percent of Total
Total Housing Units	798		1,189	
Occupied Housing Units	635	79.6%	1,088	91.5%
Owner-Occupied	512	80.6%	948	87.1%
Renter-Occupied	123	19.4%	140	12.9%
Vacant Housing	163	20.4%	101	8.5%

In both areas, median monthly rental cost of \$513 was lower than the county-wide median values.

3.17.4 Environmental Consequences

3.17.4.1 Effects Determination Methods

This analysis used both qualitative and quantitative methods to determine the effects that implementation of the alternatives would have on population and housing. Significance criteria were used to qualitatively assess the impacts of each alternative. Effects considered for this resource area would be related to availability of housing for non-local construction workers and whether the use of housing by construction workers would impact the local housing market. Implementation of the alternatives would not require any land acquisition that would require housing units to be relocated. The project description includes preliminary estimates of the numbers of workers required for construction actions. This analysis compared the housing needs associated with these workers with existing demographics and housing statistics described in the Affected Environment.

3.17.4.2 Significance Criteria

Significant impacts on population and housing would result if the project resulted in substantial population growth in the area of analysis. For the purposes of this EIS/EIR, population growth in a community is “substantial” if it would result in housing needs exceeding the number of housing units projected to be available and affordable.

3.17.4.3 Effects Determinations

This section presents the effects of each of the alternatives on population and housing. For all alternatives except for the No Action/No Project Alternative, some level of construction or deconstruction would be involved at all Four Facilities. Construction labor would require up to 250 workers during the peak construction period. As described

in Section 3.15, Socioeconomics, peak construction at J.C. Boyle, Copco 2, and Iron Gate Facilities generally overlap; peak construction at the Copco 1 Facility would occur separately. Peak number of workers required to implement the alternatives range from 175 to 195 workers at one time for Copco 1, Copco 2 and Iron Gate Dams (in California), and from 30 to 55 workers at one time for J.C. Boyle Dam (in Oregon). Potential mitigation measures increase these estimates by as much as 20 workers. Workers that could not be provided by the local communities would need to commute from a near-by community, either a more rural, unincorporated town such as Keno or Hornbrook, or a more urban area such as Yreka, Medford, or Klamath Falls. Table 3.17-6 lists approximate travel distances to the dams from each of these communities for the J.C. Boyle Dam. For the Copco 1, Copco 2, and Iron Gate Dams, Yreka and Medford are communities that might house workers, along with Hornbrook and the rural areas immediately around Copco 1 Reservoir. The capacity of each of these communities to house the workers needed for each of the alternatives is discussed below.

It is likely that some of the workforce required for the deconstruction alternatives could be satisfied with local residents; however, some non-resident workers are likely to be necessary for specialized tasks. Section 3.15, Socioeconomics, assumes that about 90 percent of the unskilled labor and 20 percent of the skilled labor could be supplied locally from Klamath and Siskiyou Counties during peak construction (approximately 98 workers). The remaining approximate 150 workers needed during peak construction would have to be brought into Klamath and Siskiyou Counties. During non-peak construction, all unskilled as well as skilled workers could be provided locally. It is further assumed that one housing unit would be required per non-local worker.

Table 3.17-6. Approximate Commute Distances¹ (miles)

	Klamath Falls	Medford	Yreka	Hornbrook	Keno
J.C. Boyle	20	55	70	55	8
Copco 1 & 2	50	50	27	21	40
Iron Gate	60	44	22	8	50

¹ Distances were approximated using Google Maps, and are only accurate to within 5 miles.

There are a limited number of PacifiCorp-owned housing units at the dam sites. Because the noise analysis in this EIS/EIR estimates high noise levels at these housing facilities resulting from the alternatives (see Section 3.23, Noise and Vibration), these facilities are not included as potential housing sources for the population and housing section.

It is assumed that relocation of the City of Yreka’s water supply pipeline and relocation or demolition of recreation facilities would occur during non-peak construction (before and after dam deconstruction activities, respectively). Therefore, the workers required for these construction activities would not add to the peak housing needs in Klamath and Siskiyou Counties. Additionally, the number of workers required to complete these

construction activities would be less than the peak number required for implementation of the action alternatives. Thus, it is assumed that the housing units described in the analysis of the action alternatives would accommodate workers necessary for water supply pipeline relocation and relocation or demolition of recreation facilities.

Alternative 1: No Action/No Project Alternative

Under the No Action/No Project Alternative, there would be no change in project dam and associated facility operations and no impacts on population and housing. The No Action/No Project Alternative would not result in construction activities taking place at the sites of the Four Facilities. There would be no influx of temporary workers and no impacts on population and housing. Population and housing would follow current trends. **There would be no change from existing conditions to population and housing under the No Action/No Project Alternative.**

Ongoing Resource Management Actions

Ongoing resource management actions and programs would continue to take place under the No Action/No Project Alternative. Construction, implementation, and monitoring activities associated with these ongoing projects could result in increases in new jobs throughout the Klamath Basin and a demand for more workers.

Ongoing actions considered for impact to population and housing under the No Action/No Project Alternative include:

- Fish Habitat Restoration
- Williamson River Delta project
- Agency Lake and Barnes Ranches project

Construction, restoration, and monitoring activities associated with ongoing programs could create new jobs and could employ non-local workers, who would need housing for the duration of their employment. Construction activities necessary for ongoing resource management include floodplain rehabilitation, large woody debris placement, fish passage correction, cattle exclusion, riparian vegetation planting, mechanical thinning to promote conifers, and channel construction. These activities as well as follow-up monitoring are anticipated to result in the creation of additional jobs. **While it is anticipated that the majority of these jobs could be filled with local workers, some amount of workers (both skilled and unskilled) may need to be hired from outside of the local areas. It is anticipated that the effects on population and housing would be less than significant.**

Alternative 2: Full Facilities Removal of Four Dams (Proposed Action)

Construction activities involved in dam removal could employ non-local workers, who would need housing for the duration of their employment. During peak deconstruction periods, implementation of the Full Facilities Removal of Four Dams Alternative would require up to 250 total workers with 195 working at the Copco and Iron Gate Facilities combined, and up to 55 workers at the J.C. Boyle Facility. Both of these numbers include administrative and management staff. At the Copco and Iron Gate Facilities, 78 workers

would be provided from within the region and 117 would be required from outside of the region. At J.C. Boyle, 20 workers would come from within the region and 35 from outside of the region. Therefore, the housing need would be up to 117 housing units for the California facilities and 35 housing units for the Oregon facility. Peak worker needs would occur between November 2019 and September 2020.

For J.C. Boyle Dam, communities that could possibly house workers include Keno and Klamath Falls. In 2000, only 10 housing units were available for rent in Keno. Recent Klamath County plans (Johnson and Gardner 2009) do not include growth projections for Keno, but a sudden increase in 35 workers would roughly present a 3 percent increase in population and could stress the Keno rental housing market. However, an increase of 35 workers in Klamath Falls on a temporary basis could likely be absorbed by that city. With a current population of over 20,000 people and a projected increase in population of more than an additional 10,000 people by 2030 due to in-migration (Johnson Gardner 2009), these 35 workers in Klamath Falls would result in a 0.1 percent population increase. It is likely that, workers required for full removal of the J.C. Boyle Dam could be accommodated between the community of Keno and the City of Klamath Falls.

For the Copco 1, Copco 2, and Iron Gate Dams, large communities that could house workers include Yreka and Medford. In 2000, there were more than 1,500 vacant housing units in Medford. While the corresponding gross vacancy rate in Medford was 5 percent (U.S. Census Bureau 2000), the 2010 estimated vacancy rate was less than 3 percent (City of Medford 2010), with close to 800 vacant housing units. While the more recent vacancy rate is low, the total number of housing units available indicates a strong likelihood that Medford could accommodate most, if not all, housing needs associated with the Proposed Action.

Yreka's housing market has limited available housing. For example, in 2008 only 41 housing units were available for rent. Projecting Yreka's current planned housing expansion to 2019 would result in 202 more housing units in Yreka in 2019 (the beginning of construction) than are present in 2010. Because these new units are planned to accommodate anticipated growth regardless of the project alternative chosen, it is uncertain how many of the planned units would be available to non-local workers for the alternatives.

There are several other potential housing possibilities that could accommodate housing needs both in California and Oregon, including:

- *Hornbrook.* According to the 2000 Census, Hornbrook had 23 vacant housing units not for seasonal use. The County has identified 36 possible new housing units within Hornbrook for future growth.
- *Rentals at Copco 1 Reservoir.* It is also possible that seasonal vacation homes in the vicinity of Copco 1 Reservoir could be available for rent. In 2000, in the unincorporated areas immediately around the Copco 1 and Copco 2 Developments, there were 48 housing units for rent or for sale. Section 3.15, Socioeconomics, describes that dam removal could lead to decreases in the

number of non-local visitors to the region due to losses of reservoir recreation activities and loss of access to recreation sites at the dam. Additionally, Section 3.15, Socioeconomics, assumes that losses in recreation spending would directly affect accommodation services in Klamath County. Recreational use of vacation homes near the reservoirs could decrease, making these seasonal homes available to workers.

- *Campgrounds and Recreational Vehicle (RV) Parks.* It is also likely that the local campgrounds near the dams would be available as temporary housing. In addition to campgrounds at Iron Gate and Copco 1 Reservoirs, the Bureau of Land Management maintains a campground along the Klamath River in Oregon, and another near the state line (Bureau of Land Management (BLM) 2011a and 2011b). RV parks in Hornbrook and Yreka may also be available (Siskiyou County Visitor's Bureau 2011).
- *Hotels.* Among the various hotels in Yreka, there are more than 600 rooms available via a simple internet search.¹ In addition, Klamath Falls contains more than 1,000 hotel rooms. Non-local temporary workers who have short contracts may prefer this housing option to renting a more permanent housing unit.

Peak workforce estimates apply to a several-month period. Because of the short duration of workforce needs, temporary housing may be desirable to non-local workers. Hotels and RV/camping options would very likely compensate for any shortage of more permanent housing in Medford, Yreka and Klamath Falls. For the purposes of this EIS/EIR, population growth in a community is “substantial” if it would result in housing needs exceeding the number of housing units projected to be available and affordable. **Because the housing needs associated with construction activities could be met with resources in the area of analysis, these housing impacts would be less than significant.**

Dam removal at Iron Gate would require the relocation of the Yreka water supply pipeline. The construction of the pipeline would take place during the deconstruction period and would not require an increase in construction workers or construction time. The relocation would occur after drawdown of the reservoir was complete and would not interfere with the deconstruction schedule. **There would be a less than significant impact to population and housing as a result of the pipeline relocation.**

Dewatering of the reservoirs would result in recreational facilities currently located on the banks of the existing reservoirs to be removed following drawdown. The existing recreational facilities provide camping and boating access for recreational users of the reservoirs. Once the reservoirs are drawn down, these facilities will be removed. This facility removal will be done following the deconstruction of the dams, but will not require large crews or specialized labor that would need to be brought in from out of the area. **There would be no change from existing conditions for population and housing resulting from the removal of the recreational facilities.**

¹ Information collected using www.expedia.com on 1/26/2011.

Keno Facilities Transfer

The transfer of the Keno Facility to DOI could result in additional workers. Keno Dam is an unmanned facility which requires minimal operations and maintenance. Recreation facilities owned by PacifiCorp in the vicinity of Keno Dam will also be transferred to either the state or county as described in the KHSA Section 7.5. Operation of Keno Dam and of the recreation areas are expected to continue in the current fashion. **The transfer of the facility and recreation lands would result in no change from existing conditions for population and housing.**

Eastside and Westside Facilities Removal

The decommissioning of the East and West Side Facilities could result in additional workers. Decommissioning of the East and West Side canals and hydropower facilities of the Link River Dam by PacifiCorp as a part of the KHSA will redirect water flows currently diverted at Link River Dam into the two canals, back in to Link River. Following decommissioning of the facilities there will be no change in outflow from Upper Klamath Lake or inflow into Lake Ewauna. The number of workers required for the decommissioning will be fewer than those required for the Proposed Action. **Therefore, there would be no change from existing conditions for population and housing as a result of the decommissioning.**

KBRA

Construction activities associated with implementation of several KBRA programs could result in increases in new jobs throughout the Klamath Basin and a demand for more workers. The following programs could cause these impacts:

- Phases I and II Fisheries Restoration Plans
- Fisheries Reintroduction and Management Plan
- Wood River Wetland Restoration
- On- Project Plan
- Water Use Retirement Program
- Fish Entrainment Reduction
- Klamath River Tribes Interim Fishing Site

Construction and monitoring activities associated with the above-listed KBRA programs could employ non-local workers who would need housing for the duration of their employment. The creation of jobs and potential need to employ non-local workers could strain local housing availability and result in short and long-term increases in population in communities with the potential to house workers migrating into the area. It is anticipated that the majority of workers could be satisfied locally. The timing of and specific locations where these KBRA programs could be undertaken is not certain but it is assumed that some of these actions could occur at the same time and in the vicinity of the hydroelectric facility removal actions analyzed above. However, as described in section 3.17.3, it is assumed that there is sufficient housing supply in the current stock to accommodate non-local workers. **Thus, it is expected that population and housing effects from construction and monitoring of KBRA programs would be less than**

significant. Implementation of specific plans and projects described in the KBRA will require future environmental compliance as appropriate.

Alternative 3: Partial Facilities Removal of Four Dams

Construction activities involved in dam removal could employ non-local workers, who would need housing for the duration of their employment. Implementation of the Partial Facilities Removal of Four Dams Alternative would result in less facility removal. However, during peak deconstruction periods, implementation of the Partial Facilities Removal of Four Dams Alternative would require the same number of workers at each facility as described for the Proposed Action. These numbers include administrative and management staff. This would require the same number of workers from within and outside of the region as described for the Proposed Action. Peak worker needs would occur between November 2019 and September 2020.

Peak housing requirements for deconstruction at the Iron Gate and Copco Facilities could be met with housing available in Medford, Yreka, Hornbrook, Copco Village, and other options as described above for the Proposed Action. Peak housing requirements for the J.C. Boyle Dam construction could be met by housing available in Klamath Falls and Keno. Because the Partial Facilities Removal of Four Dams Alternative would require fewer workers than the Proposed Action, the detailed discussion of housing availability provided in the Proposed Action section also applies to this alternative.

For the purposes of this EIS/EIR, population growth in a community is “substantial” if it would result in housing needs exceeding the number of housing units projected to be available and affordable. **Because the housing needs associated with construction activities could be met with resources in the area of analysis, these housing impacts would be less than significant.**

Eastside and Westside Facilities Removal

Potential impacts from the decommissioning of the East and Westside Facilities would be the same as under the Proposed Action.

Keno Facilities Transfer

The transfer of the Keno Facility to DOI could result in additional workers. Potential impacts for the Keno Facilities Transfer would be the same as those described under the Proposed Action. **The transfer of the facility and recreation lands will have no change from existing conditions for population and housing.**

KBRA

Implementation of the KBRA would have the same effects as the Proposed Action.

Alternative 4: Fish Passage at Four Dams

Construction activities involved in fish passage creation could employ non-local workers, who would need housing for the duration of their employment. Implementation of the Fish Passage at Four Dams Alternative would result in fish passage installation at the Four Facilities. During peak construction periods, implementation of the Fish Passage at Four Dams Alternative would require up to 75 workers at the Copco and Iron Gate

Facilities combined, and up to 20 workers at the J.C. Boyle Facility. These numbers include administrative and management staff. Because detailed schedules for this alternative are not available, work force estimates assume that an average work force level at each facility would be required throughout construction actions at each facility. Of the workers at Copco and Iron Gate Facilities, it is assumed that 36 would come from within the region and 59 would come from outside of the region. Of the workers at J.C. Boyle, it is assumed that 10 would come from within the region and 20 would come from outside of the region. These housing requirements for construction at the J.C. Boyle Dam could be met by housing available in Klamath Falls and Keno, while the housing requirements for construction at the Iron Gate and Copco Facilities could be met with housing available in Medford, Yreka, Hornbrook, Copco Village, and other options described above for the Proposed Action. Because the Fish Passage at Four Dams Alternative would require fewer workers than Proposed Action, the detailed discussion of housing availability provided in the Proposed Action also applies to this alternative.

For the purposes of this EIS/EIR, population growth in a community is “substantial” if it would result in housing needs exceeding the number of housing units projected to be available and affordable. **Because the housing needs associated with construction activities could be met with resources in the area of analysis, housing impacts from this alternative would be less than significant.**

Alternative 5: Fish Passage at J.C. Boyle and Copco 2, Remove Copco 1 and Iron Gate

Construction activities involved in dam removal and fish passage creation could employ non-local workers, who would need housing for the duration of their employment.

Implementation of Fish Passage at J.C. Boyle and Copco 2, Remove Copco 1 and Iron Gate Alternative would result in full removal of the Copco 1 and Iron Gate Dams and fish passage construction at J.C. Boyle and Copco 2 Dams. During peak deconstruction/construction periods, implementation of the Fish Passage at J.C. Boyle and Copco 2, Remove Copco 1 and Iron Gate Alternative would require a total peak construction workforce of up to 205 workers. This includes up to 175 workers at the Copco and Iron Gate Facilities combined, and up to 30 workers at the J.C. Boyle Facility. These numbers include administrative and management staff. At the Copco and Iron Gate Facilities, 69 workers would be provided from within the region and 106 would be required from outside of the region. At J.C. Boyle, 9 workers would come from within the region and 21 from outside of the region. Therefore, the housing need would be up to 106 housing units for the California facilities and 21 housing units for the Oregon facility. Peak worker needs would occur between November 2019 and September 2020.

Peak housing requirements for construction at J.C. Boyle Dam could be met by housing availability in Klamath Falls and Keno. Peak housing requirements for activities at the Copco and Iron Gate Facilities could be met with housing available in Medford, Yreka, Hornbrook, Copco Village, and other options as described above for the Proposed Action. Because the Fish Passage at J.C. Boyle and Copco 2, Remove Copco 1 and Iron Gate Alternative would require fewer workers than the Proposed Action, the detailed

discussion of housing availability provided in the Proposed Action section also applies to this alternative.

The housing needs associated with construction activities could be met with resources in the area of analysis. **Because this alternative would not result in a substantial increase in population growth or in housing unit needs, the housing impacts from this alternative would be less than significant.**

3.17.4.4 Mitigation Measures

Mitigation Measure by Consequence Summary

No mitigation measures are proposed.

3.17.4.5 Mitigation Measures Associated with other Resources

Construction of new recreation facilities could require additional workers affecting population and housing. Mitigation REC-1 would create a plan to develop recreational facilities and access points along the newly formed river channel between J.C. Boyle Reservoir and Iron Gate Dam. Recreation facilities, such as campgrounds and boat ramps, currently located on the reservoir banks will need to be relocated down slope to be near the new river bed once the reservoir is removed. Impacts specific to the relocation of the recreation facilities are discussed in Section 3.20, Recreation. The planning and construction of these sites would take place after the deconstruction of the dams and would require a much smaller work force than the Proposed Action. Most, if not all of the labor required to replace the recreational facilities could be drawn from the local work force. **Therefore, the implementation of REC-1 would have a less than significant impact on population and housing.**

3.17.5 References

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