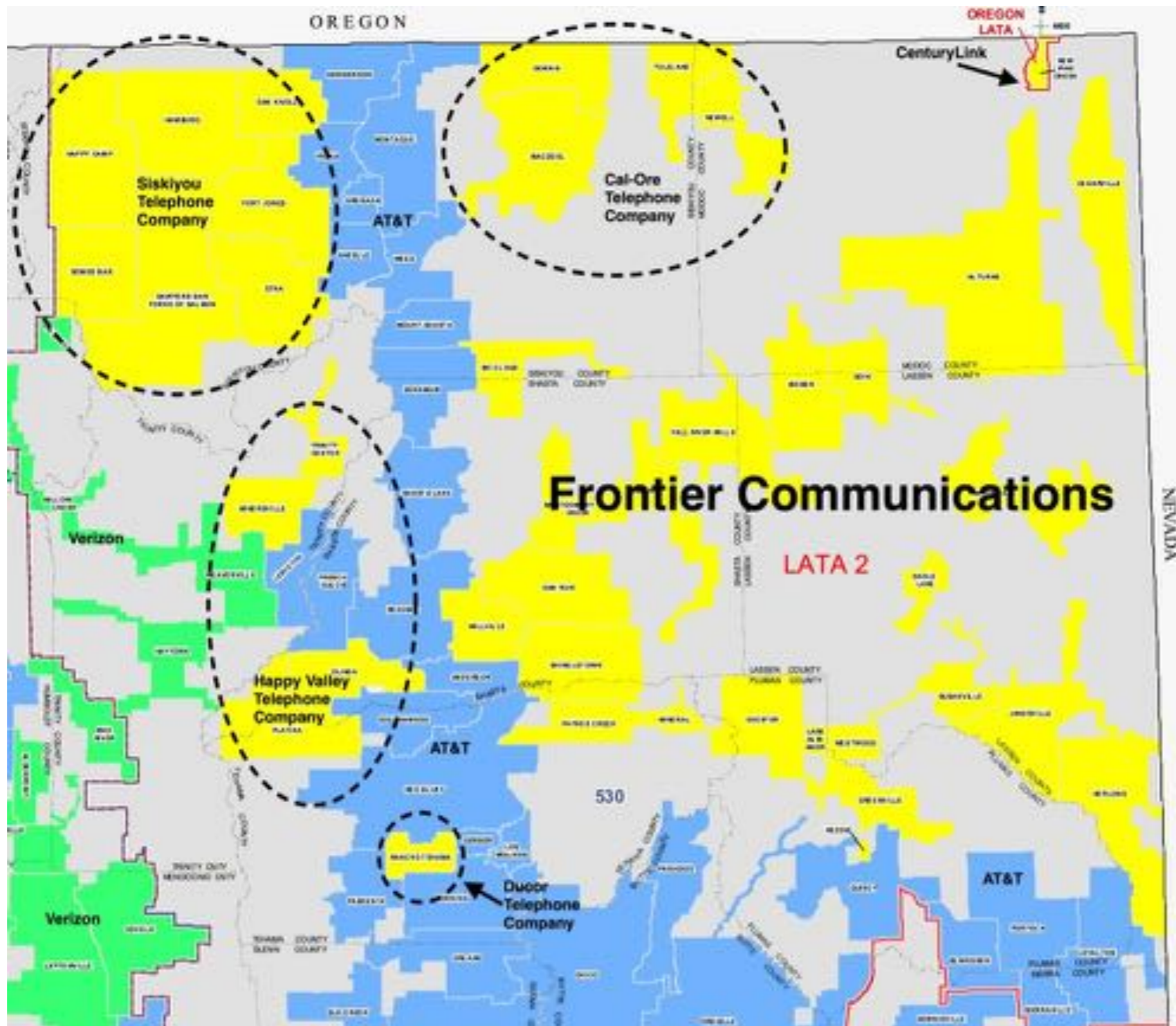


# Northeastern Broadband Meeting with Frontier Communications

22 June 2016  
Redding, California

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Frontier dominant carrier east and, now, west of I-5, AT&T has I-5 corridor

Rural telephone companies also play a major role in region

Frontier eligible for most of the \$20 million, six year CAF-2 subsidies

Must upgrade all funded census blocks to 10 Mbps download/1 Mbps upload speeds by end of 2020

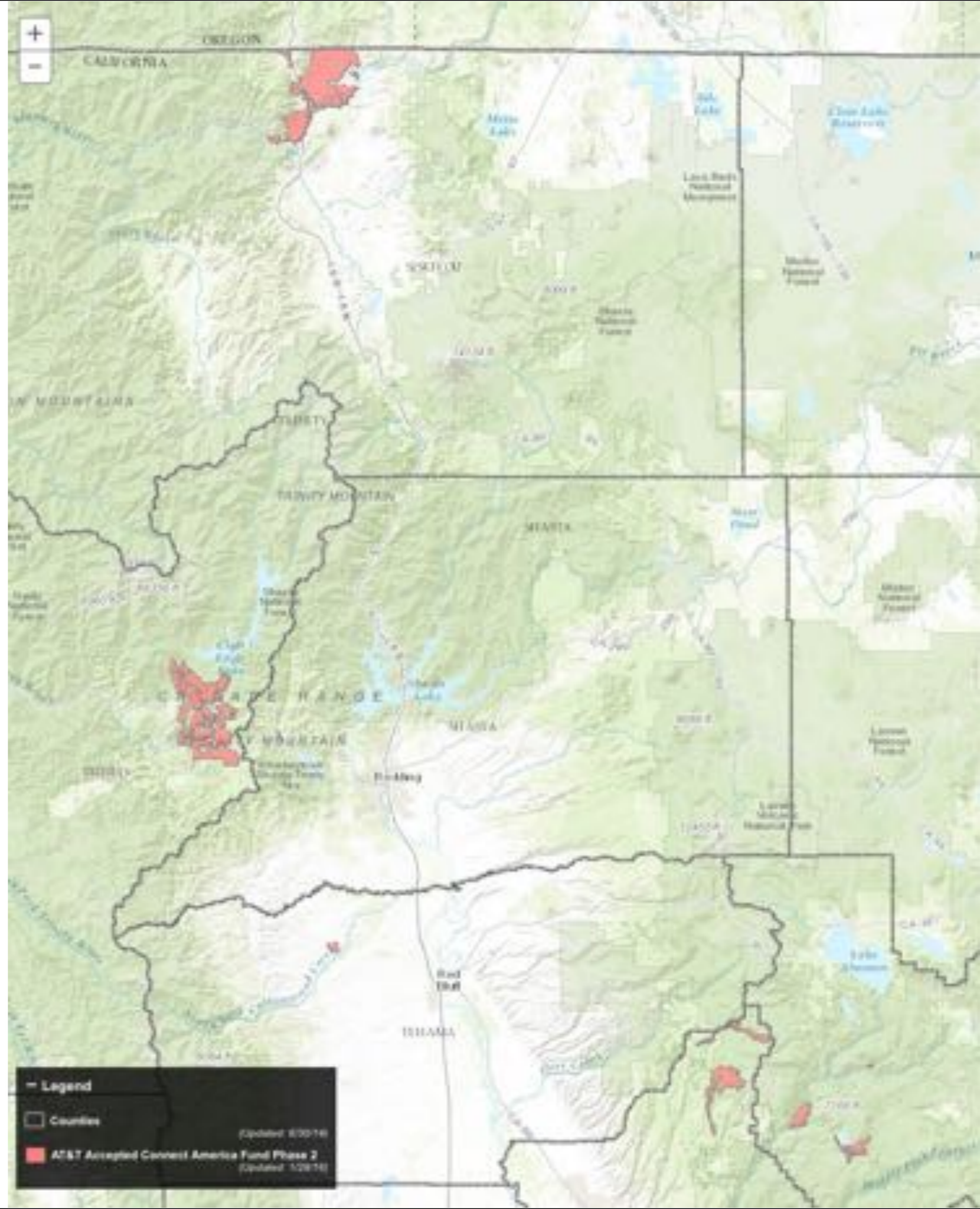
**CAF-2 Six Year Subsidies**

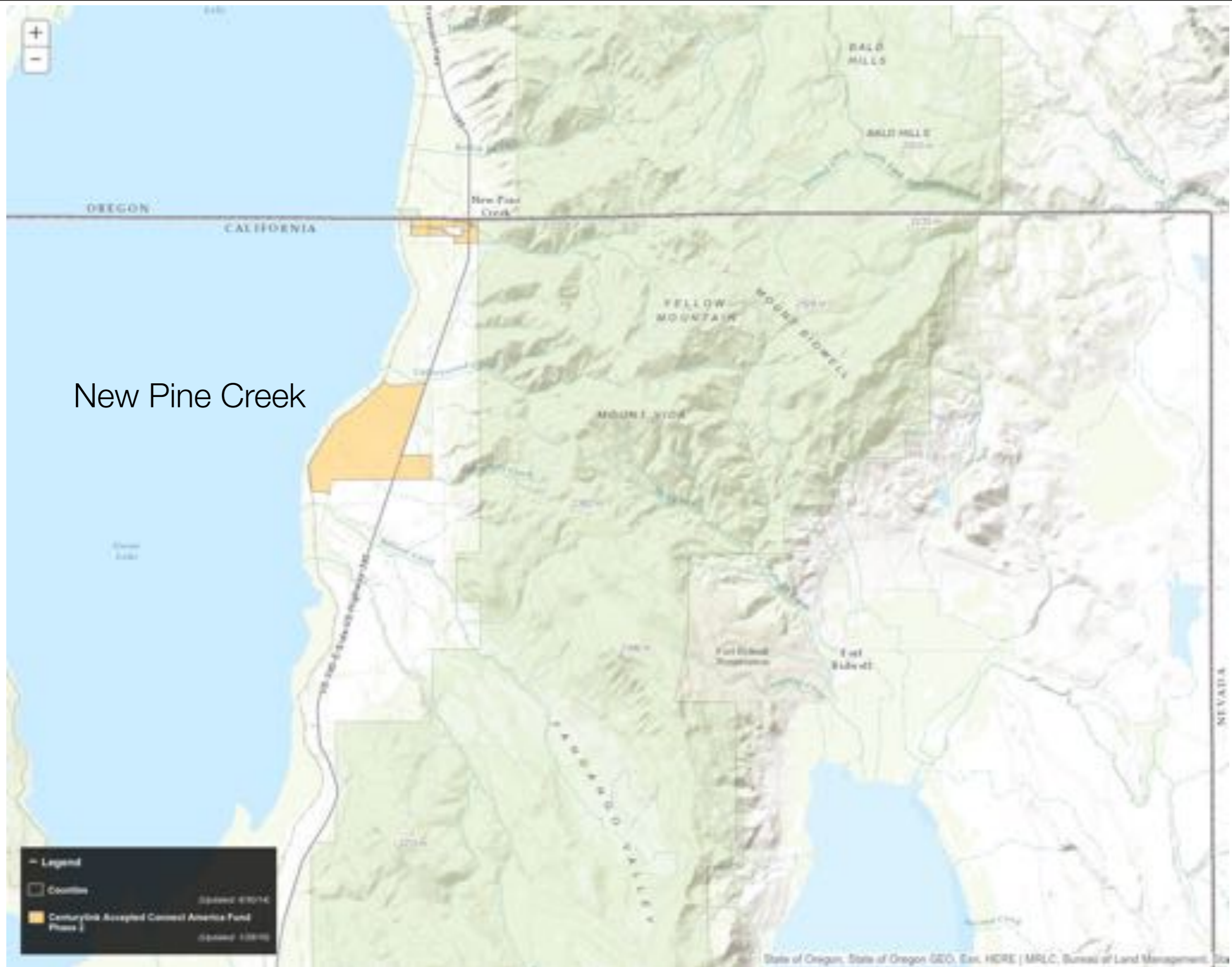
	<b>AT&amp;T</b>	<b>Frontier</b>	<b>Century Link</b>
Lassen		\$3,582,833	
Modoc		\$7,372,722	\$313,547
Plumas	\$775,063	\$1,083,101	
Shasta	\$38,568	\$4,783,184	
Siskiyou	\$740,968	\$40,739	
Tehama	\$22,390	\$1,326,829	
<b>Total</b>	<b>\$1,576,988</b>	<b>\$18,189,408</b>	<b>\$313,547</b>

**Subsidised "Locations"**

	<b>AT&amp;T</b>	<b>Frontier</b>	<b>Century Link</b>
Lassen		1,469	
Modoc		1,905	41
Plumas	307	435	
Shasta	20	1,615	
Siskiyou	244	7	
Tehama	5	377	
<b>Total</b>	<b>576</b>	<b>5,808</b>	<b>41</b>

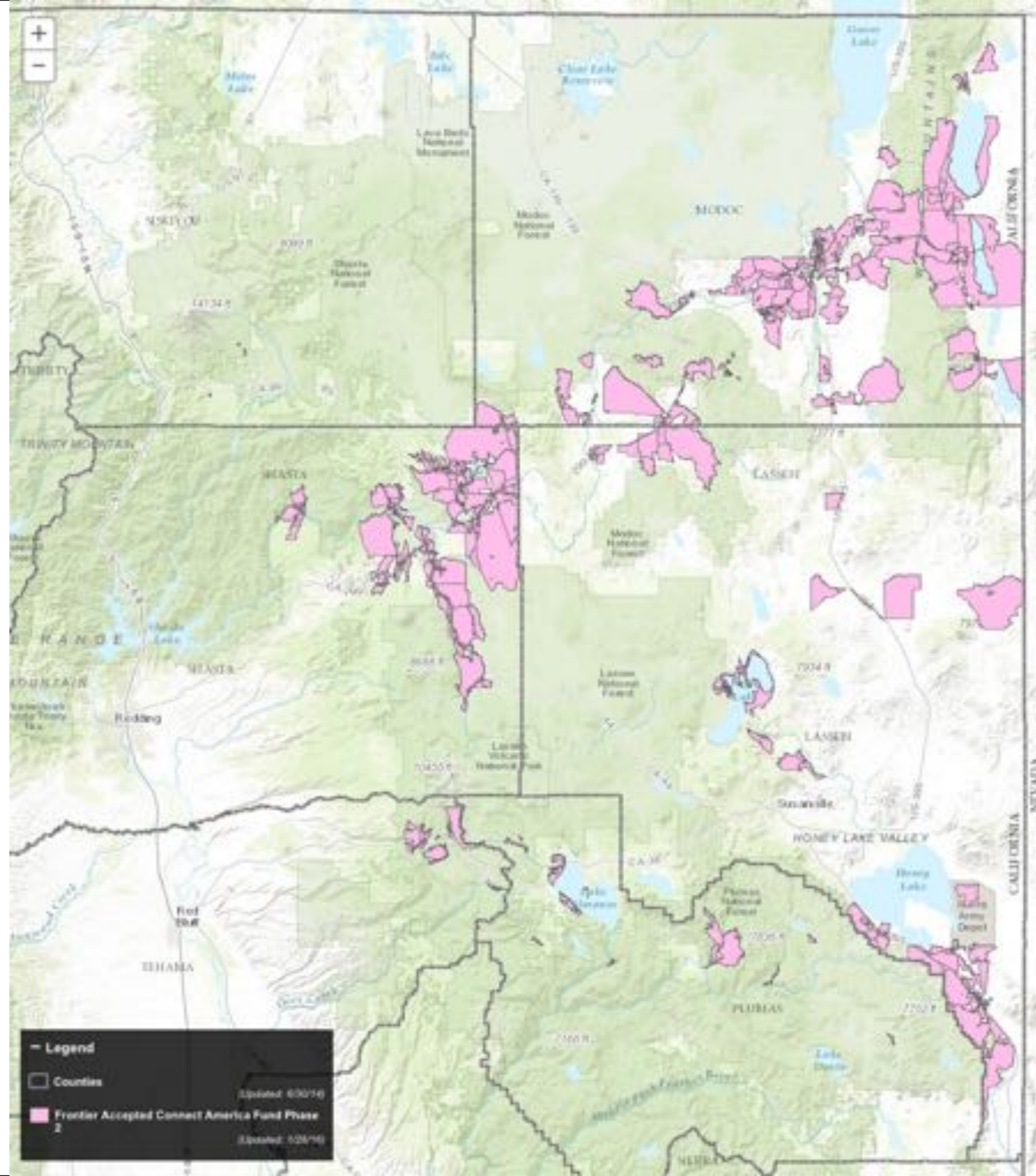
AT&T

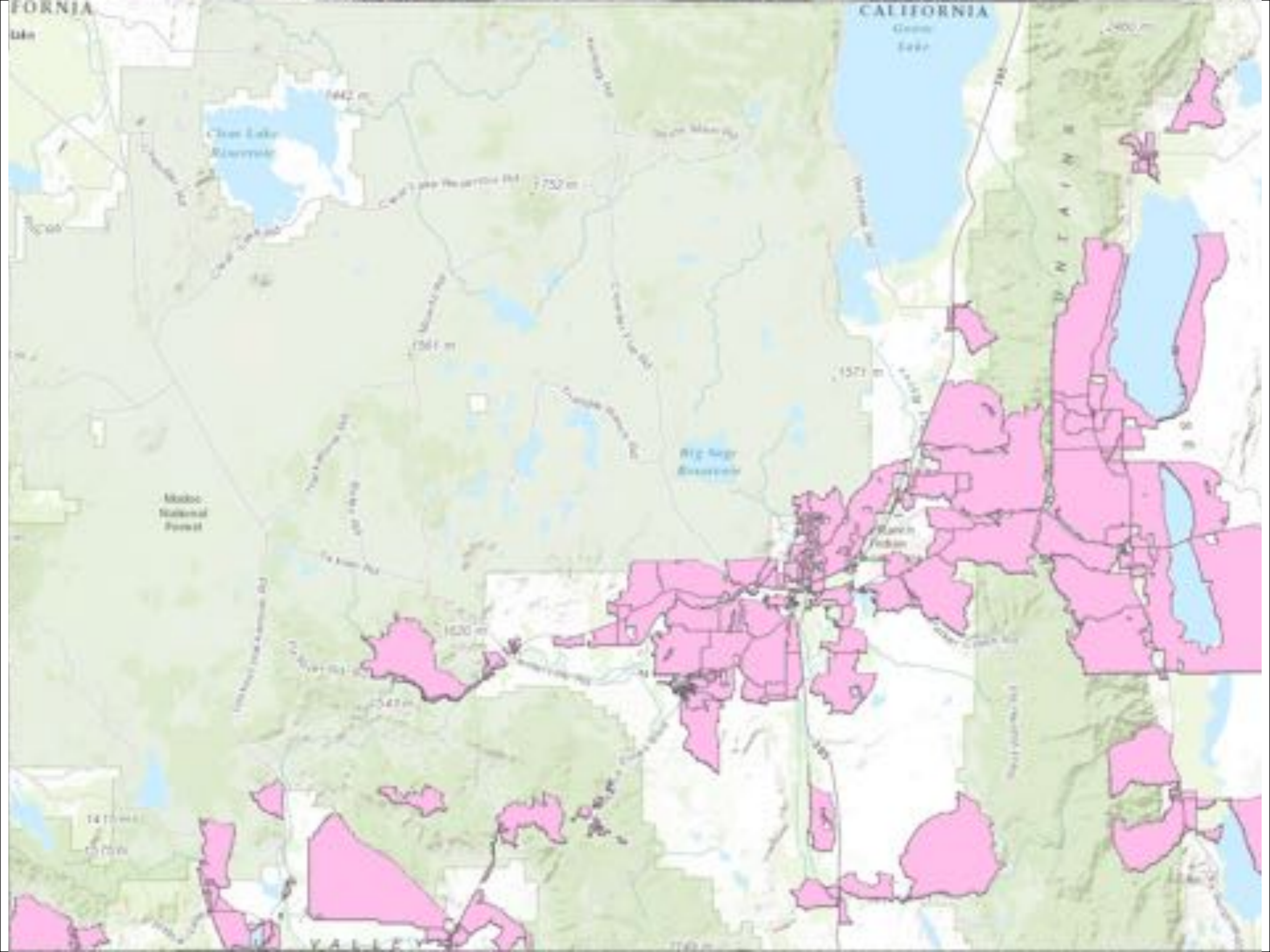


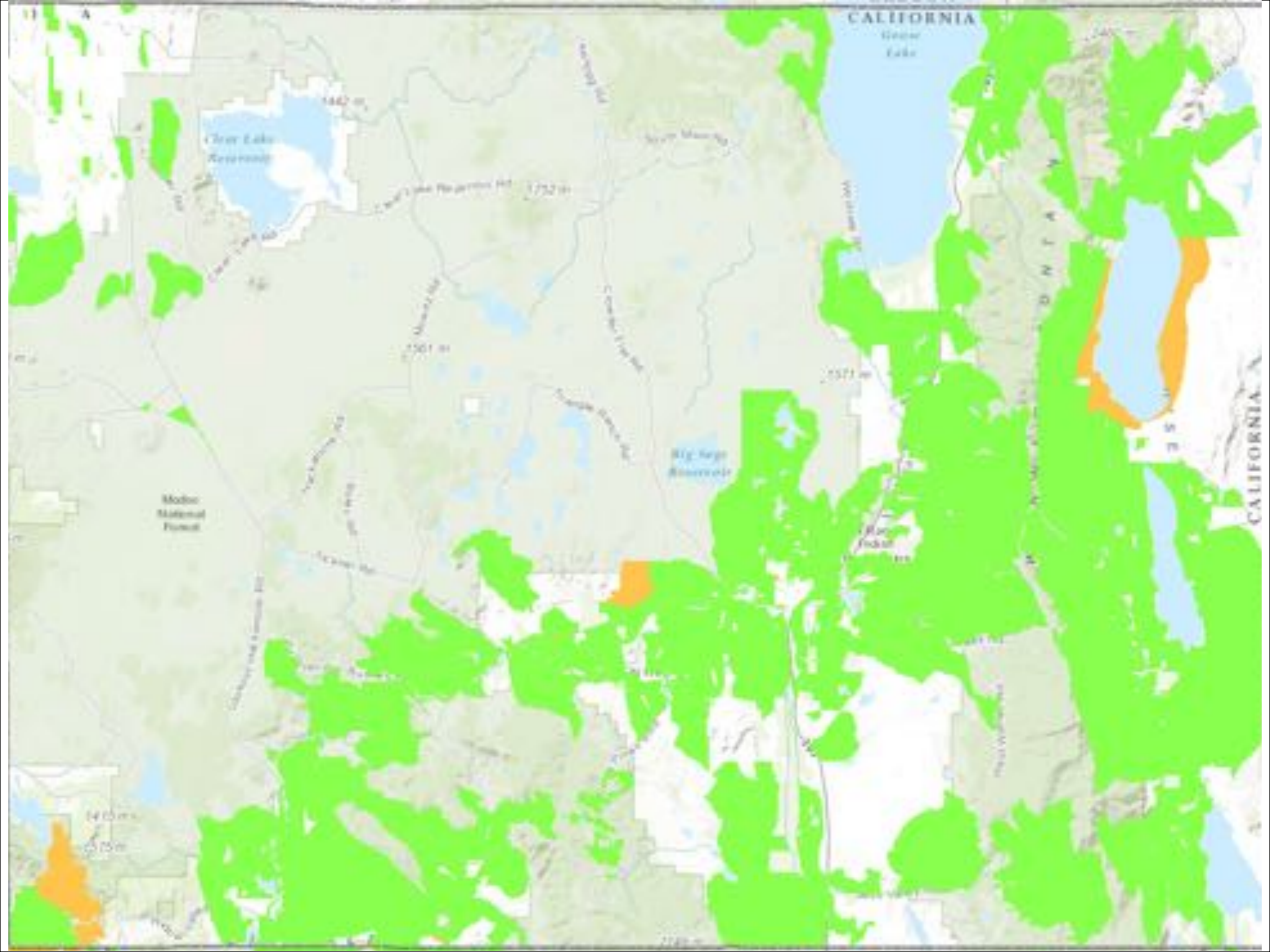


CenturyLink

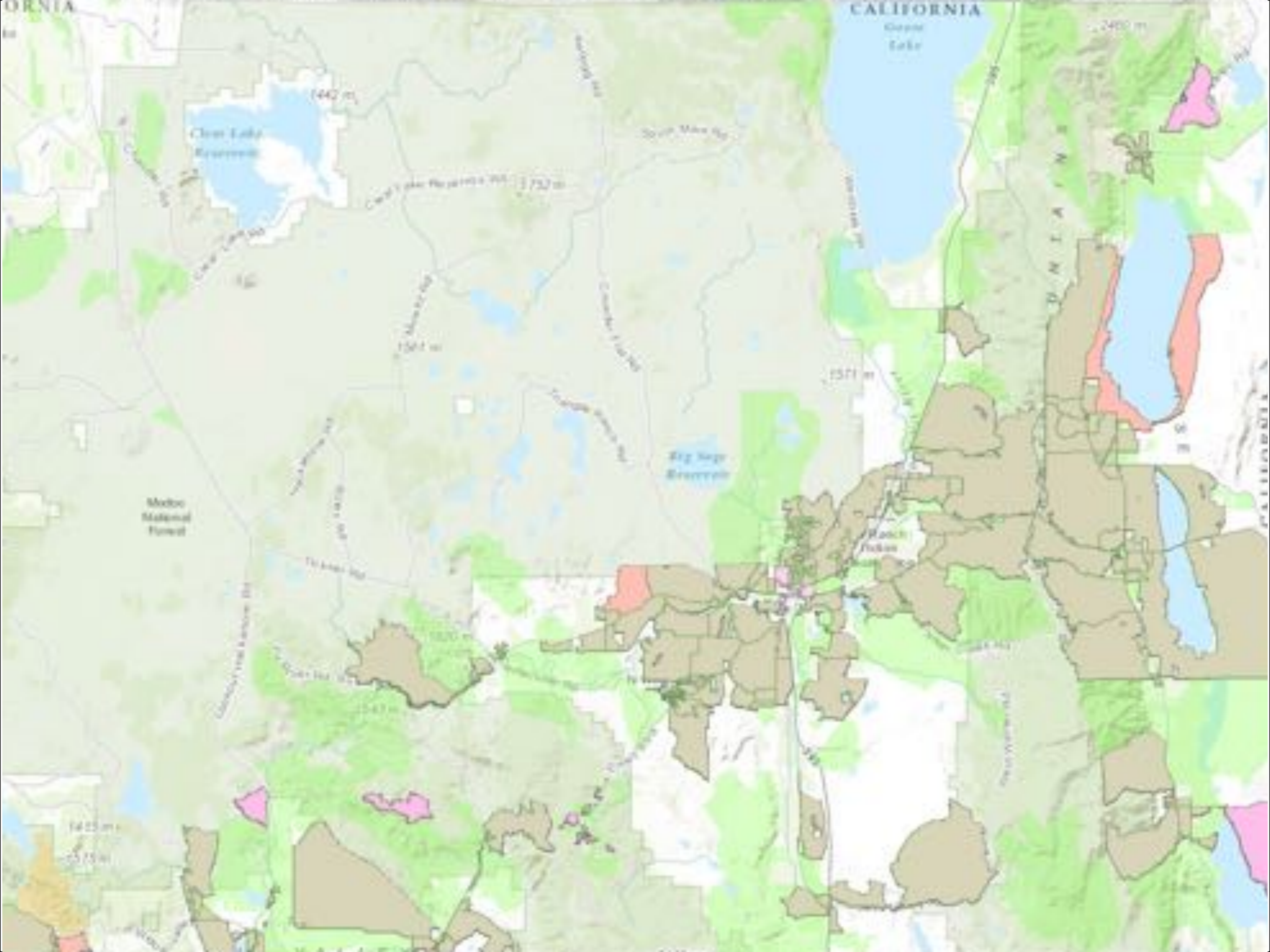
# Frontier











	<b>CAF-2 locations</b>	<b>Minus 10% (business)</b>	<b>Remaining unserved (estimate)</b>
<b>Lassen</b>	1,469	1,322	4,689
<b>Modoc</b>	1,946	1,751	1,041
<b>Plumas</b>	742	668	10,265
<b>Shasta</b>	1,635	1,472	5,860
<b>Siskiyou</b>	251	226	6,748
<b>Tehama</b>	382	344	7,289
<b>Total</b>	<b>6,425</b>	<b>5,783</b>	<b>35,892</b>

CAF-2 will not reach the majority of unserved homes

Appears weighted toward upgrades of existing broadband service

	<b>Frontier locations</b>	<b>Minus 10% (business)</b>	<b>Unserved after CAF2</b>
<b>Lassen</b>	1,469	1,322	507
<b>Modoc</b>	1,905	1,715	588
<b>Plumas</b>	435	392	86
<b>Shasta</b>	1,615	1,454	215
<b>Siskiyou</b>	7	6	2
<b>Tehama</b>	377	339	89
<b>Total</b>	<b>5,808</b>	<b>5,227</b>	<b>1,487</b>

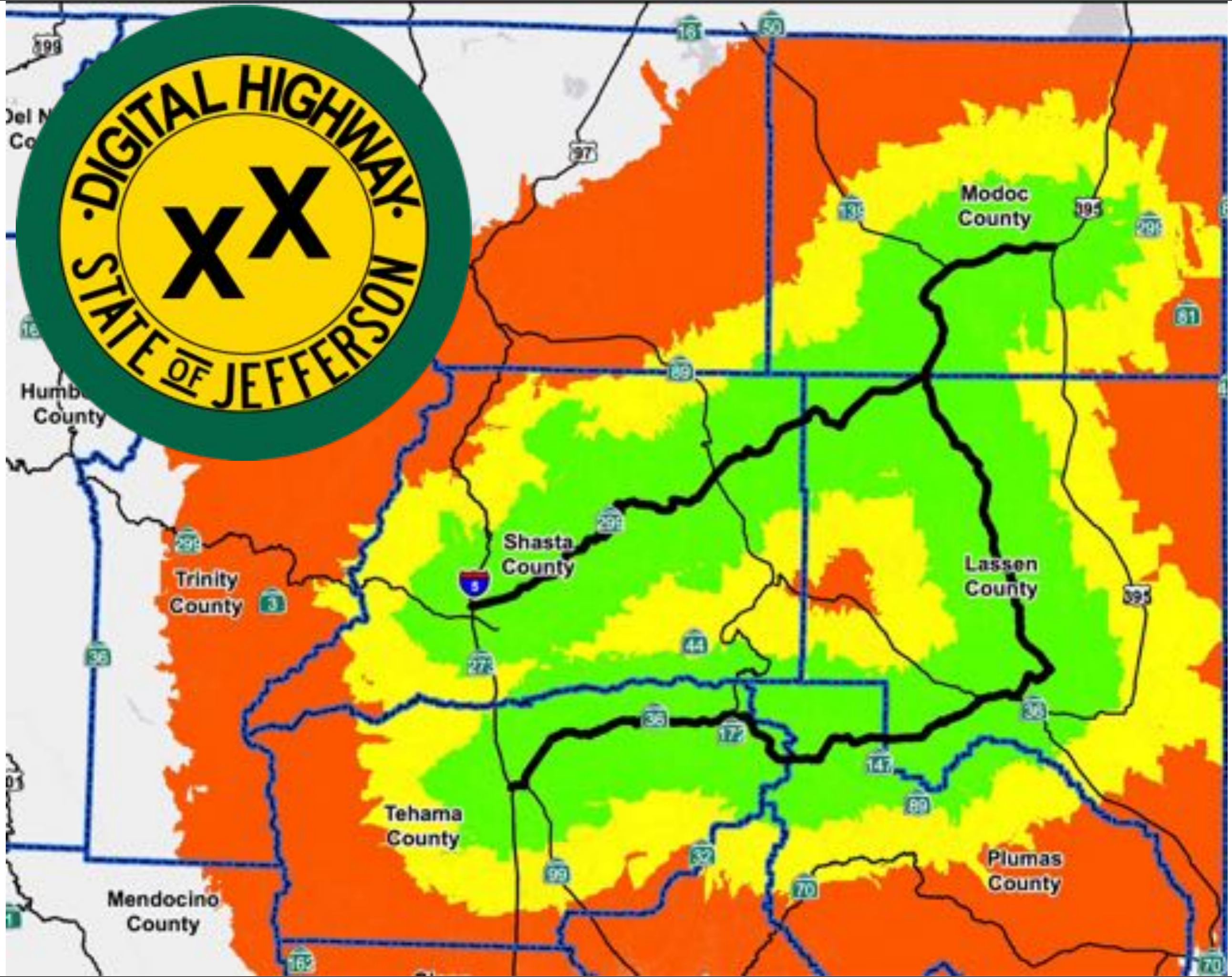
Same pattern but less severe in Frontier's actual CAF-2 funded census blocks

Need for line extensions, either new wire or upgrade to DSL specs

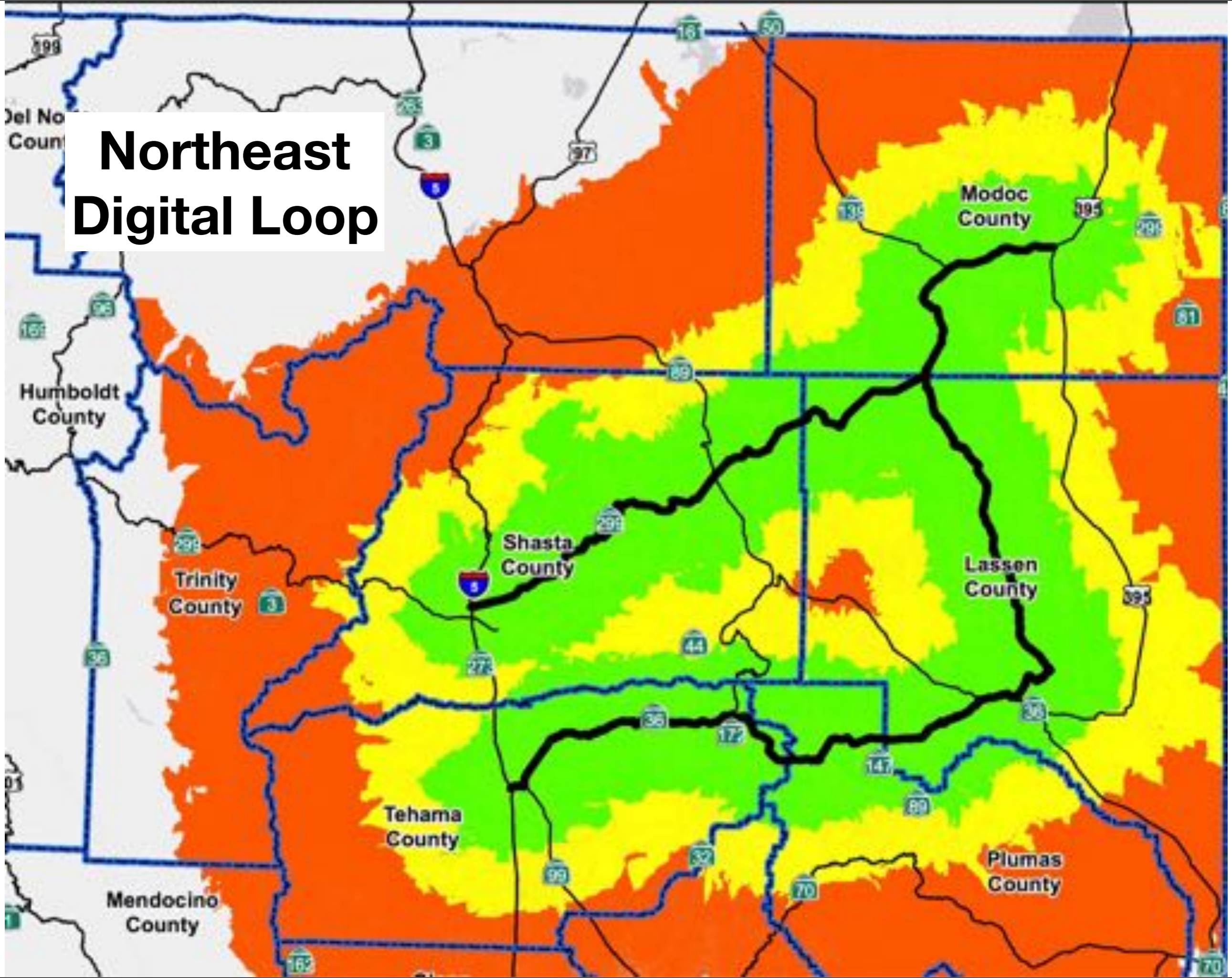
# Northeast Digital Loop

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# Northeast Digital Loop



# Northeast Digital Loop

	Distance (miles)	Cost - low range	Cost - high range
Core Network	320	\$48,000,000	\$80,000,000
Community extensions	164	\$24,600,000	\$41,000,000
<b>Total</b>	<b>484</b>	<b>\$72,600,000</b>	<b>\$121,000,000</b>

	<b>Current Availability</b>	<b>NE Digital Loop - Total</b>	<b>NE Digital Loop - Unserved</b>	<b>New Availability</b>	<b>Gain</b>
<b>Lassen</b>	56%	10,047	3,264	81%	26%
<b>Modoc</b>	36%	3,422	1,957	74%	38%
<b>Plumas</b>	31%	4,739	1,512	40%	10%
<b>Shasta</b>	90%	7,762	2,888	94%	4%
<b>Tehama</b>	72%	2,658	1,701	79%	6%
<b>Total</b>	75%	28,628	11,322	83%	6%

Loop reaches significant number of unserved homes, boost speed to many more

Combined with Frontier's network, impact likely to be greater



# Questions?

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# Back up slides

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## Urban

## Rural

Low speed residential service



High speed residential service



Commercial grade service



Local fiber



Connections to Tier 1 hubs



Mobile service



Urban, suburban needs and priorities focus on economic development

Rural broadband planning is regional, urban is city-focused

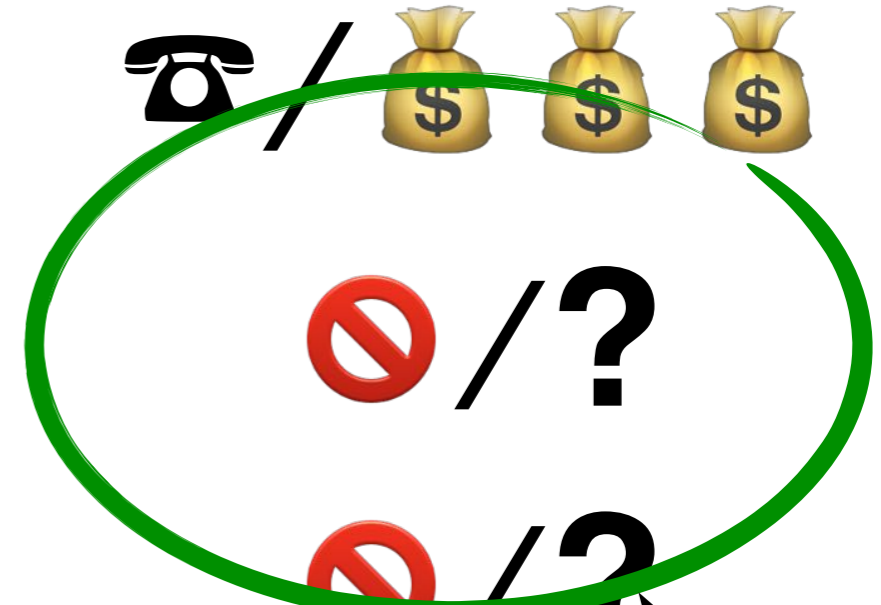
# Urban

# Rural

Low speed residential service



High speed residential service



Commercial grade service



Local fiber



Connections to Tier 1 hubs



Mobile service



*Sweet spot for muni, EDA, PPP projects*

*Sweet spot for CASF, federal rural programs*

Urban, suburban needs and priorities focus on economic development

Rural broadband planning is regional, urban is city-focused