



Ogden Valley Water Supply Study

Prepared by Bowen Collins & Associates
in conjunction with Weber Basin Water Conservancy District



Overview of Presentation

Purpose of Study



Discuss Preliminary Growth and Demand Projections

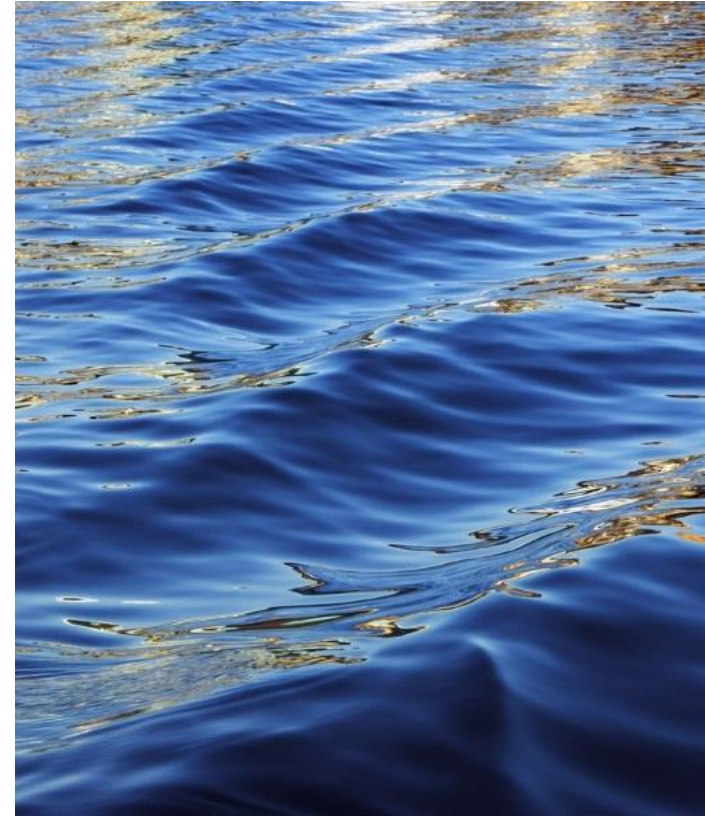


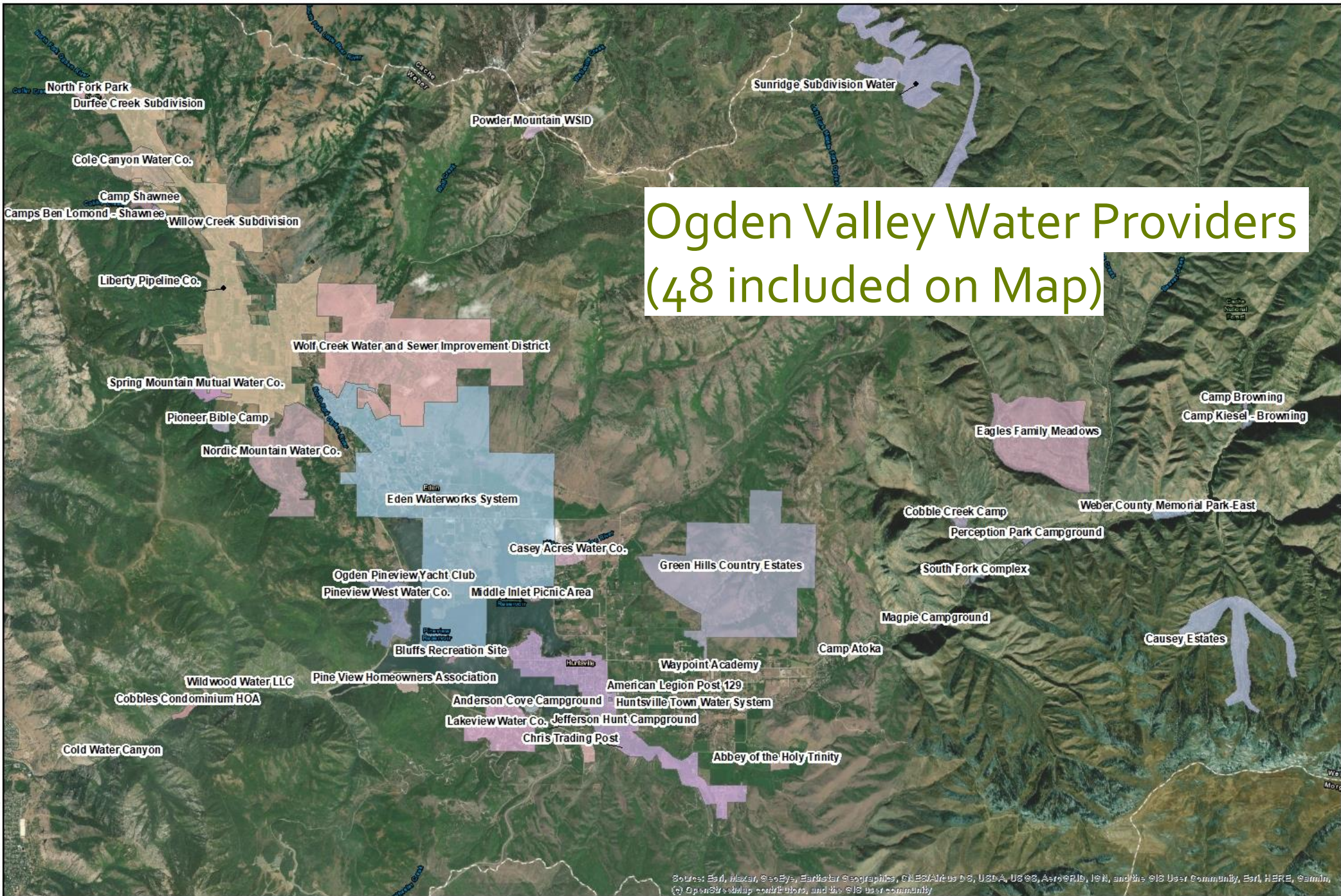
Opportunities for Project Review and Comments



Purpose of Study:

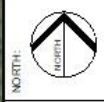
- Understand and document existing water resources and infrastructure in the Ogden Valley
- Project future water demand and supply
- Identify alternative solutions to meet projected water needs
- Develop a strategy for implementing recommended solution





Ogden Valley Water Providers (48 included on Map)

SCALE:
1 in. = 1.3 miles



OGDEN VALLEY
WATER PROVIDERS

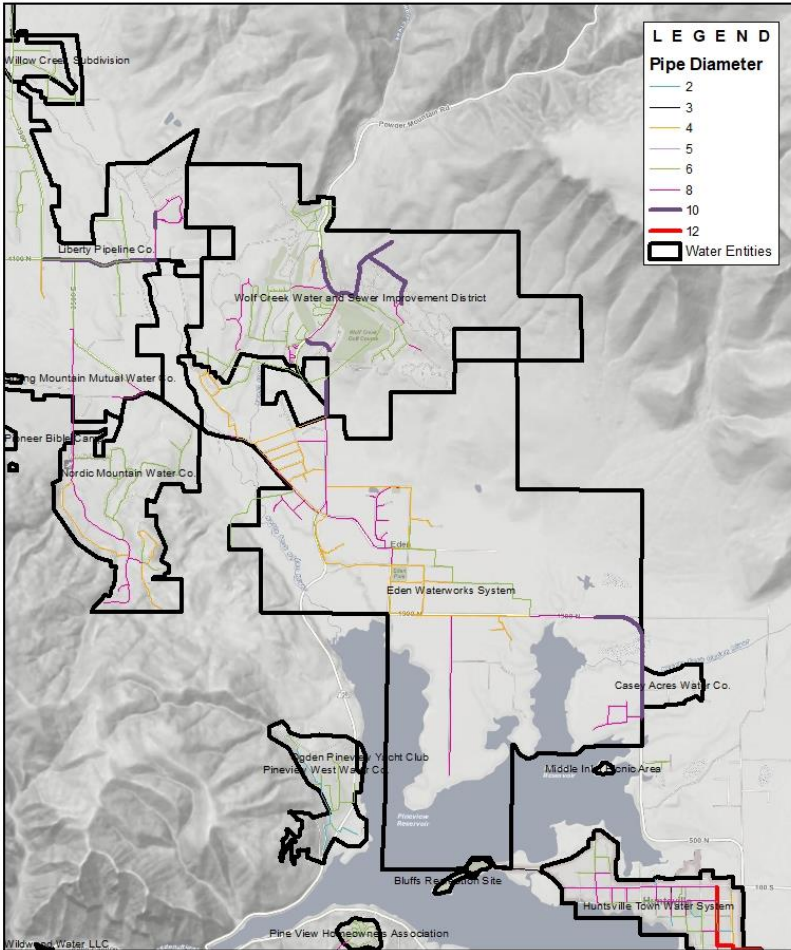
WEBER BASIN WATER CONSERVANCY DISTRICT
OGDEN VALLEY
MASTER PLAN



FIGURE NO.
1

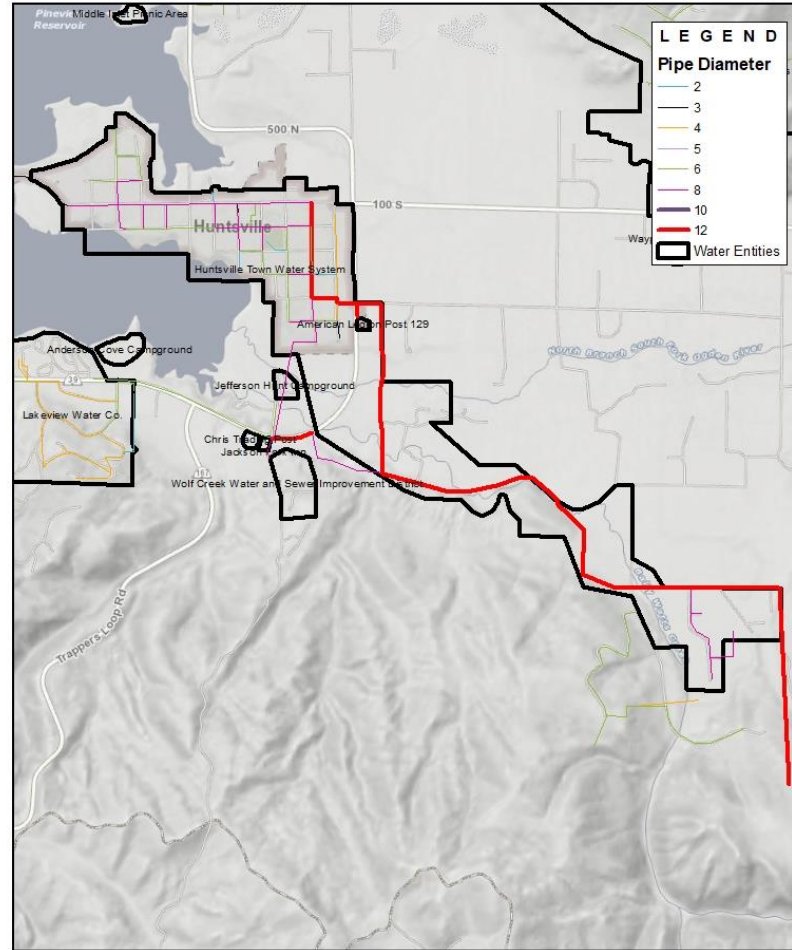
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community, Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community

Ogden Valley Water System Infrastructure



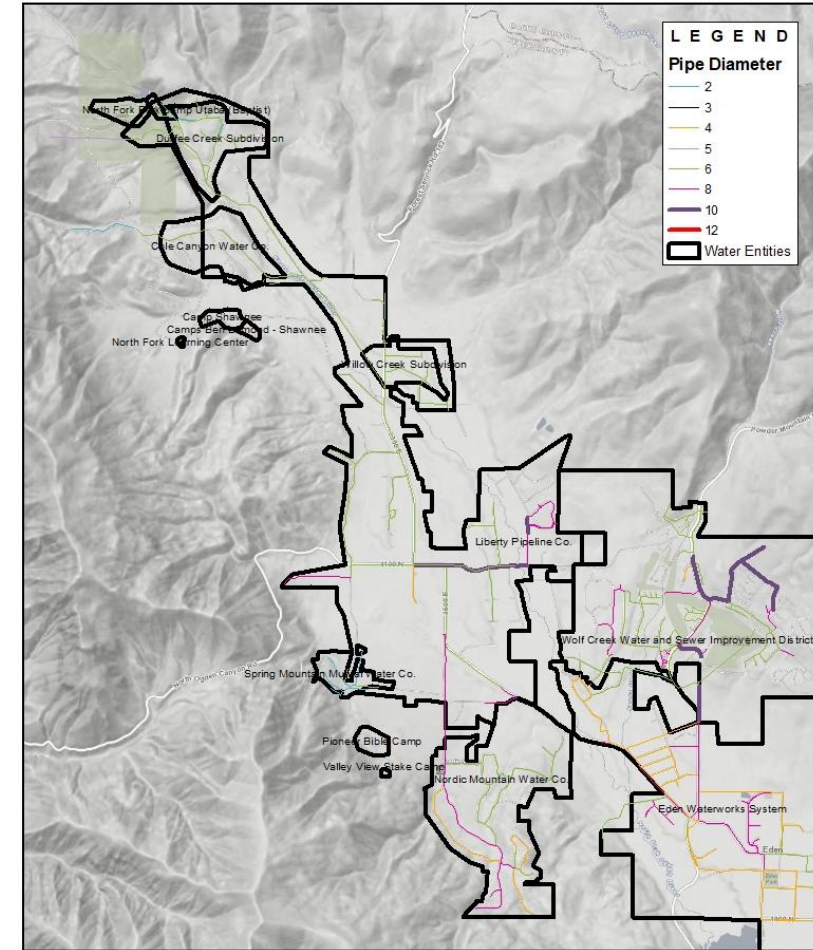
EXISTING EDEN & WOLF CREEK WATER SYSTEM INFRASTRUCTURE
 WEBER BASIN WATER CONSERVANCY DISTRICT
OGDEN VALLEY MASTER PLAN

SCALE: 0 0.4 0.8 Miles
 FIGURE NO. **2**



EXISTING HUNTSVILLE TOWN WATER SYSTEM INFRASTRUCTURE
 WEBER BASIN WATER CONSERVANCY DISTRICT
OGDEN VALLEY MASTER PLAN

SCALE: 0 0.4 0.8 Miles
 FIGURE NO. **3**




EXISTING LIBERTY & NORDIC MOUNTAIN WATER SYSTEM INFRASTRUCTURE
 WEBER BASIN WATER CONSERVANCY DISTRICT
OGDEN VALLEY MASTER PLAN

SCALE: 0 0.4 0.8 Miles
 FIGURE NO. **4**

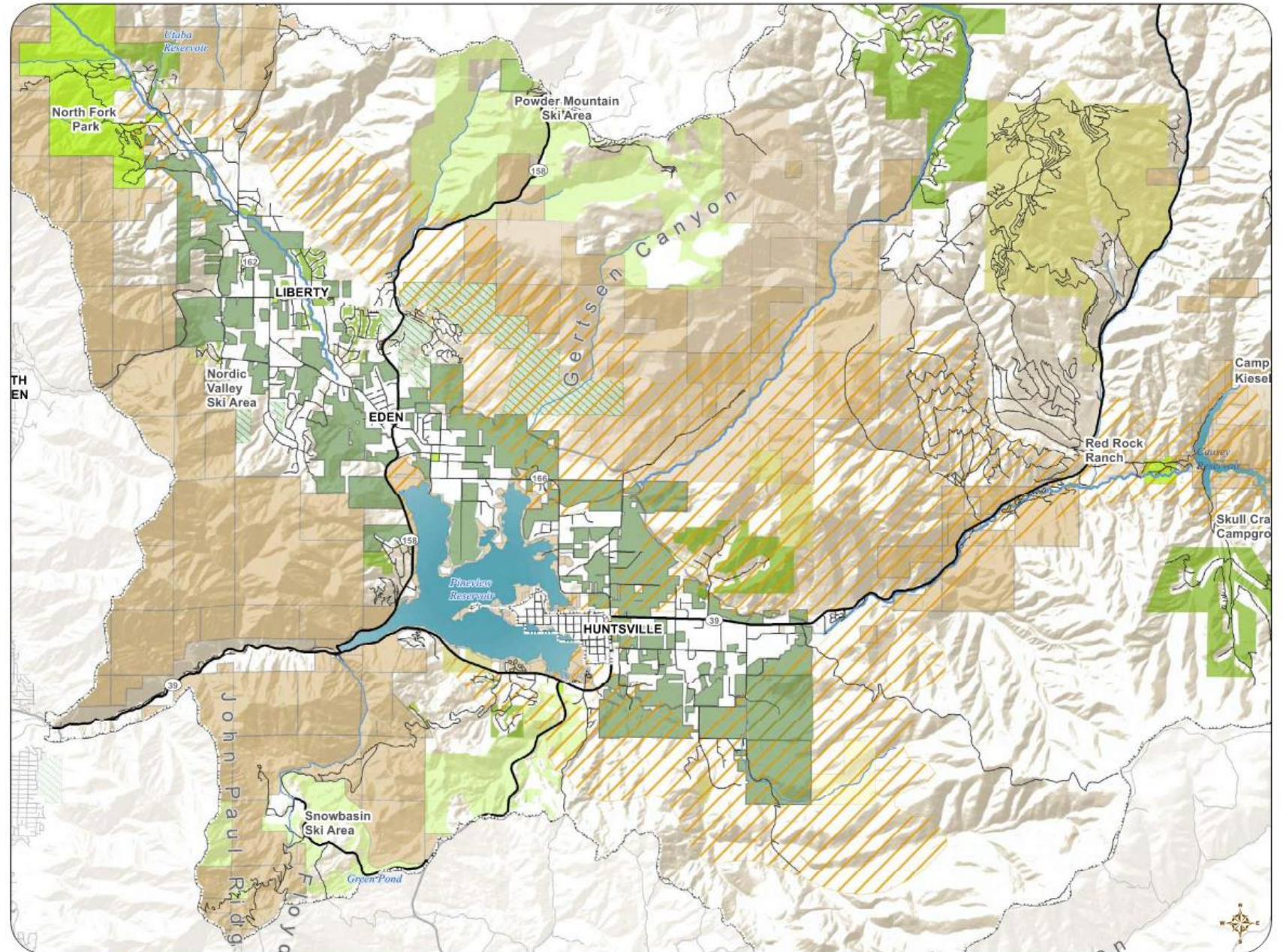
Future Growth – Valley Ag Land and Open Space

Legend

-  Ogden Valley Boundary
-  Lakes
-  Weber County Parks
-  State Route
-  Local Road
- Crucial Wildlife Habitats**
-  Crucial Wildlife Habitats
-  Stream protected by 100' Buffer
-  Stream protected by 50' Buffer
- Generally Open Lands**
-  Agricultural and Open Lands*
-  O-1 Open Space
-  3rd Party Conservation Easement
-  Development Agreement Open Space
-  Cluster Subdivision Open Space
- Public Lands**
-  United States of America
-  State of Utah
-  State of Utah (SITLA)

* Open land includes parcels designated as Greenbelt and over 10 acres in the AV-3 and FV-3 Zones. The Monastery and Stringtown Road were also included, as they are significant open spaces important for preservation.

Source:
Logan Simpson
UDOT Open Data, Updated on September 9, 2014
Accessed on October 7, 2014
Weber County
USGS Open Data



 **Open Lands**



Current Connections and Buildout Potential Based on 2016 Ogden Valley General Plan

Built Units:	3,762
Platted Vacant Parcels:	2,563
<u>Approved Resort Units:</u>	<u>5,300</u>
Total Built, Platted, Approved Units in Valley:	11,625
<u>Unplatted, but Zoned Units on Valley Floor:</u>	<u>4,000</u>
Potential Maximum Valley Floor Buildout:	15,625

Updated Analysis of Potential Growth in the Valley

	Updated Weber County Buildout	Planning Buildout
Expected Buildout Connections	13,584	15,625
Expected Buildout Population*	38,035	43,750

*Based on household size of 2.8 persons

County Plan to Transfer Development to Village Core Areas

Legend

Ogden Valley Boundary

Lakes

Parks

Roads

State Route

Local Road

2015 Zoning/Master Planned Areas

CV-1, Commercial Valley

CV-2, Commercial Valley

CVR-1, Commercial Resort

MV-1, Manufacturing

DRR-1, Resort

Resort Master Planned Comm/Mixed-Use**

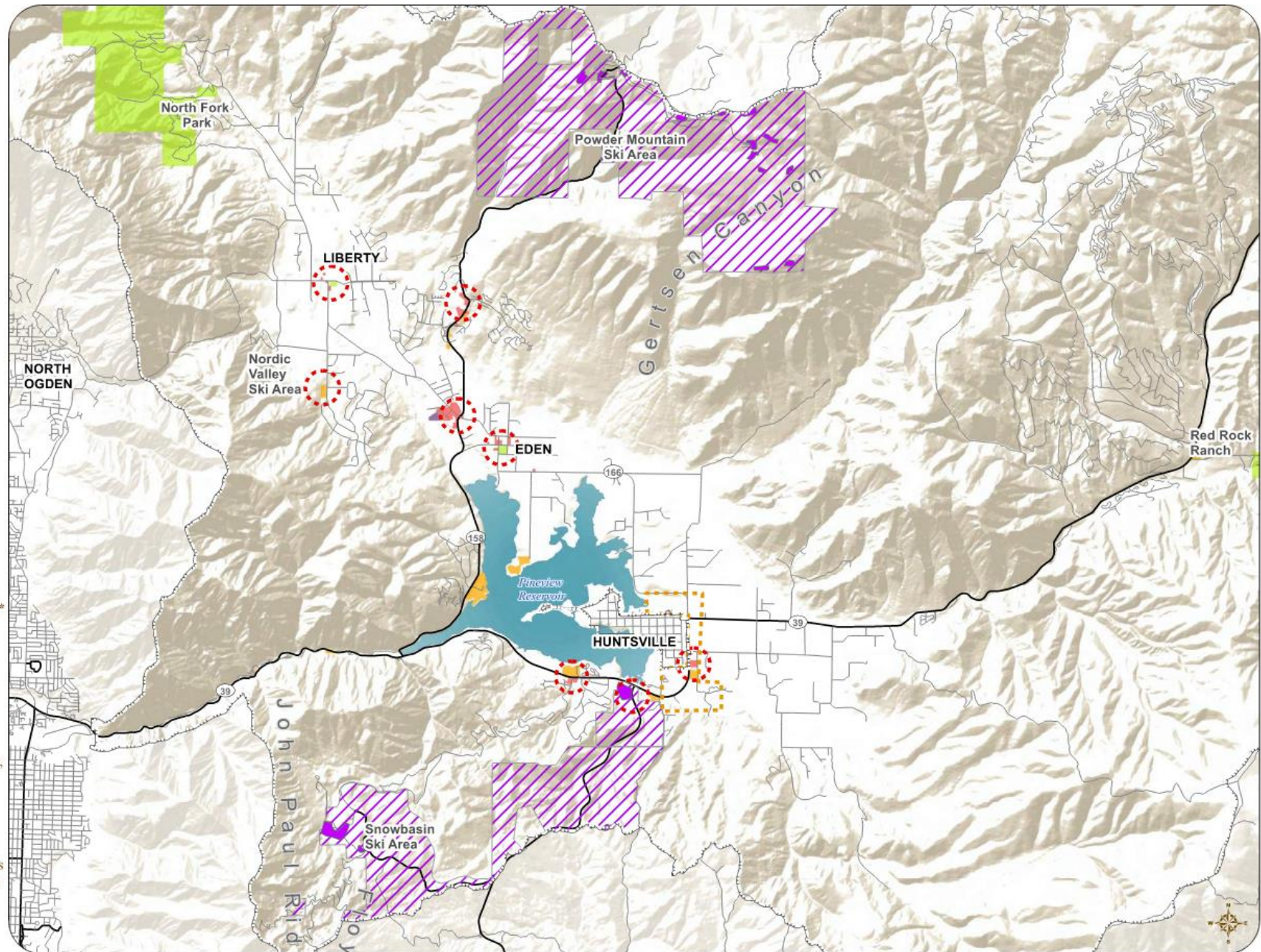
Future Planning

Village Area*

Huntsville Annexation Area

* The village areas are shown as ¼ mile radius circles centered on each area. For these purposes, the study areas are not intended as growth boundaries, but are the areas within walking distance of each village center.

** Master Planned Commercial/Mixed-Use areas are for representative purposes only. See specific resort master plans for exact alignments.



Source:
Weber County
USGS Open Data
Accessed on September 2015



Commercial Locations & Village Areas

0 0.75 1.5 3 Miles

County Transfer of Development Rights for Future Growth

Not Successful in Transferring Development Rights

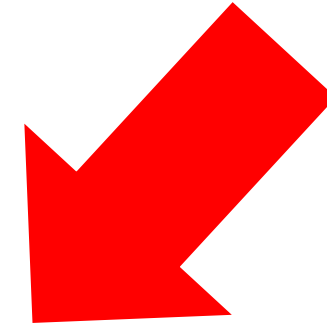
	Existing Dwellings	Remaining Rights	Transferred Rights	Buildout	Buildout for Planning
Eden	228	638	0	866	996
Huntsville	241	133	0	374	430
Liberty	553	1,194	0	1,747	2,010
Wolf Creek	1,219	1,795	0	3,014	3,467
Ogden Valley	1,565	5,721	0	7,286	8,381
Snowbasin DRR-1	0	297	0	297	342
Total Valley	3,806	0	0	13,584	15,625

50% Successful in Transferring Development Rights

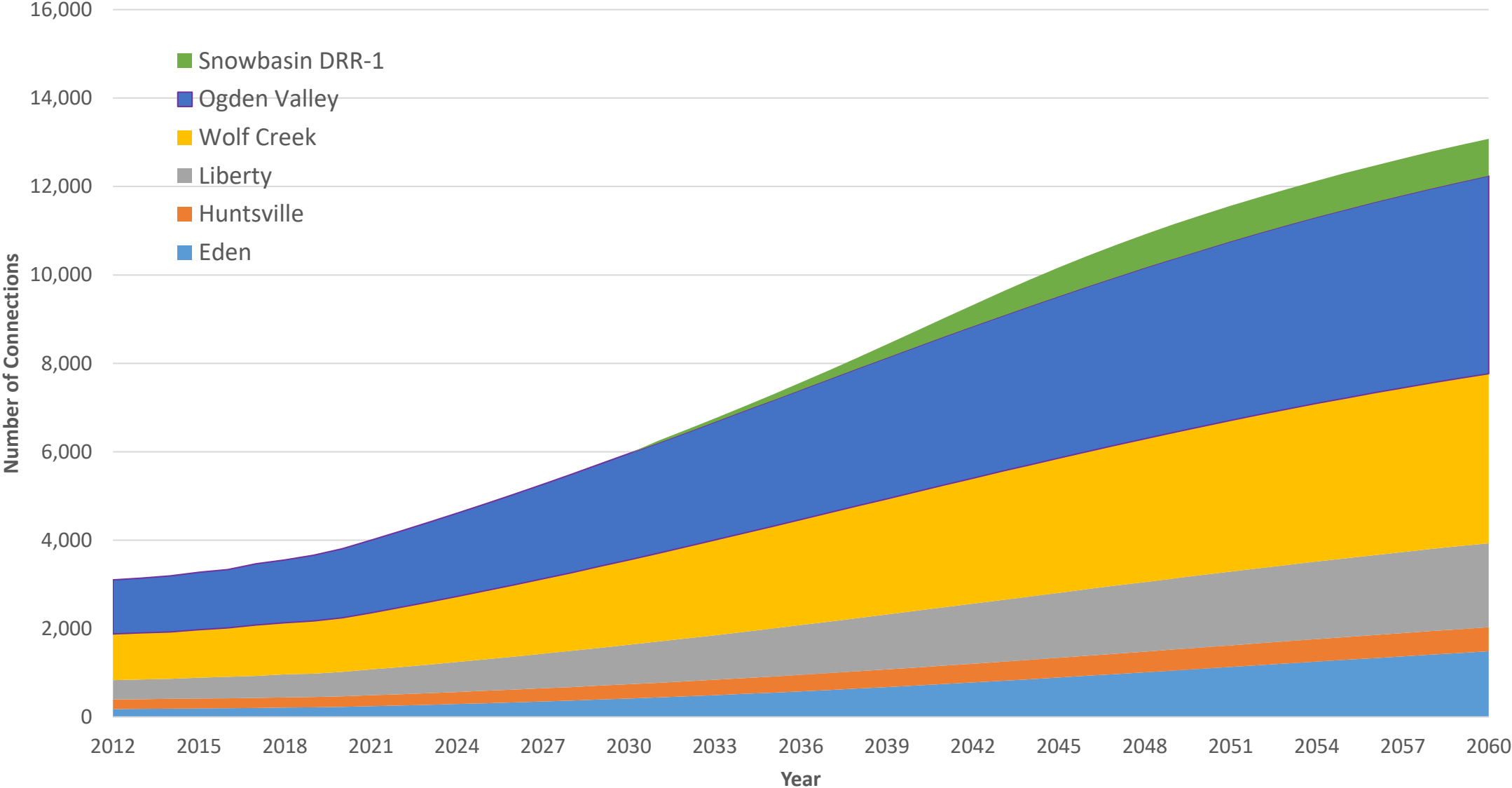
	Existing Dwellings	Remaining Rights	Transferred Rights	Buildout	Buildout for Planning
Eden (+40% of OV Decrease)	228	638	1,144	2,010	2,312
Huntsville (7.5% of OV Decrease)	241	133	215	588	676
Liberty (7.5% of OV Decrease)	553	1,194	215	1,962	2,257
Wolf Creek (30% of OV Decrease)	1,219	1,795	858	3,872	4,454
Ogden Valley (-50%)	1,565	5,721	-2,861	4,426	5,091
Snowbasin DRR-1 (15% of OV Decrease)	0	297	429	726	835
Total Valley	3,806	0	0	13,584	15,625

100% Successful in Transferring Development Rights

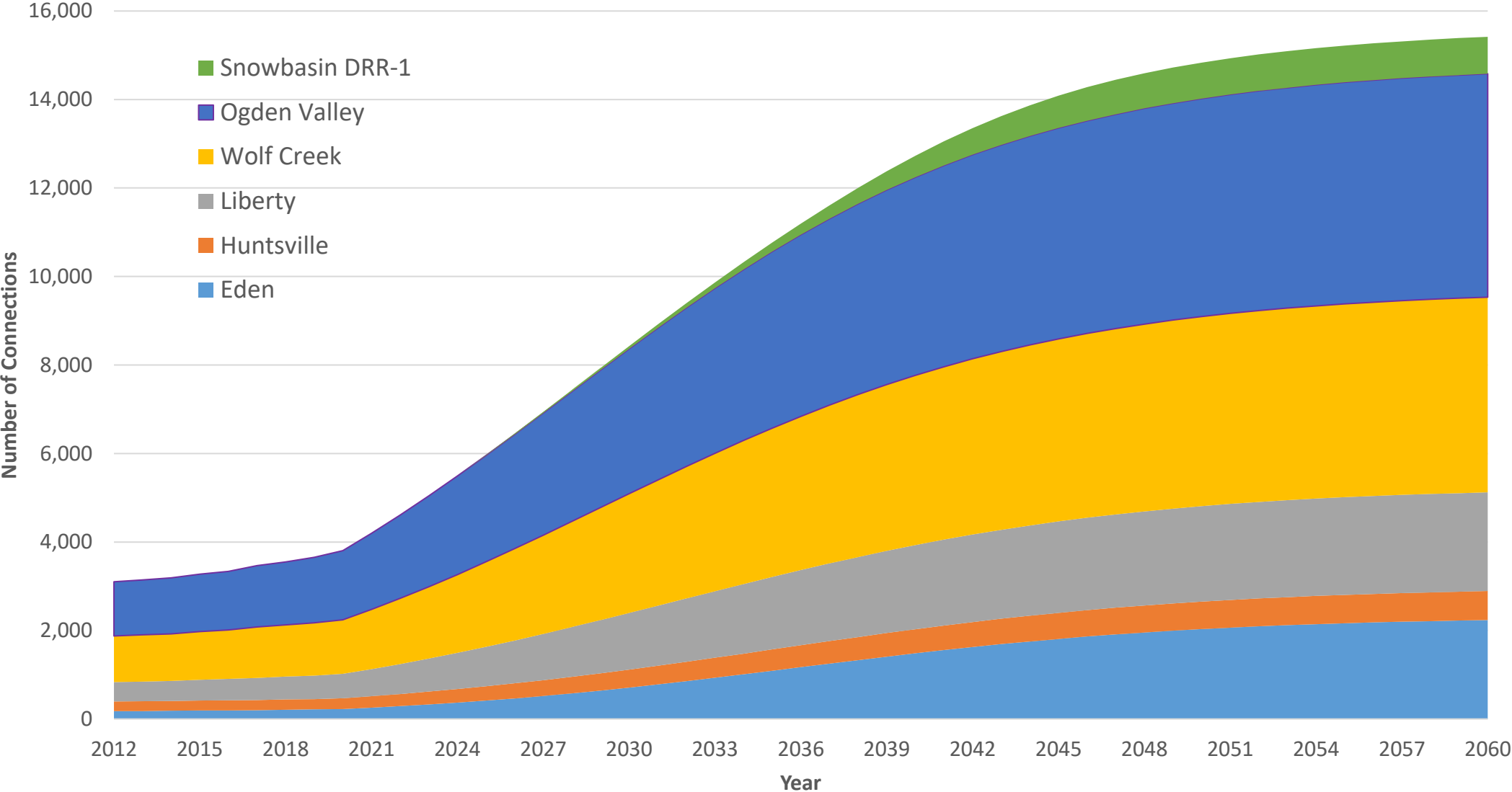
	Existing Dwellings	Remaining Rights	Transferred Rights	Buildout	Buildout for Planning
Eden (+40% of OV Decrease)	228	638	2,288	3,154	3,628
Huntsville (7.5% of OV Decrease)	241	133	429	803	923
Liberty (7.5% of OV Decrease)	553	1,194	429	2,176	2,503
Wolf Creek (30% of OV Decrease)	1,219	1,795	1,716	4,730	5,441
Ogden Valley (-100%)	1,565	5,721	-5,721	1,565	1,800
Snowbasin DRR-1 (15% of OV Decrease)	0	297	858	1,155	1,329
Total Valley	3,806	0	0	13,584	15,625



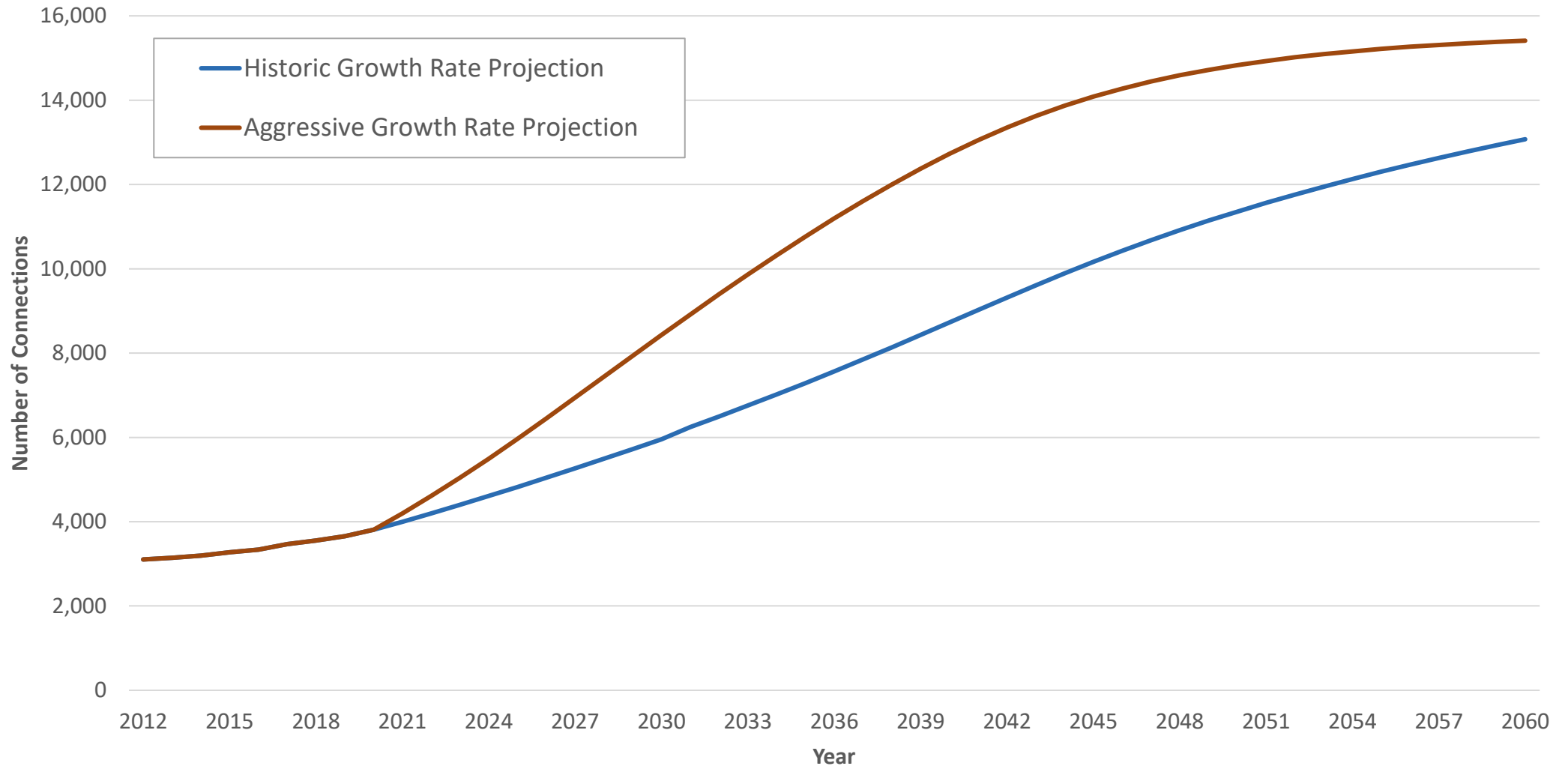
Projected Growth – Historic Growth Rate



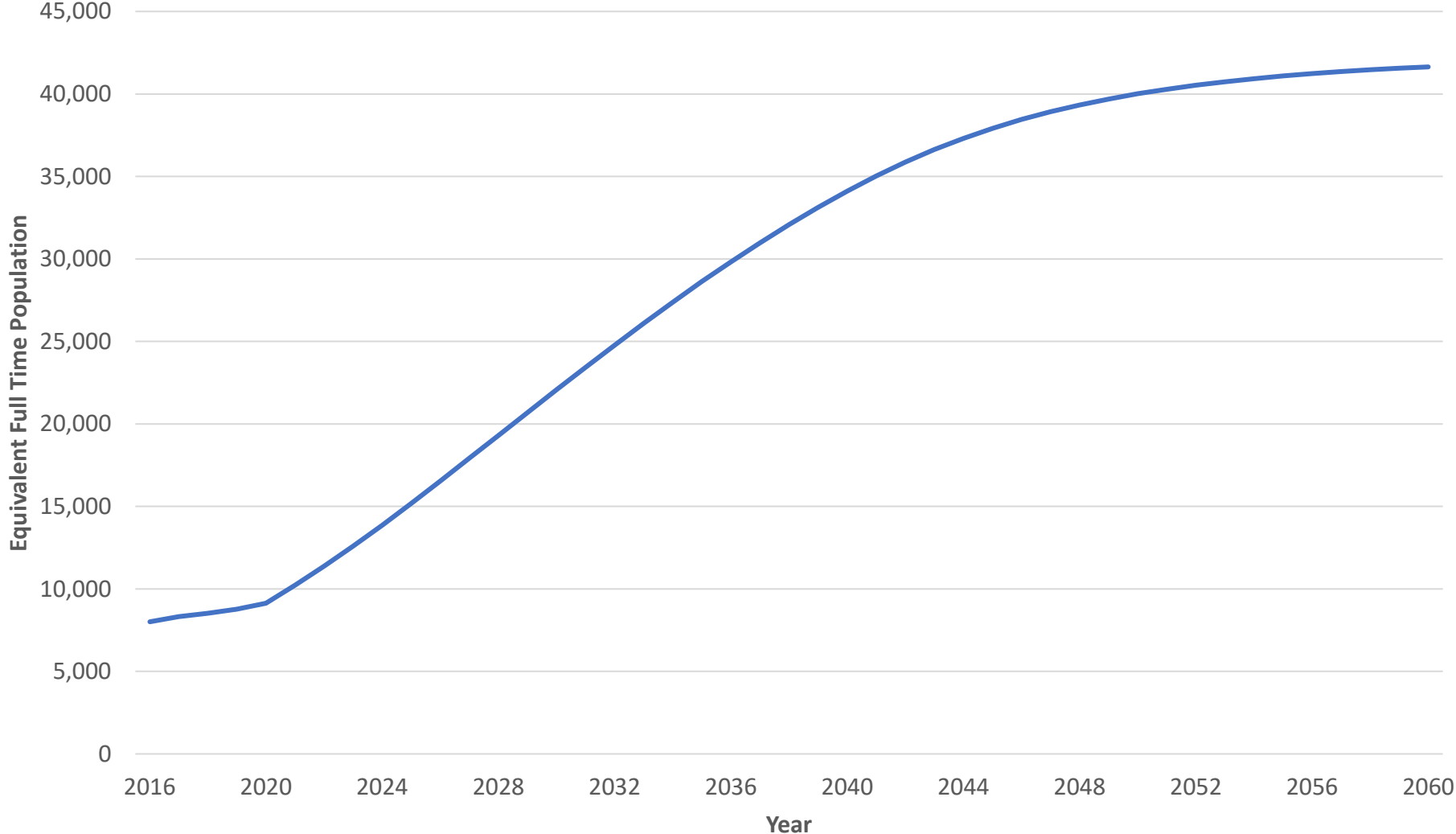
Projected Growth – Aggressive Growth Rate



Projected Growth – Comparison of Historic vs. Aggressive Growth Rate

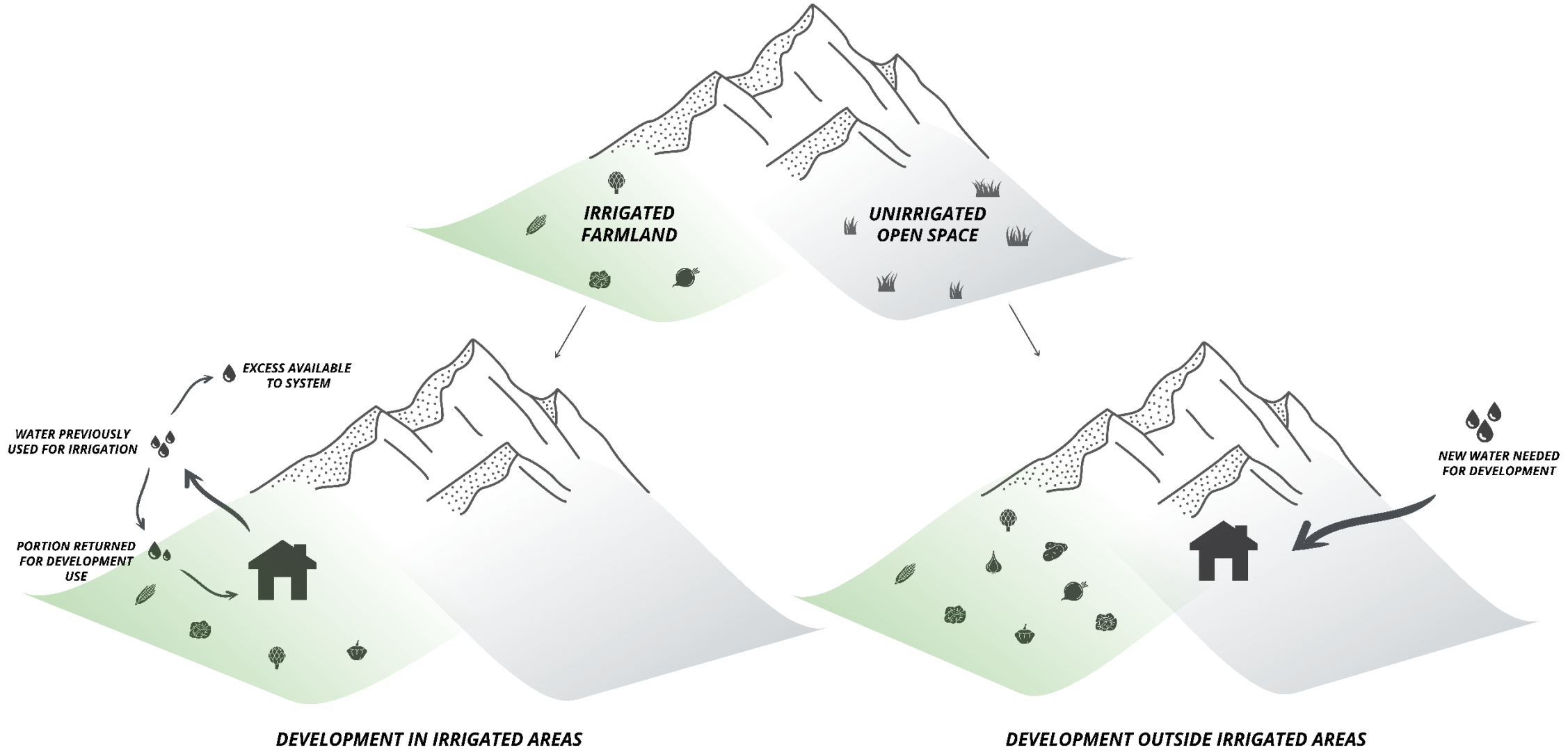


Overall Ogden Valley Population Projection = 41,600 by 2060 (Aggressive Growth Rate)



*Existing population is based on an average household size of 2.4 persons with future population at a household size of 2.8 persons.

Development on Irrigated Ag Land vs Unirrigated Open Space



Historic and Assumed Water Use Data

Culinary

	Persons Per Household	Use (gpcd)	Estimated System Loss	Production (gpcd)	GPD Per Residential Connection	Acre-ft Per Year Per Residential Connection
Historic	2.4	60.9	15%	71.65	172.0	0.193
Planning	2.8	60.9	15%	71.65	200.6	0.225

Secondary

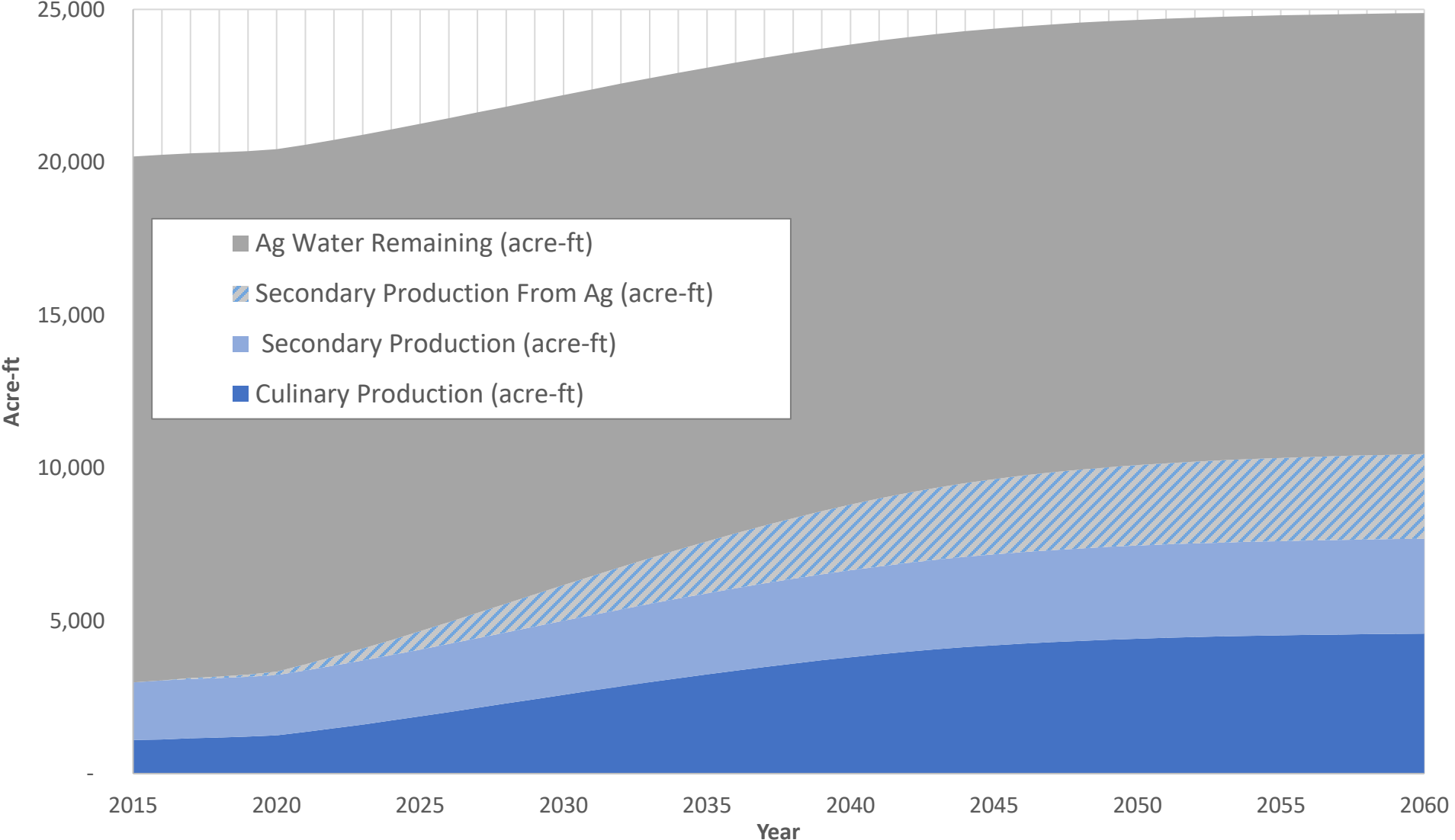
	Lot Size (sq-ft)	Landscape Area (sq-ft)	Secondary Use (acre-ft/connection)	ET Rate (inches/year)	Estimated System Loss	Secondary Production (acre-ft/connection)
Weber County	11,880	6,828	0.42	21.6	15%	0.49
Morgan County	21,033	10,704	0.50	18.7	15%	0.59
Ogden Valley	11,880	6,828	0.36	18.7	15%	0.42
1/4 acre	10,890	6,259	0.33	18.7	15%	0.39
1/2 acre	21,780	11,084	0.58	18.7	15%	0.69
1 acre	43,560	19,602	1.03	18.7	15%	1.22

Water Entity	Culinary Irrigated	Secondary Irrigated
Eden	10%	90%
Liberty	30%	70%
Nordic	100%	0%
Wolf Creek	0%	100%
Huntsville	0%	100%
Other (Weighted Average)	16%	84%

*Data is based on unmetered secondary use. If secondary use is metered, use may be lower than shown.

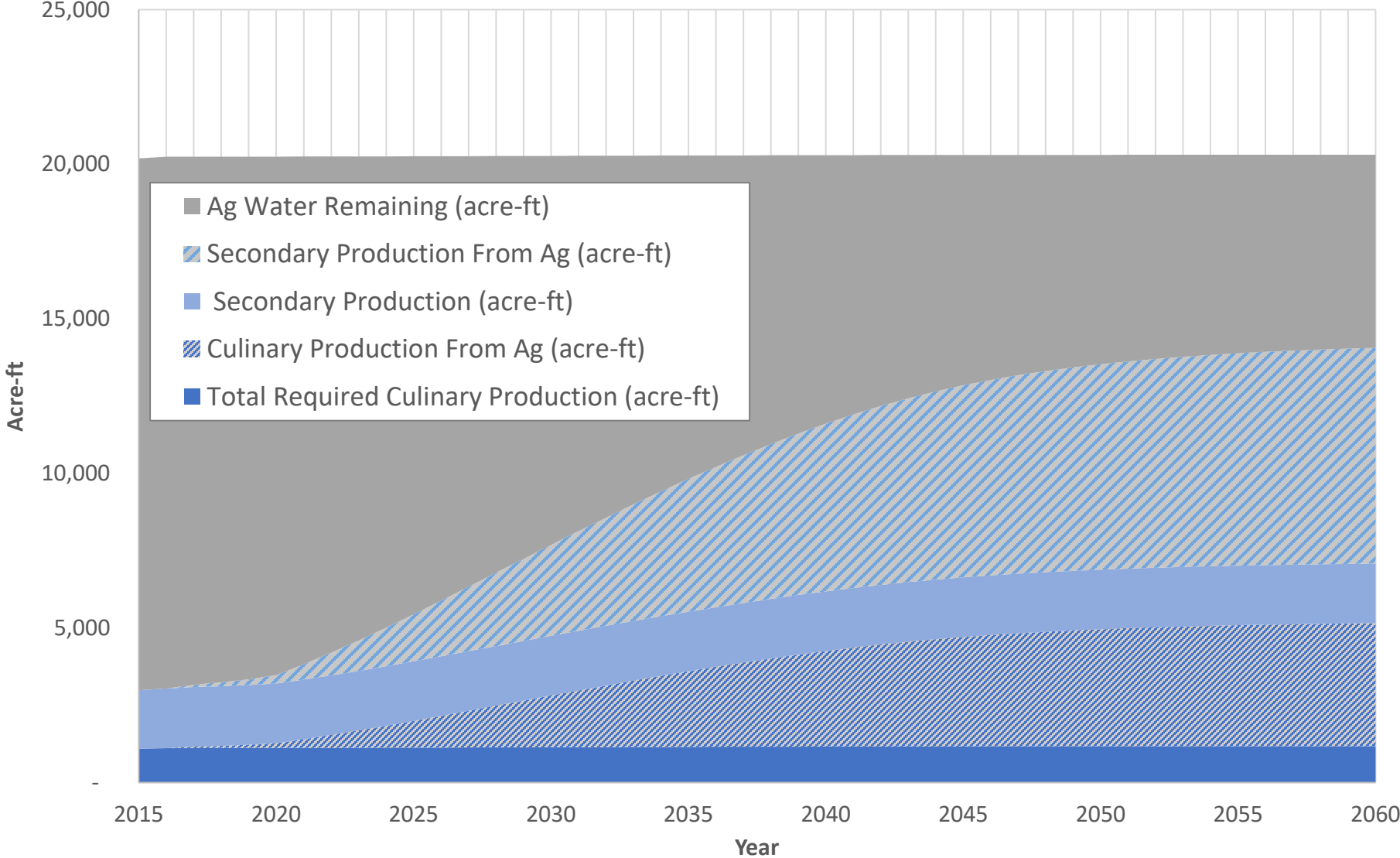
Supply & Demand Projections (1/4 acre lots)

Increase of 4,697 acre-ft from 2015 to 2060



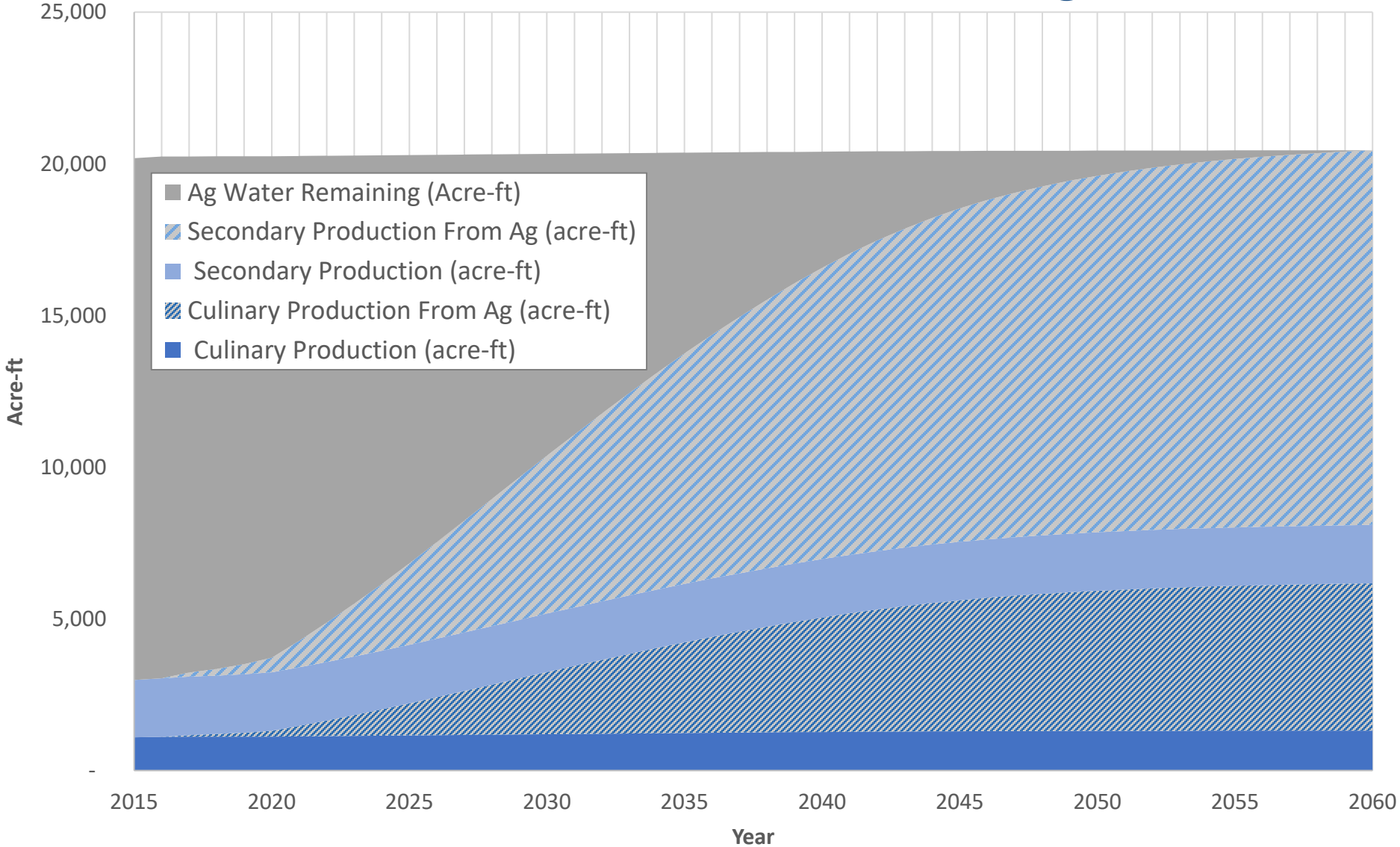
Supply & Demand Projections (1/2 acre lots)

Increase of 122 acre-ft from 2015 to 2060

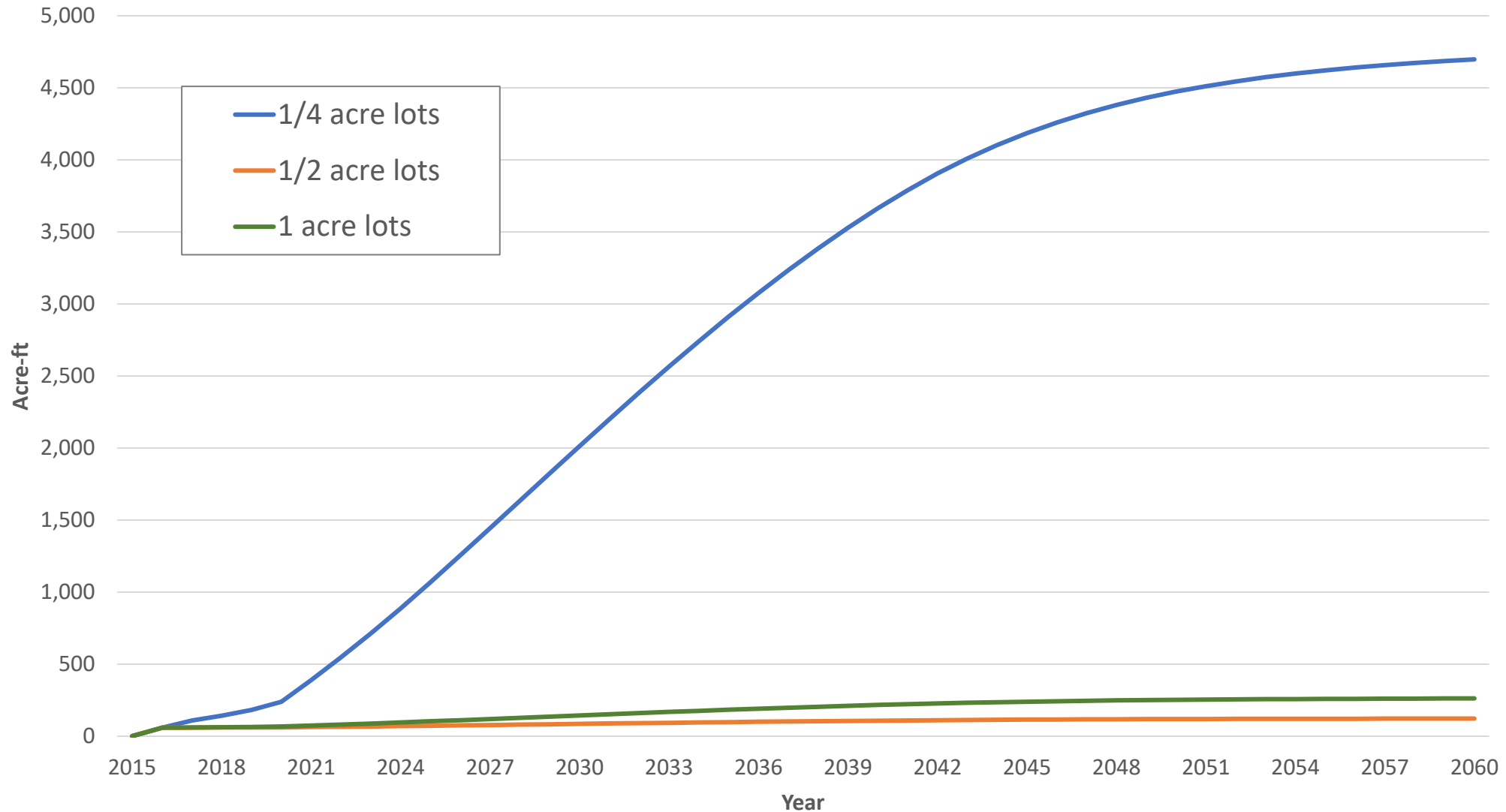


Supply & Demand Projections (1 acre lots)

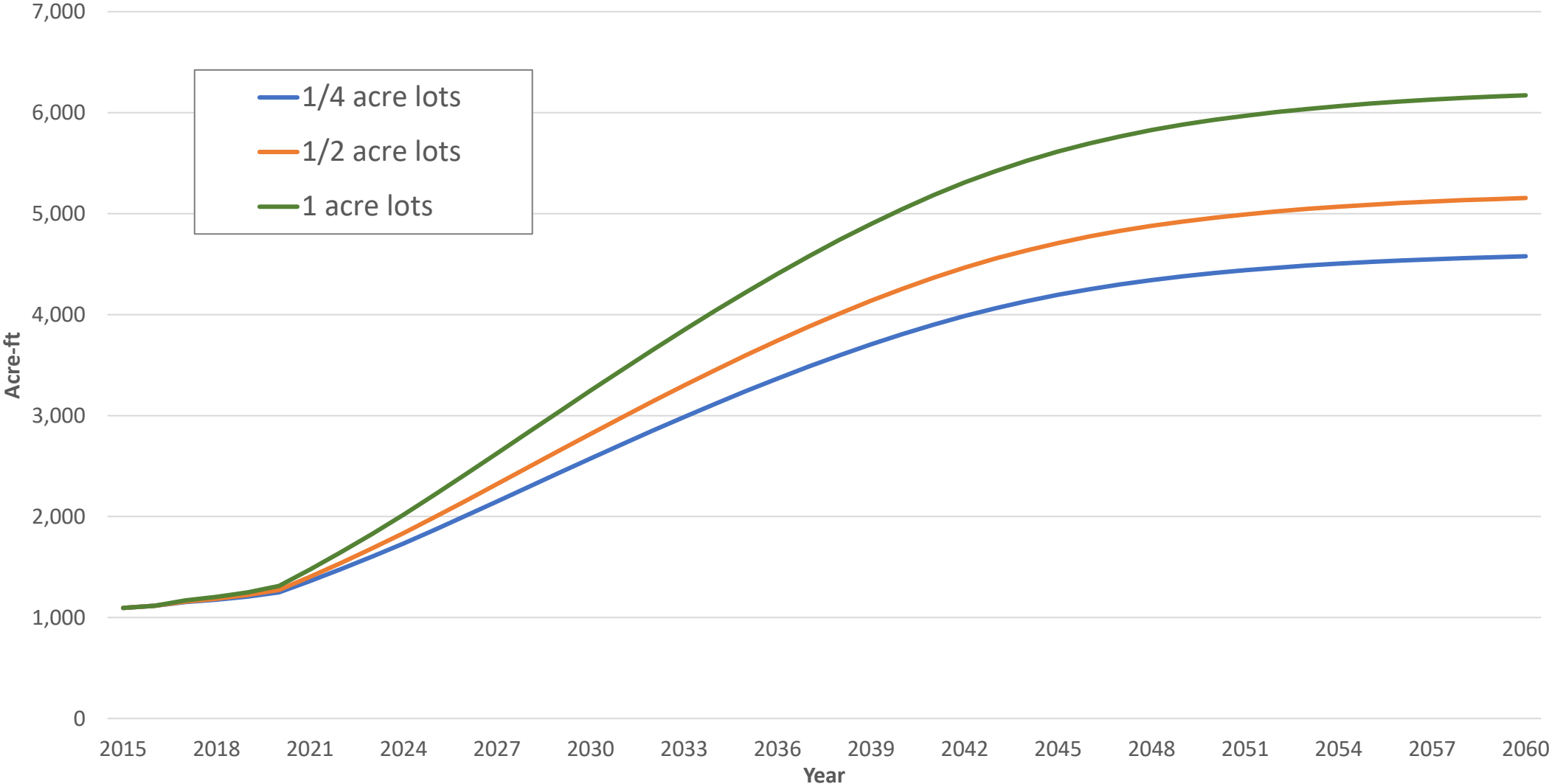
Increase of 262 acre-ft from 2015 to 2060



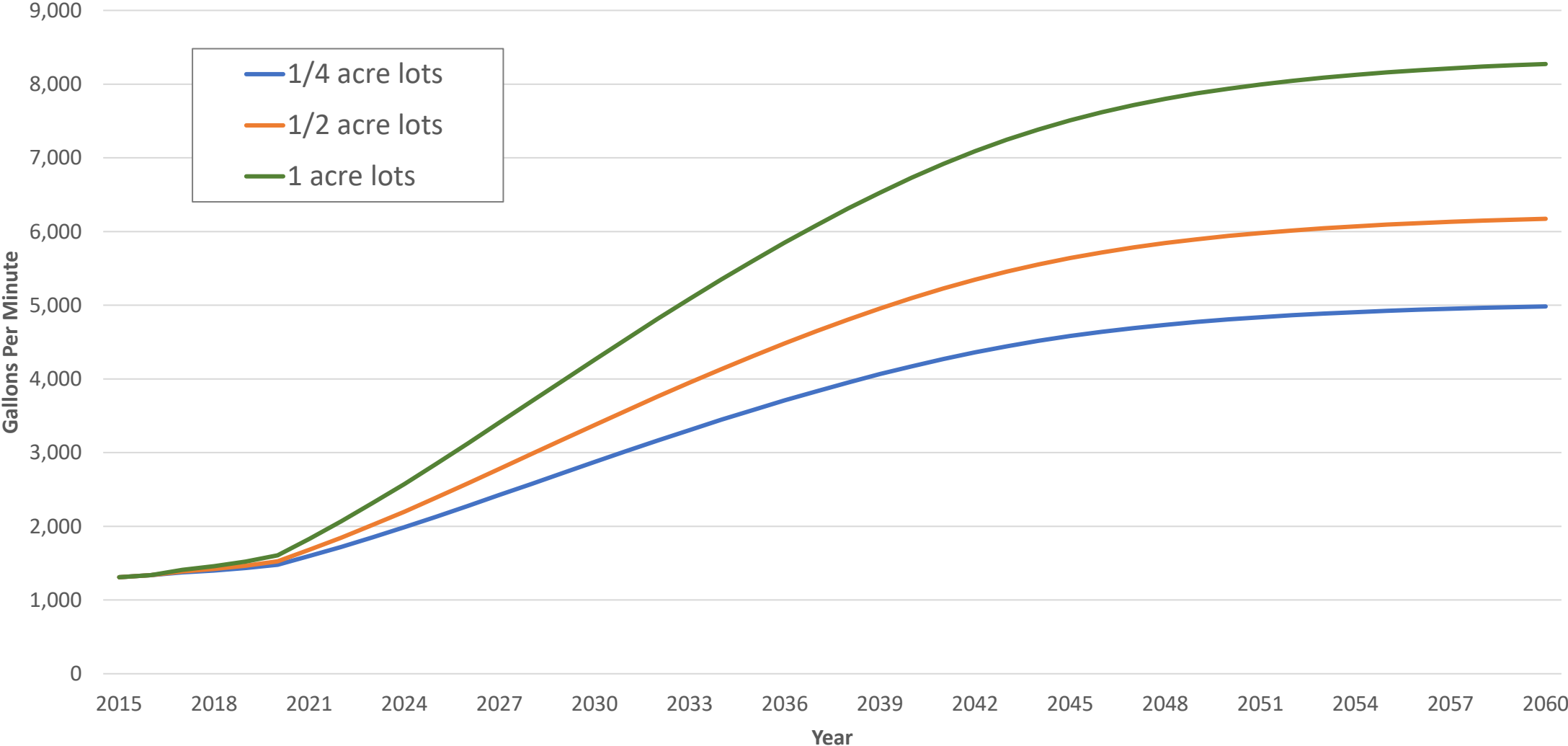
Projected Additional Import Supply Needs



Projected Culinary Demand (Average Annual)



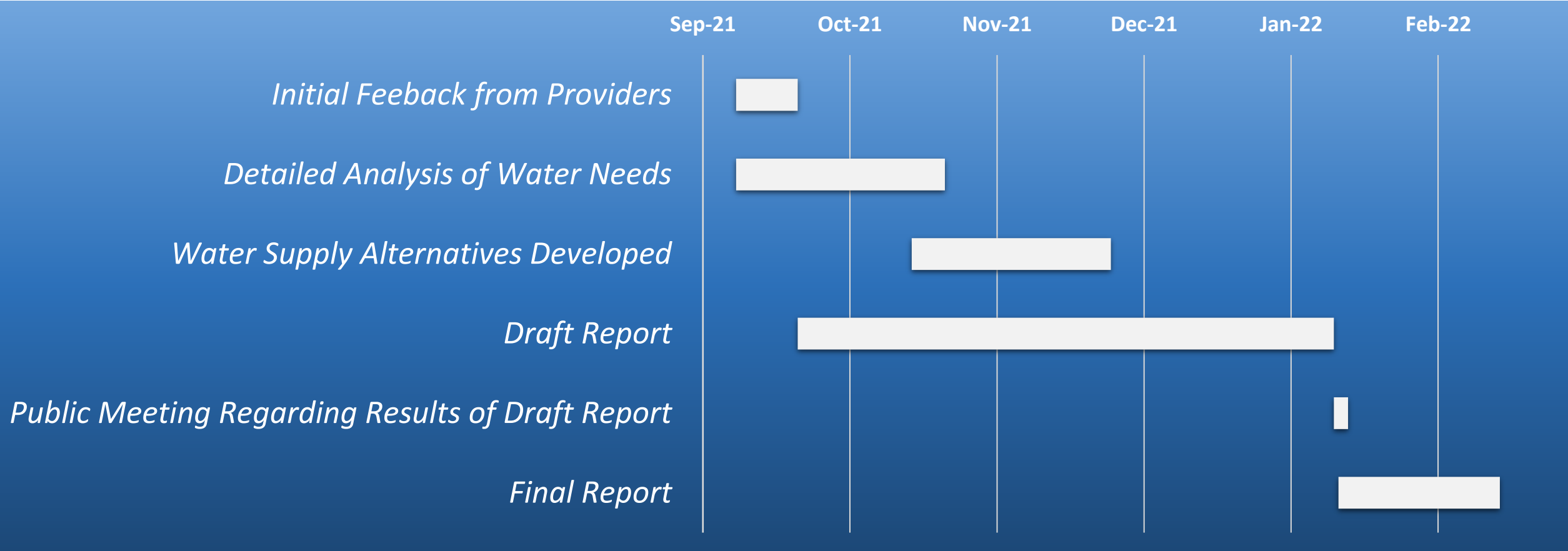
Projected Culinary Demand (Peak)



Initial Supply and Demand Conclusions

- Expected buildout connections = Between 13,584 and 15,625
- Expected need for new water = 122 to 4,697 acre-ft
- Expected increase in annual culinary water needs = 3,484 to 5,078 acre-ft
- Expected increase in culinary peak capacity needs = 3,673 to 6,964 gpm
- Recommended basis for planning:
 - Aggressive growth scenario
 - Up to 50% success in transferring development entitlement to Village core areas
 - Import water based on worst case scenario ($\frac{1}{4}$ acre lots)
 - Culinary needs based on worst case scenario (1 acre lots)

Project Timeline



Opportunities for Project Review and Comment – Project Website



NEWS & EVENTS SERVICES PROJECTS RESOURCES ABOUT US PUBLIC INVOLVEMENT CONTACT

Public Involvement Projects



Ogden Valley Water Master Plan

[LEARN MORE →](#)

Water Provider Survey

Your participation is greatly appreciated! Additional comments by water providers can also be submitted through our regular comment portal below.

[Project Schedule](#) **[Comments](#)** [Contacts](#) [FAQ](#)

Please fill out the form below to comment on this project.

Name (Required)

First

Last

Email (Required)

Address (Required)

Street Address

Address Line 2

www.bowencollins.com/public-involvement/ogden-valley/



Take the Water
Provider Survey



Thank you! Questions?



BOWEN COLLINS
& ASSOCIATES