

Investing in the Upper American River Watershed

A \$1.6-trillion incentive

ACWA Spring 2024 Conference

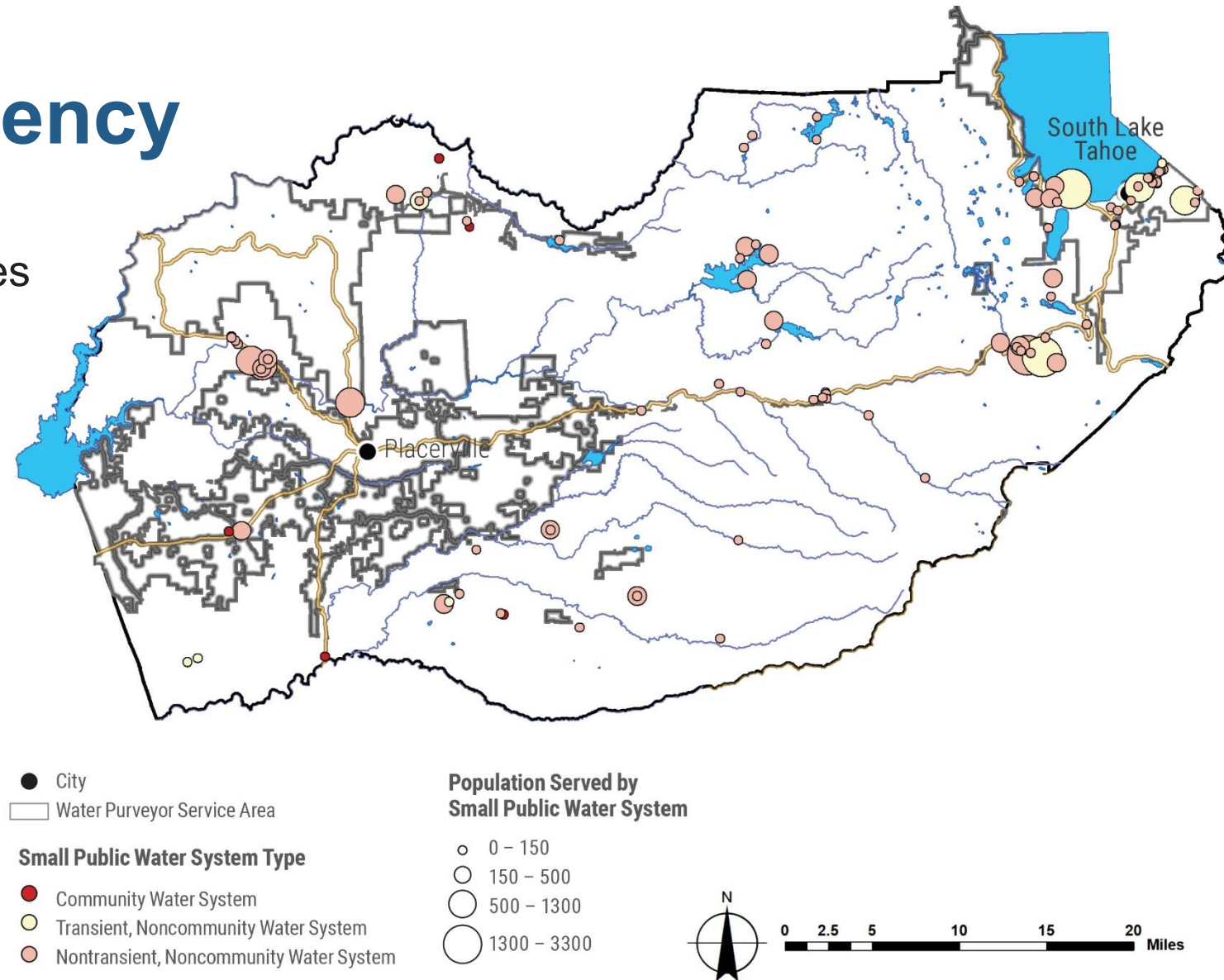
Federal Water Industry Trends: Does Money Grow on Trees?

May 9, 2024



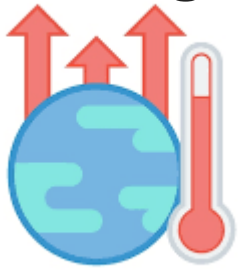
El Dorado Water Agency

- Address countywide water resources needs of both today and the future
- Support realization of County's General Plan vision in economic development, environmental protection and social well-being
- Develop a countywide plan for a resilient water future through integrated water resources management
- Not a water retailer



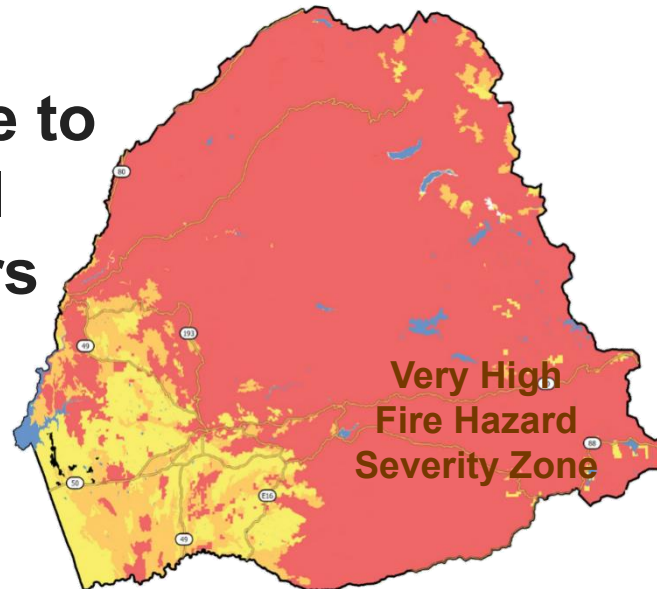
Why we did this

Changing Climate

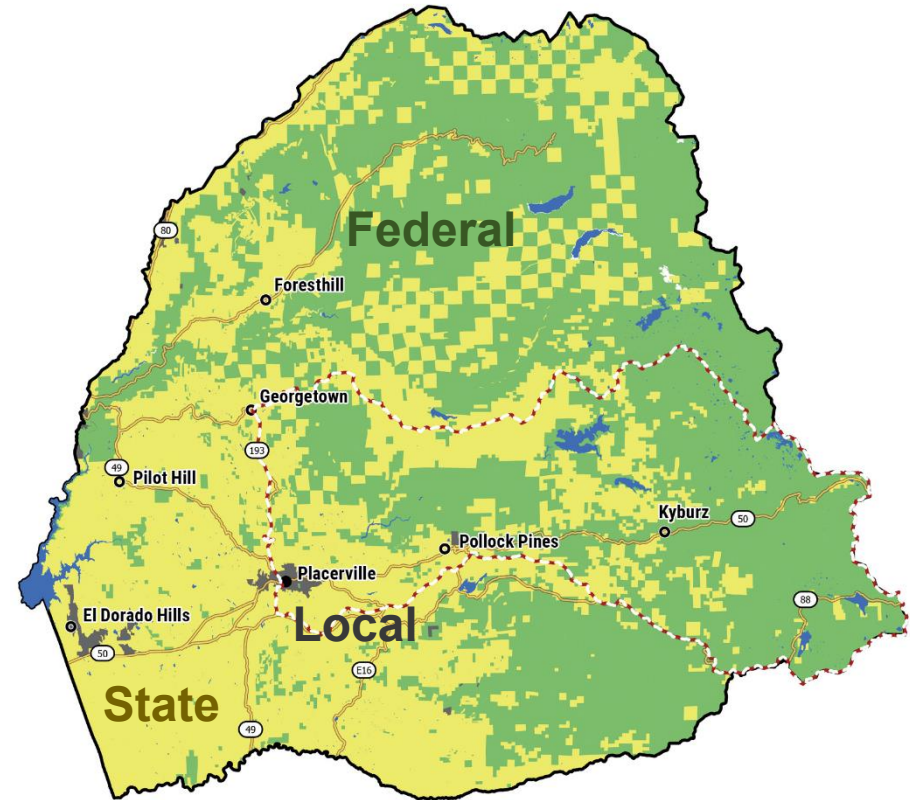


5°F to 6.1°F increase in avg. July temperature by end of century

Very Vulnerable to Natural Disasters



No Cohesive Vision Patchwork of Land Ownership/Responsibilities



Our Watershed Management Program Approach



Establish a cohesive vision through a collaborative watershed plan

- Restore and enhance the natural, built, and social capacities
- Support integrated resource management

Perform initial valuation of our watershed





The Value of our Working Landscape



Why Value Working Landscapes?

- 1. Most assets cannot be well-managed without knowing their value and who benefits from that value**
 - e.g., knowing a car's value helps reveal if a repair is worth the expenditure.
 - Provisionary: Where ecosystem goods and services are supplied.
 - Beneficiary: Where the demand for ecosystem goods and services occurs.
- 2. Working landscapes typically produce a great deal of value but only recognized as capturing little financial value**



**Freshwater
Provisioning
Value: \$200
million**



**Seattle Public Utilities – Water Fund
(An Enterprise Fund of the City of Seattle)
Statements of Net Position**

	December 31,	
	2018	2017 (as restated)
ASSETS		
CURRENT ASSETS		
Operating cash and equity in pooled investments	\$ 93,940,996	\$ 54,637,435
Receivables		
Accounts, net of allowance	14,616,153	13,643,663
Interest and dividends	842,784	834,322
Unbilled revenues	16,029,071	15,679,001
Due from other funds	17,883,190	746,581
Due from other governments	10,581,455	2,296,306
Materials and supplies inventory	6,492,083	5,741,476
Prepayments and other current assets	71,593	71,592
Total current assets	160,457,325	93,650,376
NONCURRENT ASSETS		
Restricted cash and equity in pooled investments	144,245,464	163,252,748
Prepayments long-term	947,002	1,018,594
Conservation costs	28,975,679	28,731,758
Regulatory assets	8,633,064	9,943,884
Other charges	1,825,445	2,078,311
Capital assets		
Land and land rights	48,319,324	48,319,324
Plant in service, excluding land	2,082,376,529	2,009,173,197
Less accumulated depreciation	(837,570,044)	(791,510,076)
Construction in progress	25,411,285	36,970,991
Other property, net	1,755,696	1,663,027
Total noncurrent assets	1,504,919,444	1,509,641,758
Total assets	1,665,376,769	1,603,292,134
DEFERRED OUTFLOWS OF RESOURCES		
Unamortized loss on advanced refunding	21,088,606	22,460,860
Pension and OPEB contributions and changes in assumptions	2,175,076	14,159,369
Total deferred outflow of resources	23,263,682	36,620,229
Total assets and deferred outflows of resources	\$ 1,688,640,451	\$ 1,639,912,363





Why Value Working Landscapes?

3. Common interest to maintain rural landscapes

- Recognize the value they produce
- In the last 30 years, there has been real advancement.
 - Currently, 2,500+/- payments for ecosystem services systems in the U.S.
- Places money and investment back into rural working landscapes
- Often funded by the downstream and urban beneficiaries

4. Events have amplified vulnerabilities to and demands on working landscapes

- Wildfires
- California's population increases
- Health and maintenance of headwaters
- Public services to visiting populations

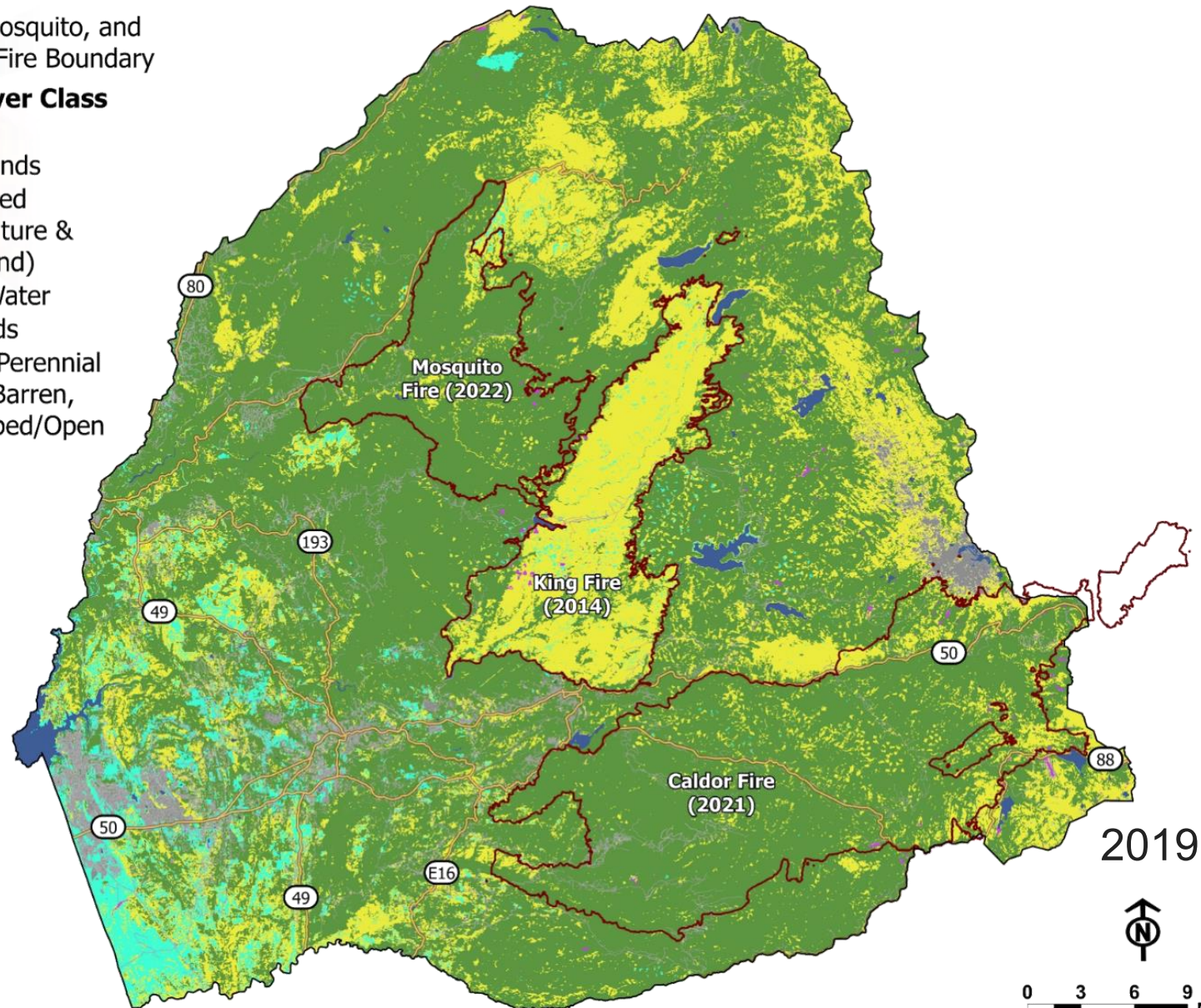


What is this working landscape's worth? (and it's changing)

King, Mosquito, and
Caldor Fire Boundary

Land Cover Class

- Forests
- Shrublands
- Cultivated
(Agriculture &
Grassland)
- Open Water
- Wetlands
- Other (Perennial
Snow, Barren,
Developed/Open
Space)



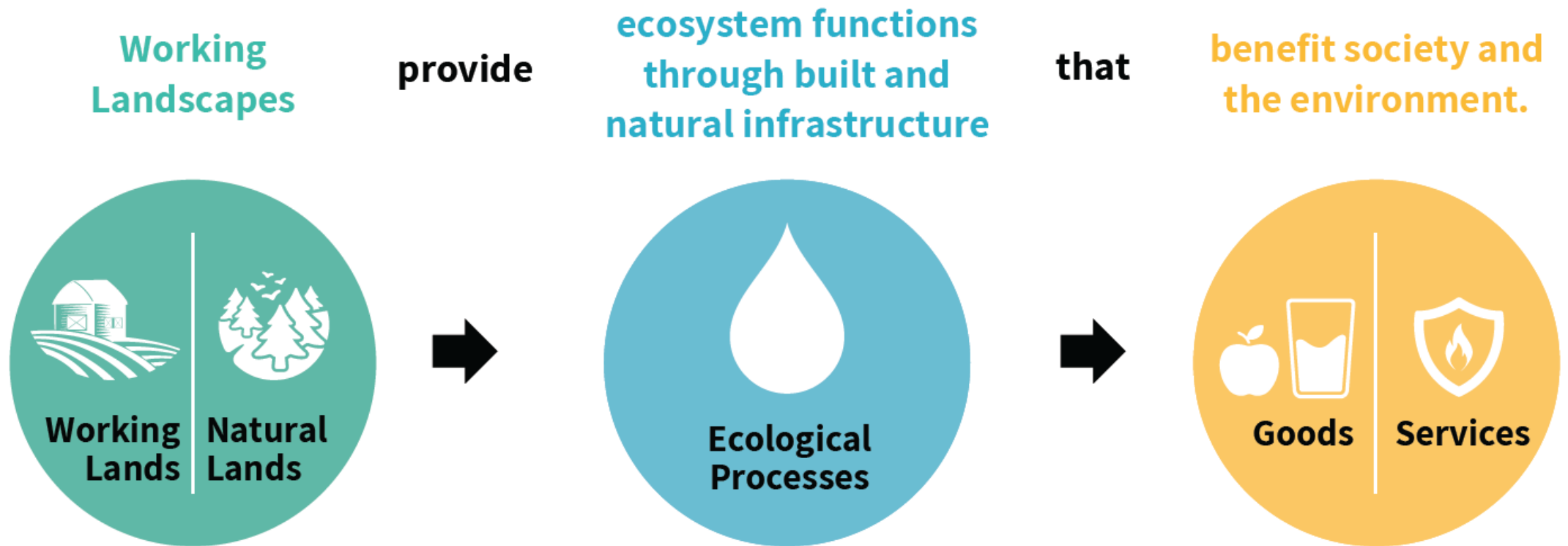
2019 data



0 3 6 9 Miles



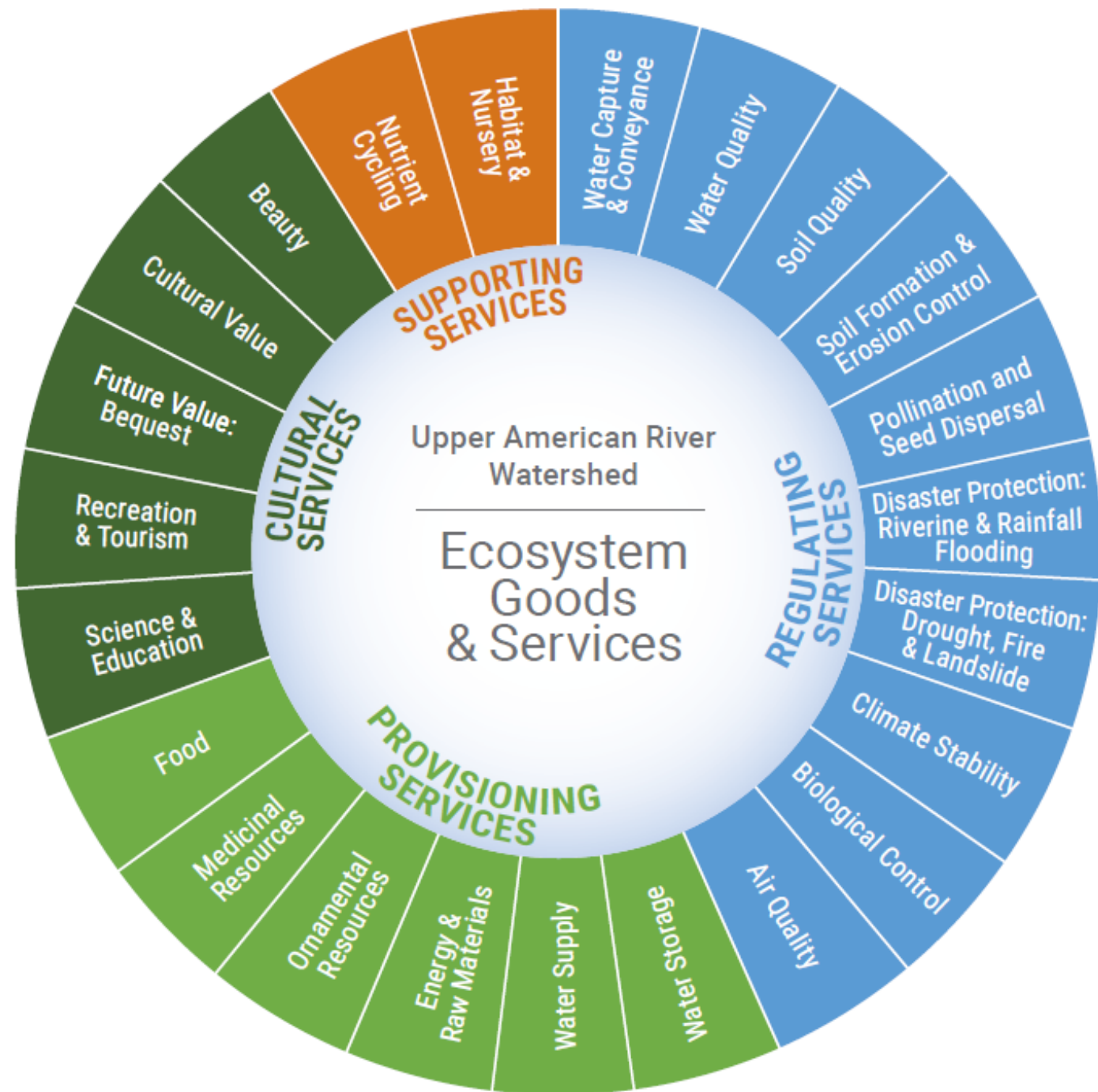
Ecosystem Goods & Services



Healthy ecosystems are like factories, continuously producing goods and services that benefit people.



Ecosystem Goods & Services in the Upper American River Watershed



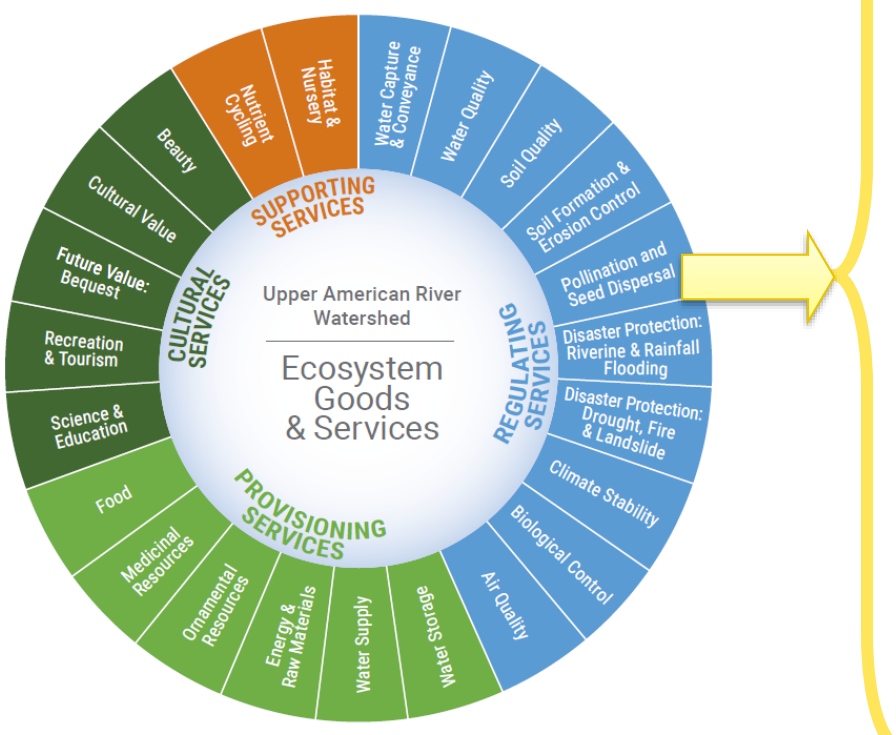
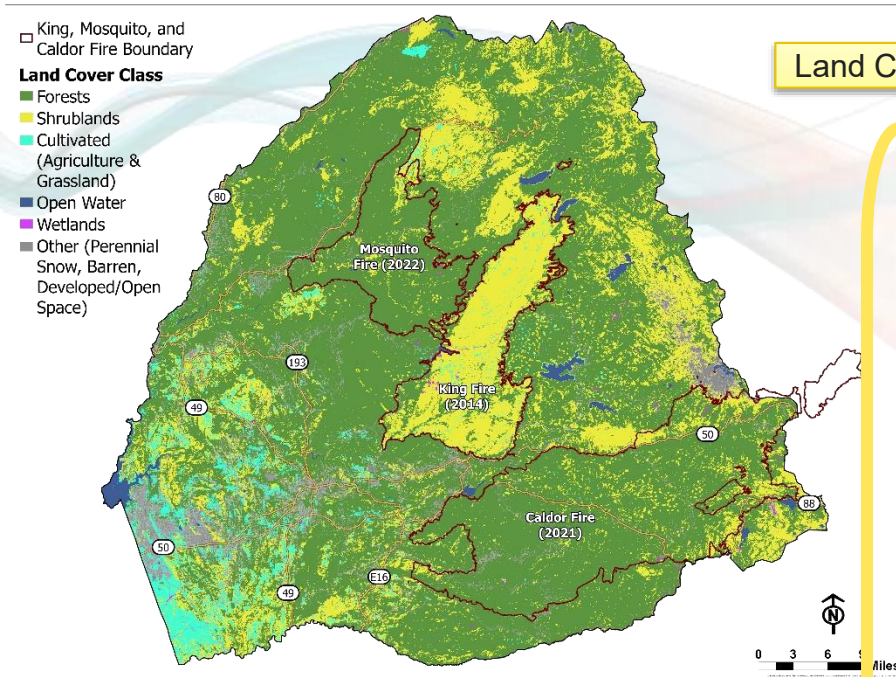


Valuation Methods

Some methods we used:

- Market Pricing
- Avoided Cost
- Replacement Cost
- Travel Cost
- Hedonic Pricing
- Contingent Valuation





Land Cover

	Forests	Shrublands	Grasslands	Agriculture	Wetlands	Open Water	Developed, Open Space
Provisioning							
Food	O	O	O	O	O	O	O
Medicinal Resources	O	O	O	O	NP	NP	O
Ornamental Resources	O	O	O	O	O	NP	O
Energy & Raw Materials	O	O	O	O	O	O	O
Water Supply	O	O	O	O	O	O	O
Water Storage	O	O	O	NP	O	O	O
Regulating							
Air Quality	O	O	O	O	O	NP	O
Biological Control	O	O	O	O	O	O	O
Climate Stability	O	O	O	O	O	O	O
Disaster Risk Reduction: Drought, fire, landslide	O	O	O	O	O	O	O
Disaster Risk Reduction: Riverine and Rainfall Flooding	O	O	O	O	O	NP	O
Pollination & Seed Dispersal	O	O	O	O	O	NP	O
Soil Retention	O	O	O	O	O	NP	O
Soil Formation and Erosion Control	O	O	O	O	O	NP	O
Soil Quality	O	O	O	O	NP	NP	O
Water Quality	O	O	O	O	O	O	O
Water Capture & Conveyance	O	O	O	O	O	O	O
Supporting							
Habitat	O	O	O	O	O	O	O
Nutrient Cycling	O	O	O	O	O	O	O
Cultural							
Beauty	O	O	O	O	O	O	O
Cultural Value	O	O	O	O	O	O	O
Future Value: Bequest	O	O	O	O	O	O	O
Recreation & Tourism	O	O	O	O	O	O	O
Science & Education	O	O	O	O	O	O	O

EDWA's Valuation Study

- Predominately relied on available existing research
- About half of the EGS present in the watershed had applicable data

Legend:

○ = present in watershed

● = present in watershed and valued

NP = not present in watershed

	Forests	Shrublands	Grasslands	Agriculture	Wetlands	Open Water	Developed, Open Space
Provisioning							
Food	●	●	○	●	●	●	○
Medicinal Resources	○	○	○	○	NP	NP	○
Ornamental Resources	○	○	○	○	○	NP	○
Energy & Raw Materials	●	●	○	●	●	●	○
Water Supply	●	○	○	○	●	●	○
Water Storage	●	○	○	NP	●	●	○
Regulating							
Air Quality	●	●	○	●	○	NP	○
Biological Control	●	●	●	●	○	○	●
Climate Stability	●	●	●	●	●	○	●
Disaster Risk Reduction: Drought, fire, landslide	○	○	○	○	○	○	○
Disaster Risk Reduction: Riverine and Rainfall Flooding	●	○	●	○	●	NP	●
Pollination & Seed Dispersal	●	●	●	●	○	NP	●
Soil Retention	○	●	○	●	○	NP	○
Soil Formation and Erosion Control	●	●	●	●	●	NP	●
Soil Quality	○	○	●	●	NP	NP	●
Water Quality	●	○	●	○	●	●	●
Water Capture & Conveyance	○	○	○	○	○	○	○
Supporting							
Habitat	●	●	●	●	●	●	●
Nutrient Cycling	○	○	○	○	○	○	○
Cultural							
Beauty	●	○	●	●	●	●	●
Cultural Value	●	○	○	●	●	●	○
Future Value: Bequest	○	○	○	○	○	○	○
Recreation & Tourism	●	●	●	●	●	●	●
Science & Education	○	●	○	○	○	●	○

Annual Value (\$/acre/year)

	Forests	Shrublands	Grasslands	Agriculture	Wetlands	Open Water	Developed, Open Space	Total Annual Value (\$/ac/yr)
Provisioning								
Food	<\$1	<\$1	○	\$7,470	\$29	\$457	○	\$7,956
Medicinal Resources	○	○	○	○	NP	NP	○	○
Ornamental Resources	○	○	○	○	○	NP	○	○
Energy & Raw Materials	\$540	\$41	○	\$40	\$29	\$86	○	\$736
Water Supply	\$642	○	○	○	\$561	\$47	○	\$1,250
Water Storage	\$58	○	○		\$752	\$651	○	\$1,461
Regulating								
Air Quality	\$47	\$7	○	\$6	○	NP	○	\$60
Biological Control	\$9	\$47	\$7	\$340	○	○	\$1	\$404
Climate Stability	\$664	\$478	\$452	\$458	\$341	○	<\$1	\$2,393
Disaster Risk Reduction: Drought, fire, landslide	○	○	○	○	○	○	○	○
Disaster Risk Reduction: Riverine and Rainfall Flooding	\$1,897	○	\$3	○	\$535	NP	\$3	\$2,438
Pollination & Seed Dispersal	\$461	\$532	\$532	\$401	○	NP	\$384	\$2,310
Soil Retention	○	\$3	○	\$5	○	NP	○	\$8
Soil Formation and Erosion Control	\$379	\$3	\$7	\$41	\$1	NP	<\$1	\$431
Soil Quality	○	○	<\$1	\$64	NP	NP	<\$1	\$64
Water Quality	\$4,903	○	\$7	○	\$521	\$128	<\$1	\$5,559
Water Capture & Conveyance	○	○	○	○	○	○	○	○
Supporting								
Habitat	\$18	\$515	\$44	\$51	\$537	\$901	\$44	\$2,110
Nutrient Cycling	○	○	○	○	○	○	○	○
Cultural								
Beauty	\$1,103	○	\$71	\$56	\$450	\$1,259	\$71	\$3,010
Cultural Value	\$1,288	○	○	\$272	\$883	\$107	○	\$2,550
Future Value: Bequest	○	○	○	○	○	○	○	○
Recreation & Tourism	\$949	\$136	\$38	\$212	\$1,133	\$7,384	\$1,571	\$11,423
Science & Education	○	<\$1	○	○	○	<\$1	○	<\$1

Legend:

○ = present in watershed but not valued

NP = not present in watershed

Annual Ecosystem Goods and Services

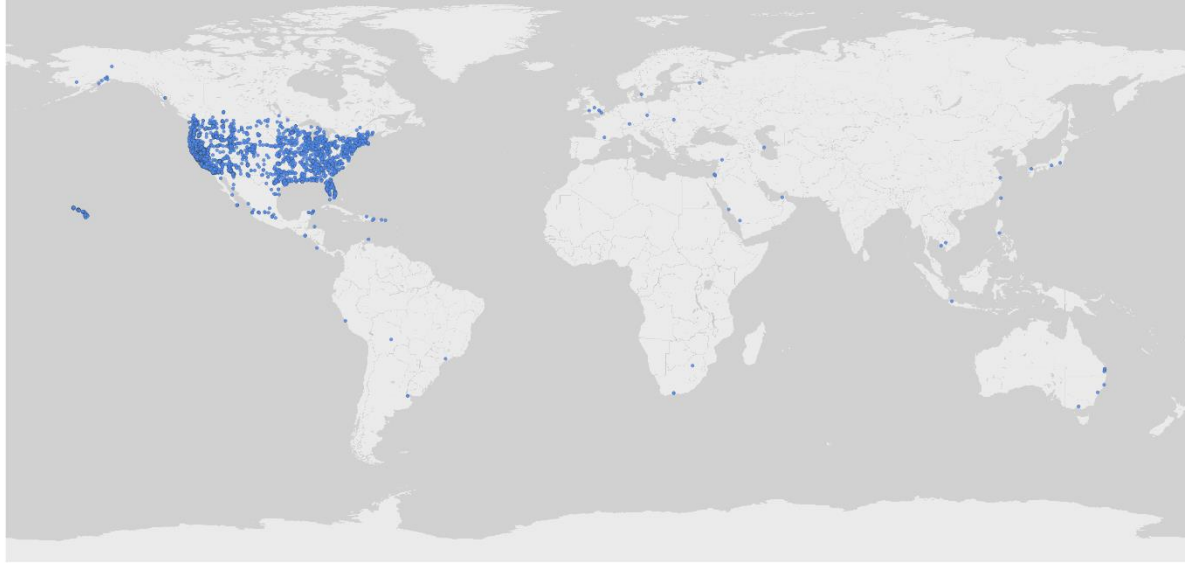
Land Cover	Annual Value (\$/Acre/Year)	Acres in the UARW	Estimated Annual Value in the UARW (\$/Year)
Forest	\$12,958	1,078,366	\$13,973,000,000
Shrubland	\$1,762	272,237	\$480,000,000
Grassland	\$1,161	60,798	\$71,000,000
Agriculture	\$9,416	59,994	\$56,000,000
Wetland	\$5,772	2,498	\$14,000,000
Open Water	\$11,020	17,013	\$187,000,000
Developed, Open Space	\$2,074	47,468	\$98,000,000
Total	n/a	1,484,3743	\$14,879,000,000



Deeper Diver into Outdoor Recreation

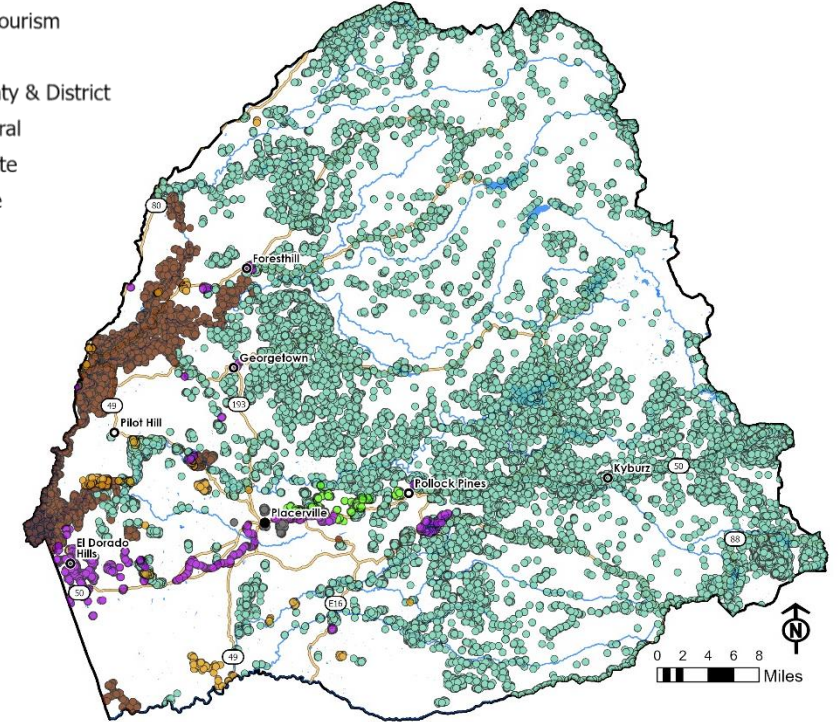
Origin of Visitors:

Using 2022 cell phone pings, we saw **>7 million outdoor recreation days** from visitors throughout the world.



Where they visited by Management Agency:

- Agritourism
- City
- County & District
- Federal
- Private
- State



\$607 million in economic output from visitor spending, including:



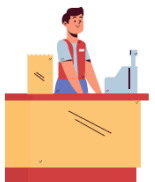
\$382 million

direct spending on lodging, restaurants, and retail



Nearly \$27 million

generated in local and state taxes



2,520 jobs

supported from direct consumer spending resulting in **over \$118 million in wages**



plus \$660 million in consumer surplus benefits beyond direct spending

In 2022, tourists made up **53% of visits** which contributed over **76% of the total expenditures.**





The UARW is a
natural capital asset
worth between
\$731 billion and \$1.6 trillion
based on 100-years of productivity
with a 2.5% and 0.0% discount rate, respectively





Want to Dive into the Details?

Join our

Free Technical Webinar

Thursday May 16th

Noon-1pm

Register via

<https://rb.gy/9fr3hx>

or QR code

