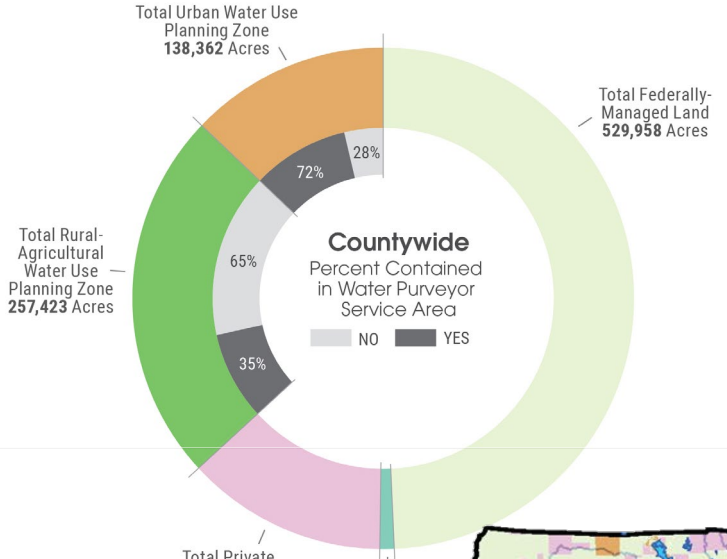
Headwater Valuation for Healthy Watershed & Community Resilience

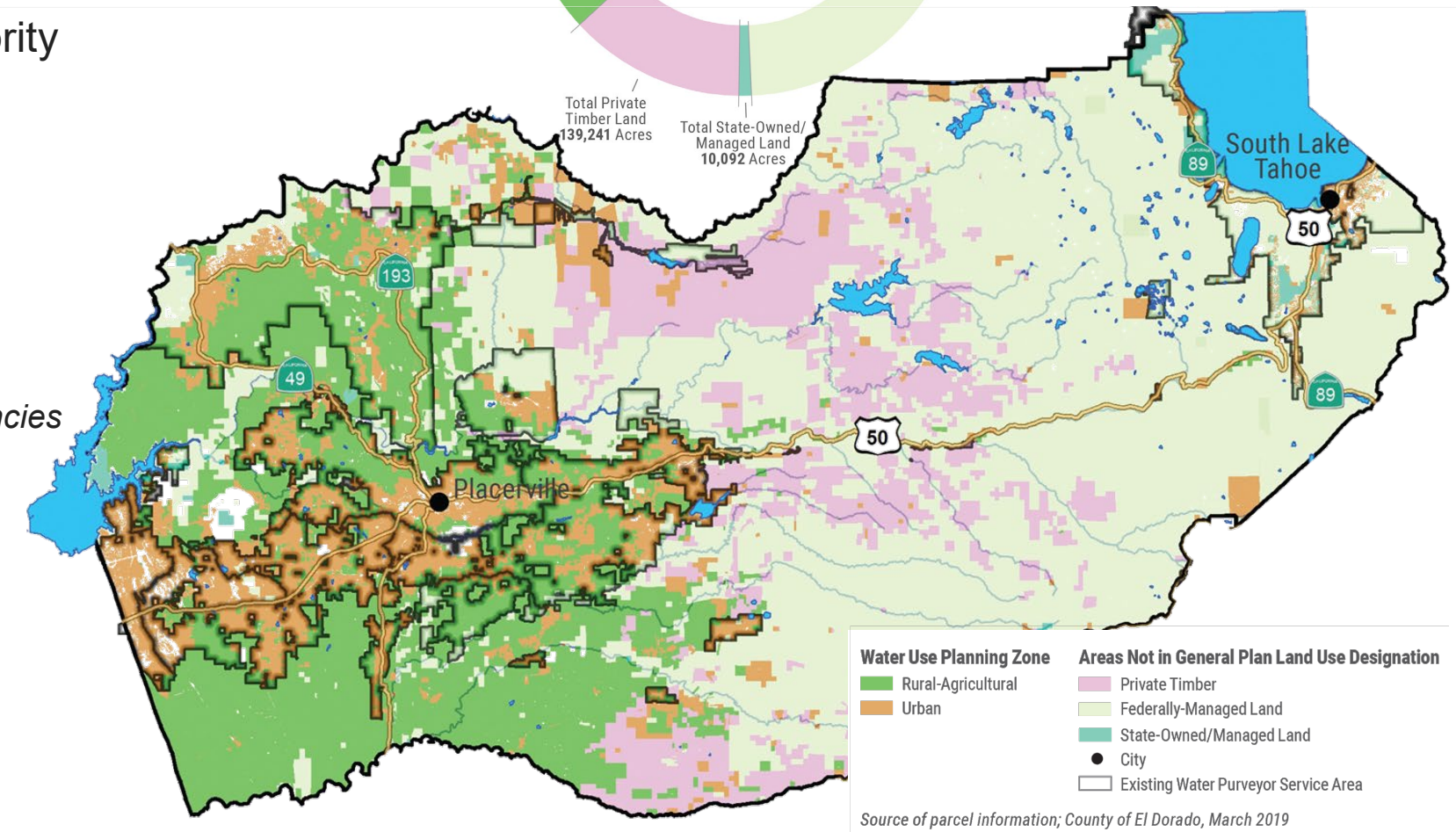
Strategic Economic Enhancement Development (SEED) Committee
March 19, 2026

El Dorado Water Agency

El Dorado Water Agency

- Established in 1959
- Countywide water resources planning agency with broad authority
  - *Water Supply*
  - *Storage*
  - *Hydropower*
  - *Water Quality*
  - *Stormwater*
  - *Flood Control/Storage*
  - *Water Quality*
  - *Negotiate with federal and state agencies for water management and facility construction*
- Support realization of County's General Plan





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**

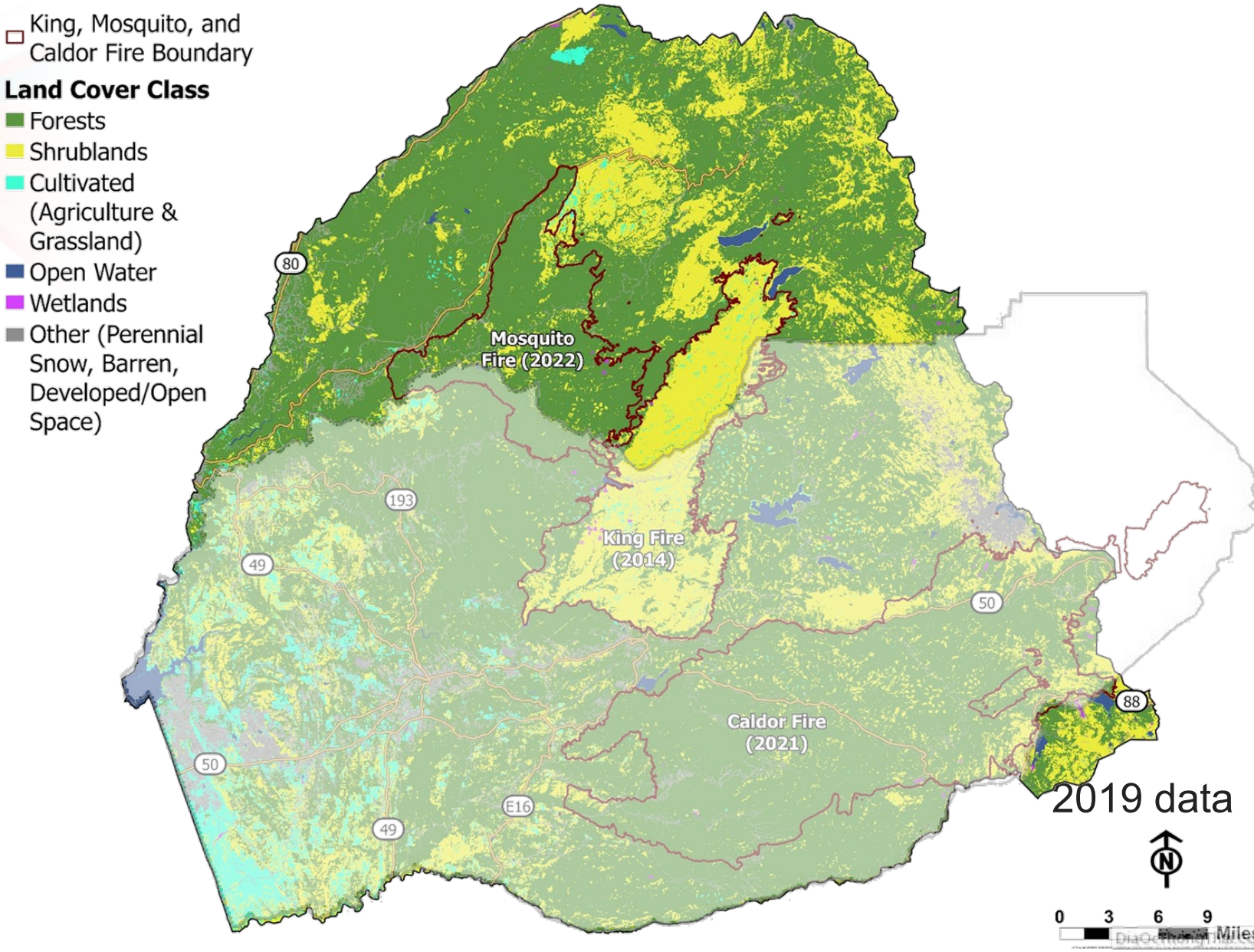
Freshwater Provisioning Value: $200 million

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

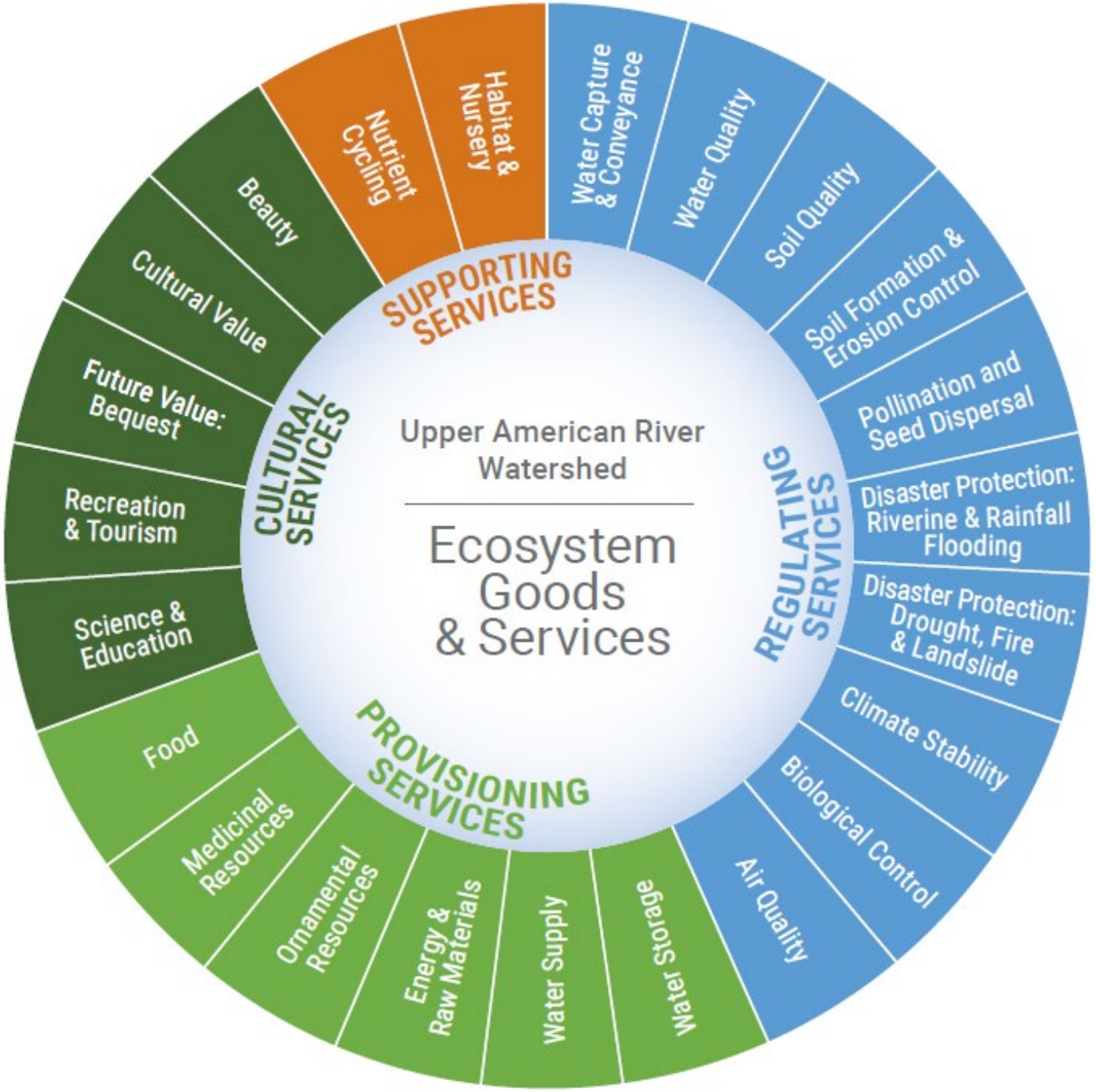
	December 31, 2018	December 31, 2017 (as restated)
ASSETS		
CURRENT ASSETS		
Operating cash and equity in pooled investments	$ 93,940,996	$ 54,637,435
Receivables		
Accounts, net of allowance	14,616,153	13,643,663
Interest and dividends	842,784	834,322
Unbilled revenues	16,029,071	15,679,001
Due from 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

Valuing the Headwaters Region of the American and Cosumnes Rivers

Benefits vary based on the landscape



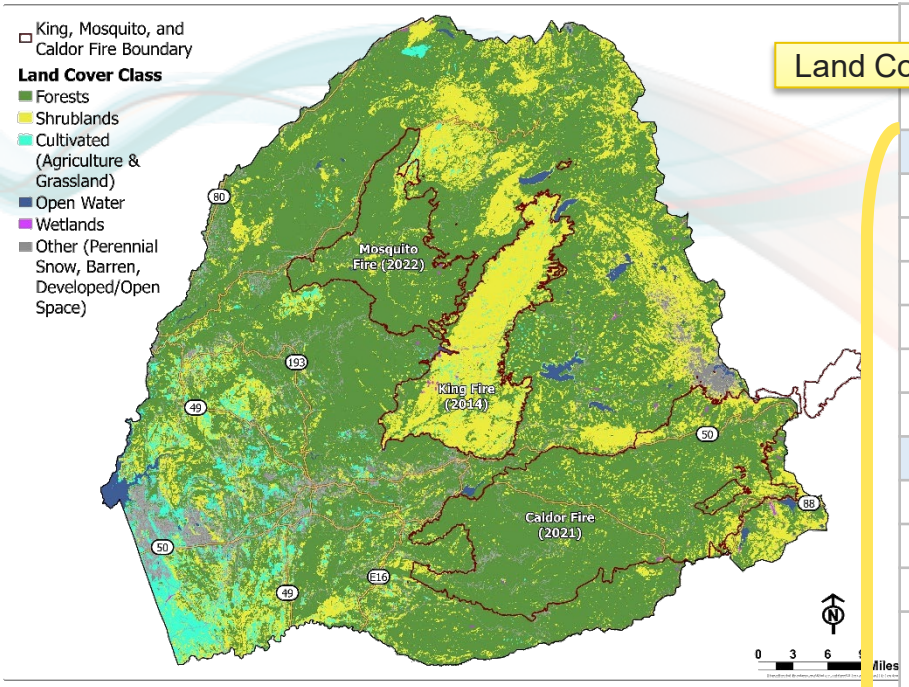
What does the watershed provide?

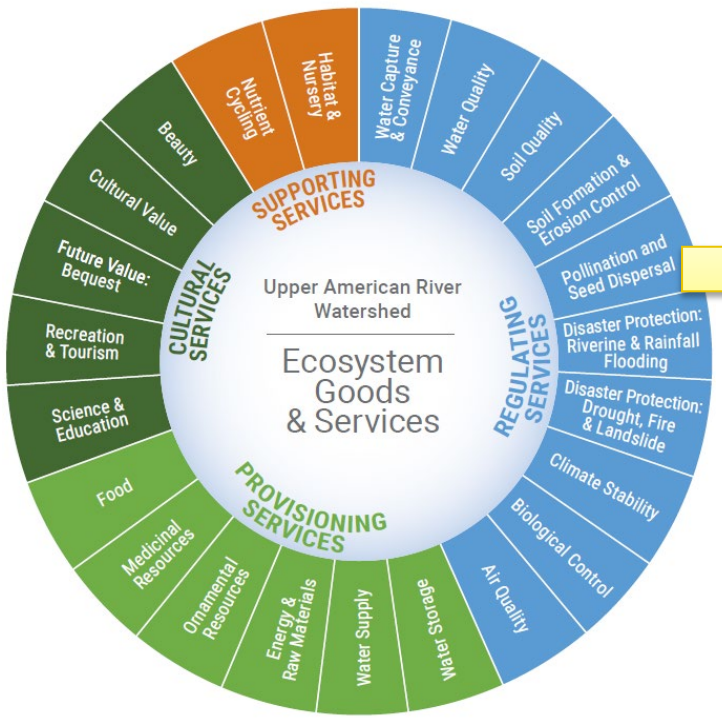


Valuation Methods

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

	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	○	●	○	○	○	●	○

Legend:

○ = present in watershed
● = present in watershed and valued
NP = not present in watershed

Annual Value ($/acre/year) of the Upper American and Cosumnes River Watersheds

	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:

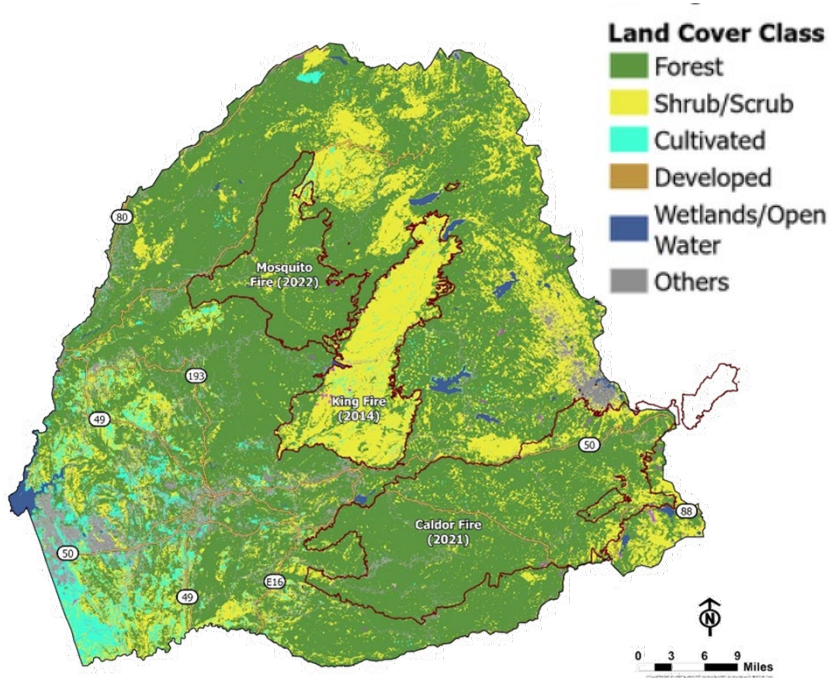
○ = present in watershed but not valued
NP = not present in watershed

Annual Ecosystem Goods and Services

OUR WATERSHED IS VERY VALUABLE

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	5,994	$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	1,484,374	**$14,879,000,000**

Note: Estimates are conservative. Only one half of the goods and services provided to this watershed were valued.



The watershed provides

$14.9B/year

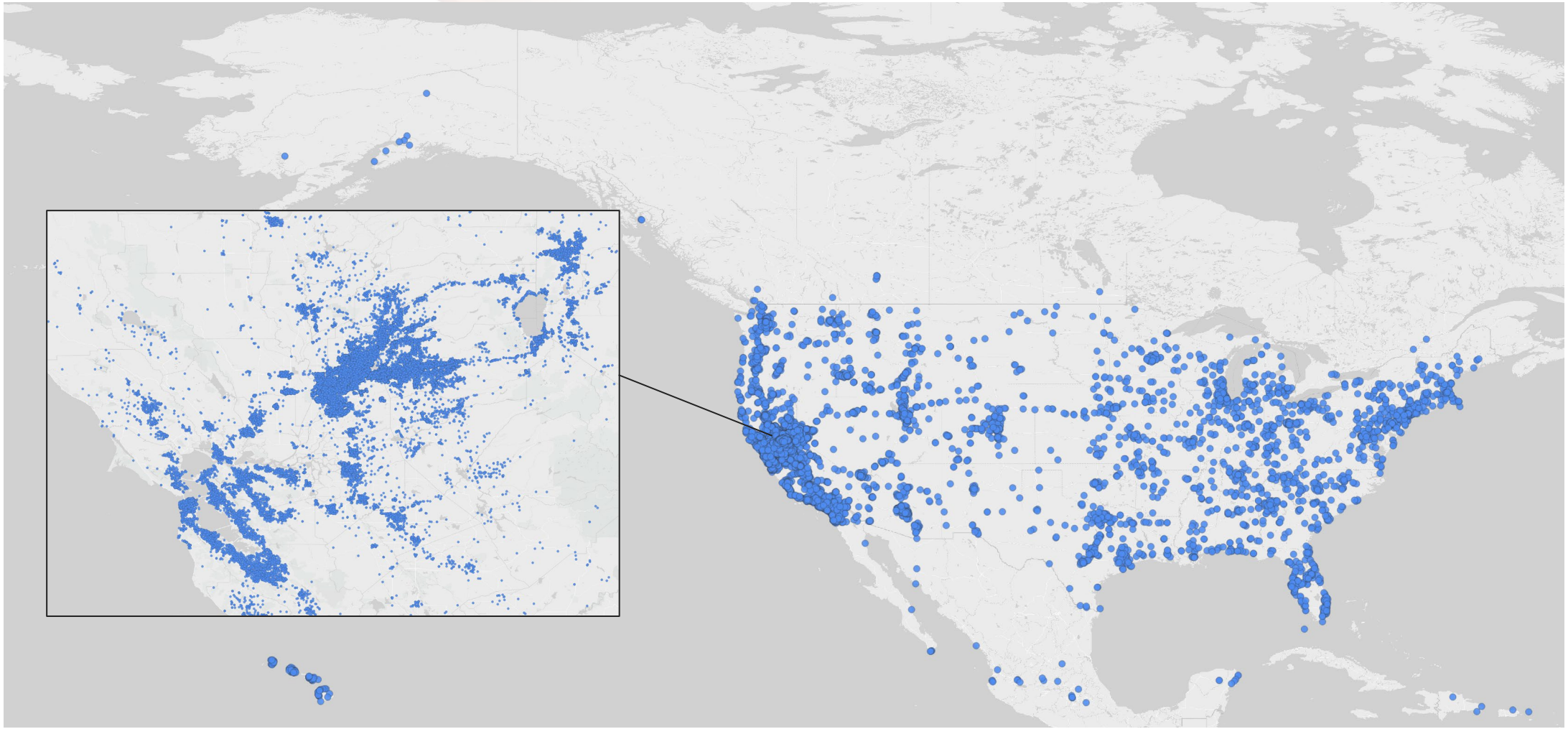
in goods and services delivered to people globally.

El Dorado Water Agency

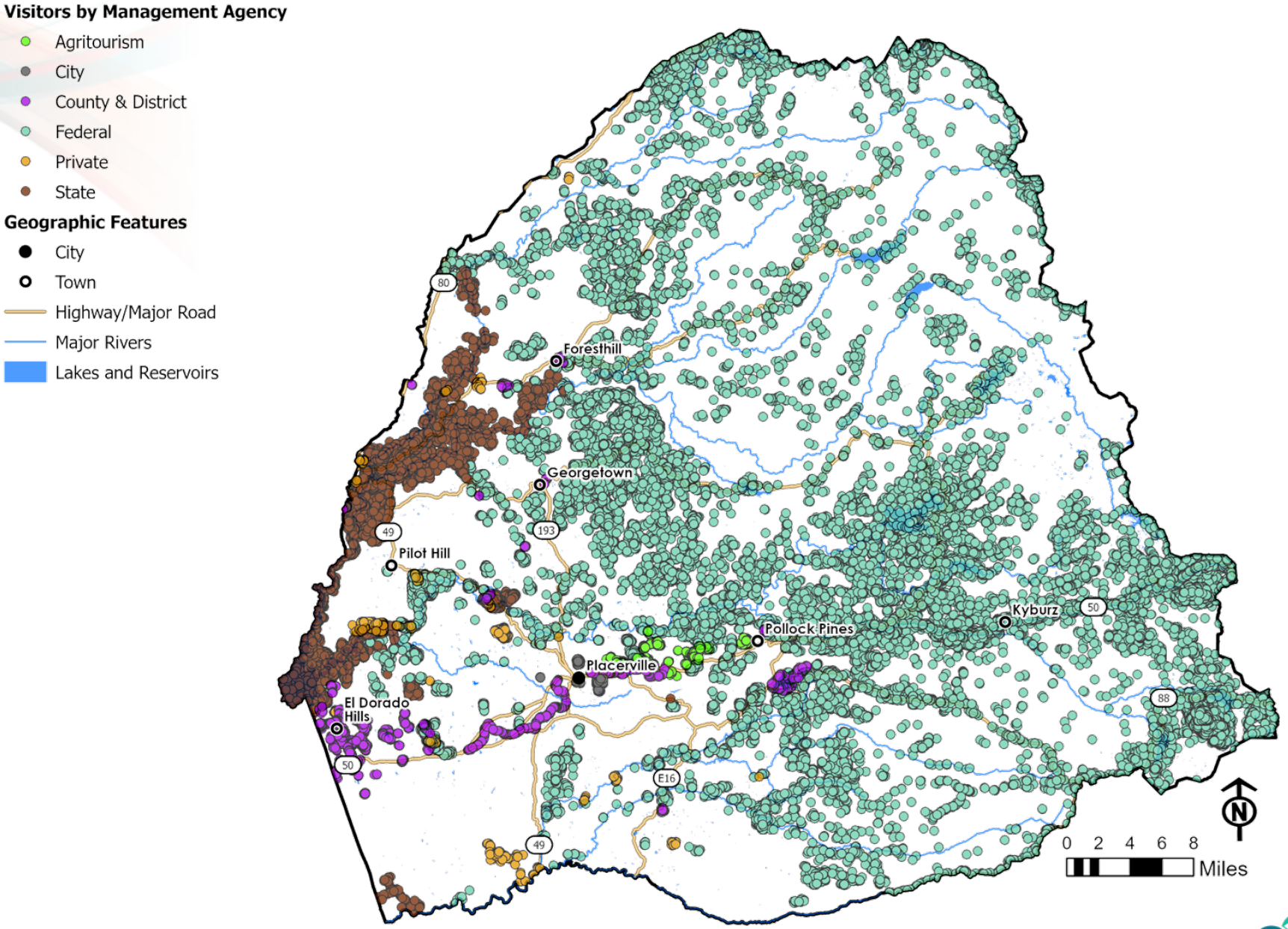
Deeper Dives We've Done

- Outdoor Recreation
- Water Supply
- Natural Capital Damages form Mosquito and Caldor Fires

Outdoor Recreation:
2022 Visitor Origins



Where Recreation Occurred in 2022



Consumer Spending on Outdoor Recreation

Manager Type	Residents	Tourists	Total
Agritourism Operators (Apple Hill only)	26%	74%	$93,466,000
City	52%	48%	$1,650,000
County	74%	26%	$14,242,000
Federal	22%	78%	$204,485,000
Private	65%	35%	$835,000
State	15%	85%	$67,646,000
Total	**24%**	**76%**	**$382,324,000**

Outdoor Recreation Findings

$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

Questions?