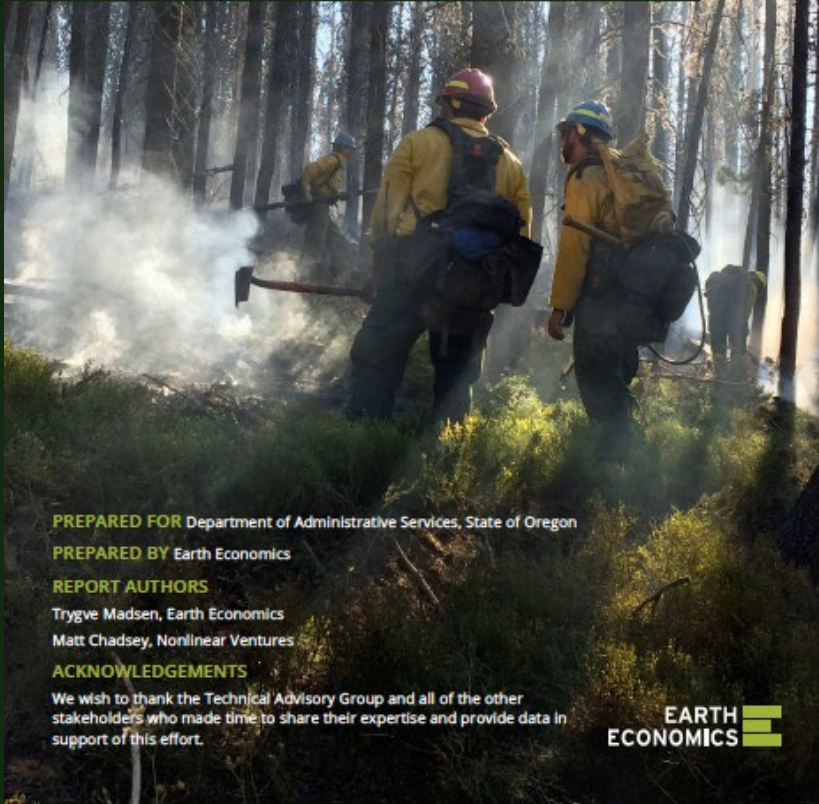


COST OF WILDFIRE PREPAREDNESS AND SUPPRESSION ACTIVITIES ON ODF-PROTECTED LANDS IN OREGON



PREPARED FOR Department of Administrative Services, State of Oregon

PREPARED BY Earth Economics

REPORT AUTHORS

Trygve Madsen, Earth Economics

Matt Chadsey, Nonlinear Ventures

ACKNOWLEDGEMENTS

We wish to thank the Technical Advisory Group and all of the other stakeholders who made time to share their expertise and provide data in support of this effort.

**EARTH
ECONOMICS**

Presentation for the Natural Resources
Subcommittee, Joint Ways and Means

May 10, 2021
Conducted via web conference



Today's Agenda

- Introductions
- Objectives and Approach
- Findings
- Recommendations
- Questions and Discussion

We'll pause periodically
to field questions



Project Objectives

In 2020 HB4304 Sec. 69 outlined 5 study objectives:

1. Gather data that describes the cost of wildfire suppression on lands protected by the Oregon Department of Forestry;
2. Identify private and public funds used to pay for fire suppression;
3. Compare Oregon's wildfire costs and funding mechanisms with those states of comparable ecology and land management;
4. Describe regional difference in costs, funding sources and measures of equity within Oregon;
5. Provide recommendations that can bring transparency to the program's function and performance, and to improve tracking and substantiation of cost data.



Out of Our Scope

- Contributions of the ODF State and Private Forest Divisions to preparedness and suppression.
- Accounting for the taxes, fees, and assessments paid by forestland owners but which are unrelated to wildfire preparedness and suppression.
- Fuels management and resilience investments and activities under the Oregon Forest Practices Act and related programs.
- Discussion of appropriateness and fairness of resource distribution, assessments, and expenditures.
- Federal forest management policy and wildfire spending within federal jurisdictions.



Team and Approach

Technical Advisory Group Members

Cassandra Moseley, UO Institute for a Sustainable Environment

Doug Grafe, ODF Fire Protection Division

Jaime McGovern, Legislative Revenue Office

Kaola Swanson, Sustainable Northwest

Ken Cummings, Emergency Fire Cost Committee

Kyle Williams, Oregon Forest Industries Council

Matt Stayner, Legislative Fiscal Office

Mike Barsotti, Oregon Small Woodlands Association

Core Team

Adam Crawford, DAS

Mark McMullen, Office of Economic Analysis

Josh Lehner, Office of Economic Analysis

Project Team

Trygve Madsen, Earth Economics

Matt Chadsey, Nonlinear Ventures

Johnny Mojica, Earth Economics



Key Terms – Wildfire Activities

Preparedness

Maintaining at the ready the necessary resources (personnel, equipment, infrastructure, training) to prevent, detect, and respond to wildfires.

Suppression

Attacking and extinguishing wildfires using the necessary resources, primarily those made available through *preparedness* activities.



Key Terms – Budgeting Concepts

Base Fire

Funds the ‘adequate level of protection’ provided by each district, regular operations. Base Fire encompasses both preparedness and basic fire suppression activities that are the responsibility of the districts, often with support of local landowners and local fire departments. Base Fire also funds administration at the district, regional, and Fire Division headquarters, which are necessary for providing the adequate level of protection to landowners.

Large Fire

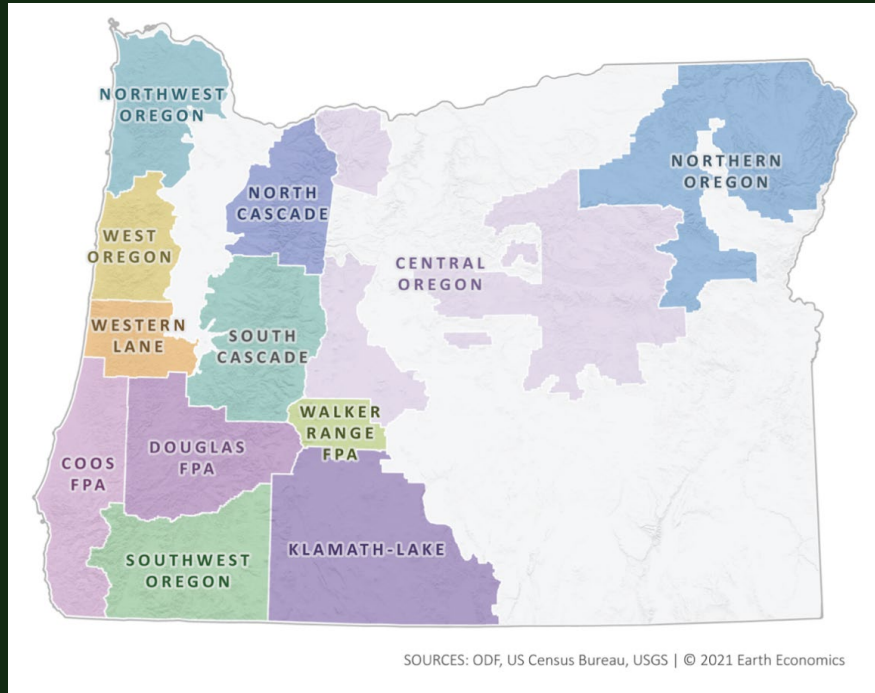
Fires that require more suppression resources than the responding district can provide within its annual budget and available assets are the responsibility of the Large Fire funding structure.

Severity Resources

Boosting preparedness at critical times, severity resources funds strategically pre-positioned suppression assets—often air support—used in times of elevated fire risk to prevent small fires from growing larger.



Key Terms - District Types



Regions

Fire Protection Districts (FPD)

Forest Protective Associations (FPA)

- Operating / Non-Operating

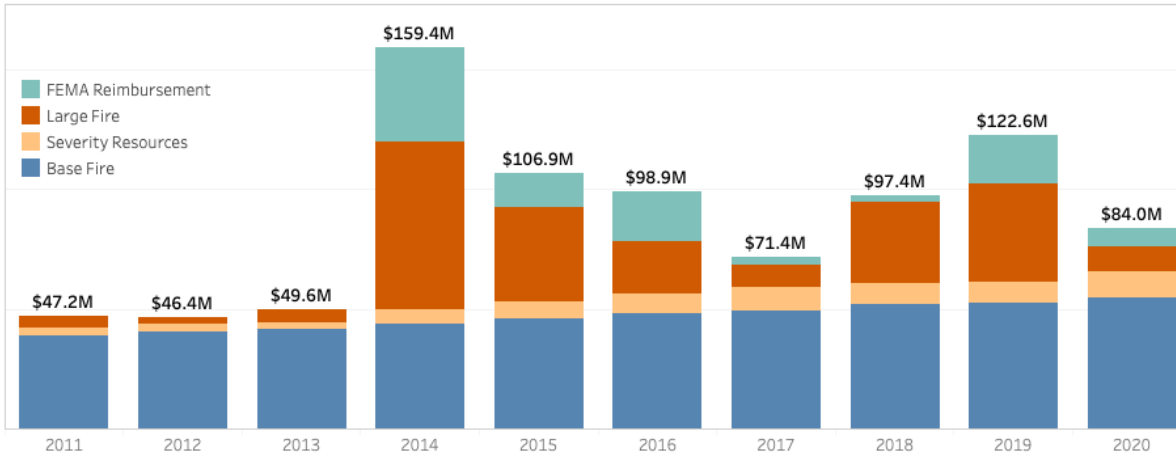


Findings



Findings – Total Gross Wildfire Cost

Total Gross Wildfire Cost (Fiscal Years 2011- 2020)

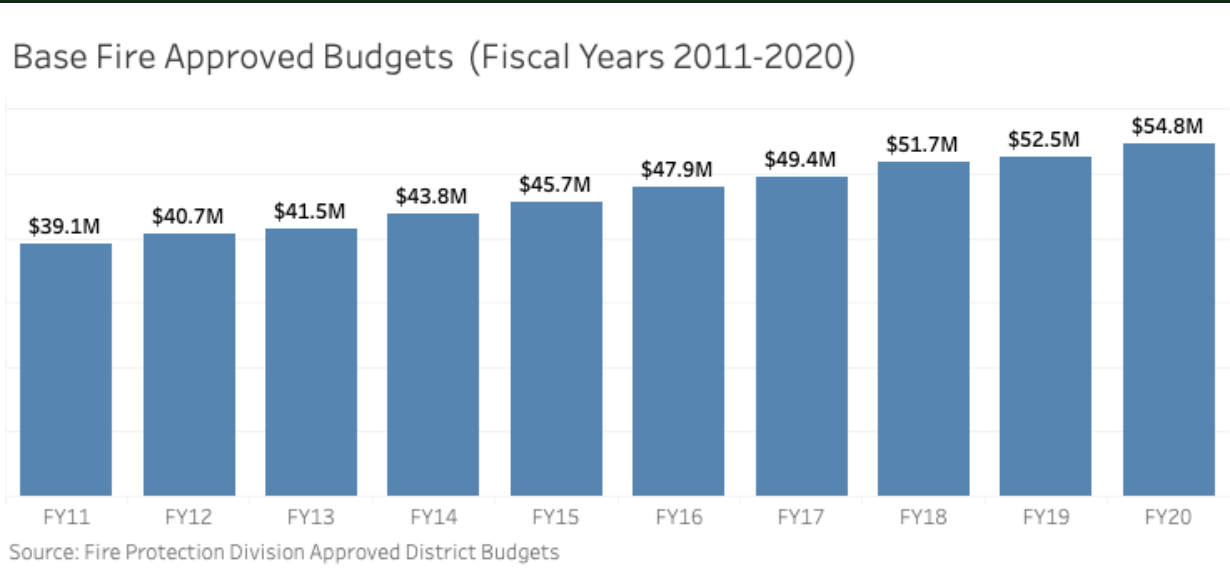


Source: ODF Administration and ODF Fire Protection Division. Notes: Large Fire represents expenditures from OFLPF, General Fund, and insurance benefits. Severity Resources includes both OFLPF and General Fund. Base Fire totals are taken from annual, approved Fire Protection Division Budgets because earlier year actuals were not available at time of analysis, value shown is expected to be within 5% of actual. FEMA values represent "Revised Estimates" provided by ODF Fire Protection Division.

This gross cost includes only expenses that pass through ODF. The complete cost of wildfire is much higher including private damage, ecosystem loss, etc.



Findings – Base Fire Budgets

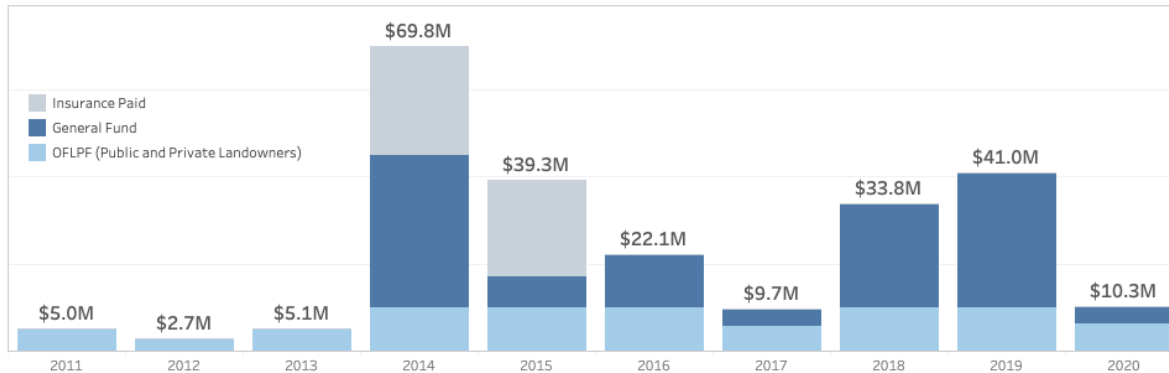


Funds Base Fire for districts and ODF regional and HQ admin



Findings – Total Large Fire Expenses

Total Large Fire Expenses (Fiscal Years 2011-2020)



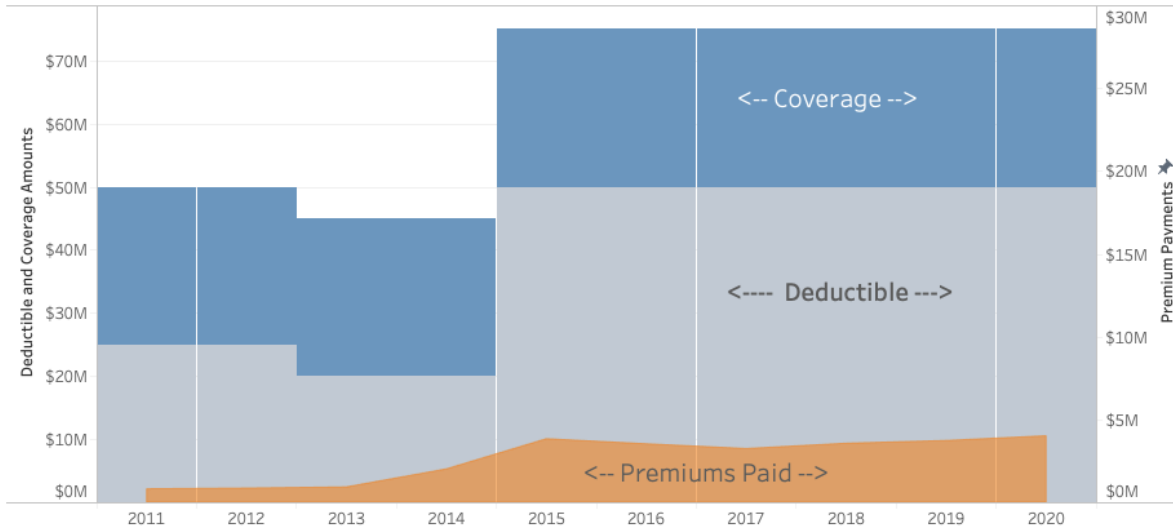
Source: ODF Administration. Notes: In FY14 expense allocation for large fire transitioned from OFLPF paying first \$10M to OFLPF/General Fund sharing the first \$20M dollar-for-dollar. Listing OFLPF below General Fund in these bars does not indicate order of payment; moneys from these two funds are expended simultaneously. Calendar year 2020 fires are not included as they occurred in fiscal year 2021.

Includes final Large Fire expense after FEMA reimbursements are processed



Findings – Wildfire Insurance

Wildfire Insurance Premium, Deductible, and Coverage (Fiscal Years 2011-2020)

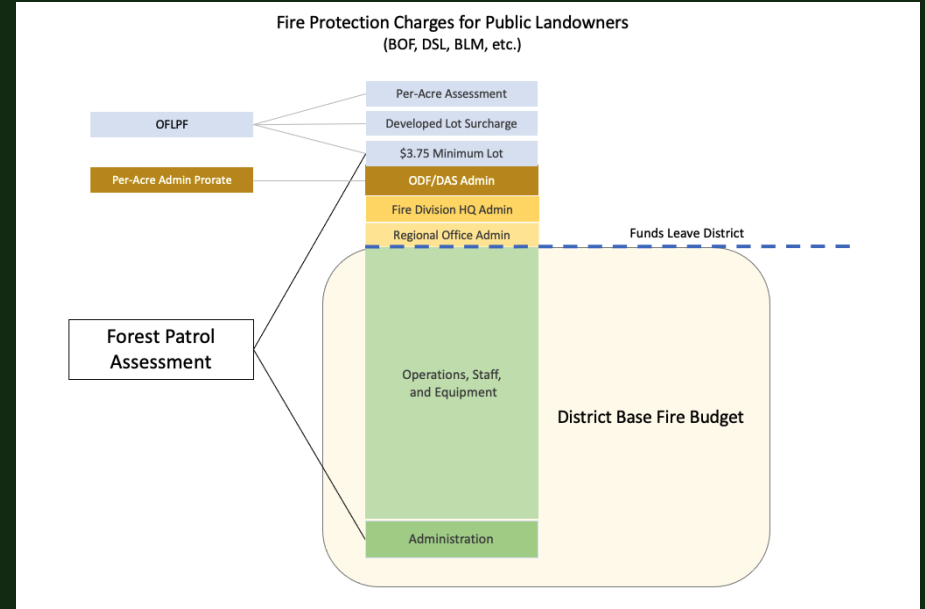
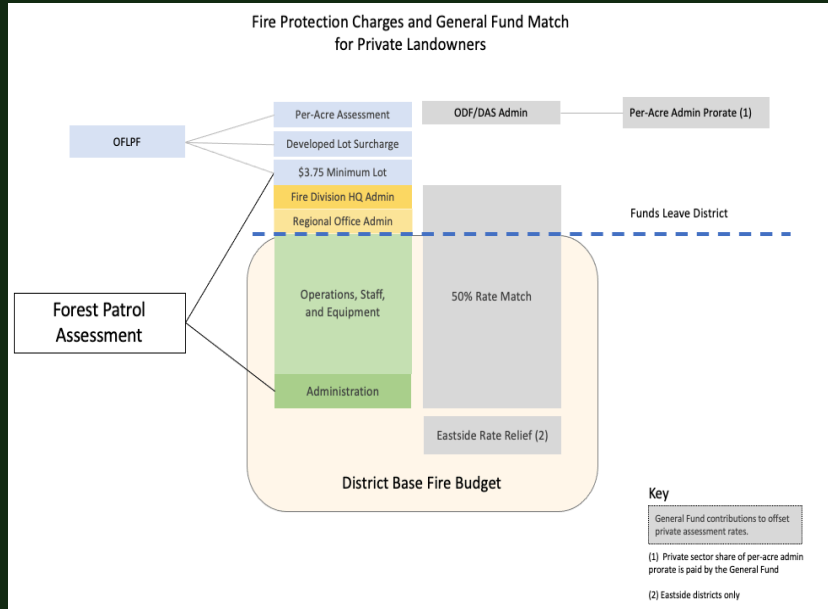


Source: Data provided by EFCC. Note: The insurance policy is on a April-April renewal but is recognized here as fiscal years for consistency and alignment to large fire damages.

Net benefit of insurance has been \$20.7M over this period



Findings – Revenue Sources



Forest Patrol Assessment ... levied by districts on each protected acre to fund Base Fire

OFLPF ... levied on protected acres and lots for Large Fire and Severity Resources



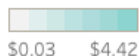
Findings – Forest Patrol Assessment Rates

Approved District Rates for Fiscal Year 2020

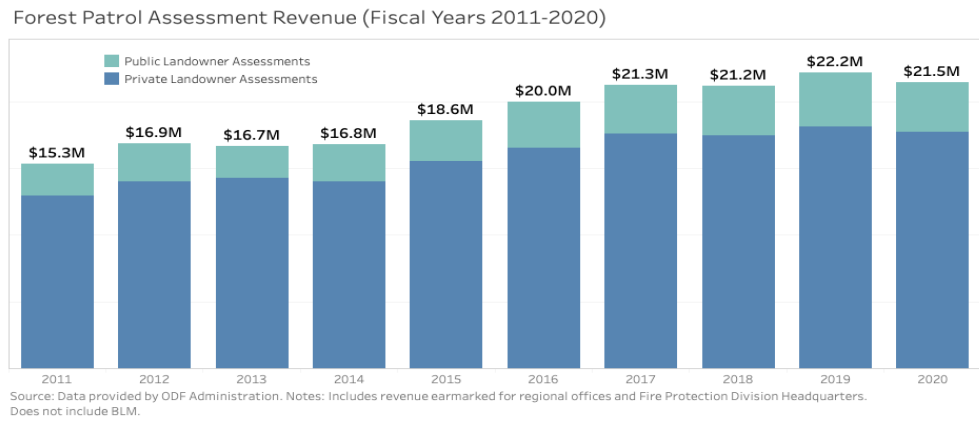
			Public Rate	Private Rate
Timber	Eastern	Central Oregon	\$4.24	\$1.93
		Klamath/Lake	\$3.41	\$1.52
		Northeast Oregon	\$3.32	\$1.48
		Walker Range	\$3.57	\$1.60
	Northwest	North Cascade	\$3.21	\$1.61
		Northwest	\$2.21	\$1.10
		West Oregon	\$2.30	\$1.15
	Southern	Coos FPA	\$3.12	\$1.56
		Douglas FPA	\$3.69	\$1.84
		South Cascade	\$2.91	\$1.46
		Southwest	\$4.42	\$2.21
		Western Lane	\$2.35	\$1.17
	Grazing	Eastern	Central Oregon	\$1.66
Klamath/Lake			\$1.43	\$0.53
Northeast Oregon			\$1.07	\$0.35
Walker Range			\$0.43	\$0.03
Southern		Coos FPA	\$2.37	\$1.18
		Douglas FPA	\$1.55	\$0.77
		Southwest	\$2.04	\$1.02
Grazing Z1	Eastern	Central Oregon	\$0.30	\$0.15

Rates vary substantially by region, land type, public/private, and by year

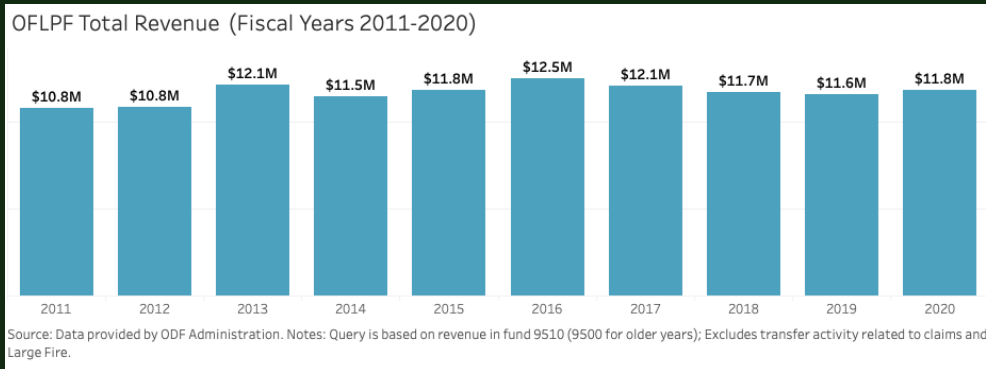
Source: ODF Fire Protection Division. Notes: Private rate includes Eastside Rate Relief.



Findings – Revenue Sources



Forest Patrol Assessment for Base Fire

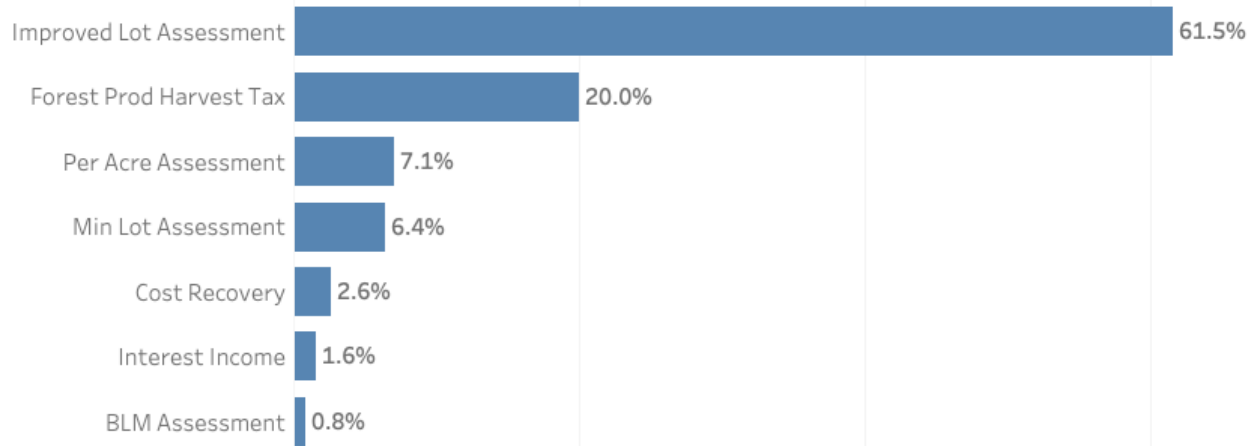


Oregon Forest Land Protection Fund (OFLPF)



Findings – OFLPF Revenue Proportions by Type

OFLPF Revenue Proportions by Type (Fiscal Years 2011-2020)

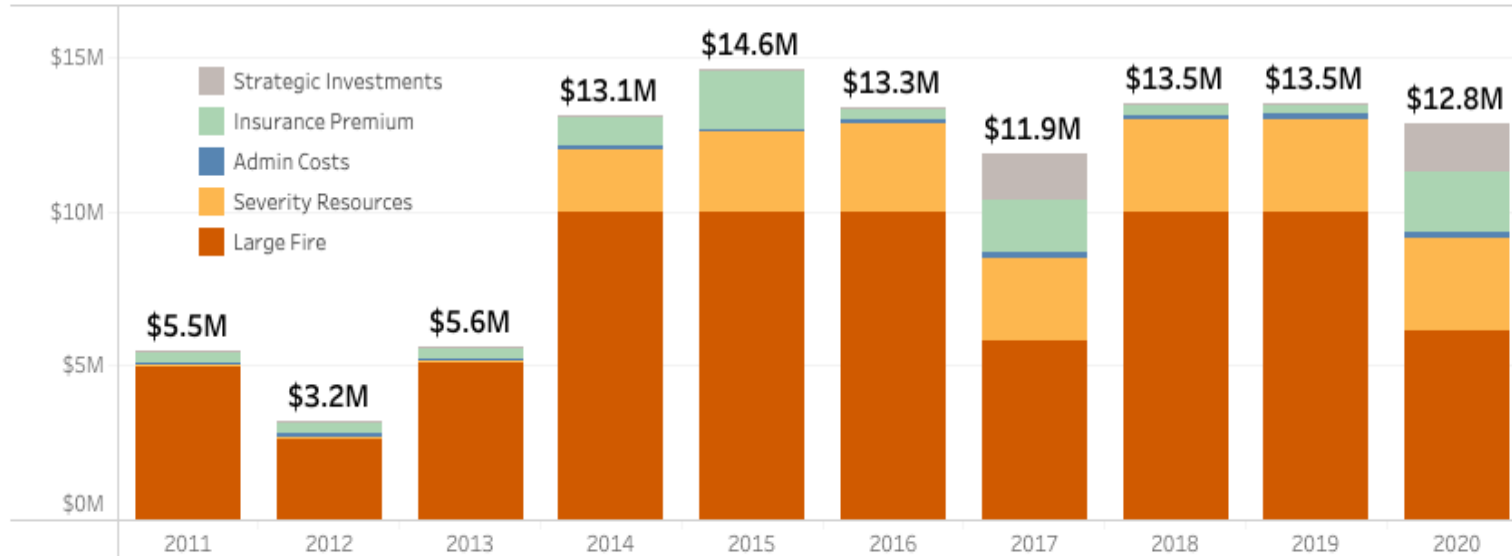


Source: Data provided by ODF Administration



Findings – OFLPF Responsibilities

OFLPF Expenditures (Fiscal Years 2011-2020)



Source: Data provided by ODF Administration

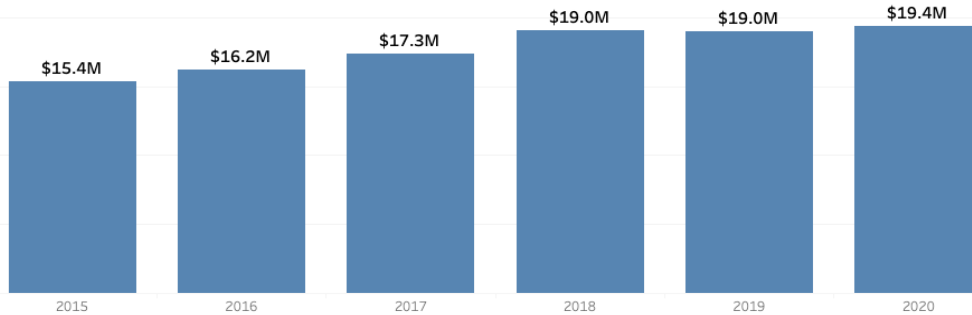


Questions?



Findings – General Fund Responsibilities

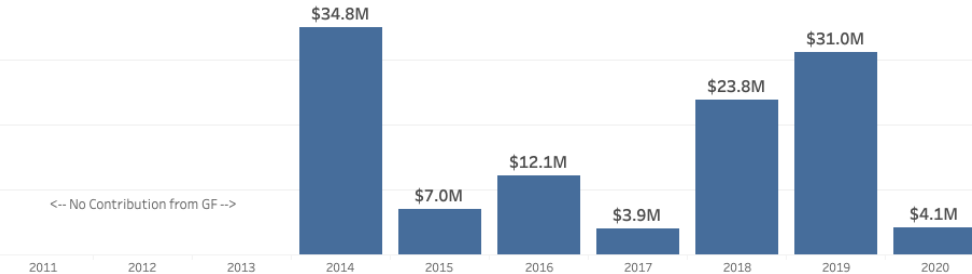
General Fund Payments to Districts (Fiscal Years 2015-2020)



Source: Data provided by ODF Administration

Payments to Districts for Base Fire

General Fund Allocation for Large Fire (Fiscal Years 2011-2020)



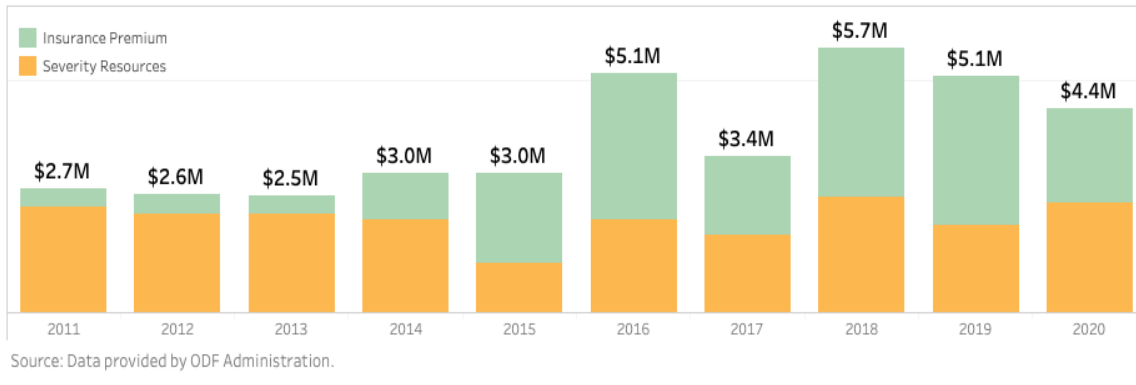
Source: Data provided by ODF Administration. Note: Calendar year 2020 fires are not included because they occurred in fiscal year 2021.

Allocations to Cover Large Fire



Findings – General Fund Responsibilities

General Fund Expenditures - Severity Resources and Insurance Premiums
(Fiscal Years 2011-2020)

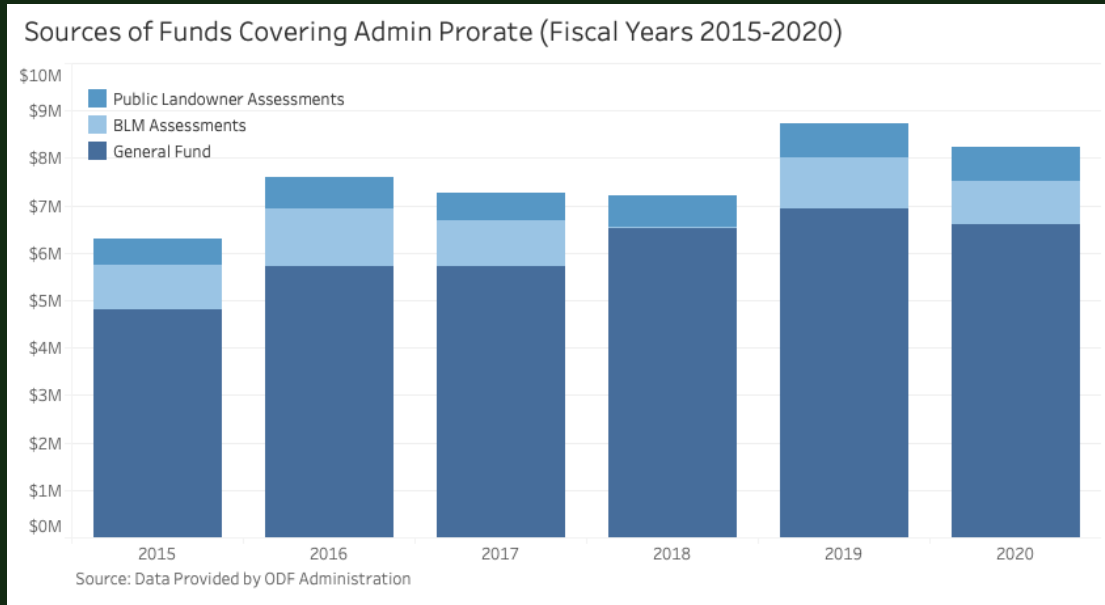


Insurance Payments

Severity Resources



Findings – General Fund Responsibilities

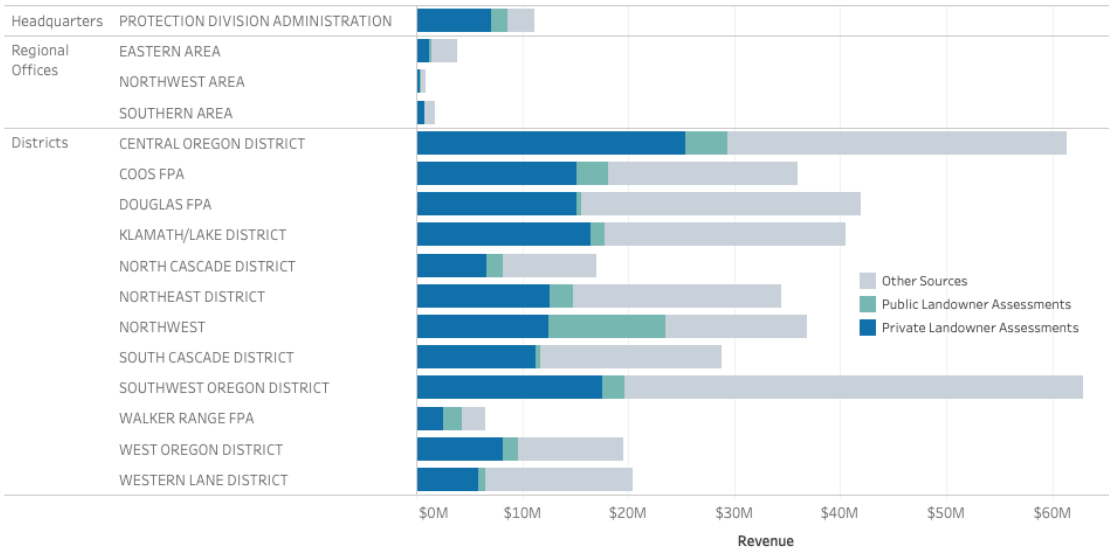


Admin Prorate and Private Landowner
In-Kind Contributions are Linked

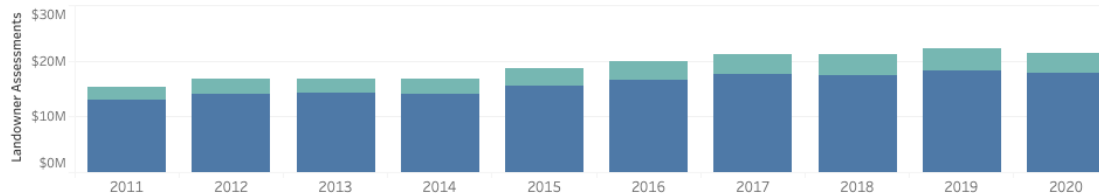


Findings – Landowner Responsibility for Base Fire

Revenue from Landowner Assessments vs. Other Sources (Fiscal Years 2011-2020)



Other sources is a mixture of BLM revenues, General Fund, and cost recoveries



Source: Data provided by ODF Administration. Method: Other includes Other Revenue, BLM, and General Fund. Revenue collected directly from FPAs is included in Private Landowner Assessments.



Questions?



Findings – Private In-Kind Contributions

- “Historically, in-kind contributions have been viewed as roughly equivalent to the Fire Protection Program’s share of ODF agency-wide administration costs. Therefore, it was considered appropriate for the state general fund to cover the program’s share of these costs.” – 2007 Legislative Budget Note
 - The rapidly growing admin prorated amount has increased by 82% between the ‘09–’11 and ‘19–’21 biennia
- Not outlined by ORS; admin prorated amount from GF appears in biennial agency request budget
- History of attempts to more precisely value landowner contributions have produced more questions than definitive answers
- We recommend a collaborative process to resolve uncertainty over value of in-kind services provided
 - Status quo; improve status quo; pick a value; rigorous valuation; no valuation



Findings – Other States

- Washington, Idaho, and Montana are also wrestling with adapting their funding mechanisms and firefighting strategies to the increased risk and cost of fires.
- All have similar, though simpler, funding mechanisms supporting their preparedness and suppression activities.
- Each state is attempting to smooth the impact of high-cost years on their General Funds by accumulating dollars during low-fire years to be expended during high-fire years.
- Given the many nuances in each program, it is not feasible to calculate reliable benchmarks for state-to-state comparison without significant additional research and collaboration between Oregon and the states.

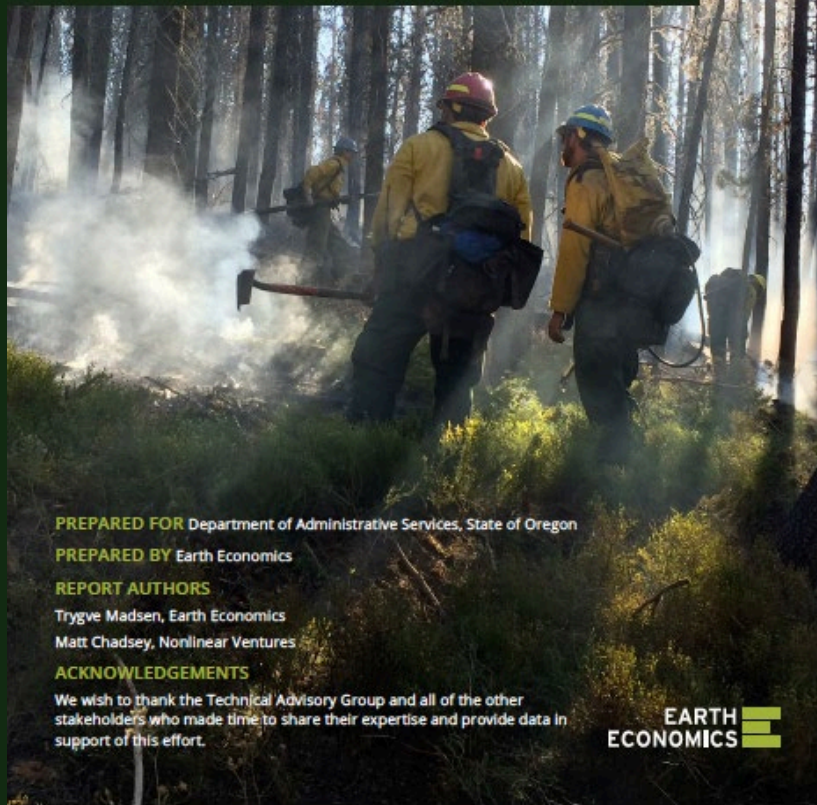


Recommendations

1. Improve data consistency and reporting
2. Provide clarity on in-kind contributions
3. Advanced collaboration with neighboring states
4. Look for opportunities to simplify Oregon's wildfire funding structure(s)



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**EARTH
ECONOMICS**

Thank you

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Johnny Mojica – jmojica@eartheconomics.org

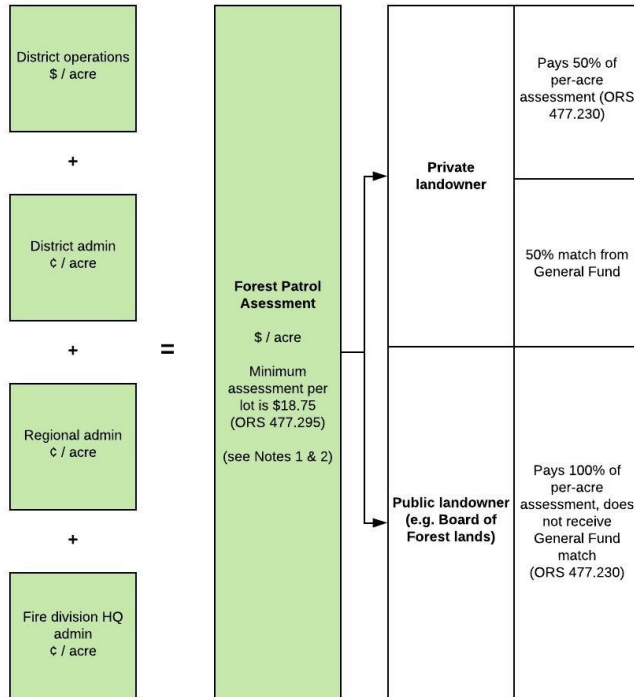


Reference Charts for Q&A



Base Fire Protection

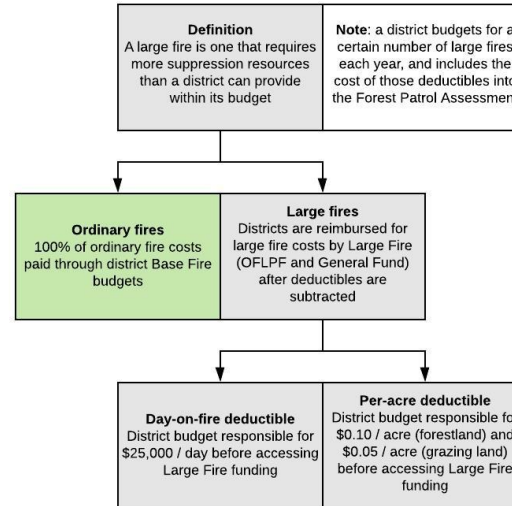
Each year, fire districts and operating associations create budgets to fund an adequate level of protection, which ensures that the necessary equipment and personnel are available to fight fire. These budgets also include certain administrative costs that allow ODF to coordinate fire preparedness and suppression across the district, region, and state levels. These costs are computed on a per-acre basis, and combine to form a per-acre rate unique to each district. This is called the **Forest Patrol Assessment**, and it raises revenue to support these budgets.



Note 1. Low productivity private forestland owners in four Eastern Oregon districts share \$2+ million in rate relief on the per-acre assessment, appropriated by the General Fund as part of the ODF biennial budget request (ORS 477.777)

Note 2. Rates vary within a district by land cover: timber land and grazing land are assessed separate rates

Districts share responsibility for large fires



Note 3. The purpose of the deductibles is for the districts to have "skin in the game"; that is, they ensure that districts are expending their own funds prior to benefitting from the Large Fire funding structure.

Severity Resources

Funded By

Oregon Forest
Land Protection
Fund (OFLPF)

General Fund*

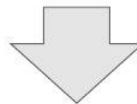
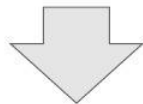
Other

Details

60% of cost, up to
\$3M annually
(ORS 477.755)

40% of cost, up to
\$2M annually

FEMA: Fire
Management
Assistance Grant



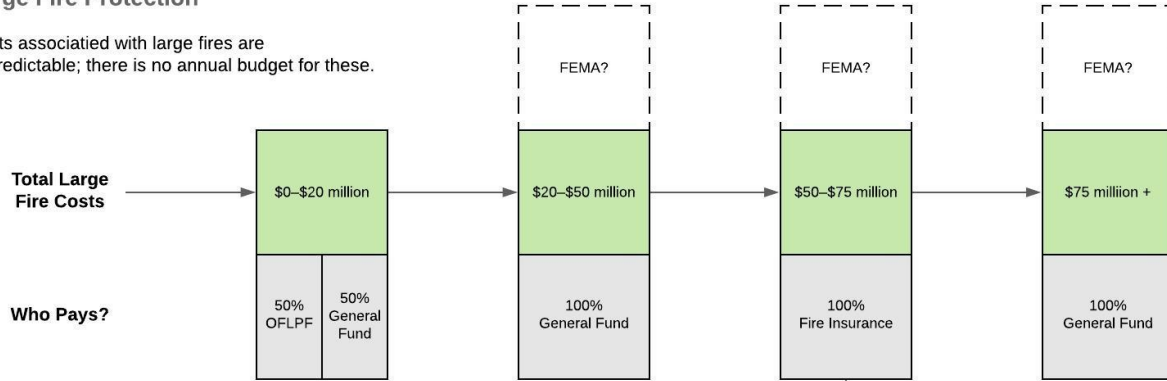
* Via Special
Purpose
Appropriation

For a qualifying fire, FEMA will pay for pre-positioning of resources. This amount is estimated and discounted from the General Fund special purpose appropriation to the Emergency Board



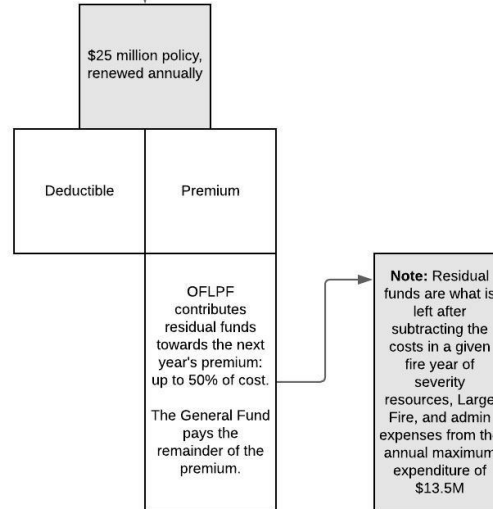
Large Fire Protection

Costs associated with large fires are unpredictable; there is no annual budget for these.



Other contributions to Large Fire protection:

<p>FEMA. Often, large fires qualify for federal disaster aid through FEMA. These disaster awards are projected each year and reduce the total Large Fire cost accordingly.</p>
<p>Landowners contribute fire-trained staff, equipment, and labor to fighting large fires. These contributions are eligible for reimbursement and charged to Large Fire.</p>
<p>ODF State and Private Forest Divisions. Trained staff (admin, field staff) and equipment are borrowed from their usual roles and deployed for incident response. These expenses are charged to Large Fire, rather than agency budgets.</p>
<p>Federal and out-of-state resources. When resources from outside Oregon help with large fires, the State receives invoices for services rendered and are the responsibility of Large Fire.</p>



Oregon Forest Land Protection Fund (OFLPF)

Revenue Source	Per-acre assessment (ORS 477.880)	Minimum lot assessment (ORS 477.295)	Developed lot surcharge (ORS.477.277)	Forest Products Harvest Tax (ORS 321.015)	Interest (ORS 477.750)
Rate	Westside Forestland \$0.05 / acre	\$3.75 / lot	\$47.50 / lot	\$0.625 / MBF	n/a
	Eastside Forestland \$0.075 / acre			↓	↓
	All Grazing Land (Class 3) \$0.075 / acre			The first 25 MBF harvested per owner each year are untaxed	State Treasurer invests the fund; earned interest is credited to the fund

General note: All revenue sources can be decreased for a year if OFLPF is above its reserve base (ORS 477.760).

- Below \$22.5M: collected as usual;
- \$22.5M<OFLPF<\$30M: reduced 50%;
- Above \$30M: not collected

Annual expenditures for OFLPF (ORS.477.755)

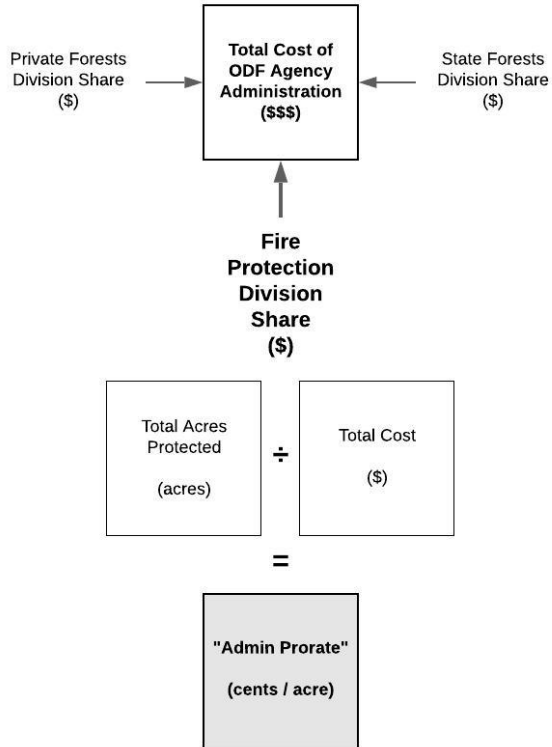
1. Total expenditures are capped at \$13.5M
2. Up to \$3M for severity resources
3. Up to \$10M for Large Fire
4. Up to \$500,000 for admin expenses, determined by EFCC and approved each biennium by the Legislature
5. After fire season costs are totalled, residual money is put towards the insurance premium, not to exceed 50% of the premium cost or the \$13.5M annual limit. Premium not covered by OFLPF is the responsibility of the General Fund.



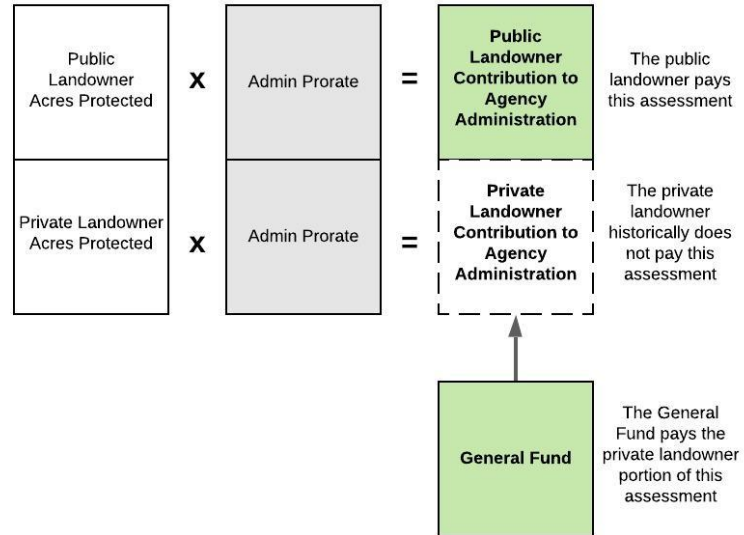
Admin Prorate

ODF agency administration supports all three ODF Divisions by providing essential services like HR, IT, finance, motor pool, public affairs, procurement, and budget. Each Division contributes its share to pay the total cost of ODF agency administration. The Fire Protection Division uses an assessment called the "admin prorate" to contribute its share.

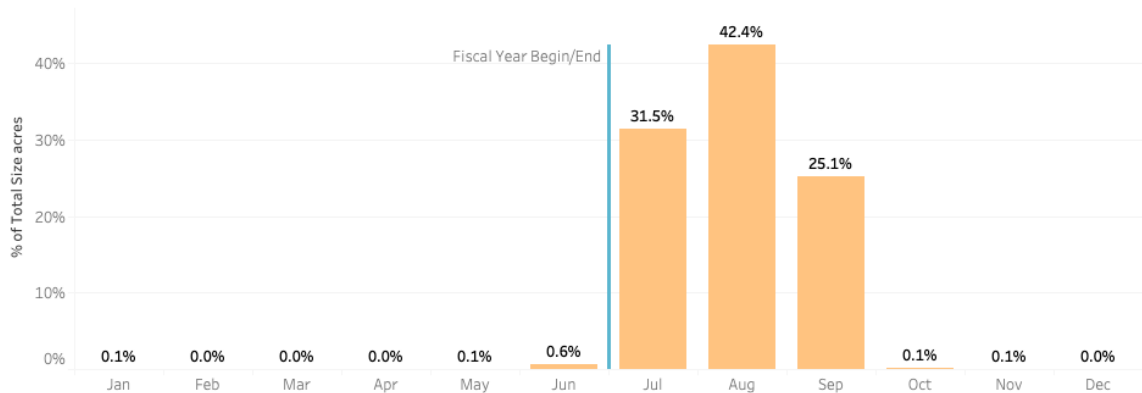
1. Calculation



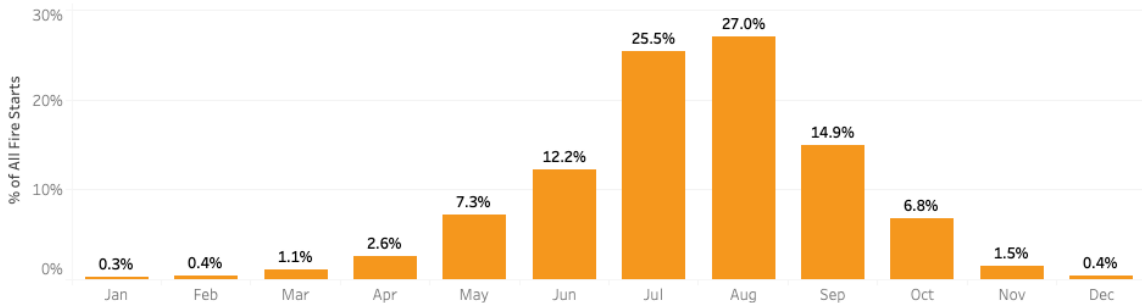
2. Collection



Percent Acres Burned by Month (2010-2020)



Fire Starts by Month (2010-2020)



Source: FIRES Database

Methods: Calculated using the Month of DiscoveryDate and Total Acres for Statistical Fires



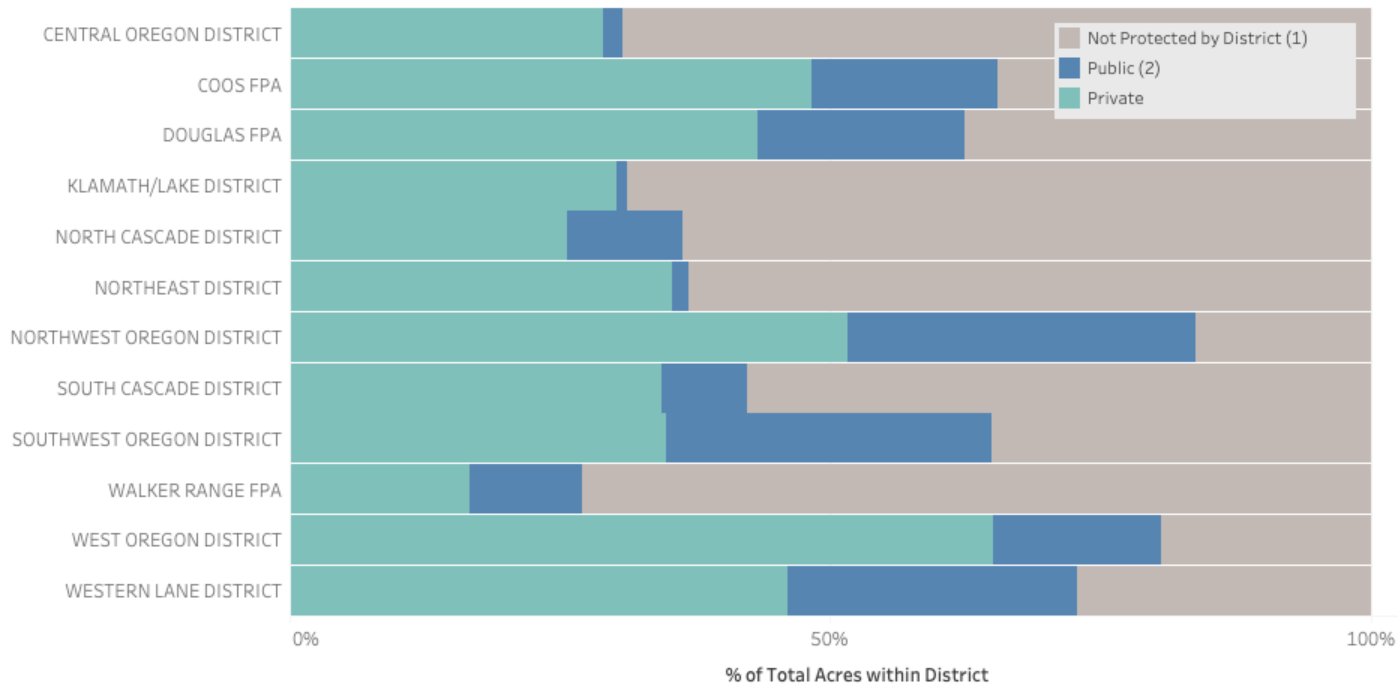
District Acres With and Without ODF Protection

	Private With Assessment	Public With Assessment (1)	No Assessment (not forested)	With Protection Agreement (2)	W/O Protection Agreement (3)	Total District Acres
CENTRAL OREGON DISTRICT	2,165,012	130,493	370,250	3,216	4,805,634	7,474,604
COOS FPA	1,152,457	146,155	89,223	261,953	734,523	2,384,312
DOUGLAS FPA	1,163,853	17,896	66,142	495,176	944,695	2,687,761
KLAMATH/LAKE DISTRICT	1,458,154	44,621	671,191	1,282	2,650,563	4,825,810
NORTH CASCADE DISTRICT	460,617	68,923	167,199	123,202	976,710	1,796,651
NORTHEAST DISTRICT	1,854,091	53,096	285,867	27,019	3,021,984	5,242,057
NORTHWEST OREGON DISTRICT	1,086,001	578,346	222,076	98,169	118,281	2,102,873
SOUTH CASCADE DISTRICT	923,379	5,077	55,771	205,596	1,493,865	2,683,688
SOUTHWEST OREGON DISTRICT	1,007,317	55,252	157,201	816,483	859,996	2,896,249
WALKER RANGE FPA	114,337	71,734	700	0	501,707	688,477
WEST OREGON DISTRICT	877,185	65,126	68,560	143,912	192,916	1,347,699
WESTERN LANE DISTRICT	496,542	31,903	18,900	256,573	273,507	1,077,425
Total Acres by Type	12,758,944	1,268,623	2,173,080	2,432,580	16,574,380	35,207,606

Source: Custom data request provided by ODF Fire Division, February 2021. Notes: (1) DSL/BOF, County Lands. (2) BLM, BIA, USACE (3) USFS and non-protected federal lands within ODF boundaries.



District Composition of Protected Lands



Source: ODF Fire Protection in year 2021. Notes: (1) Largely USFS but also developed urban areas. (2) Includes BLM.



Annual District Budgets (Fiscal Years 2015-2020)

Dist Name	FY15	FY16	FY17	FY18	FY19	FY20
Central Oregon	6,185,964	6,386,771	7,026,169	7,391,232	7,484,319	7,340,102
Coos FPA	4,312,244	4,448,369	4,624,652	4,830,237	5,074,906	5,376,571
Douglas FPA	5,203,209	5,495,569	5,229,002	5,699,111	6,069,876	6,296,930
Klamath/Lake	4,420,551	4,573,054	5,040,937	5,333,689	5,358,233	5,442,152
North Cascade	1,916,580	1,837,749	1,935,650	1,976,472	1,931,319	2,146,713
Northeast	4,328,492	4,413,395	4,531,773	4,881,259	5,072,790	5,331,630
Northwest	4,110,129	4,425,415	4,627,318	4,764,002	4,780,553	4,987,700
South Cascade	3,228,113	3,409,987	3,565,835	3,546,093	3,579,509	3,928,792
Southwest	6,871,552	7,370,702	7,426,917	7,544,802	7,437,148	7,909,860
Walker Range FPA	809,613	961,448	855,683	882,264	897,812	879,627
West Lane	2,003,030	2,083,991	2,051,490	2,238,609	2,209,291	2,365,760
West Oregon	2,293,911	2,470,556	2,530,407	2,636,604	2,592,368	2,767,736
Grand Total	45,683,388	47,877,006	49,445,833	51,724,374	52,488,124	54,773,573
	% Change From Prior Year	4.80%	3.28%	4.61%	1.48%	4.35%

Source: Annual Board Summaries provided by ODF Fire Protection

