

Trends in California's Wildfire Legislation, 2001-2020

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Santa Clara County FireSafe Council
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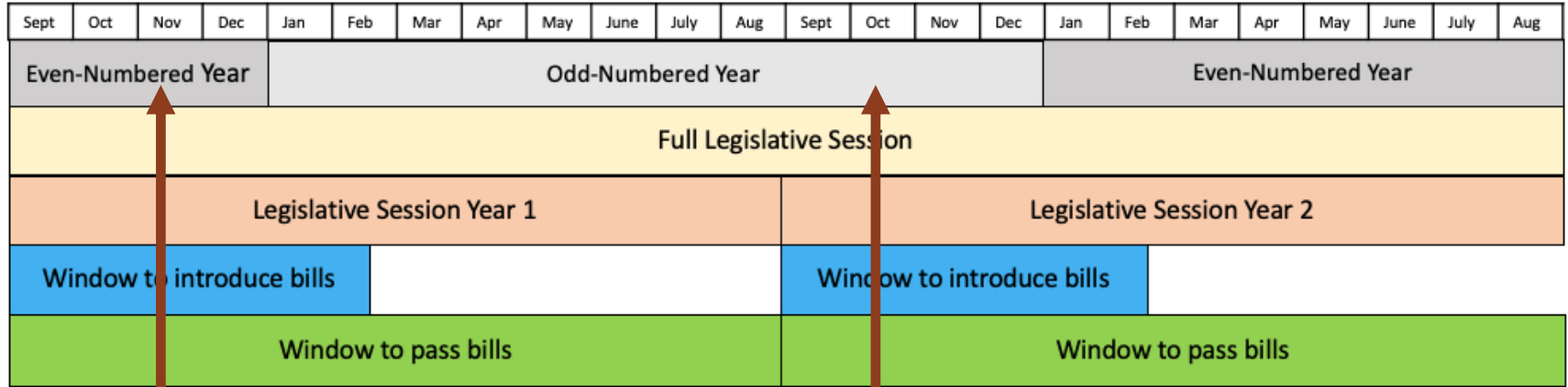
*NOTE: This is ongoing/unpublished/unfinalized work.

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Introduction



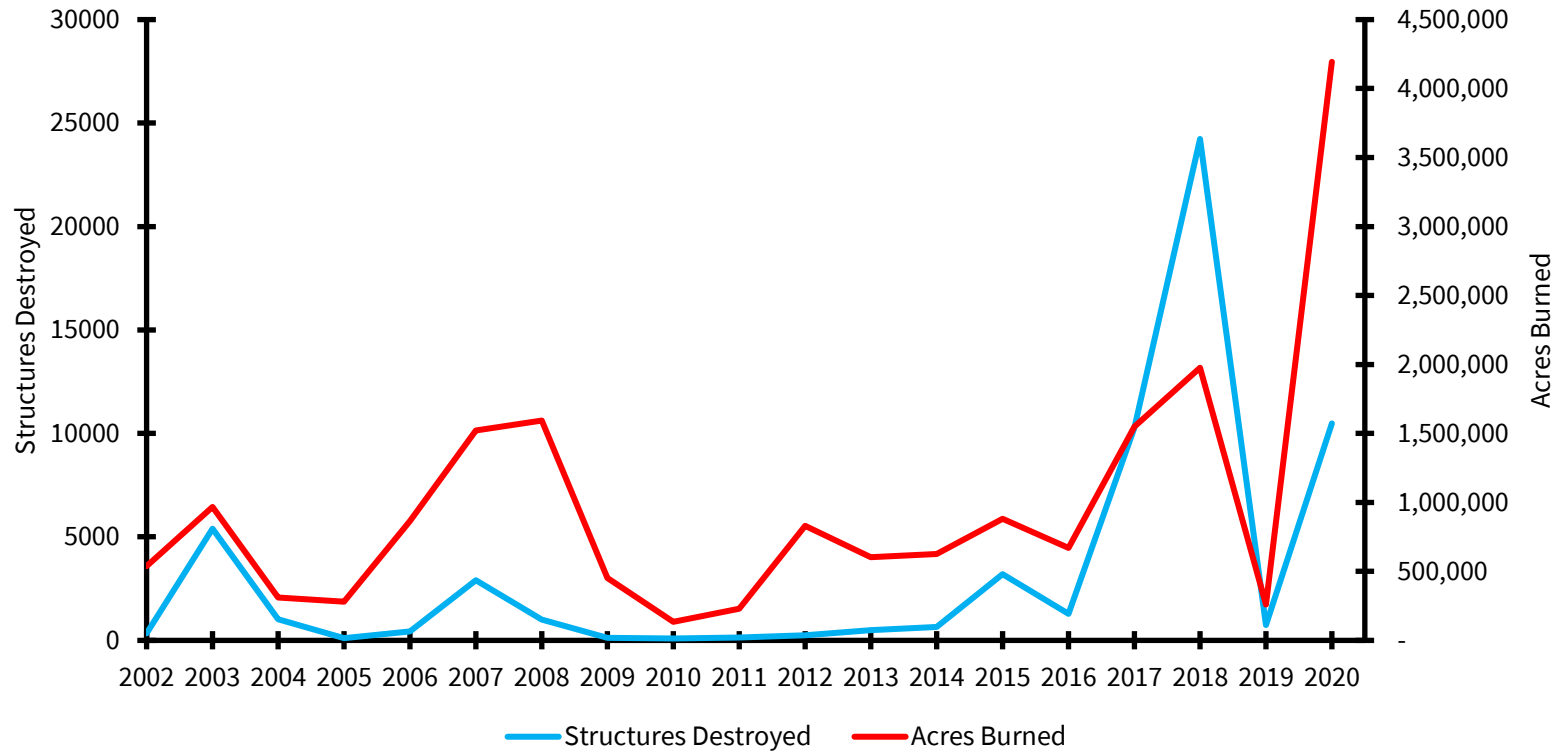
The California legislature follows a two-year legislative calendar for each session.



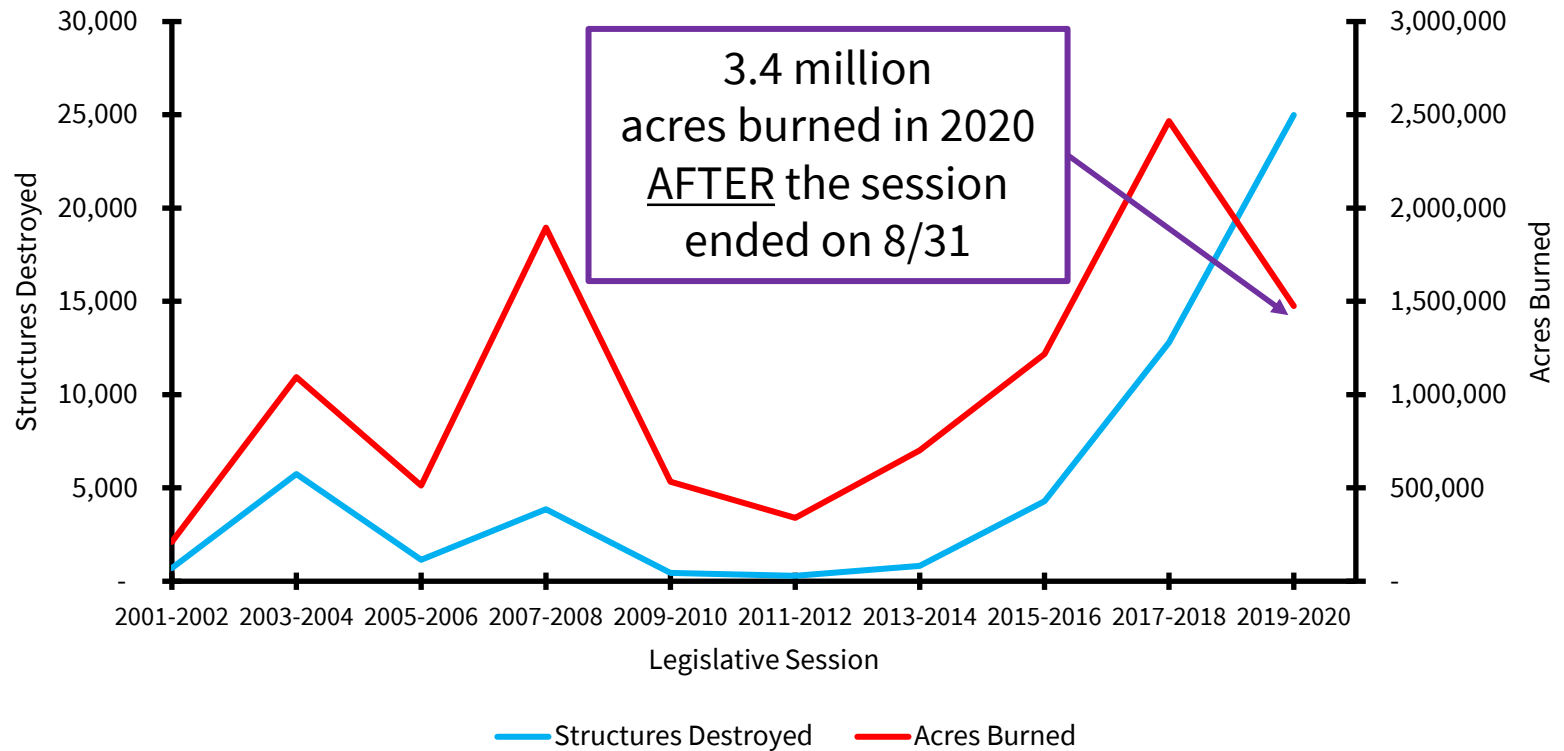
Camp Fire
(Nov. 2018)
Year 1 of 2019-2020

Sonoma Complex Fires
(Oct. 2017)
Year 2 of 2017-2018

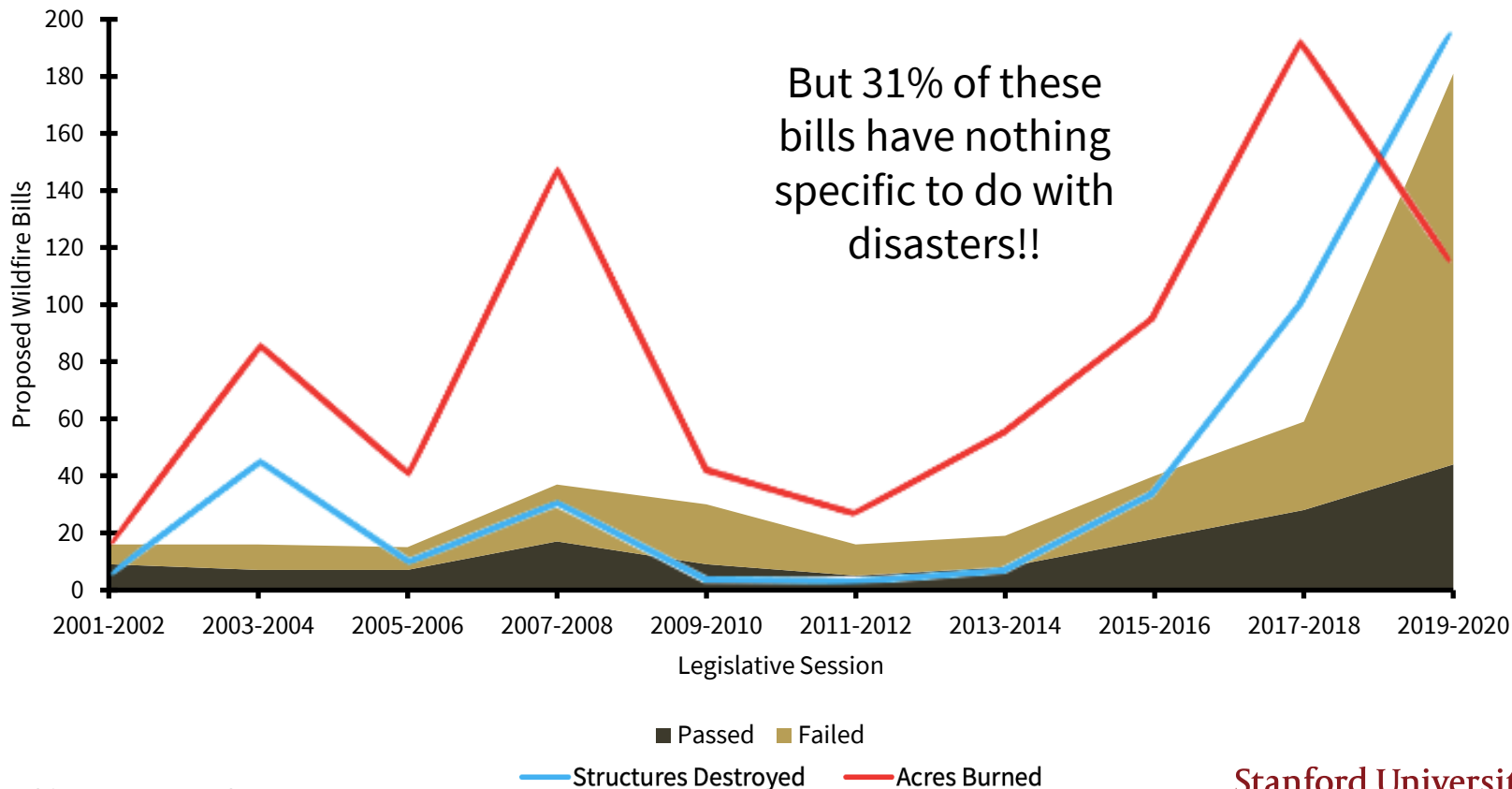
We're used to seeing graphs like this one:



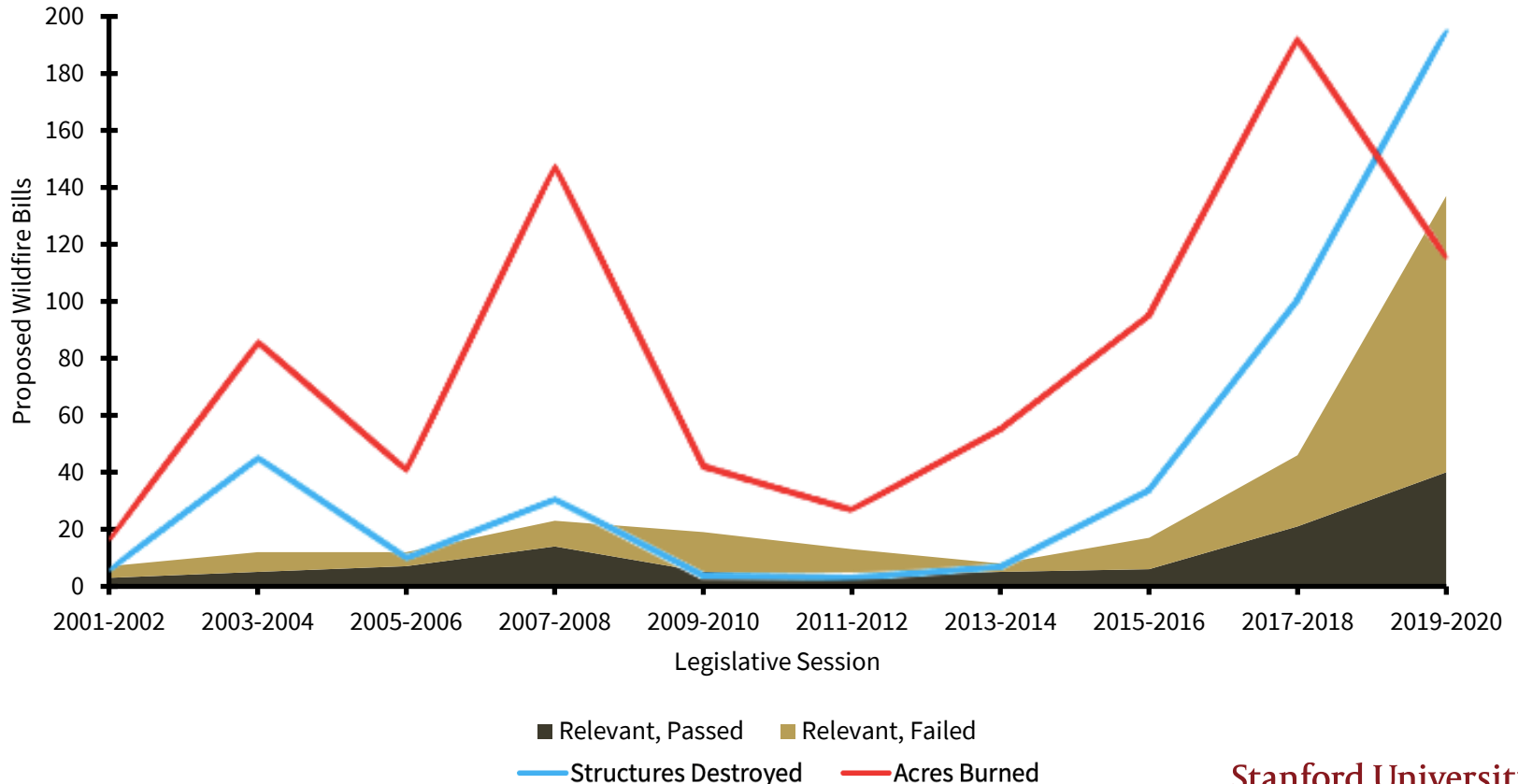
When we think about the legislature and its responses, we should be thinking along their calendar.



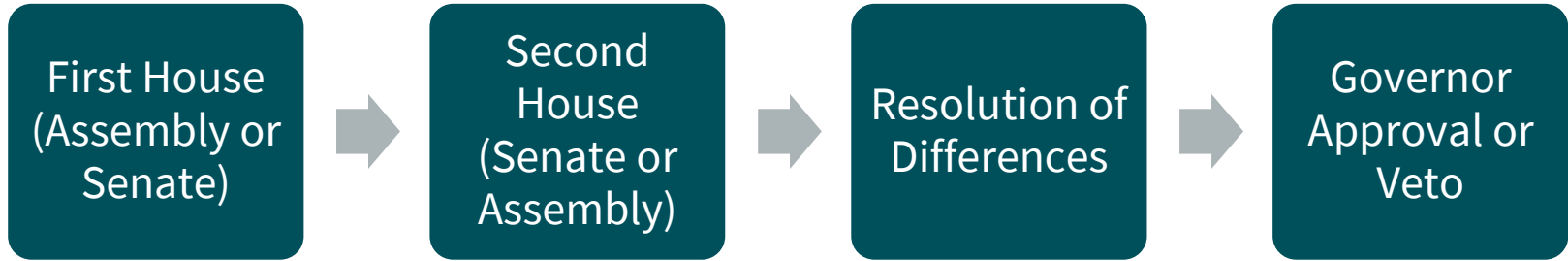
Bills with the term “wildfire” have become more common in the past few legislative sessions.



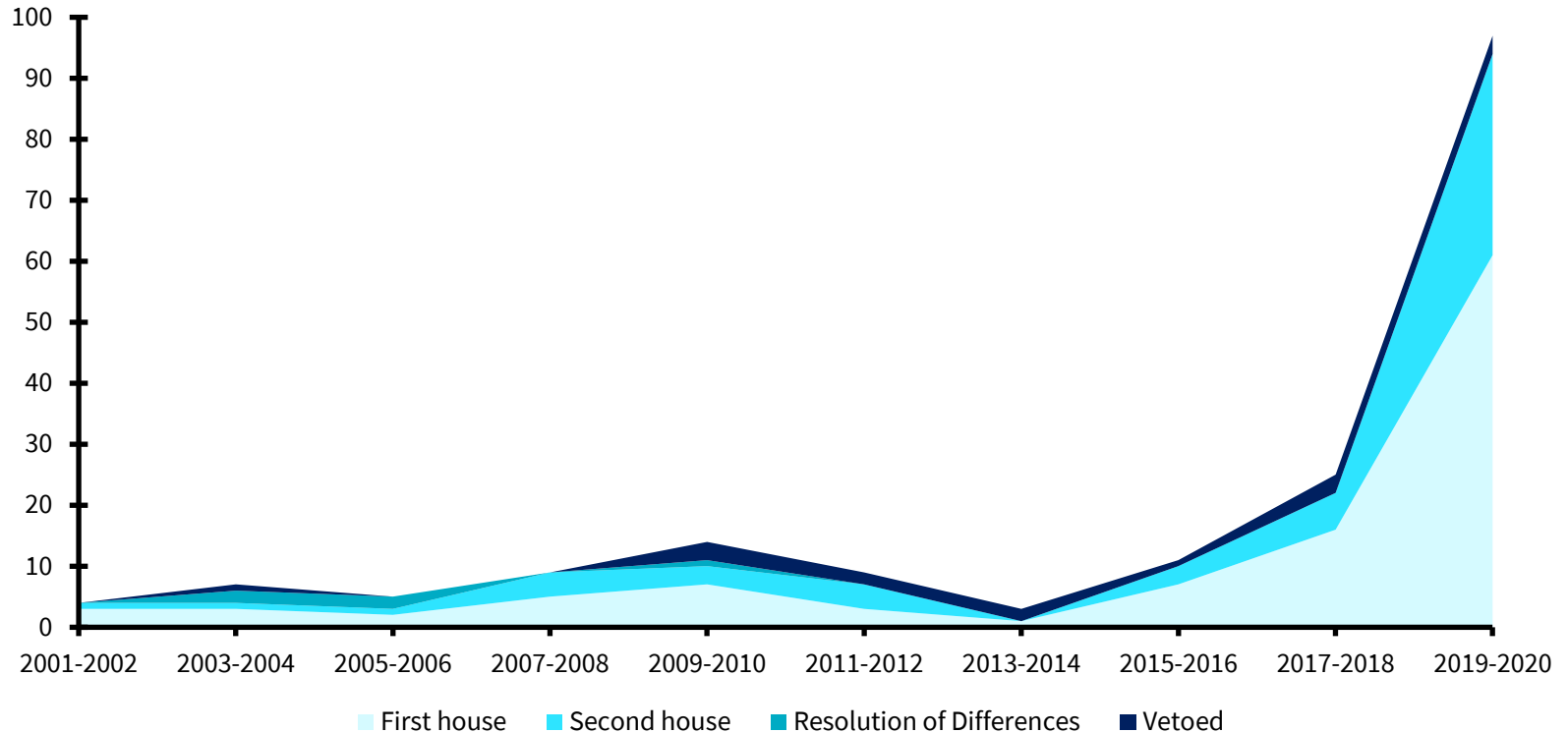
Even with non-relevant bills removed, there has still been a huge increase in legislative interest in wildfire bills.



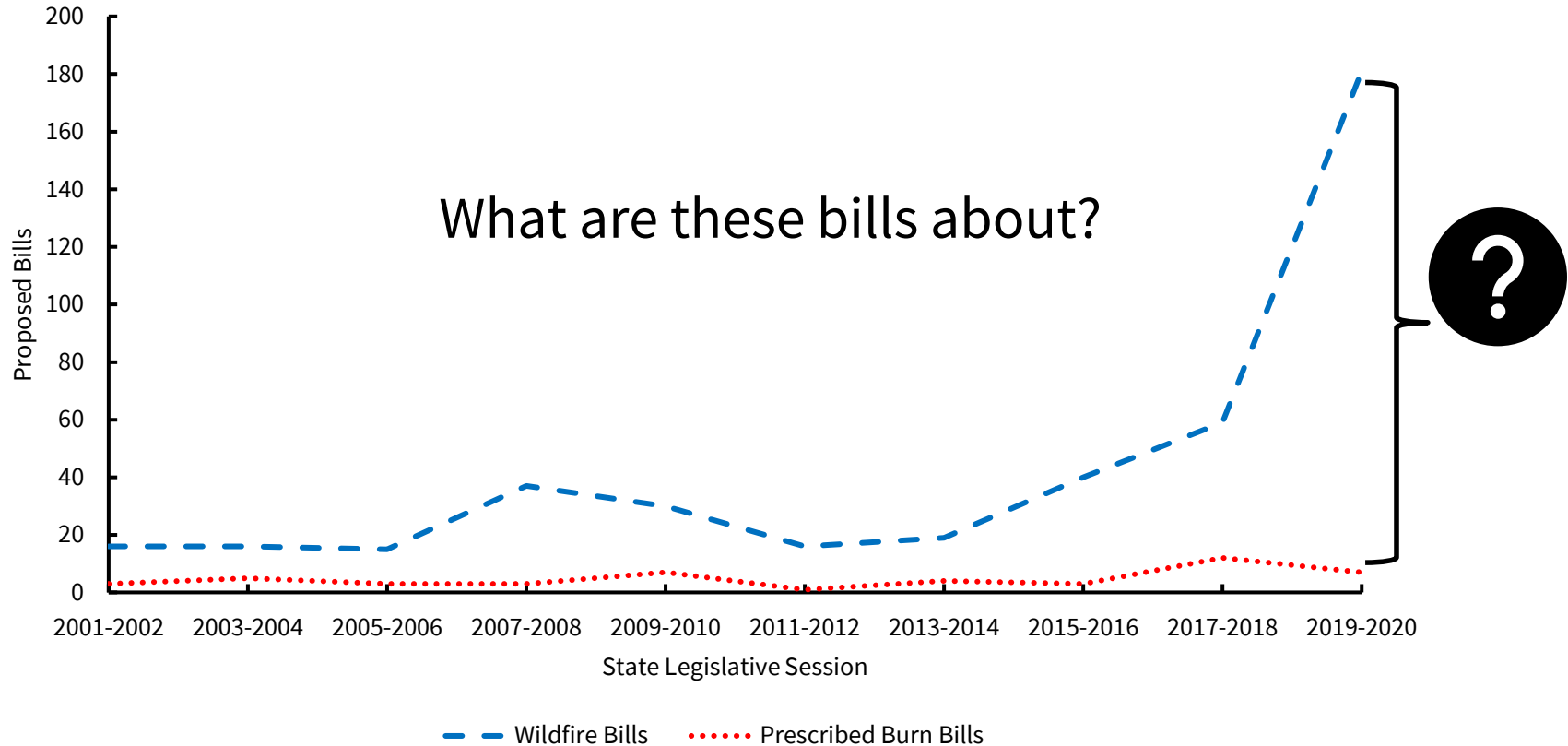
Bills can fail at any stage of the legislative process.



Most failing bills fail early in the legislative process.



We could use keywords to figure out what these bills are about, but that assumes we know all the bill topics.



We also don't know why wildfire bills pass or fail.

	Number of Bills Proposed		Bill Pass Rate	
	Estimate	p-value	Estimate	p-value
Wildfires	-9.680e-03	0.1261	1.549e-05	0.6541
Fatalities	-9.745e-01	0.3492	9.885e-03	0.1500
Structures Destroyed	1.217e-02	0.0282 *	-5.059e-05	0.0942 .
Acres Burned	-1.406e-05	0.1489	8.120e-08	0.1708

So what affects success rate?

Results: Bill Topics



*NOTE: This is ongoing/unpublished/unfinalized work.

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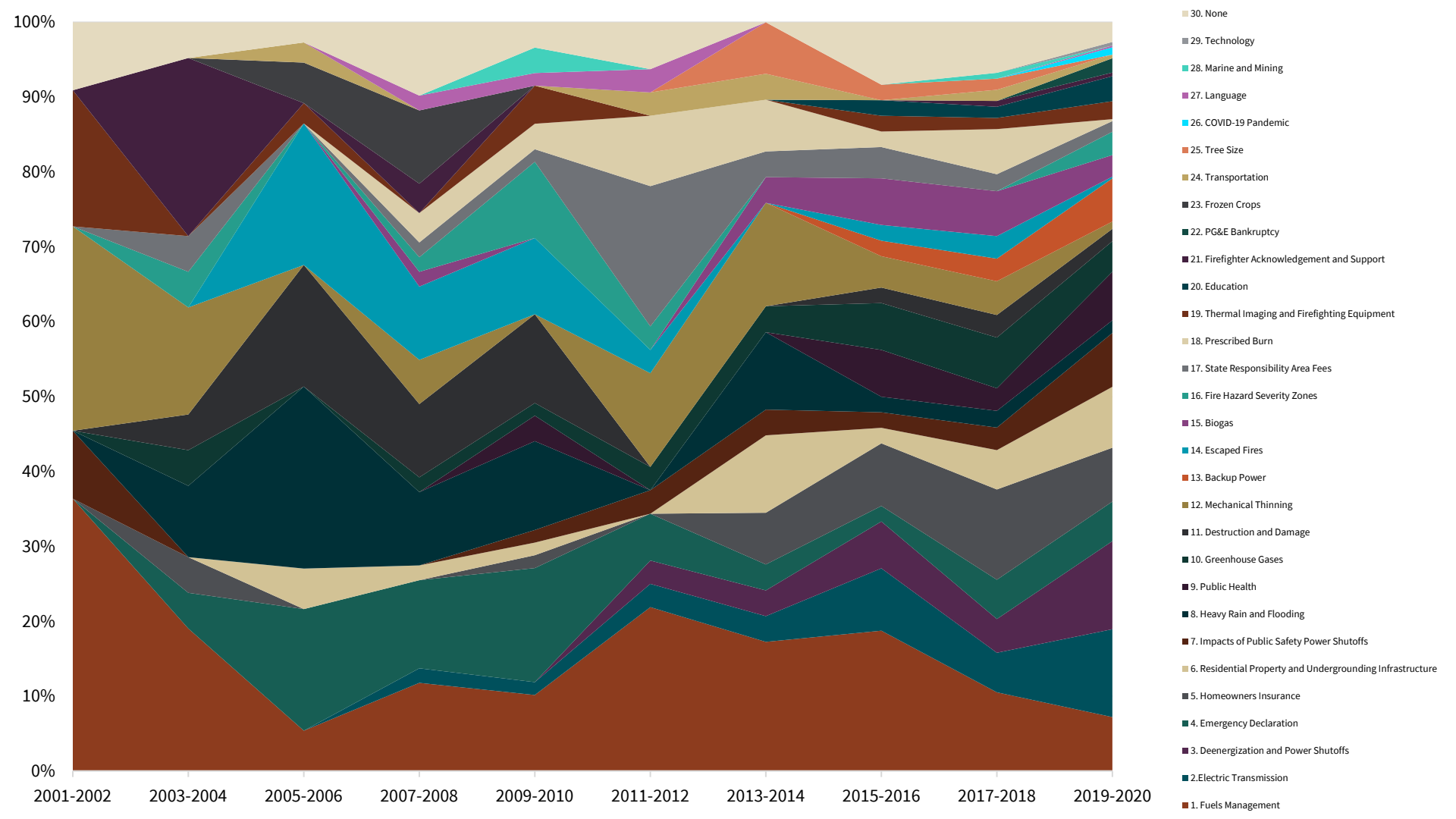
We use machine learning to identify 29 topics from our topic model:

1. Fuels Management	87 (36%)
2. Electric Transmission	64 (28%)
3. Deenergization and Power Shutoffs	60 (25%)
4. Emergency Declarations	55 (47%)
5. Homeowners' Insurance	54 (43%)
6. Residential Property and Undergrounding Infrastructure	49 (37%)
7. Impacts of Public Safety Power Shutoffs	39 (36%)
8. Heavy Rain and Flooding	37 (57%)
9. Public Health	36 (25%)
10. Greenhouse Gases	34 (18%)

11. Destruction and Damage	31 (65%)
12. Mechanical Thinning	29 (48%)
13. Backup Power	29 (34%)
14. Escaped Fires	25 (60%)
15. Biogas	25 (28%)
16. Fire Hazard Severity Zones	22 (32%)
17. SRA Fees	21 (48%)
18. Prescribed Burns	19 (47%)
19. Thermal Imaging and Firefighting Equipment	19 (32%)
20. Education	17 (35%)

21. Firefighter Acknowledgement and Support	10 (50%)
22. PG&E Bankruptcy	8 (63%)
23. Frozen Crops	7 (100%)
24. Transportation	7 (57%)
25. Tree Size	5 (60%)
26. COVID-19 Pandemic	4 (25%)
27. Language	4 (0%)
28. Marine and Mining	3 (67%)
29. Technology	2 (50%)
30. None	36 (39%)

Numbers represent total bills in each topic; corpus = 294 bills



Topics with the most bills are often about mitigation, especially fuels and utilities management.

1. Fuels Management	87 (36%)
2. Electric Transmission	64 (28%)
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Numbers represent total bills in each topic; corpus = 294 bills

Many topics are clustered by year.

Topics	2019-2020
2. Electric Transmission	77%
3. Deenergization and Power Shutoffs	82%
5. Homeowners Insurance	56%
6. Residential Property and Undergrounding Infrastructure	69%
7. Impacts of Public Safety Power Shutoffs	77%
9. Public Health	75%
10. Greenhouse Gases	50%
13. Backup Power	83%
20. Education	82%
26. COVID-19 Pandemic	100%

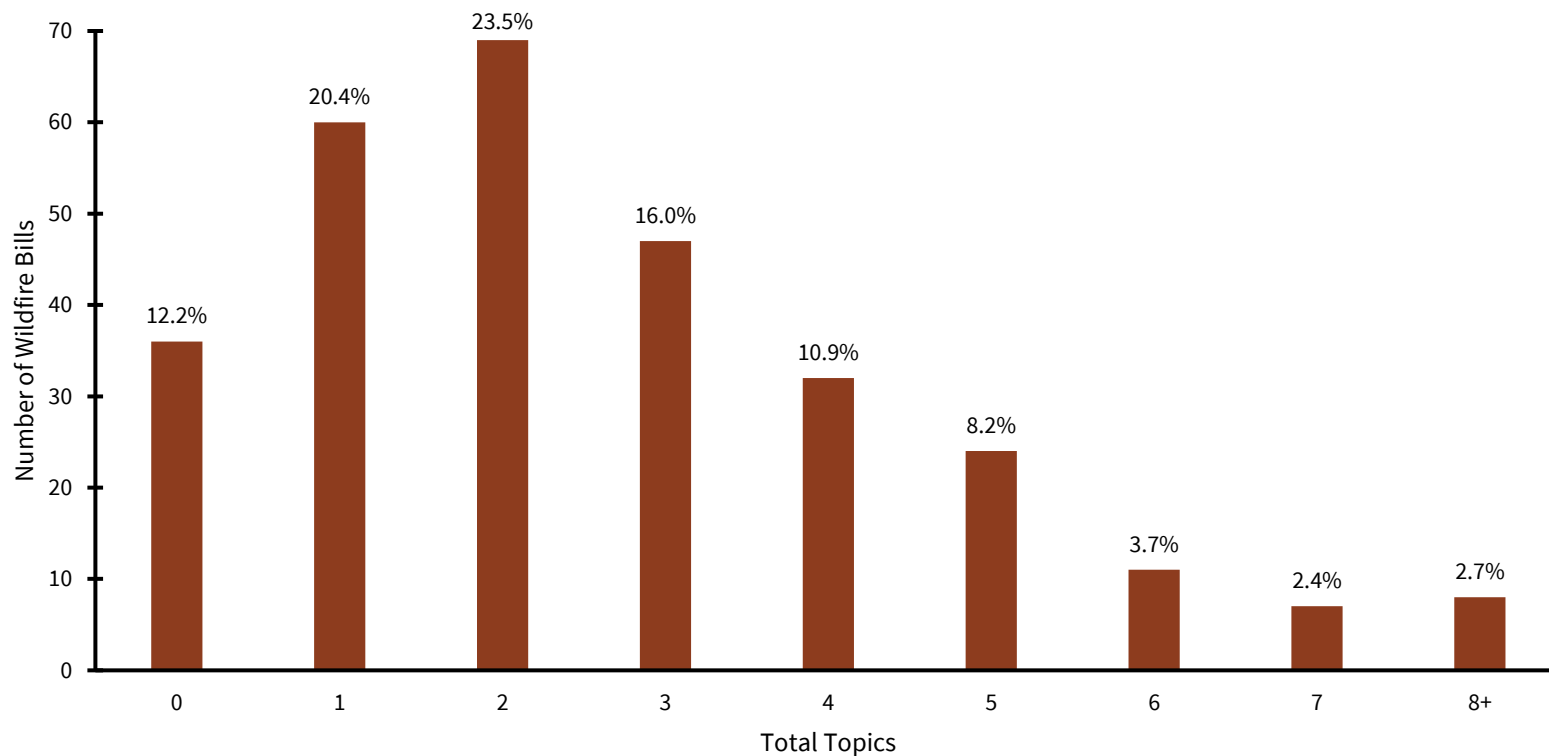
31% of these topics appear infrequently (<5% in the corpus).

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Most bills match into more than 1 topic.



Results: Bill Success



*NOTE: This is ongoing/unpublished/unfinalized work.

Hypothesis 1: Bill's sponsor influences passage.

	Count	Pass Rate
Republican (Democrat)	104 (181)	31% (40%)
Bipartisan Sponsorship (Partisan Sponsorship)	28 (257)	0% (40%)
Co-Sponsored (Not Co-Sponsored)	81 (213)	7% (49%)
Female (Male)	76 (209)	43% (34%)
Senate (Assembly)	115 (179)	43% (34%)
Urban (Rural) District	94 (108)	32% (36%)
Recent Wildfire in District	178 (108)	62% (34%)
Sessions in Legislation	Avg: 3.22 sessions	

Hypothesis 1: Bill's sponsor influences passage.



	Count	Pass Rate	Estimate	p-value
<u>Republican (Democrat)</u>	104 (181)	31% (40%)	-0.170725	0.0331 *
Bipartisan Sponsorship (Partisan Sponsorship)	28 (257)	0% (40%)	-0.033431	0.7790
<u>Co-Sponsored (Not Co-Sponsored)</u>	81 (213)	7% (49%)	-0.478650	1.92e-08 ***
Female (Male)	76 (209)	43% (34%)	0.020395	0.7840
Senate (Assembly)	115 (179)	43% (34%)	0.093485	0.1775
Urban (Rural) District	94 (108)	32% (36%)	-0.029296	0.7430
Recent Wildfire in District	178 (108)	62% (34%)	0.100317	0.2087
Sessions in Legislation	Avg: 3.22 sessions		-0.002082	0.8907

Hypothesis 2: Legislative procedures influence passage.

Legislative Procedure	Count	Pass Rate
Urgency Measure	62 (233)	34% (38%)
State Mandate	96 (198)	44% (34%)
Number of Committees Reviewing Bill (0-6)	Avg: 2.48	
Number of Committees Reviewing Bill (1-6)	Avg: 3.07	

Hypothesis 2: Legislative procedures influence passage.



Legislative Procedure	Count	Pass Rate	Estimate	p-value
Urgency Measure	62 (233)	34% (38%)	-0.03771	0.589
State Mandate	96 (198)	44% (34%)	0.09407	0.119
<u>Number of Committees Reviewing Bill (0-6)</u>	Avg: 2.48		0.10812	1.59e-13 ***
<u>Number of Committees Reviewing Bill (1-6)</u>	Avg: 3.07		0.07971	0.000138 ***

Hypothesis 2: Legislative procedures influence passage.

1. Appropriations	180 (45%)	9. Environmental Quality	20 (55%)	17. Natural Resources and Water	93 (44%)
2. Agriculture	1 (0%)	10. Governance and Finance	19 (74%)	18. Public Employment	3 (67%)
3. Banking and Finance	2 (100%)	11. Governmental Organization	32 (37.5%)	19. Public Safety	3 (67%)
4. Budget	9 (67%)	12. Health	2 (100%)	20. Revenue and Taxation	28 (50%)
5. Business and Professions	1 (0%)	13. Housing and Community Development	7 (57%)	21. Rules	8 (88%)
6. Economy	1 (0%)	14. Insurance	14 (57%)	22. Transportation	1 (0%)
7. Education	6 (0%)	15. Judiciary	4 (75%)	23. Utilities, Energy, and Communications	37 (38%)
8. Elections	2 (50%)	16. Local Government	33 (64%)	24. Veterans Affairs	2 (50%)
				25. No Committee Review	58 (2%)

Hypothesis 2: Legislative procedures influence passage.

Committee	Count	Pass Rate	Estimate	p-value
<u>Governance and Finance</u>	19	74%	0.27383	0.03662 *
<u>Health</u>	2	100%	0.88563	0.01693 *
<u>Rules</u>	8	88%	0.56082	0.00195 **
<u>No Committee Review</u>	58	2%	-0.2565	0.0281 *

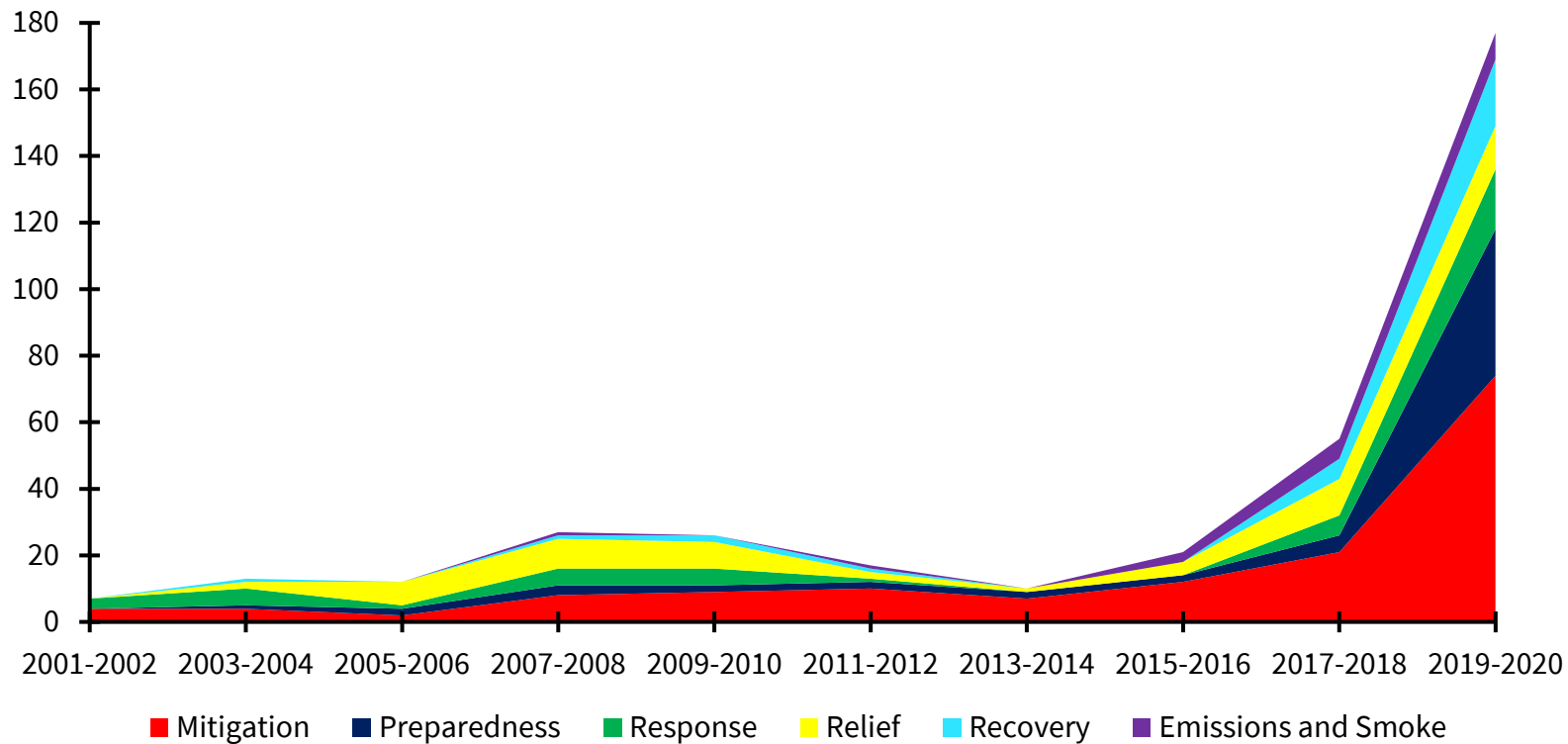
Hypothesis 3: Disaster stage influences passage.



Bill Coding:

- Mitigation
- Preparedness
- Response
- Relief/Short-Term Recovery
- Long-Term Recovery
- *Smoke and Air Pollution*

Most bills focus on mitigation.



Hypothesis 3: Disaster stage influences passage.

Disaster Stage	Count	Pass Rate
Mitigation	151	32%
Preparedness	63	33%
Response	44	41%
Relief/Short-Term Recovery	57	47%
Long-Term Recovery	31	42%
Smoke/Air Pollution	19	26%
Multiple Stages	55	33%

Hypothesis 3: Disaster stage influences passage.



Disaster Stage	Count	Pass Rate	Estimate	p-value
Mitigation	151	32%	0.01201	0.881
Preparedness	63	33%	0.07273	0.490
Response	44	41%	0.15273	0.194
Relief/Short-Term Recovery	57	47%	0.12925	0.184
Long-Term Recovery	31	42%	0.04773	0.730
Smoke/Air Pollution	19	26%	-0.12727	0.576
Multiple Stages	55	33%	-0.05766	0.427

Hypothesis 4: Bill's impacted population influences passage.

Disaster Stage	Count	Pass Rate
Holiday or Memorial (Not a Holiday or Memorial)	7 (287)	86% (36%)
Specific Region (No Specific Region)	35 (255)	51% (35%)
Vulnerable or Disadvantaged Population (No Specific Population)	29 (265)	38% (37%)

Hypothesis 4: Bill's impacted population influences passage.



Disaster Stage	Count	Pass Rate	Estimate	p-value
<u>Holiday or Memorial</u> <u>(Not a Holiday or Memorial)</u>	7 (287)	86% (36%)	0.49477	0.00741 **
<u>Specific Region (No Specific Region)</u>	35 (255)	51% (35%)	0.18944	0.0228 *
Vulnerable or Disadvantaged Population (No Specific Population)	29 (265)	38% (37%)	0.005725	0.952

Hypothesis 5: Bill's topic influences passage.

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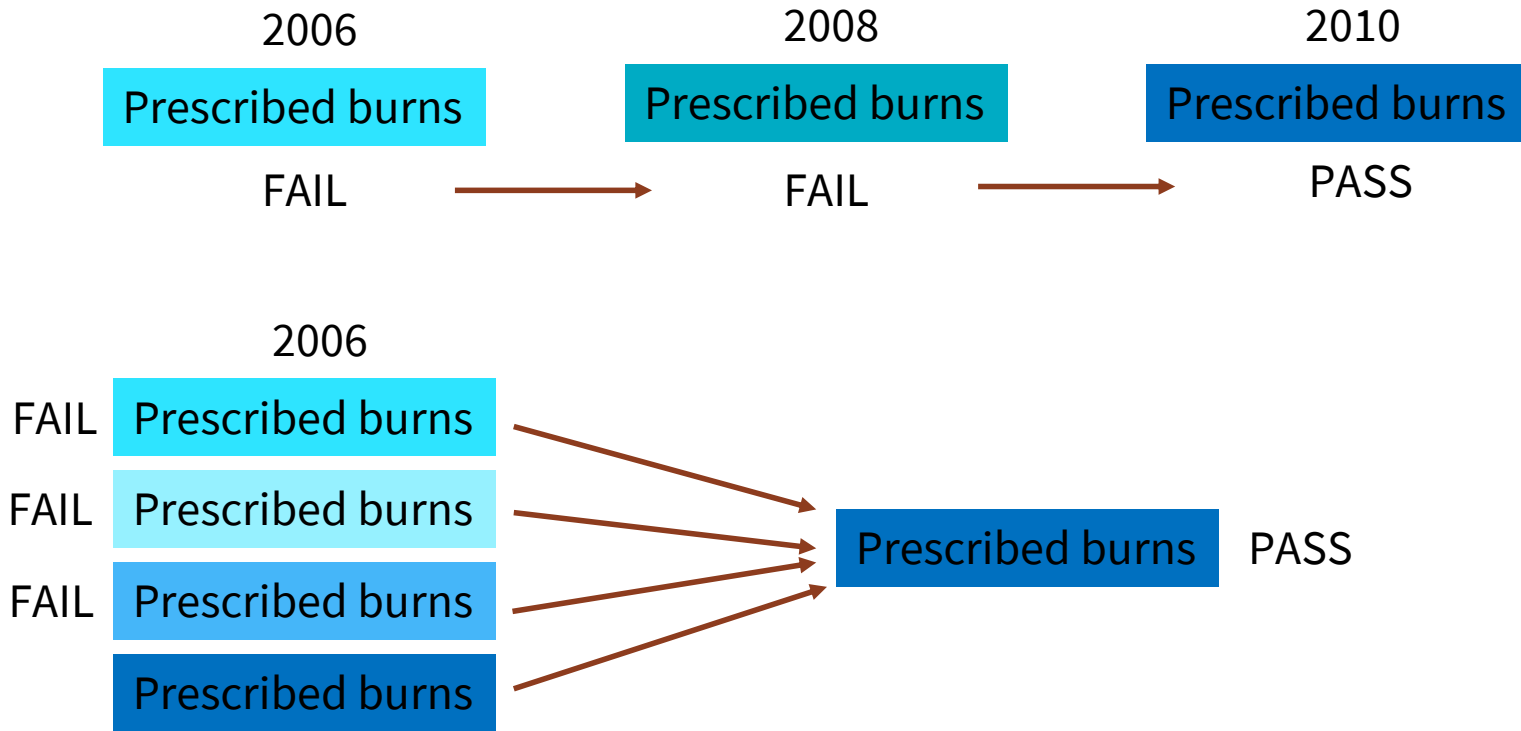
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Numbers represent total bills in each topic; corpus = 294 bills

Hypothesis 5: Bill's topic influence passage.

Committee	Count	Pass Rate	Estimate	p-value
<u>Greenhouse Gases</u>	34	18%	-0.2486135	0.02418 *
<u>Destruction and Damage</u>	31	65%	0.2527457	0.04974 *
<u>PG&E Bankruptcy</u>	8	63%	0.4097788	0.03031 *
<u>Frozen Crops</u>	7	100%	0.5471988	0.00738 **

Hypothesis 6: Bill's with repetitive language are more likely to pass.



Some factors may influence bill passage or failure.

1. Bill sponsorship
 - Republican sponsor, Co-sponsorship (-)
2. Legislative procedures
 - Review by more committees (+)
 - Governance and finance, Health, Rules Committees (+)
 - No committee review (-)
3. Disaster stage – N/A
4. Affected population
 - Holiday or memorial (+)
 - Specific geographic region (+)
5. Topic
 - Greenhouse gases (-)
 - Destruction and damage, PG&E bankruptcy, Frozen crops (+)
6. Repetitive language – TBD

We will also conduct expert interviews to identify other factors that may influence bill passage or failure.



SPONSOR
RELATIONSHIPS



POLITICAL OR
LEGAL VIABILITY



BUDGET
CONSTRAINTS

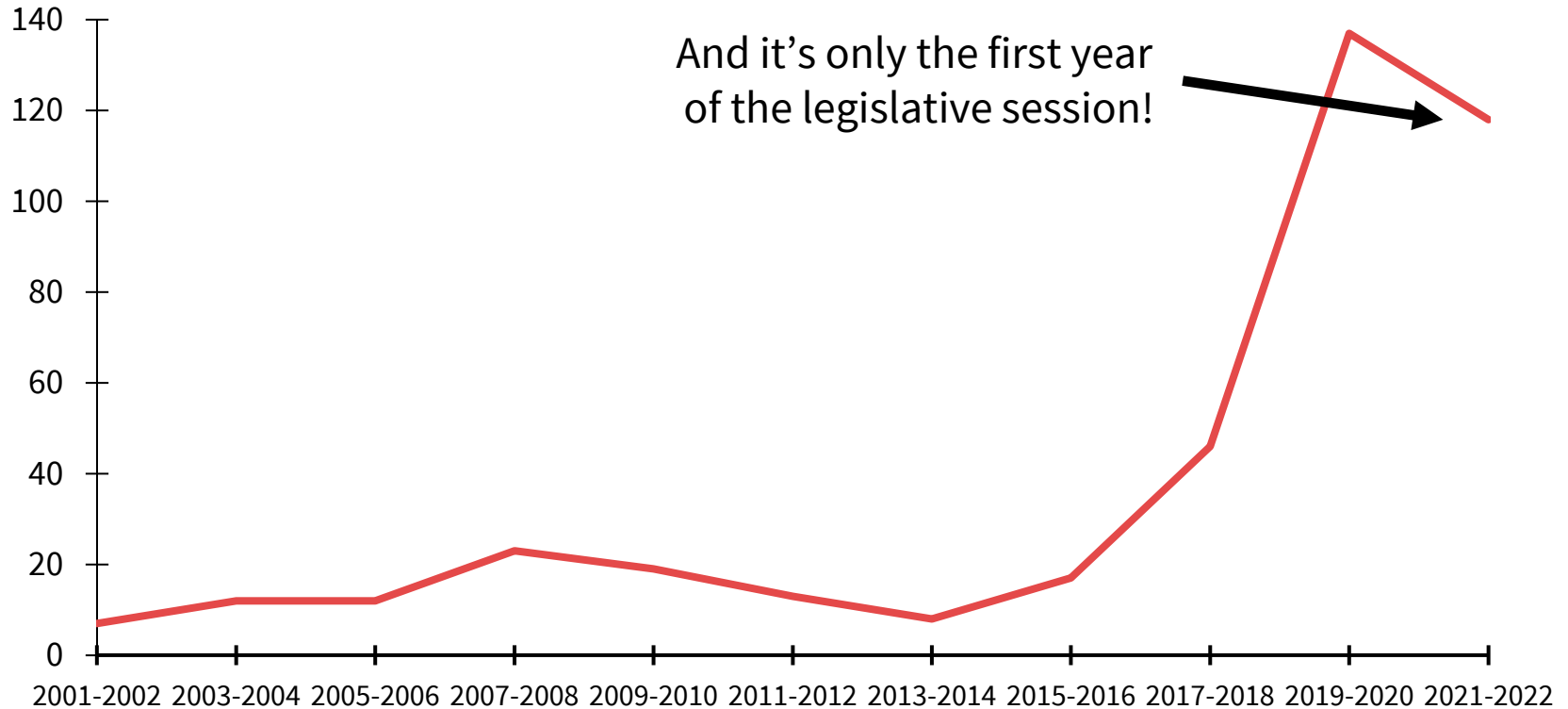
2021-2022 Legislative Session



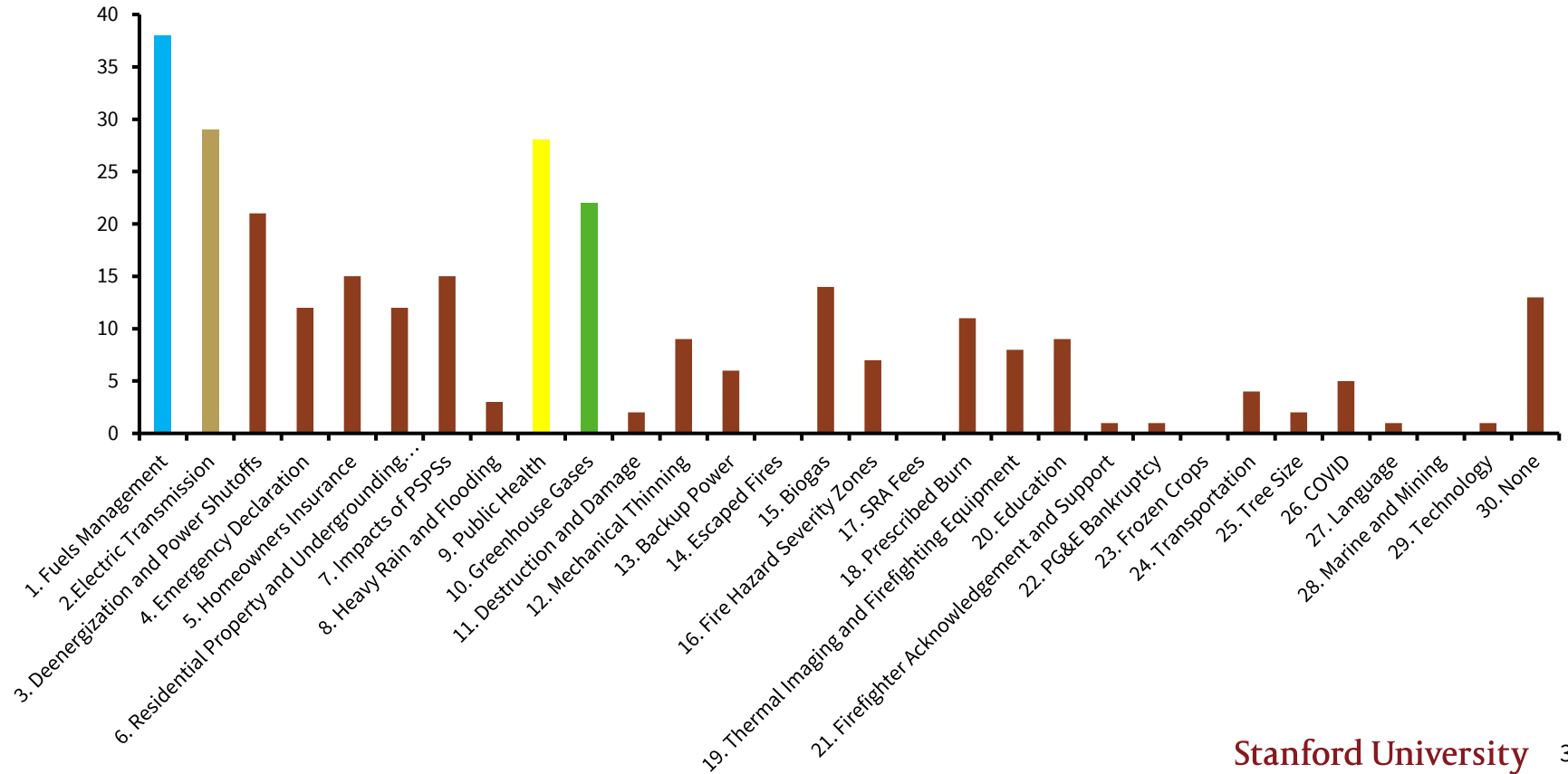
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The 2021-2022 legislation session has already seen 100+ bills proposed related to wildfires.



Fuels management, electric transmission, public health, and greenhouse gases are the post popular 2021 topics.



The 2021-2022 budget includes \$2+ billion for wildfire priorities.



Forest resilience, especially prescribed fire and funding for tribes and small landowners



Strategic fuel break projects each year over the next several years + grants for local wildfire projects



Home hardening retrofits to protect fire-vulnerable communities



Science-based predictive models and resilience



Climate and forest management job opportunities

Santa Clara representatives have proposed 5 wildfire bills:

AB 857 (Kalra) – Spanish-language employment information

AB 30 (Kalra) – recognize that access to nature is a human right

AB 987 (Low) – customers receive \$250/24 hr deenergization period, utility companies must notify and consider vulnerable populations prior to deenergization

SB 558 (Caballero) – create a task force to identify needs of farmworkers during disasters

AB 853 (Stone) – utility companies must alert landowners about clearance work to reduce wildfire risk

Thank you!

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