



Progress Report

Monitoring Team



Jones & Stokes



Jones & Stokes

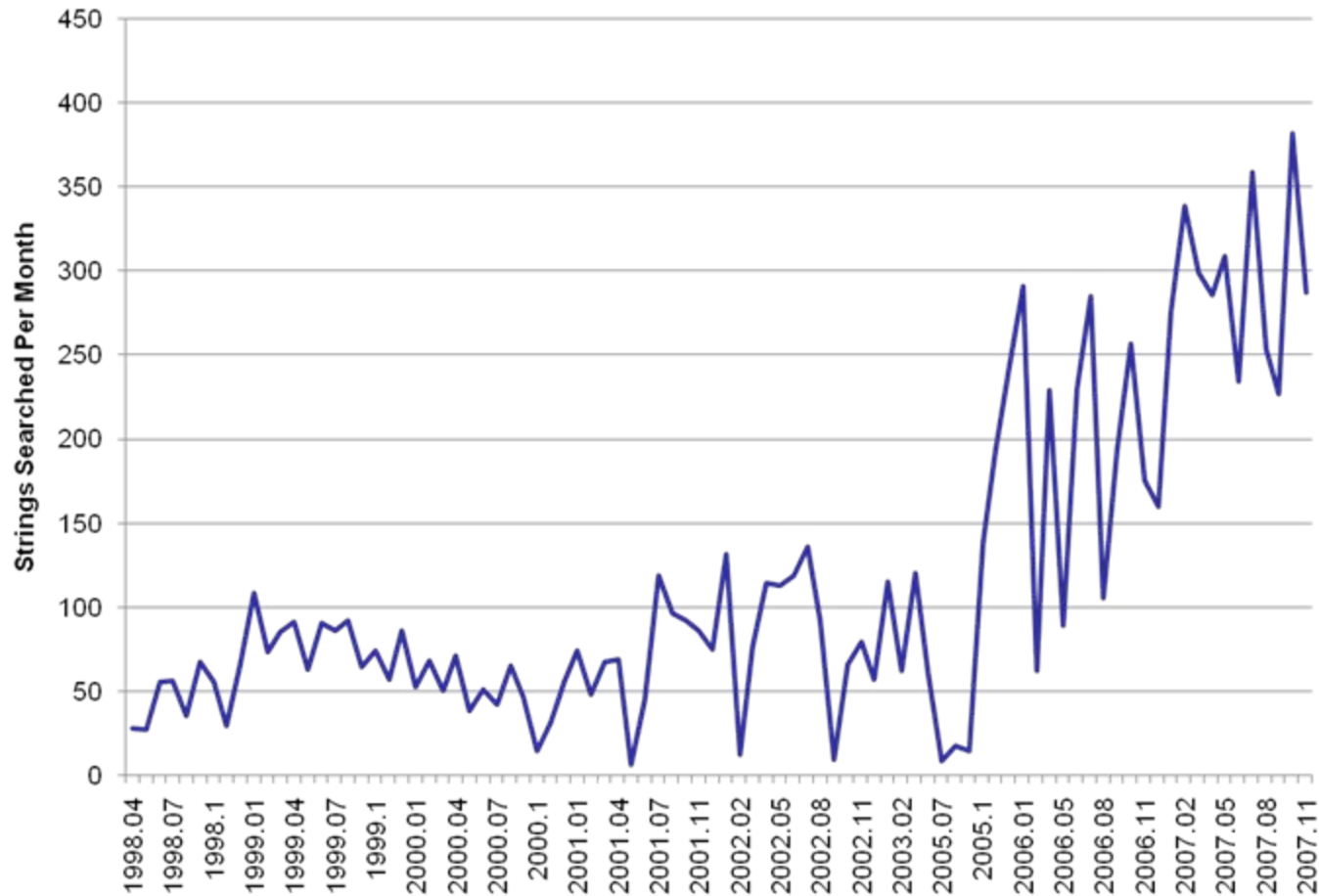


Jones & Stokes

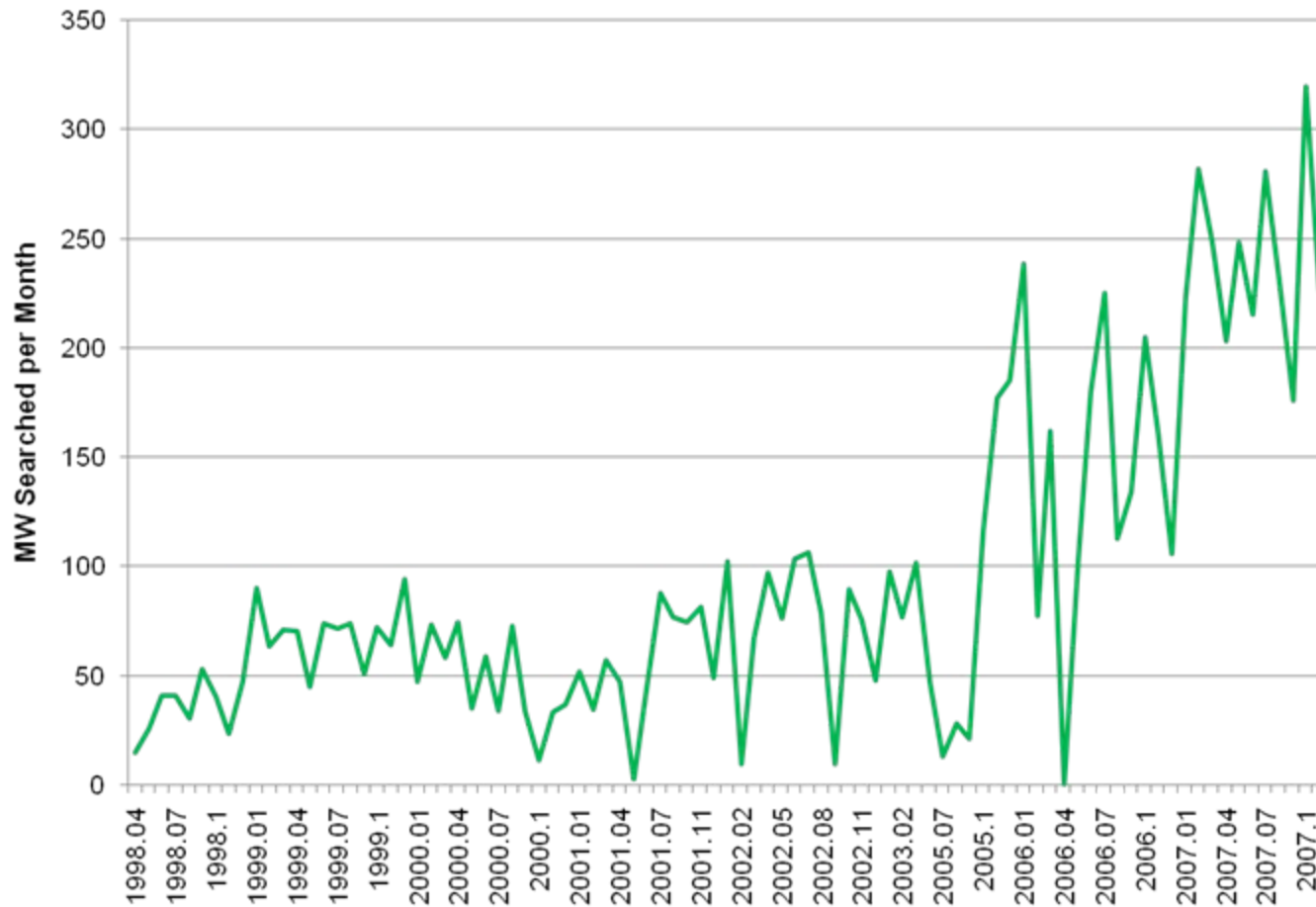
Outlined

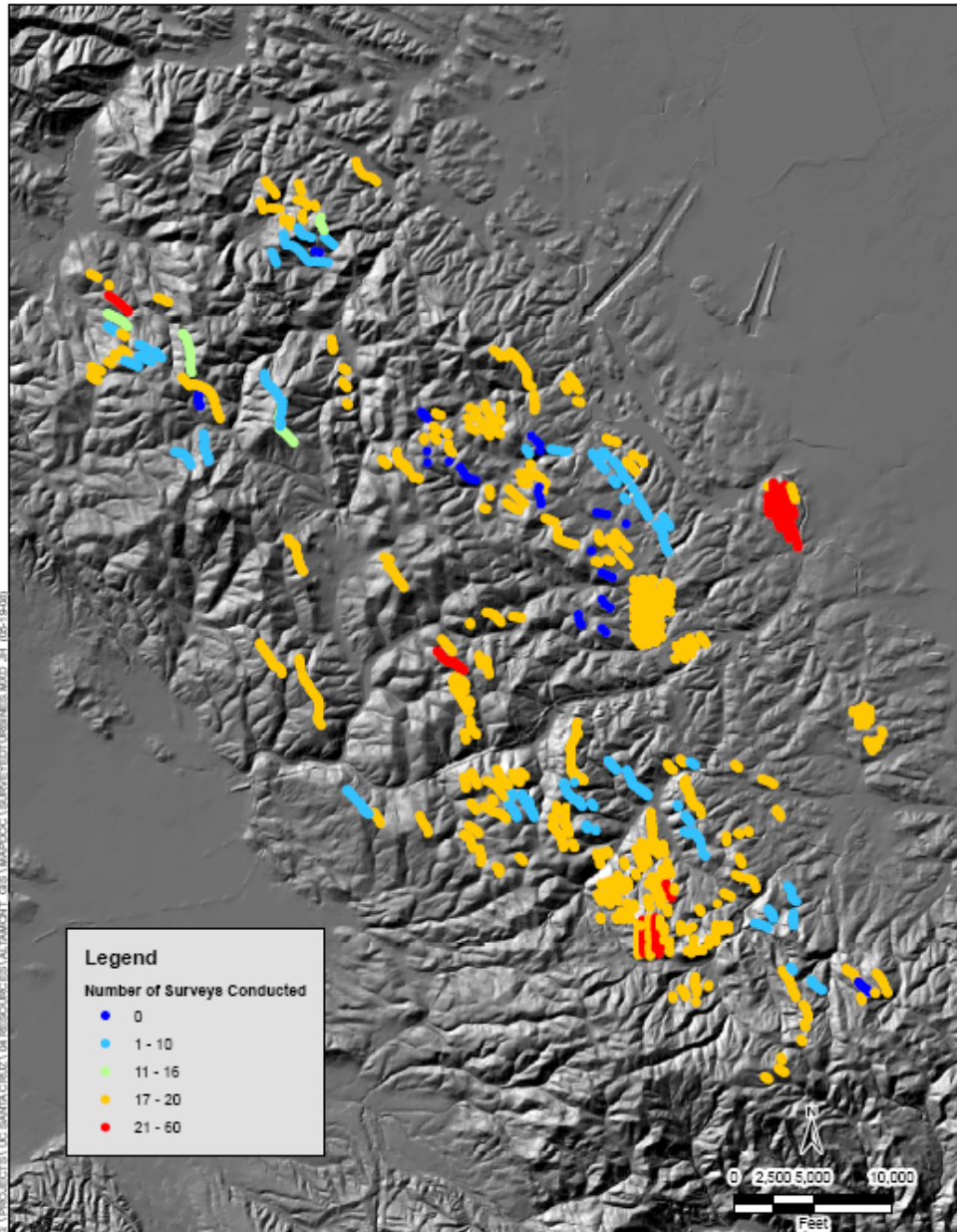
- Effort
- Results
- Correlations

Effort – Strings Searched



Effort – MW Searched

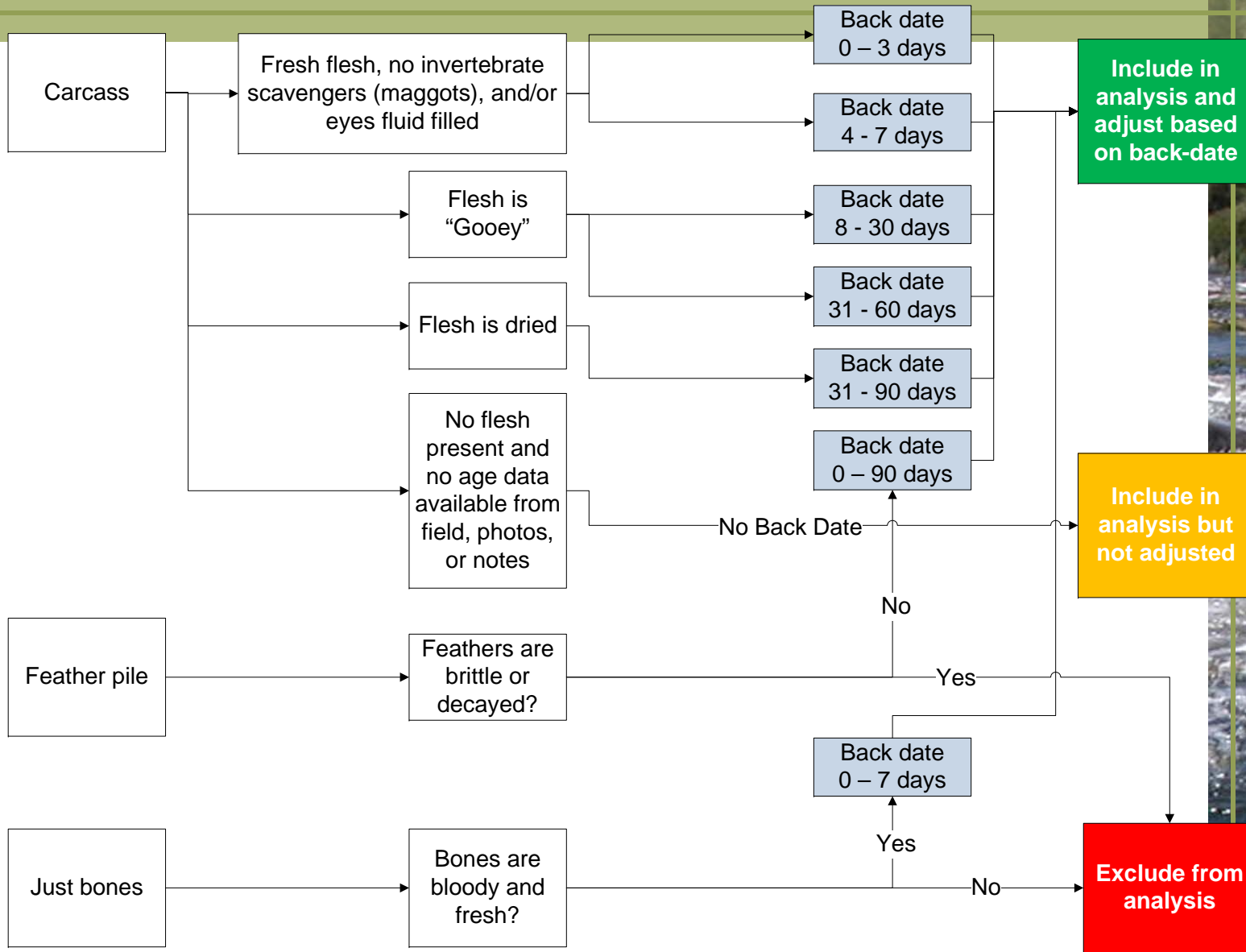




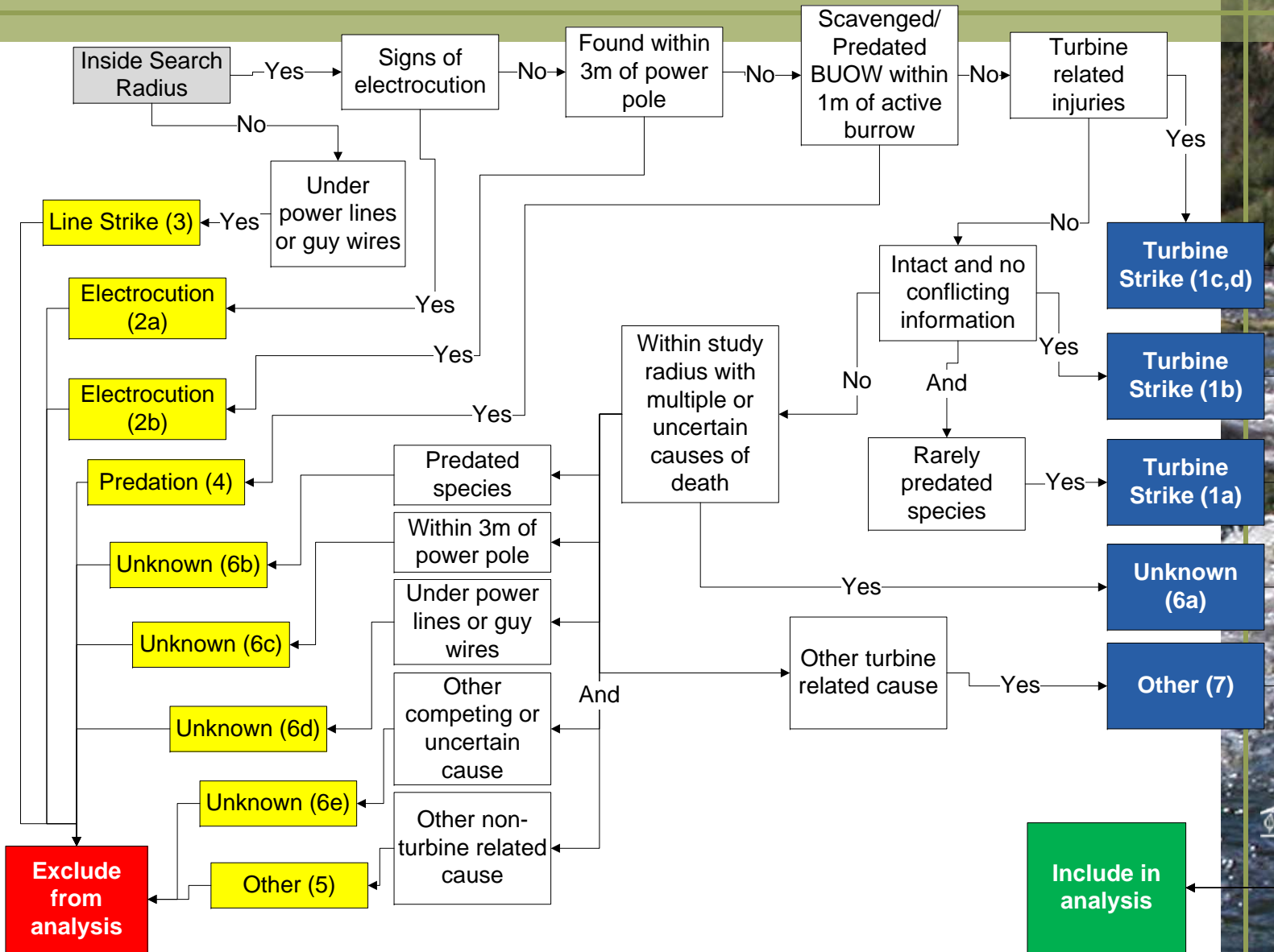
SOURCE: Santa Cruz Predatory Bird Research Group (2008).



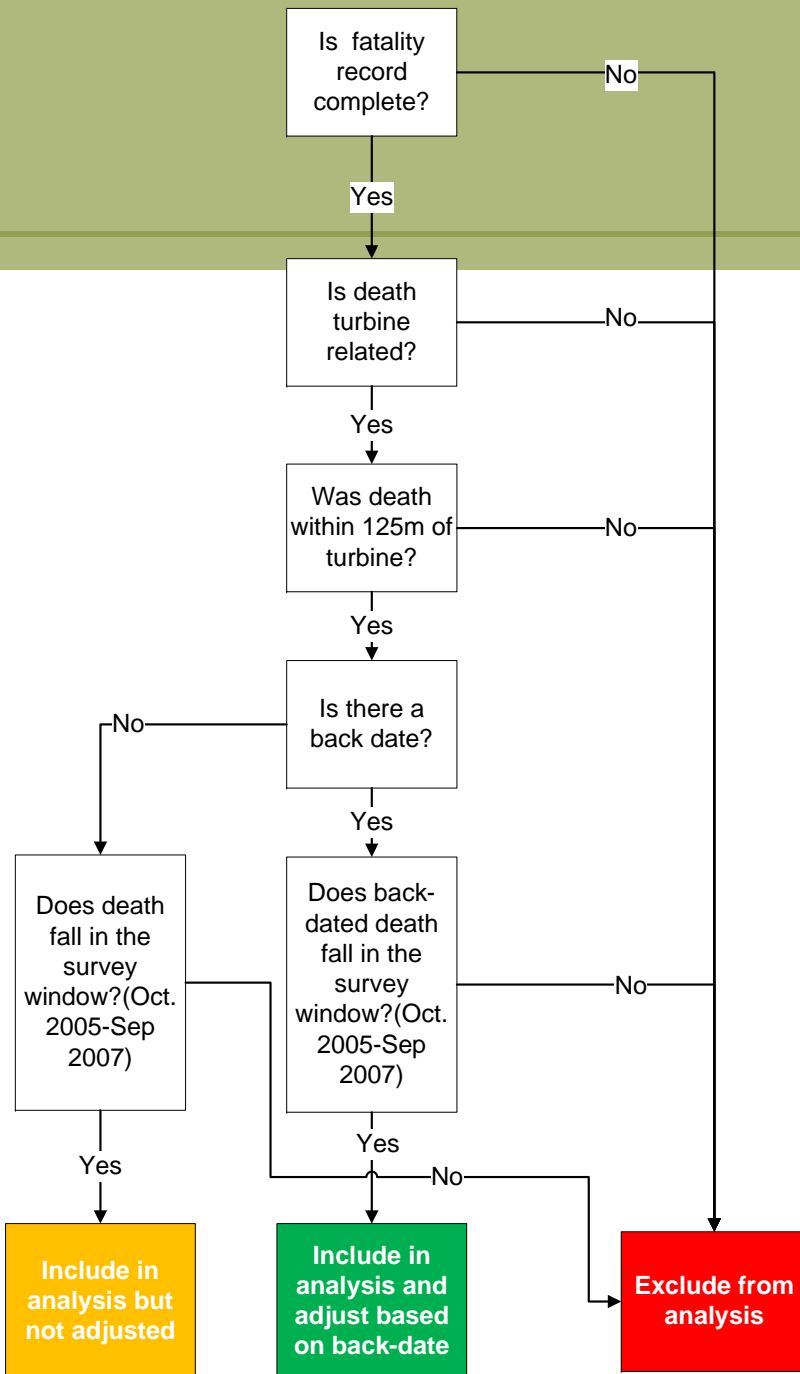
Analysis – Back Dates (done)



Analysis – Cause of Death (done)



Analysis – Filtering (scripted)



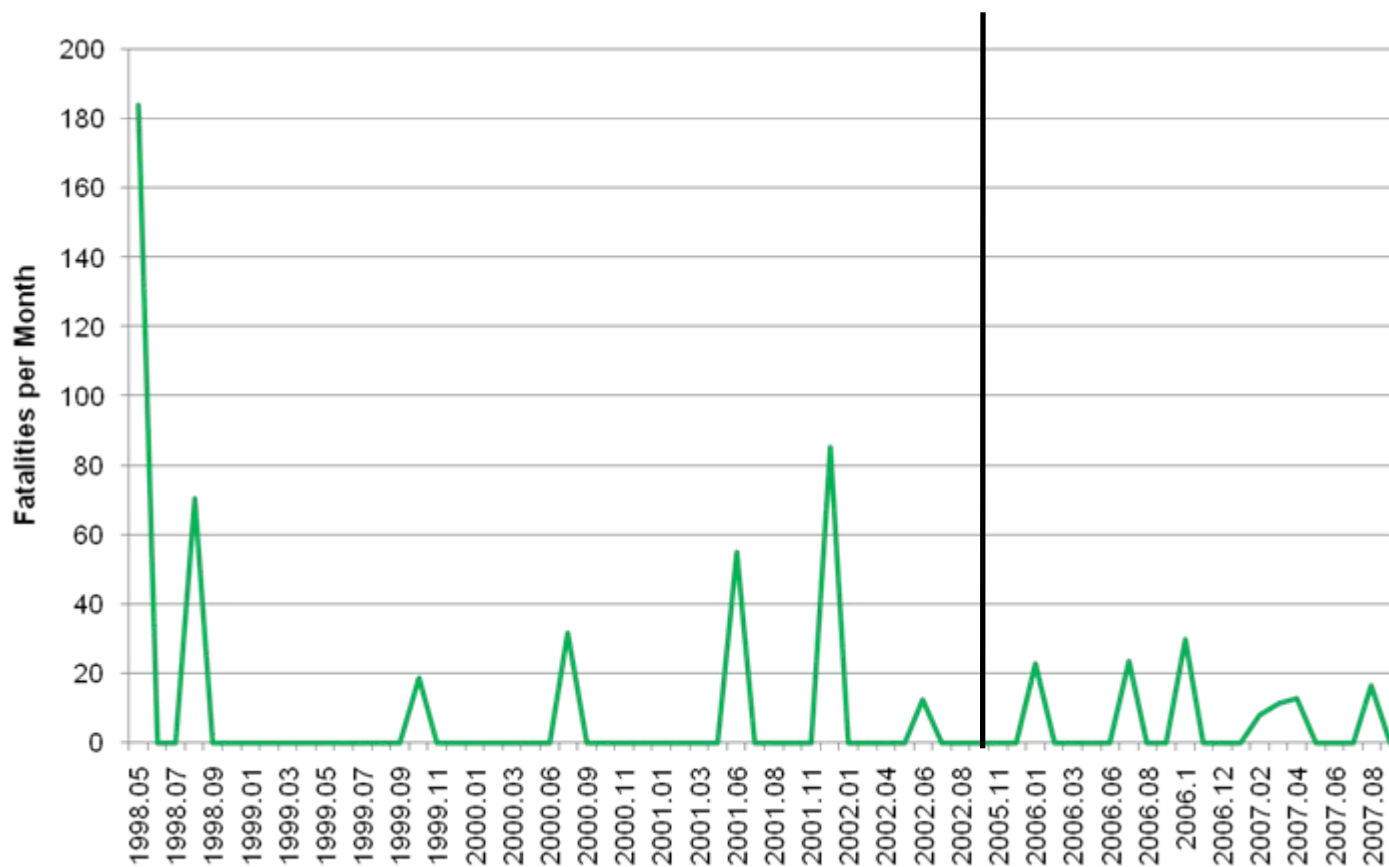
APWRA-Wide Fatalities

Study Period	Baseline Reported Annual Estimate	Study Annual Estimate	Diff Annual Versus Baseline
American kestrel	333.1	514.4	154.4%
burrowing owl	380.2	1144.2	301.0%
golden eagle	116.5	75.2	64.6%
red-tailed hawk	300.4	405.4	135.0%
barn owl	49.0	197.6	403.2%
ferruginous hawk	24.1	4.0	16.8%
great-horned owl	10.1	33.8	334.9%
northern harrier	1.1	3.5	316.3%
prairie falcon	2.1	4.3	205.3%
turkey vulture	2.9	10.3	355.5%
Totals	1219.5	2392.9	196.2%











APWRA-Wide Fatalities (cont.)

Study Period	Baseline Reported Annual Estimate	Study Annual Estimate	Diff Annual Versus Baseline
American avocet	19.1	0.0	0.0%
Brewer's blackbird	554.2	95.2	17.2%
brown-headed cowbird	434.9	13.7	3.2%
California gull	23.0	1.4	6.2%
cliff swallow	38.6	21.6	55.9%
common raven	48.8	59.3	121.5%
European starling	1632.9	1976.9	121.1%
hoary bat	18.7	0.0	0.0%
horned lark	115.2	145.9	126.6%
house finch	128.1	0.0	0.0%
loggerhead shrike	176.3	113.8	64.6%
mallard	153.6	32.9	21.4%
mountain bluebird	215.6	102.3	47.5%
mourning dove	703.9	60.6	8.6%
northern flicker	217.2	5.9	2.7%
red-winged blackbird	115.7	171.4	148.2%
ring-billed gull	23.0	0.0	0.0%
rock pigeon	2526.8	555.8	22.0%
western meadowlark	2557.4	2432.7	95.1%
Totals	9703.0	5789.4	59.7%

Golden Eagles NREL Fatalities (adjusted & expanded)



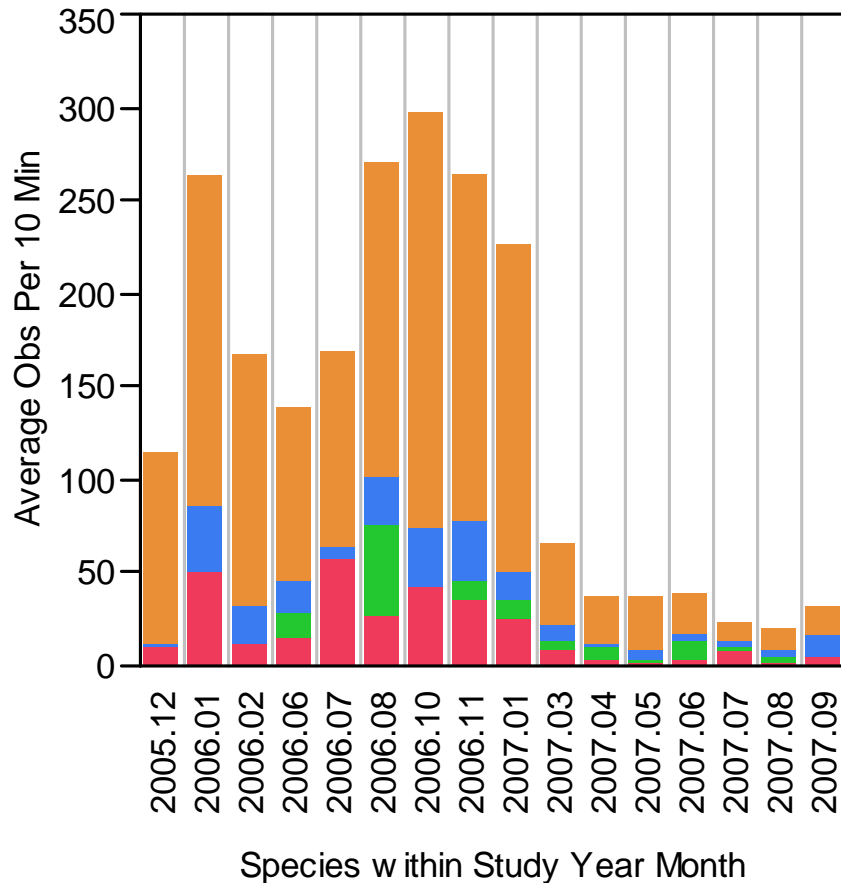
NREL APWRA-Wide Monthly Fatalities

	Baseline	Current	Diff	Rsq	P	
American kestrel	33.3	61.0		183.2%	0.005	0.55
burrowing owl	37.6	139.0		370.0%	0.117	0.0043
golden eagle	9.7	6.0		61.5%	0.0069	0.498
red-tailed hawk	34.1	42.1		123.4%	0.0295	0.2565
barn owl	9.8	15.4		156.9%	0.008	0.464
great-horned owl	1.1	1.2		108.0%	0.00003	0.965
northern harrier	0.4	0.5		150.7%	0.0005	0.8515
prairie falcon	0.0	0.6		60.0%	0.0292	0.1635
turkey vulture	0.4	0.0		0.0%	0.0292	0.1635
Totals	126.5	265.9		210.2%		

NREL Non Raptor

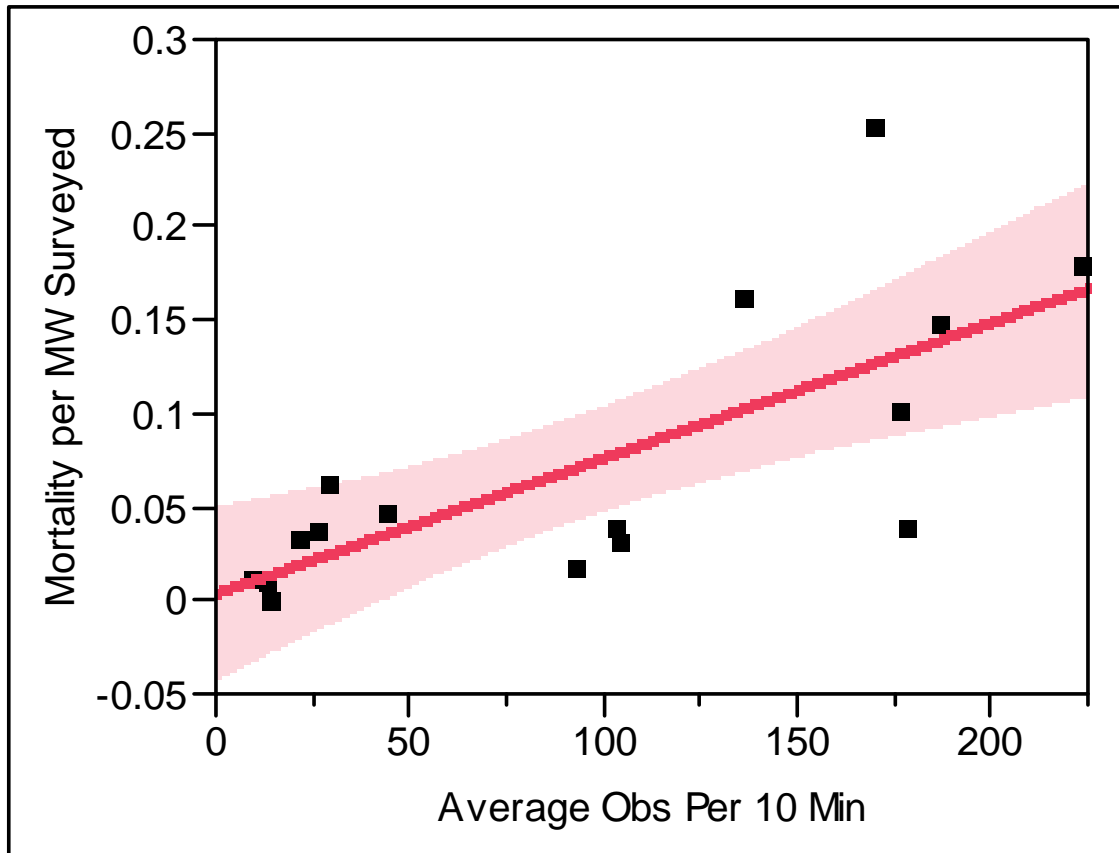
	Baseline	Current	Diff		Rsq	P
American avocet	0.4	0.0		0.0%	0.007	0.478
American crow	0.6	0.0		0.0%	0.007	0.478
black-necked stilt	0.0	1.8		180.0%	0.029	0.164
Brewer's blackbird	3.7	2.8		75.1%	0.001	0.766
California gull	1.9	0.7		37.7%	0.0033	0.6349
common raven	4.8	7.7		160.4%	0.0158	0.3065
European starling	27.7	187.2		674.7%	0.2317	0.0001
hoary bat	0.0	0.0		0.0%	--	--
horned lark	16.2	0.0		0.0%	0.0259	0.1896
house finch	4.2	0.0		0.0%	0.0235	0.2115
killdeer	0.0	1.0		100.0%	0.029	0.1635
loggerhead shrike	3.2	16.7		520.8%	0.0288	0.1662
mallard	9.7	9.5		98.3%	0.00003	0.9622
medium bird	0.6	4.6		814.9%	0.115	0.0046
mountain bluebird	0.0	10.7		1070.0%	0.04883	0.0702
mourning dove	7.7	3.8		49.6%	0.00588	0.5342
northern flicker	1.5	4.2		279.7%	0.0077	0.4763
northern mockingbird	0.0	1.4		140.0%	0.029	0.1635
red-winged blackbird	12.0	8.3		69.1%	0.04168	0.0949
ring-billed gull	1.5	0.0		0.0%	0.0076	0.4788
rock pigeon	23.0	34.6		150.3%	0.0424	0.092
savannah sparrow	2.1	0.0		0.0%	0.0076	0.4788
small bird	4.9	37.6		772.2%	0.176	0.0004
tricolored blackbird	2.8	0.0		0.0%	0.0076	0.4788
western meadowlark	99.2	300.5		302.9%	0.08	0.0192
western red bat	0.0	0.0		0.0%	--	--
white-throated swift	0.0	4.8		480.0%	0.0292	0.1635
wild turkey	0.8	0.0		0.0%	0.007	0.4788
Totals	228.4	638.0		279.4%		

Monthly Bird Use

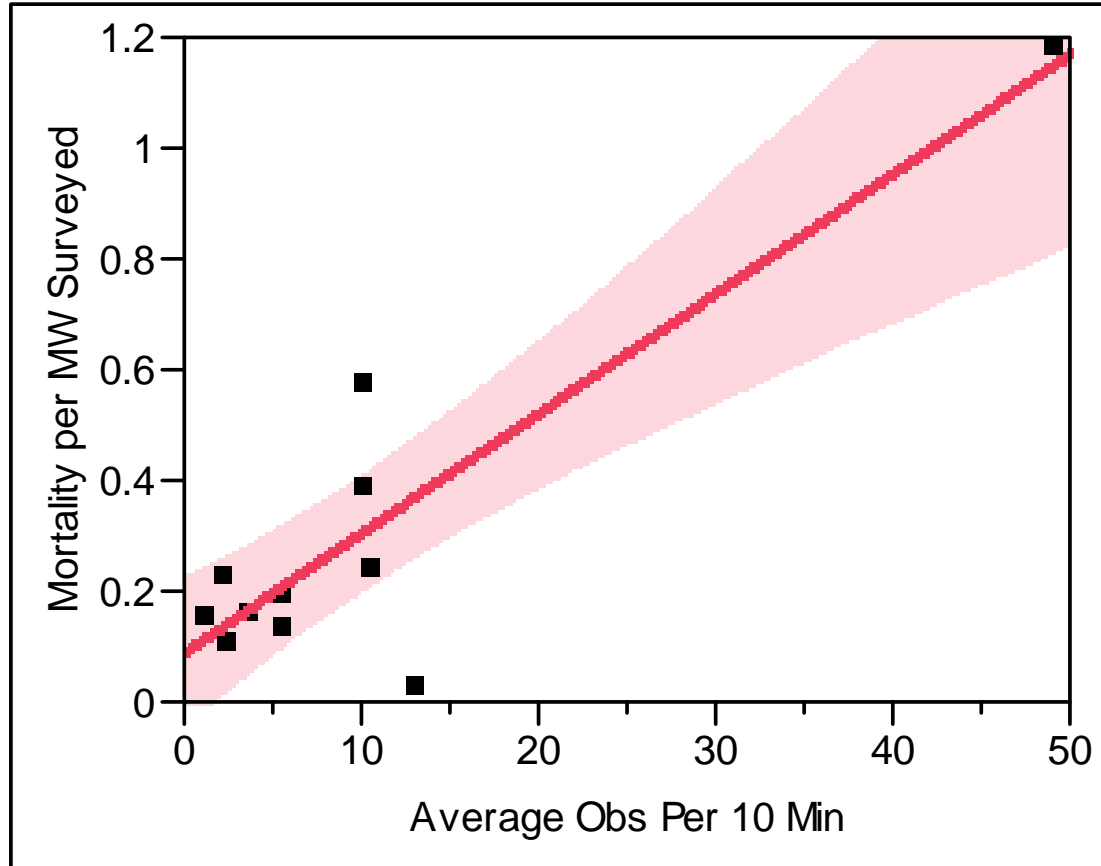


Species ■ AMKE ■ BUOW ■ GOEA ■ RTHA

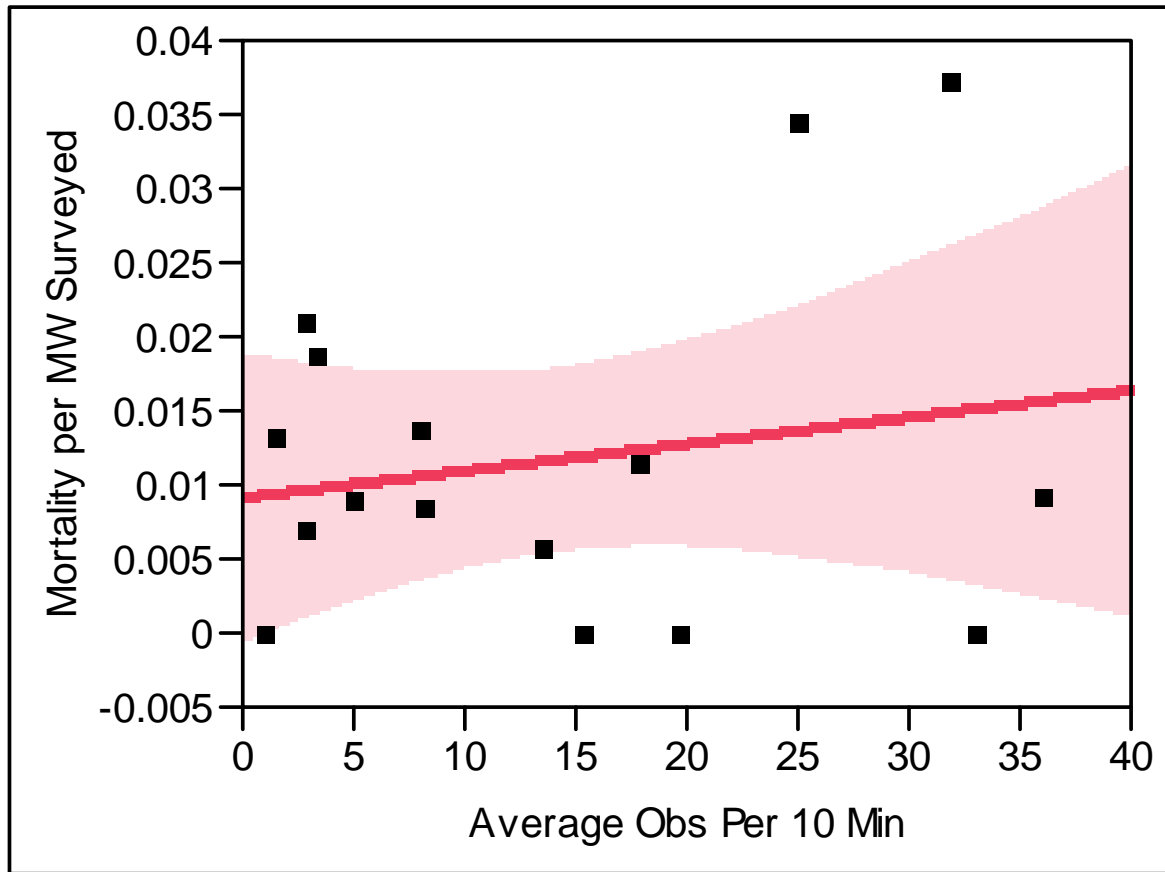
Correlation with RTHA Fatalities



Correlation with BUOW Fatalities



Correlations with GOEA Fatalities



Bird Use Next Steps

- Awaiting additional bird use metrics (SRC assignments?)
- Public review of fatalities data set
- Look further at kestrel bird use data