α	s	λ	LHS	l_α	b	RHS	s_o	s_1
3.0000	0.9500	0.9760	0.0248	0.1026	0.2400	0.0246	0.1500	0.7200

lambda=	**0.9760**
initial pop	**12000**
crash	**387**

α	ω	s	λ	NUM	DEN	LHS	l_α	b	RHS	s_o	s_1
3.0000	15.0000	0.9500	0.8600	-0.0666	-2.6469	0.0251	0.1026	0.2400	0.0246	0.1500	0.7200
13.0000											

lambda=	**0.8600**
initial pop	**12000**
crash	**62**

Government Study

α	s	λ	LHS	l_α	b	RHS	s_o	s_1
4.0000	0.8500	0.8680	0.0118	0.0425	0.2800	0.0119	0.1000	0.5000
lambda=	0.8680							
initial pop	12000							
crash	66							

University Biologists

α	ω	s	λ	NUM	DEN	LHS	l_α	b	RHS	s_o	s_1
4.0000	10.0000	0.8500	0.6600	-0.0546	-4.8766	**0.0112**	0.0425	0.2800	**0.0119**	0.1000	0.5000
7.0000											
lambda=		0.6600									
initial pop		12000									
crash		23									

α	s	λ	LHS	l_α	b	RHS	s_o	s_1
2.0000	0.6500	0.6540	0.0026	0.0114	0.2000	0.0023	0.0500	0.3500

lambda=	0.6540
initial pop	12000
crash	22

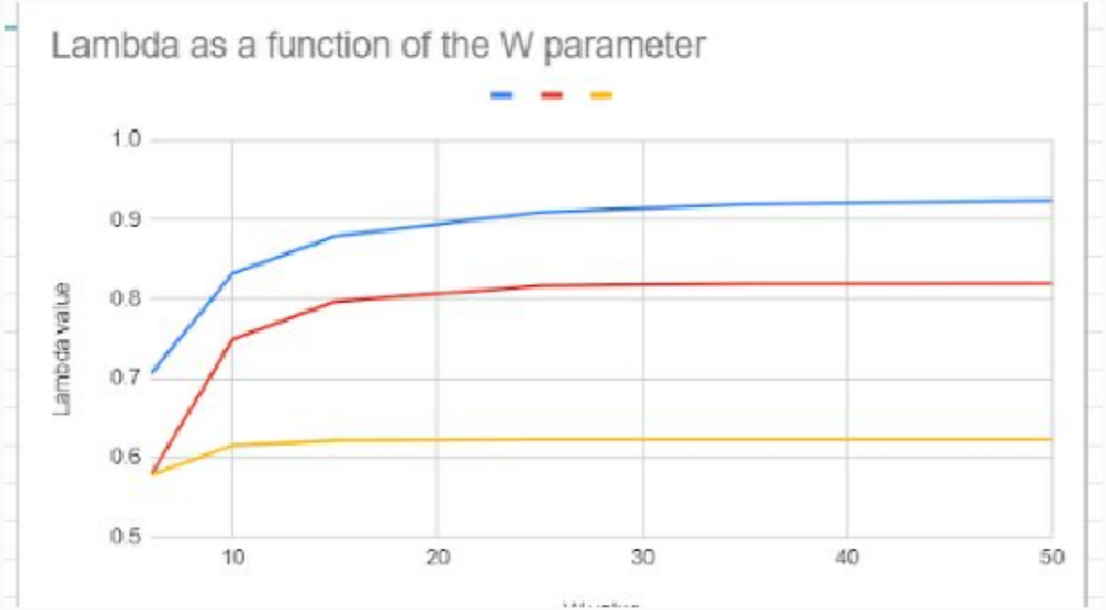
α	ω	s	λ	NUM	DEN	LHS	l_α	b	RHS	s_o	s_1
2.0000	6.0000	0.6500	0.3000	-0.1050	-46.7486	0.0022	0.0114	0.2000	0.0023	0.0500	0.3500
5.0000											

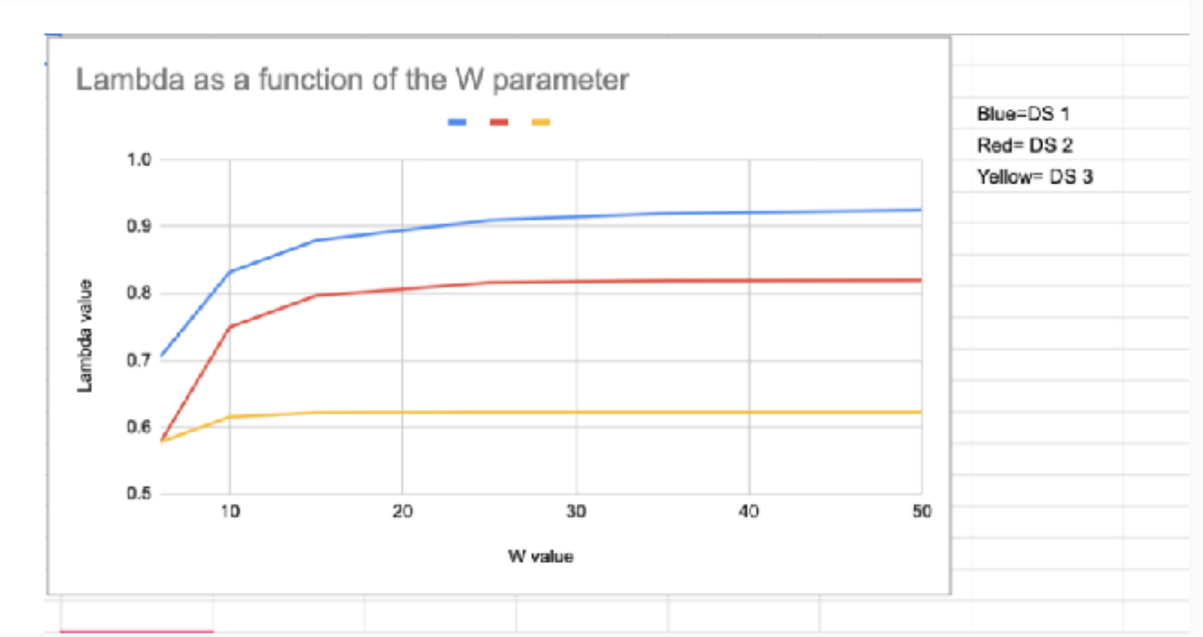
lambda=	0.3000
initial pop	12000
crash	8

2. The Sierra Club study has different results because the survivability ratios are much less than the other two studies, specifically the sub-adult survival probability. This number causes the over-all adult survival probability to be lower, meaning that fewer females are producing female offspring. This offsets their data showing that the animals start breeding earlier than the other data sets show.

a. Sunshine Moonbeam's data is off because the data they used had comparatively lower survival rates. This skewed the LA and generated a lower number for the right hand side. Which meant a low number was needed for lambda on the left hand side so that the right and left hand sides were equal.

Second Task: Relative to the other two data sets, the fecundity and adult annual survivability are low for the Sunshine Moonbeam study. These two parameters are likely the reason for the quick population crash. Lower values of fecundity and survivability are a bad combination for this species. In set #3, the adults start breeding a year earlier than in the other studies, but still this isn't enough to keep the population stable from the low *s* and low *b*.


Lambda as a function of the W parameter
Lambda value
1.0
0.9
0.8
0.7
0.6
0.5
10
20
30
40
50


Lambda as a function of the W parameter
Lambda value
1.0
0.9
0.8
0.7
0.6
0.5
10
20
30
40
50
W value
Blue=DS 1
Red= DS 2
Yellow= DS 3

α	ω	s	λ	NUM	DEN	LHS	RHS	l_α	b	s_o	s_1	diff
16.0000	45.0000	0.9950	1.0120	0.0203	0.3984	0.0510	0.0507	0.9752	0.0520	0.9900	0.9900	0.0003
30.0000												

α	ω	s	λ	NUM	DEN	LHS	RHS	l_α	b	s_o	s_1	diff
16.0000	45.0000	0.9950	1.0200	0.0336	0.5250	0.0641	0.0646	0.7970	0.0810	0.8900	0.9000	0.0005
30.0000												

α	ω	s	λ	NUM	DEN	LHS	RHS	l_α	**b**	s_o	s_1	diff
16.0000	45.0000	0.9950	0.9900	-0.0043	-0.1632	0.0264	0.0255	0.7970	**0.0320**	0.8900	0.9000	0.0009
30.0000												